



Memorandum

Murty
W.P. 134-73-01

To: Distribution

From: Project Review Section
Systems Design Branch
East Building

Attention:

Date: March 6, 1975

Our File Ref.

In Reply to

Subject: Contract 75-50, WP 134-73-01, Highway #7
From existing Hwy 7 N'ly to Hwy 10 including
Interchanges at existing Hwy 7 - District 6
re - Construction Staging



Following are minutes of meeting held February 25, 1975, in the East Building, Downsview, with the following attending:

- | | |
|-----------------|--|
| J. Callaghan | - Construction Branch |
| D. Hopper | - Contract Control |
| B. Giroux | - Estimating Office |
| W. Kelly | - Priority Development |
| M. Guyett | - Project Review Section |
| R. Illingsworth | - District # 6 |
| D. MacDonald | - District # 6 |
| B. Hitchcock | - Giffels, Davis and Jorgensen Limited |
| D. Callan | - Central Region |
| M. Devata ✓ | - Geotechnical Office |
| J. Wear | - Project Review Section |

PURPOSE:

The Head Office Contract Review Meeting of February 21, 1975, deemed the following portion of the general special provision entitled 'CONSTRUCTION STAGING' too restrictive and a further review was requested for the need of the installation of storm sewer in advance of the structure work at the Highway 410 and 7 interchange.

" CONSTRUCTION STAGING

2. Structure Foundations, Highway 410 Underpass at Highway 7

Before construction of the foundation elements for the Hwy 410 Underpass at Hwy 7, WP 134-73-02, is carried out, construction of the Hwy 410 cut at the structure site and installation of the permanent drainage system through the structure site are to be completed."

TERMS OF REFERENCE:

- 1) Soils Mechanics Office identified a critical unwatering requirement for the structure foundations.

Contract 75-50, WP 134-73-01
re - Construction Staging

March 6, 1975

- 2) Regional Planning and Design desired that the sewer installation from the vicinity of structure to its outfall, approximately one-half mile, be constructed in advance to diminish the unwatering problem.
- 3) General grading in advance of sewer installation would require approximately 4000,000 cubic yards of excavation.
- 4) Timing of sewer installation is critical in order that excavation for structure may be performed in advance of Winter.
- 5) An unwatering item has not been provided for structure foundations with proposed advance sewer work.

DISCUSSION:

- 1) A review of the detour for Highway 7 traffic revealed the following:
 - (a) The present scheme for detour on the south side of Highway 7 is based on:
 - a minimum impact on property;
 - operation of a service station on the North-West corner. A time extension has been granted until September 1, 1975; and
 - locating the intersection on a tangential portion of the detour.
 - (b) The present detour scheme, however, requires an extensive fill requirement as opposed to a present expanse of pavement of commercial properties available on the north side of Highway 7.
 - (c) The detour on the south provides for unobstructed excavation for all grading requirements north of Highway 7.
 - (d) A further court proceeding is scheduled for March 18th to hear objections raised by the tenants of the service stations on the North-East and South-East corners, who may also desire an extension of time for occupancy of sites.
 - (e) A time period must be allocated to the demolition of buildings for commercial properties following September 1, 1975.
 - (f) The present scheme for detour requires sewer installation to be installed prior to construction of the detour.
 - (g) Constructing a detour on the North side of Highway 7 would not complicate timing of excavating for structure or sewer and would enable excavated material to be hauled more readily for embankment construction to the south.

Contract 75-50, WP 134-73-01
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- 2) The future Highway 410 gradeline south of Highway 7 rises to the south in order to provide a railway grade separation. Such embankment construction will be included as part of the project to utilize surplus material. In addition, the County of Peel is desirous of acquiring excavated material.
- 3) J. Callaghan suggested that the wet soil condition should be mentioned in a special provision, however, the suggestion was ruled out due to possible precedent and future claims if we neglected to state in future contracts.

RECOMMENDATIONS:

- 1) District favoured constructing a detour on the north side of Highway 7 and provide for temporary drainage beneath, from north to south.
- 2) The staging requirements for all work within the proximity of Highway 7, and to the south, should be combined to permit the Contractor full options of work within.
 - (a) Delete any reference to performing certain portions of work in advance.
 - (b) Retain principle that for whatever staging of work is chosen by the Contractor, all costs of unwatering will be deemed to be included in the contract unit price for foundation excavation.

CONCLUSIONS:

- 1) Regional Planning and Design will pursue recommendation (1) above and adjust the drawings and special provisions in accordance with recommendation (2).
- 2) Soils Investigation Borings for sewer installation will be added to the contract drawings.
- 3) A review with the railway company will be made to ensure a temporary level crossing will be granted to the Contractor meeting the requirements of the railway.

The contract special provisions will specify that a temporary crossing will be granted upon application to the railway. If approval for the above is not granted, then a review, by Regional Planning and Design, of prohibiting unlicensed vehicles from using Heart Lake Road south of Highway 7 will be required.

JRW:jc

Distribution:

Those in attendance



J. R. Wear
Project Review Engineer

GRAIN SIZE DISTRIBUTION

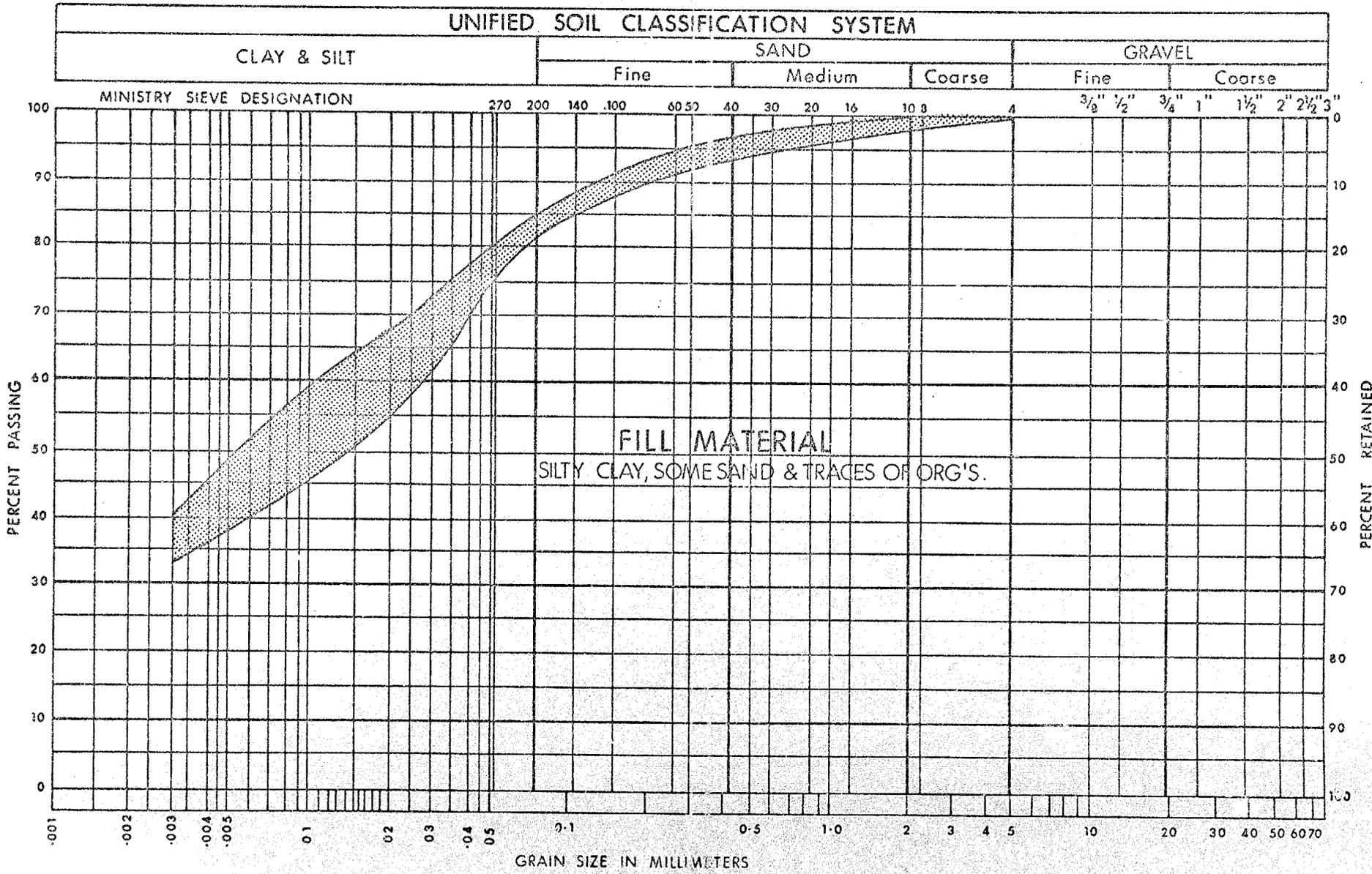
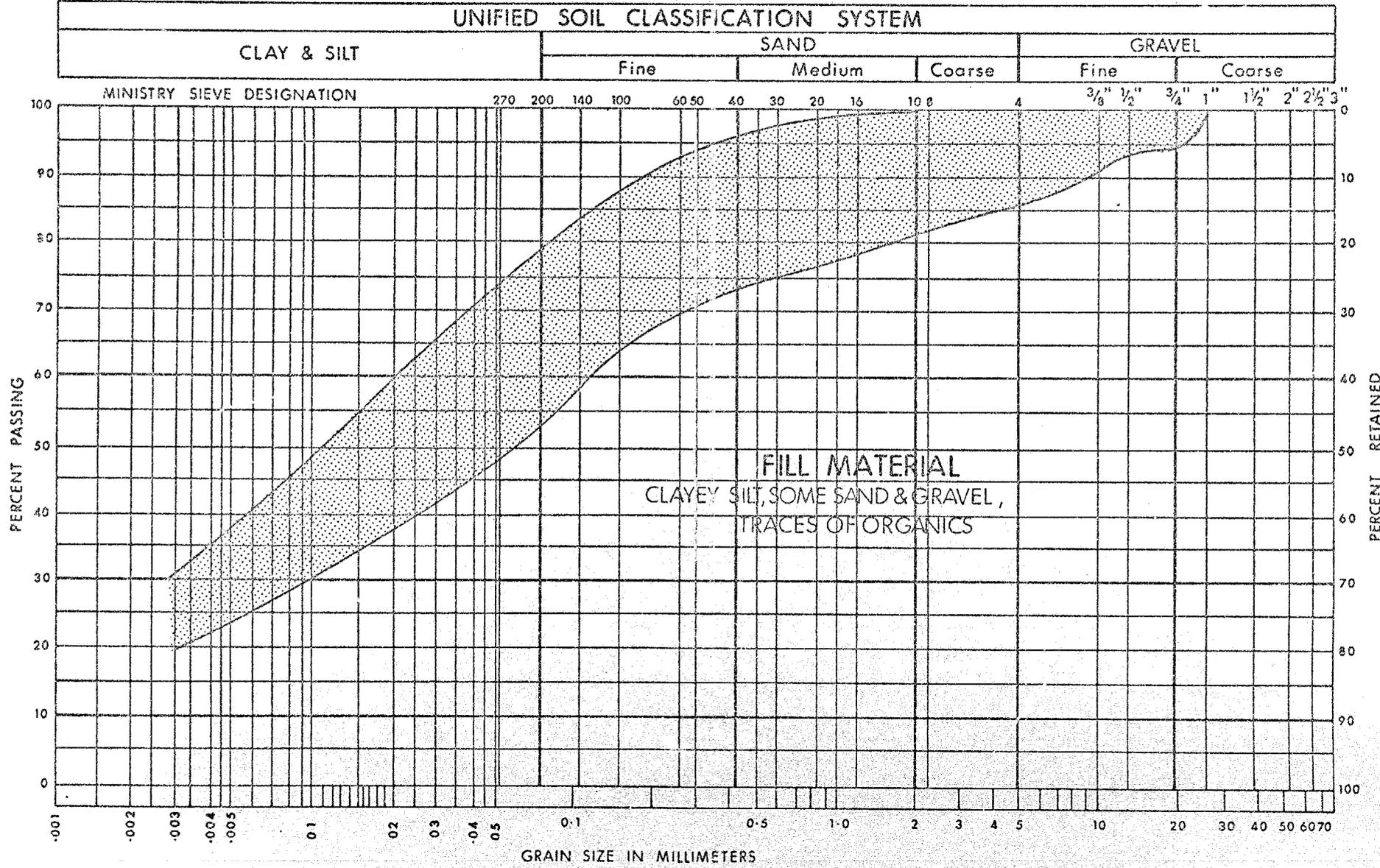


FIG. 4

GRAIN SIZE DISTRIBUTION

UNIFIED SOIL CLASSIFICATION SYSTEM



FILL MATERIAL
 CLAYEY SILT, SOME SAND & GRAVEL,
 TRACES OF ORGANICS

FIG. 5

GRAIN SIZE DISTRIBUTION

UNIFIED SOIL CLASSIFICATION SYSTEM

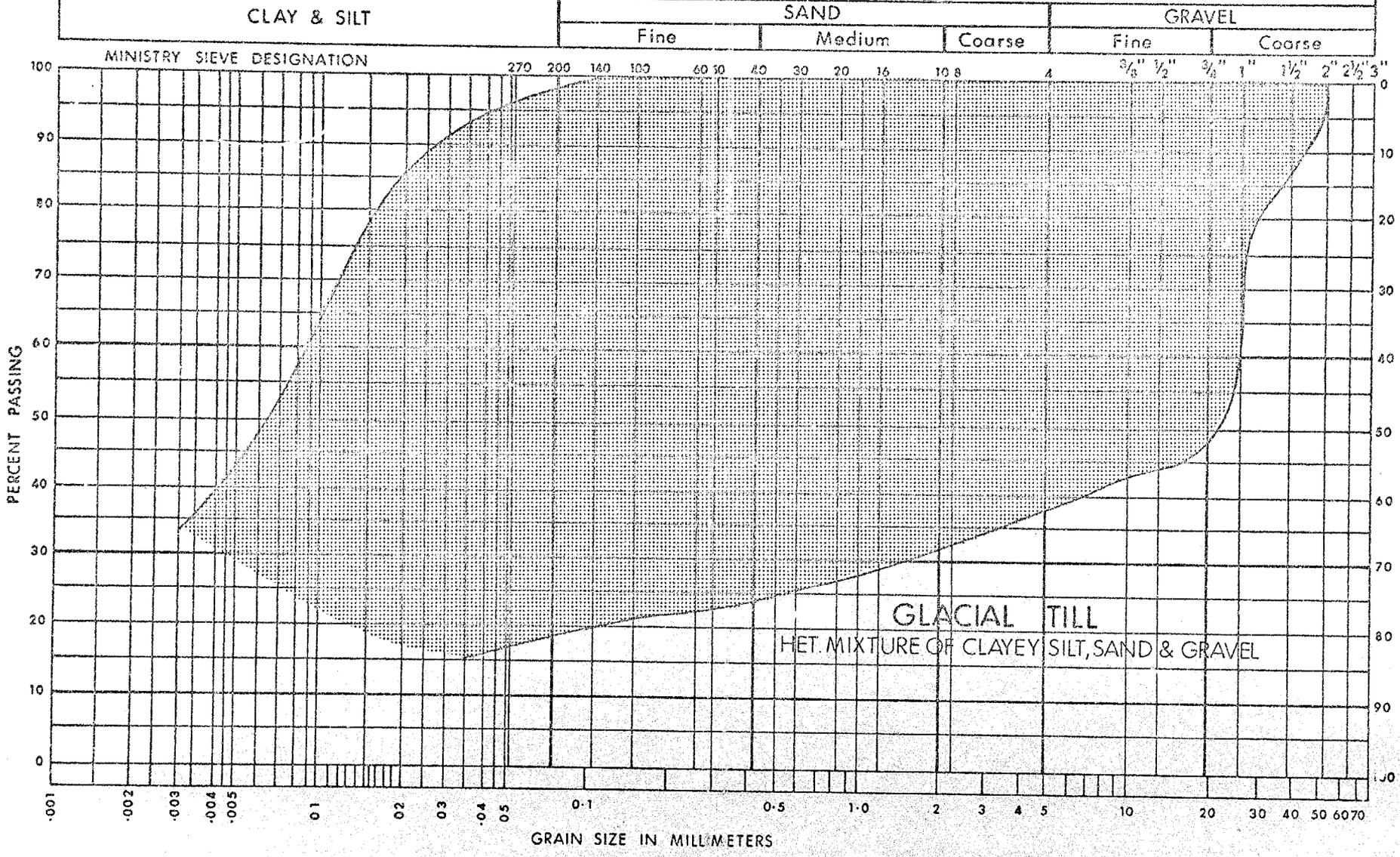


FIG. 6

GRAIN SIZE DISTRIBUTION

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY & SILT

SAND

GRAVEL

Fine

Medium

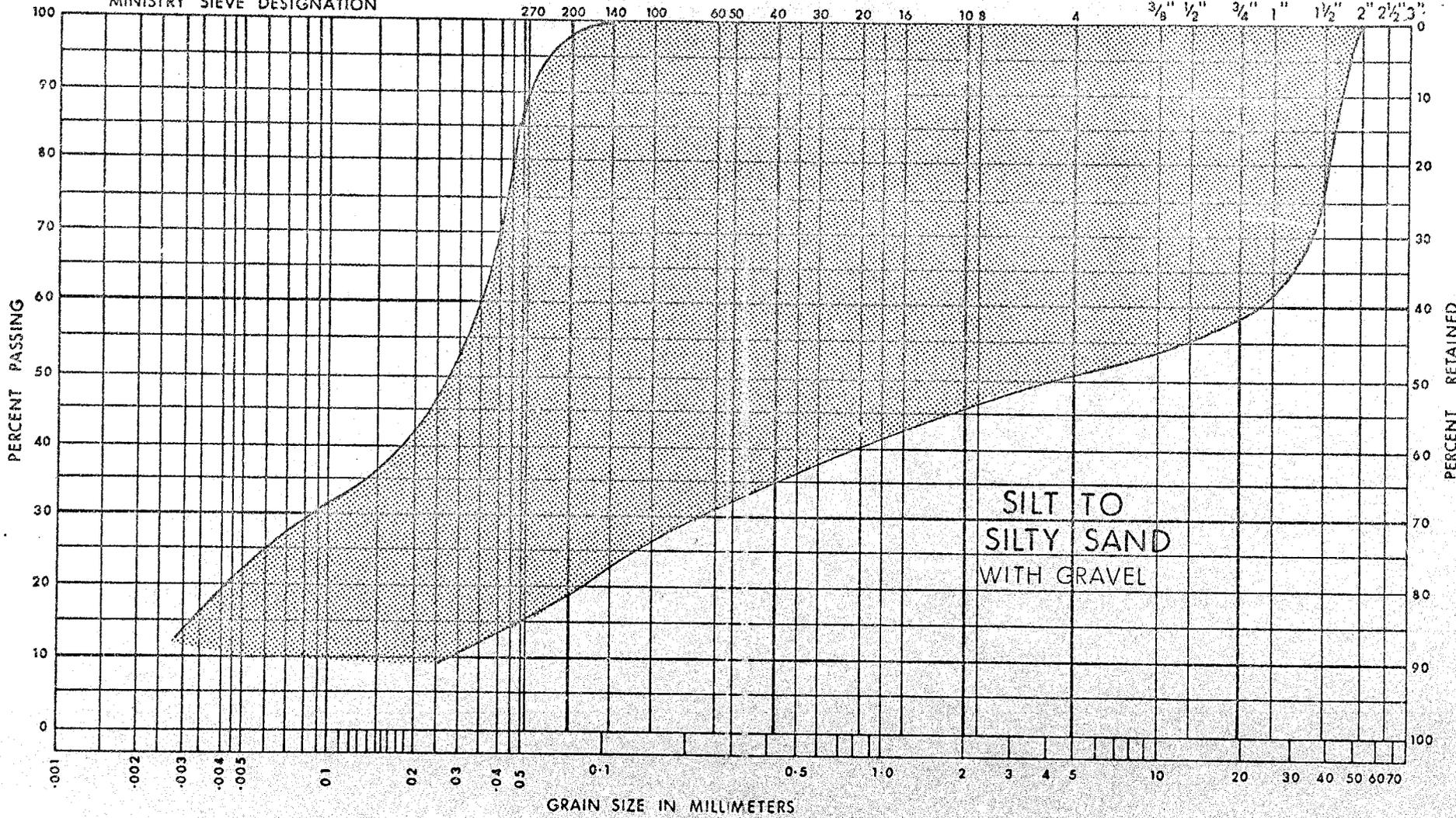
Coarse

Fine

Coarse

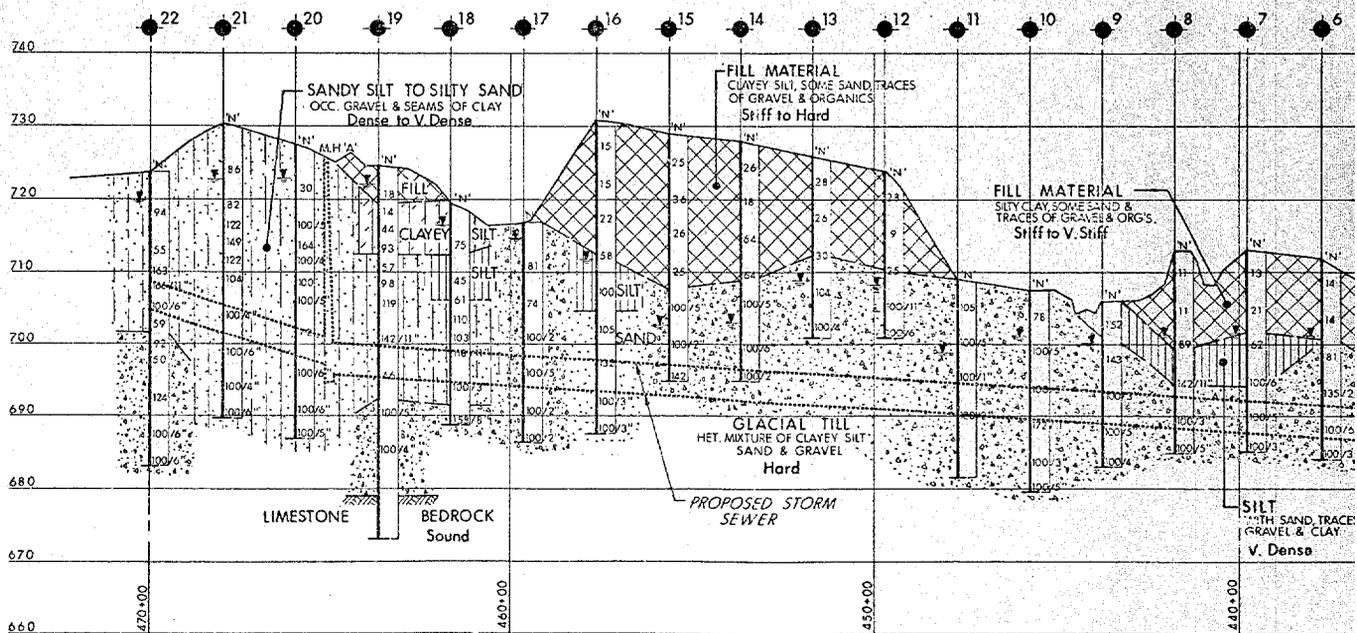
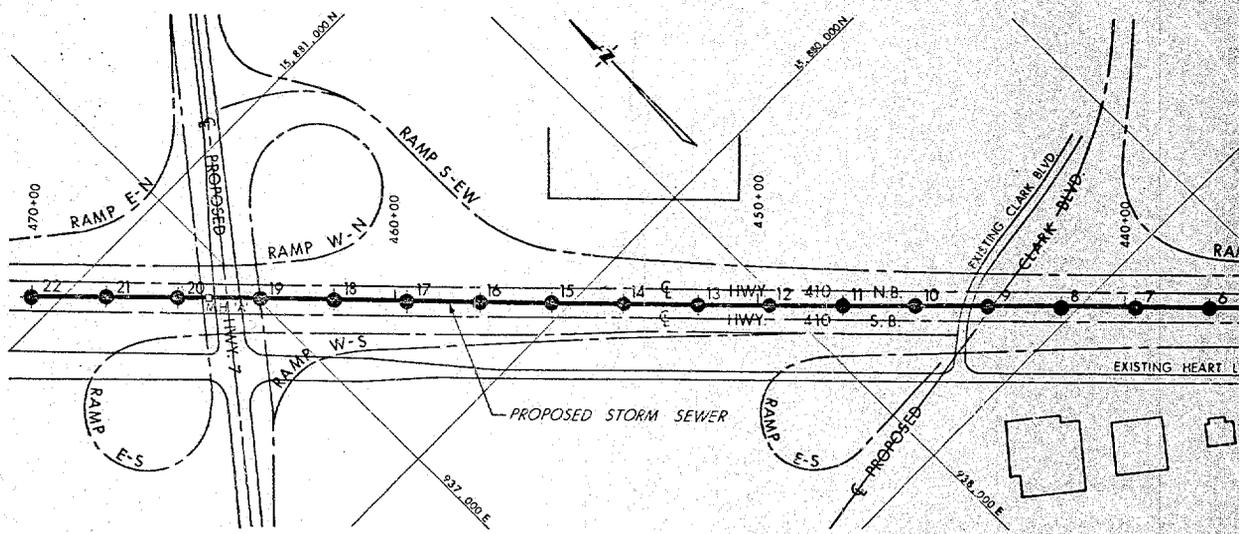
MINISTRY SIEVE DESIGNATION

270 200 140 100 60 50 40 30 20 16 10 8 4 3/8" 1/2" 3/4" 1" 1 1/2" 2" 2 1/2" 3"



SILT TO
SILTY SAND
WITH GRAVEL

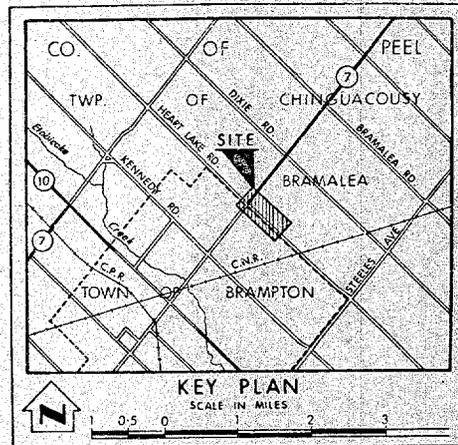
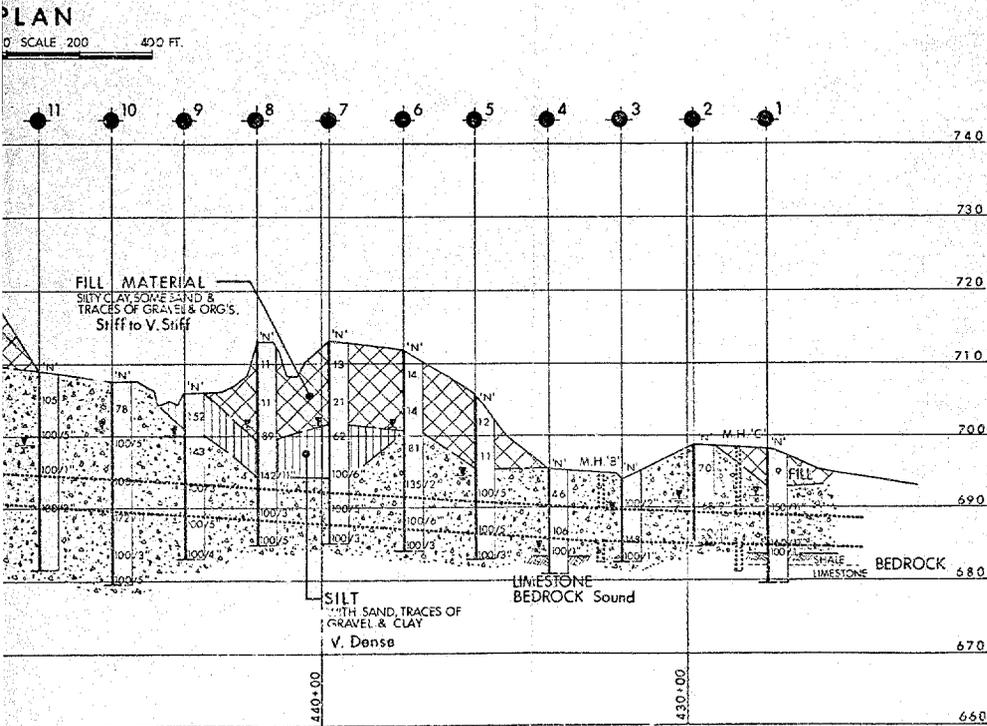
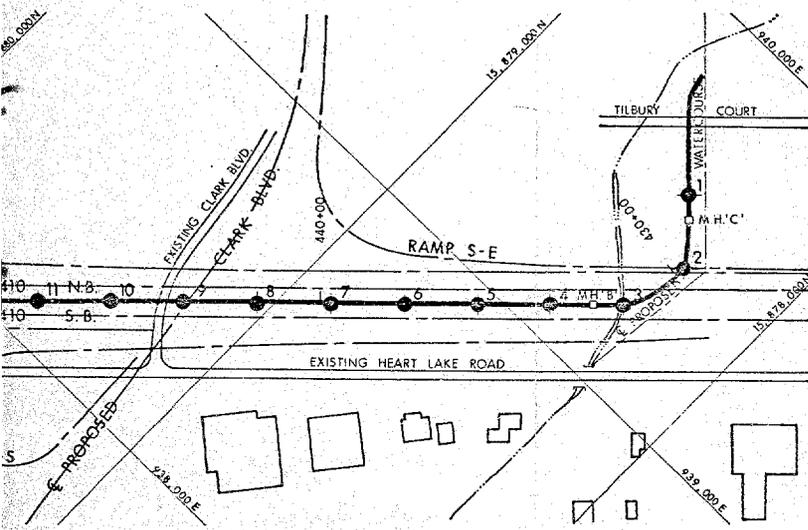
FIG. 7



PROFILE ALONG SEWER

VERT 10 5 0 SCALE 10 20 FT
HOR. 200 100 0 200 400

NOTE FOR CONTRACTOR
The complete foundation
of this structure may be
checked by the Office of
Foundation and the



LEGEND

- Bore Hole
- ⊕ Cone Penetration Test
- ⊙ Bore Hole & Cone Test
- ⬇ Water Levels established at time of field investigation MARCH 1974

NO.	ELEVATION	CO-ORDINATES	
		NORTH	EAST
1	697.0	15,878.405	939.560
2	698.5	15,878.270	939.410
3	693.8	15,878.321	939.221
4	701.7	15,878.465	939.087
5	705.4	15,878.608	938.950
6	712.7	15,878.750	938.805
7	712.8	15,878.894	938.665
8	707.2	15,879.034	938.527
9	707.2	15,879.180	938.390
10	706.8	15,879.320	938.251
11	706.8	15,879.464	938.110
12	723.7	15,879.608	937.970
13	723.7	15,879.750	937.833
14	722.8	15,879.894	937.695
15	722.8	15,880.037	937.560
16	730.6	15,880.179	937.420
17	711.4	15,880.320	937.280
18	719.4	15,880.465	937.140
19	724.5	15,880.610	937.005
20	724.5	15,880.750	936.870
21	730.2	15,880.918	936.715
22	723.5	15,881.060	936.569

NOTE

The boundaries between soil strata have been established only at Bore Hole locations. Between Bore Holes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS—ONTARIO
ENGINEERING SERVICES BRANCH—GEOTECHNICAL OFFICE

PROPOSED STORM SEWER

HIGHWAY NO. 410 DIST. NO. 6
CO. PEEL

TWP. CHINGACOUSY LOT _____ CON _____

BORE HOLE LOCATIONS & SOIL STRATA

SUBMD V.K. [checked]	W.P. NO. 134-72-01	DRAWING NO.
DRAWN S.K. [checked]	WO NO. 73-11115	73-11115A
DATE 24 APRIL 1974	SITE NO.	BRIDGE DRAWING NO.
APPROVED	CONT. NO.	



73-11115

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. M. Devata,
Supervising Foundations Engineer,
Geotechnical Office,
West Building.

FROM: Materials and Testing Office,
Central Region.

ATTENTION:

DATE: February 4, 1974.

OUR FILE REF.

IN REPLY TO

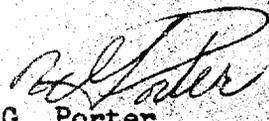
SUBJECT:

W.P. 134-73-01; Highway 7
(New Brampton By-Pass)
from Existing Highway 7
Northerly to Highway 10 Including
Interchange at Existing Highway 7

73-11115
Enclosed is a plan and profile of a proposed storm sewer along Highway 410. Because the sewer is located as much as 45 feet below the existing ground, we are requesting that your office carry out an investigation while you are in this area with your equipment. Your report should be detailed and should include recommendations.

73-11116
Also, between stations 533+00 and 537+00 there will be very high fills in the old gravel pits (up to 70'). The base of these will be in water. Cross-sections are enclosed. Would you please comment on the stability of these fills in your report.

GP/nt
Enclosure.


G. Porter,
Project Soils Engineer.

c.c. D. Callan
Giffels, Davis & Jorgensen Ltd.

73-11115

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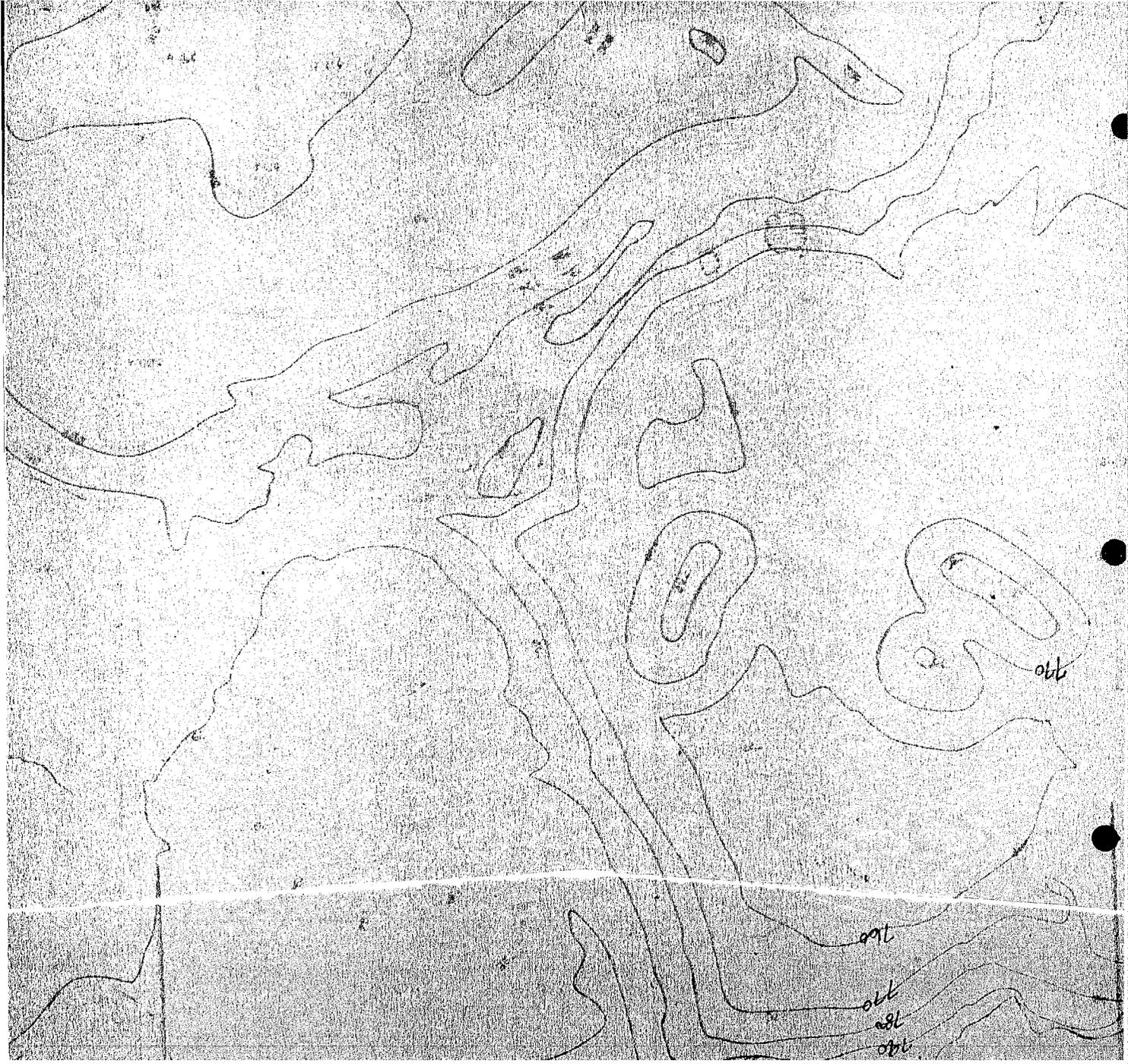
73-11116

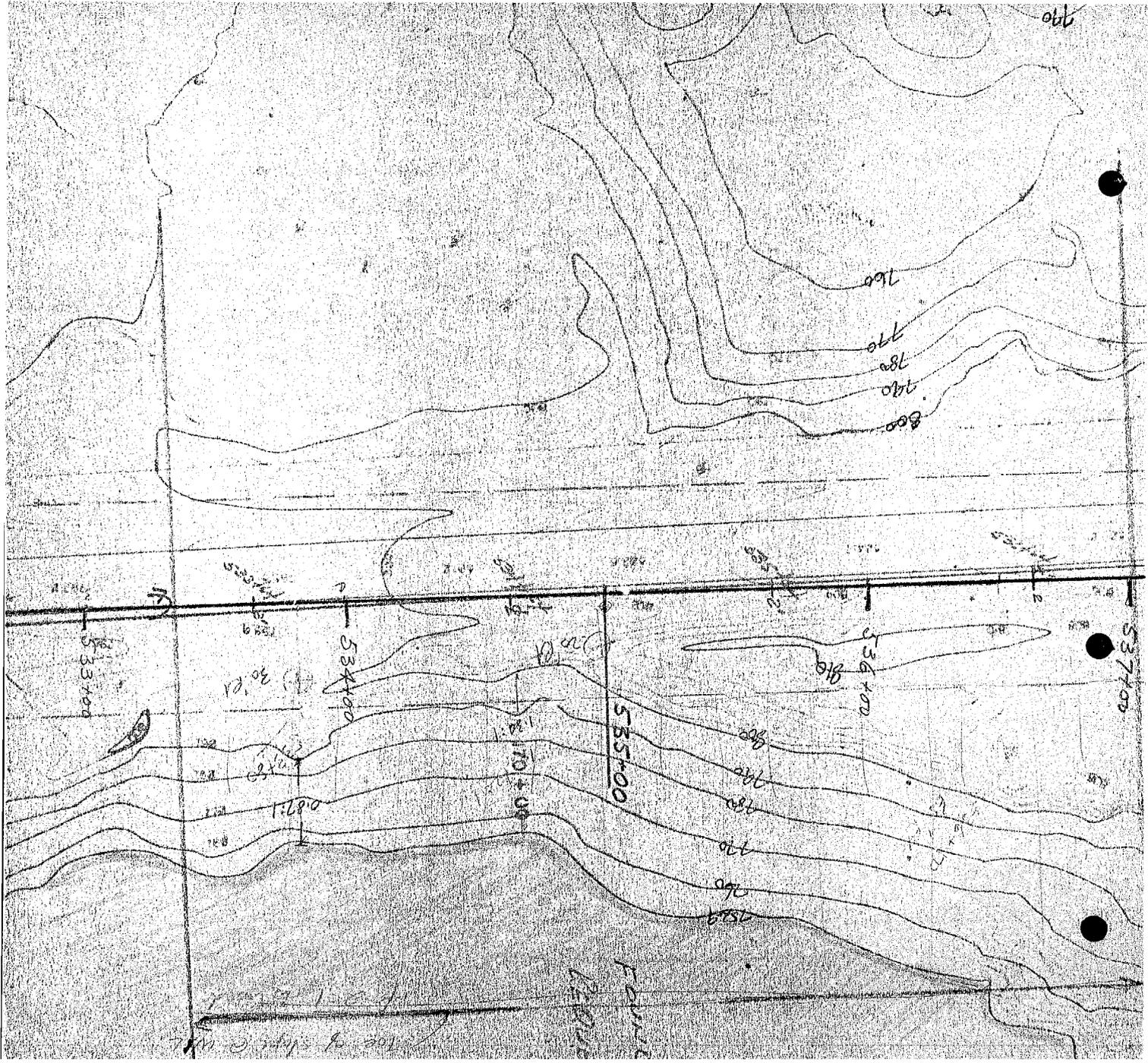
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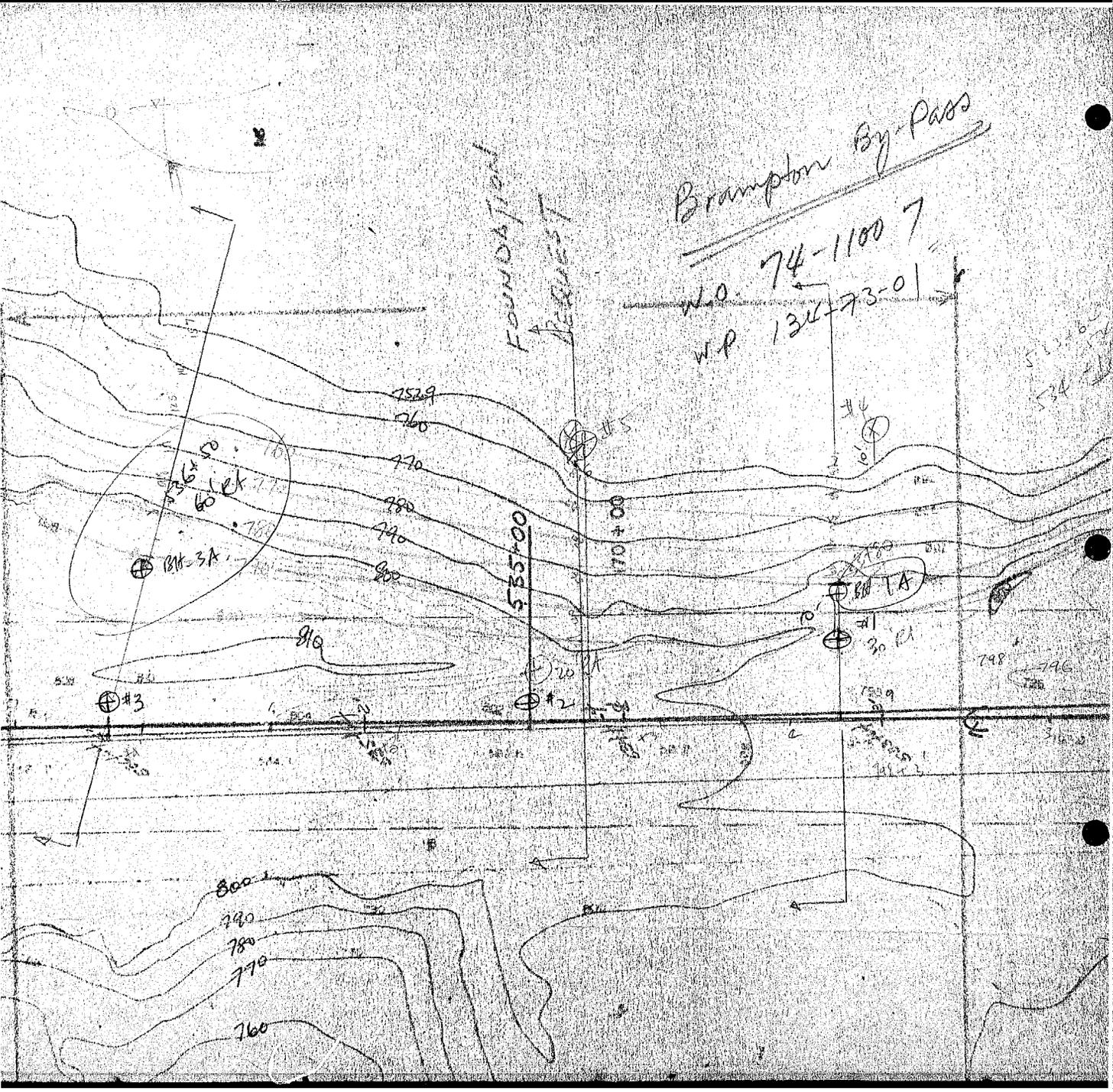




Brampton By-Pass

W.O. 74-1100 7
W.P. 134-73-01

FOUNDATION
REQUEST



LOT 9

BLOCK 'D' PUBLIC OPEN SPACE

BRAMALEA CONSOLIDATED DEVELOPMENT

CLARKSON

HEART LAKE ROAD

719.0

756.5

50 MPH SPEED 50 MPH

LOT 9

CON 2 EHS

FRANCESCHIN BROS CONSTRUCTION LTD

O F B D
SHAVER

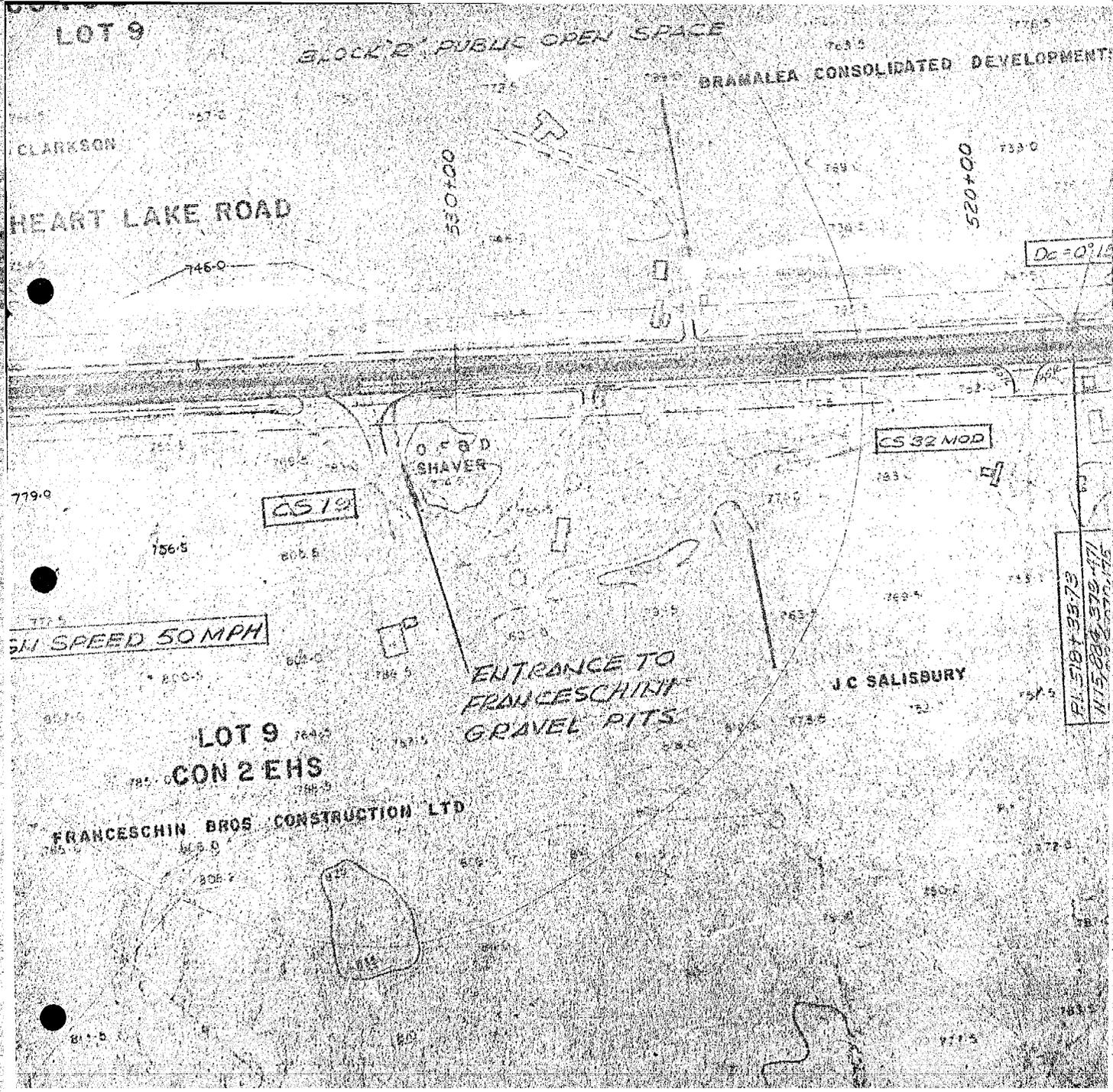
ENTRANCE TO
FRANCESCHINI
GRAVEL PITS

CS 32 MOD

J C SALISBURY

Dc = 0° 15'

PL 518 33.72
11.61
115.22
117.15



73-11116

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Enclosure.


G. Porter,
Project Soils Engineer.

c.c. D. Callan
Giffels, Davis & Jorgensen Ltd.

74-11007

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. M. Devata,
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Geotechnical Office,
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FROM: Materials and Testing Office,
Central Region.

ATTENTION:

DATE: February 4, 1974.

OUR FILE REF.

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G. Porter,
Project Soils Engineer.

c.c. D. Gallan
Giffels, Davis & Jorgensen Ltd.

O.D.D. June 19, 1974

P.V.K. & Sons

Est. # 2085

73-11108

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. M. Devata,
Supervising Foundation Engineer,
West Building.

FROM: G. C. E. Burkhardt,
Structural Planning Office,
3501 Dufferin Street.

ATTENTION:

DATE: January 14, 1974.

OUR FILE REF.

IN REPLY TO

SUBJECT: Proposed Hwy. 410 Underpass at Existing Highway 7,
W.P. 134-73-02, Site 24-343,
District 6, Toronto.

Due to public opposition, the original scheme of extending Highway 410 north of Highway 7 has been abandoned. Indeed, present planning considers Highway 410 terminating at Queen Street (existing Highway 7); north of this crossing the road will continue as an arterial "New Highway 7" that will bypass Brampton following an alignment basically parallel to Heart Lake Road as far north as Sideroad No. 10 where it will bend w'ly. along same up to its junction with Highway 7 & 10.

Included in project W.P. 134-73-01 (New Brampton Bypass) is the construction of the initial stage of the Hwy. 410/7 interchange bridge. The attached two preliminary Bridge Site Plans (1" = 40'), as prepared by Giffels, Davis & Jorgensen Limited, show the structure cross-section for both the interim and ultimate schemes. You will notice that Highway 410 profile in the vicinity of subject grade separation has been substantially depressed; this is to allow for a reduction of noise levels originated by traffic along the urban developments north of Queen Street.

To assist your office to locate in plan and profile existing utilities in the area of above bridge, we are enclosing a copy of "old" contract documents. Such drawings should be used as reference only as the information contained on them is current for the 1972 year. The actual location of underground utilities must be located in the field by the companies concerned.

Some photos are enclosed to give a general idea of the area under consideration.

Property owners at the four corners of existing Hwy. 7/Heart Lake Road crossing are shown on the enclosed 1" = 200' portion plan. Although it appears that the M.T.C. own some property at the N-W and N-E quadrants we advise you to contact Mr. W. Sippola from the Regional Right-of-Way Office to obtain further information in this respect.

Would you kindly arrange for a Foundation Investigation at above site to cover the interim and ultimate conditions under two alternatives: closed and semi-open (perched) type of abutments. Shown in blue and red are probable footing locations for both schemes (the intended grade-separation is to be a two span cast-in-place type of structure with a pier centered in the wide median of Hwy. 410).

Regarding staking of the job the Regional Surveys Office have already located in the field the centre-line of Hwy. 410.

For location of boreholes, etc. would you therefore contact that office.

Please be advised that Mr. P. Weber informed us that it is possible that the Regional Materials and Testing Office may require the services of your crew to perform some deep investigation in subject area. To be economical, such work should be done at the time it is decided to conduct the structure foundation investigation.

It is therefore recommended to notify Mr. P. Weber of the date you intend to conduct the requested work.

According to our previous telephone conversation 8 weeks have been allowed for the foundations work. Thus, the due date for your Report is March 13, 1974.

If additional assistance is required, please feel free to call us.



MDB:lm
Encl.

M. D. Bendayan,
STRUCTURAL PLANNING ENGINEER,
for:
G. C. E. Burkhardt,
REG. STRUCTURAL PLANNING ENG.

c.c. J. Barclay
C. Mirza
R. Fitzgibbon
J. Anderson

Start - Jan. 29, 1974
Report due } Mar. 13, 1974
Estim. \$ 9,160.25

M.D.D.