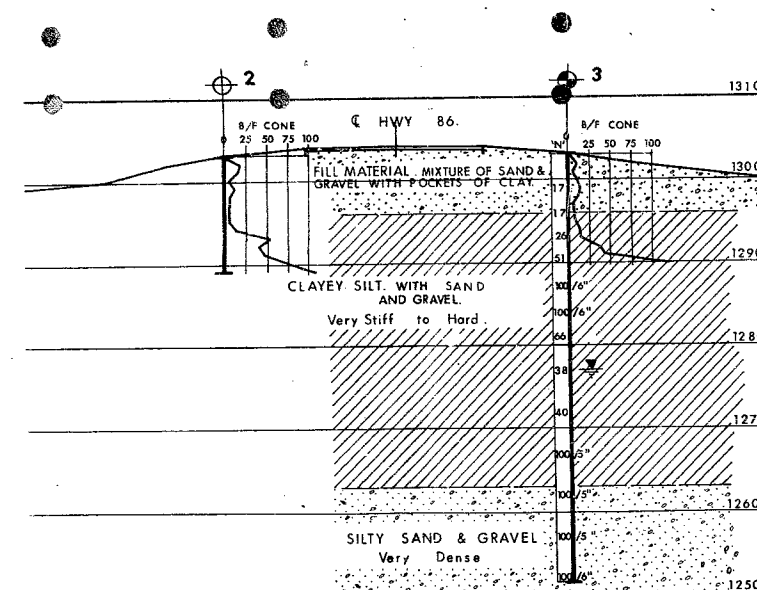
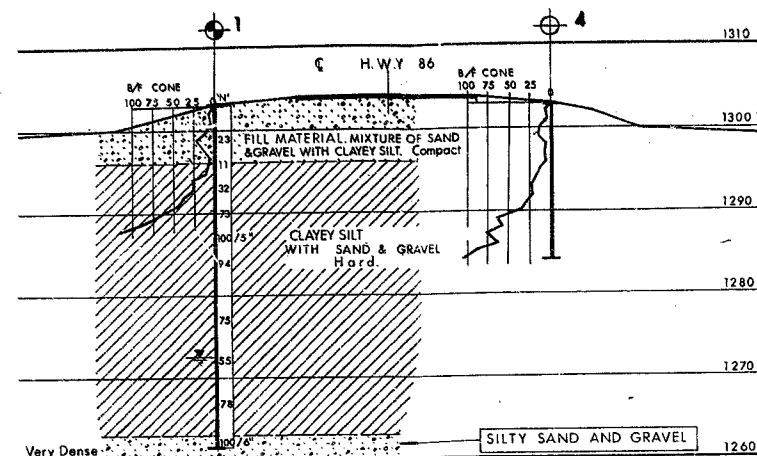


66-F-45

W.P.# 287-64

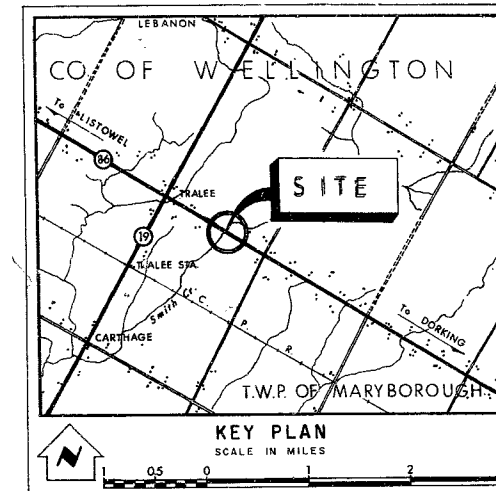
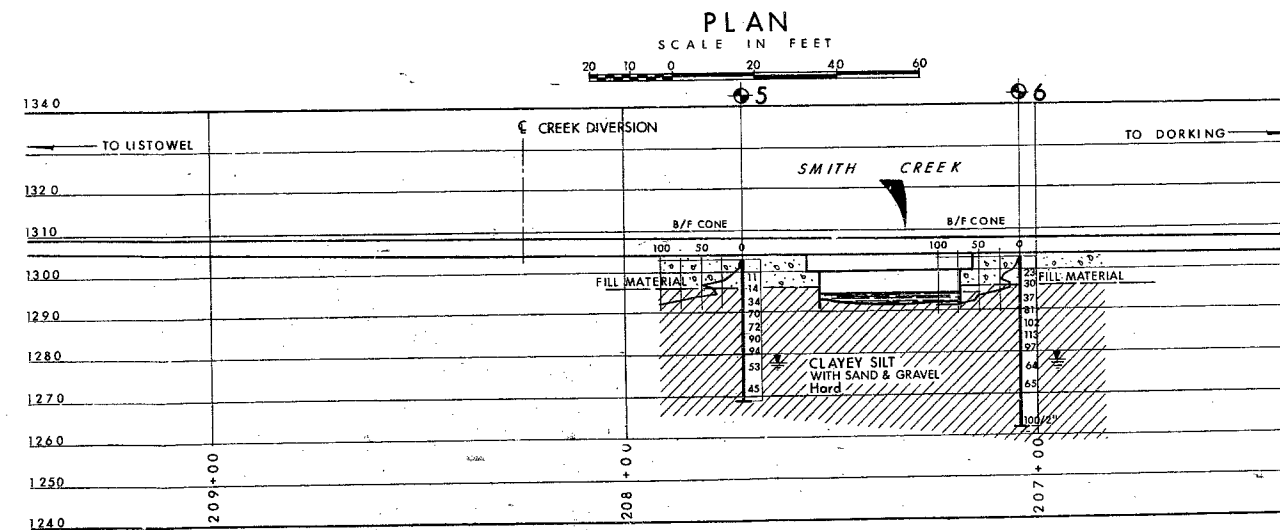
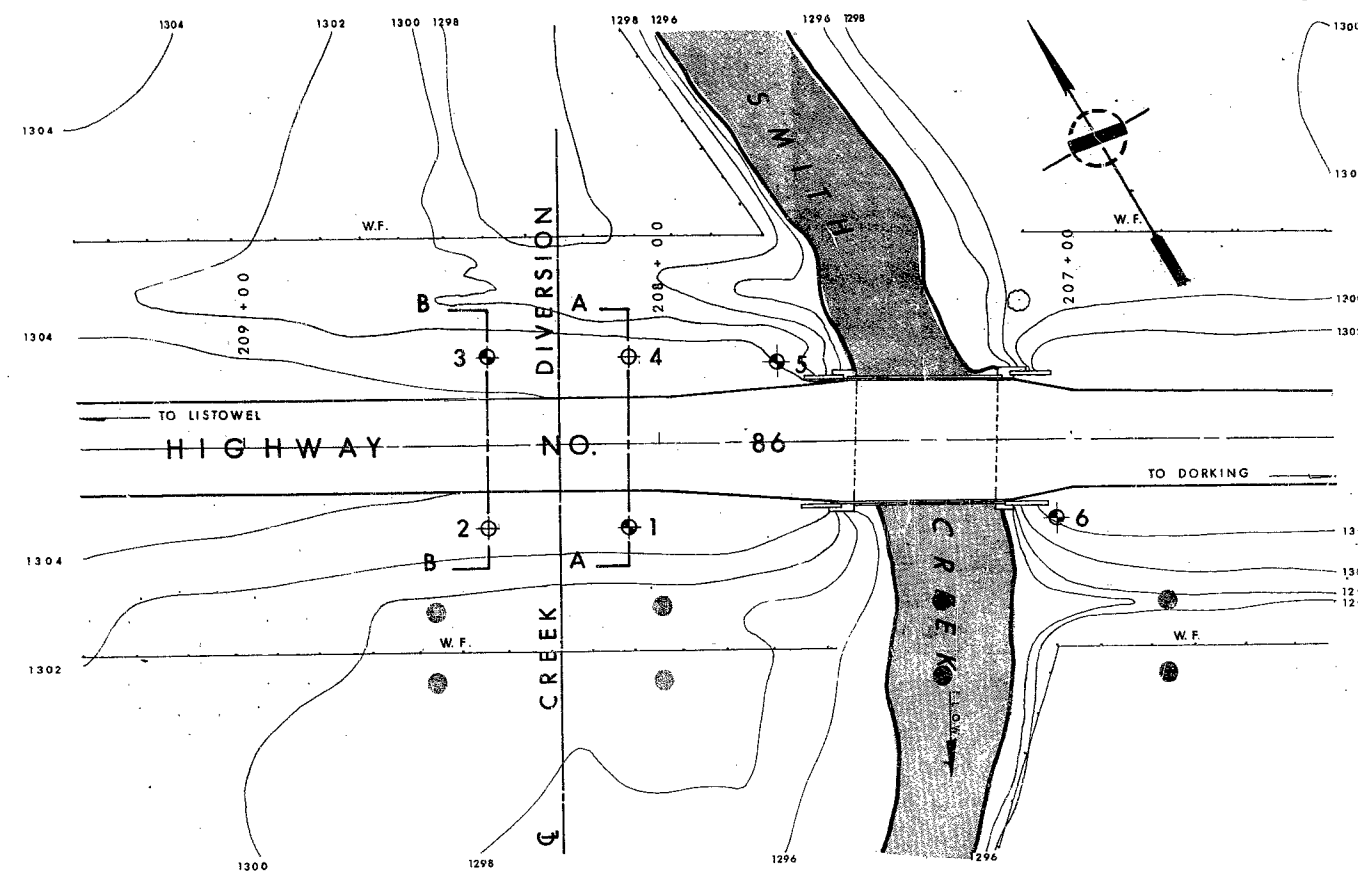
Hwy. # 86 E.

SMITH CREEK



SECTIONS

SCALE
10 5 0 10 20 FT.



LEGEND

- Bore Hole
- Cone Penetration Hole
- Bore & Cone Penetration Hole
- Water Levels established at time of field investigation. MAY 1966.

NO.	ELEVATION	STATION	OFFSET
1	1303.0'	208 + 08	21' LT
2	1303.0'	208 + 42	21' LT
3	1303.0'	208 + 42	21' RT
4	1303.0'	208 + 08	21' RT
5	1303.0'	207 + 71	19' RT
6	1303.0'	207 + 04	19' LT

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.

REVISIONS	DATE	BY	DESCRIPTION
MAY 67	V. K.	B.H.	5 & 6 ADDED ON PLAN & PROFILE

DEPARTMENT OF HIGHWAYS - ONTARIO
MATERIALS & TESTING DIVISION - FOUNDATION SECTION

SMITH CREEK

KING'S-HIGHWAY NO. 86 DIST. NO. 3
CO. WELLINGTON
TWP. MARYBOROUGH LOT 8 CON. 1

BORE HOLE LOCATIONS & SOIL STRATA.

SUBM'D. V.K. CHECKED Y.K. W.P. NO. 287-64 M.B.T. DRAWING NO. 66-F-45 A.
DRAWN J.N. CHECKED J.N. JOB NO. 66-F-45
DATE 14 JUNE 1966 SITE NO. BRIDGE DRAWING NO.
APPROVED [Signature] CONT. NO.

REF. NO: E-4376-1

DEPARTMENT OF HIGHWAYS ONTARIO

MEMORANDUM

236760 14

TO: Mr. B. R. Davis,
Bridge Engineer,
Bridge Division.

FROM: Foundation Section,
Materials and Testing Div.,
Room 107, Lab. Bldg.

Attention: Mr. S. McCombie

DATE: June 23, 1966

OUR FILE REF.

IN REPLY TO

JUN 28 1966

SUBJECT:

FOUNDATION INVESTIGATION REPORT
For
New Bridge at Hwy. 86 and Realigned
Smith Creek Crossing in Twp. of
Morningside and Twp. of Maryborough,
County of Wellington, District No. 3.
W.J. 66-F-45 -- W.P. 287-64

Attached, we are forwarding to you, our detailed
foundation investigation report on the subsoil conditions
existing at the above structure site.

We believe that the factual data and recommendations
contained therein, will be adequate for your design require-
ments. Should additional information be required, please
feel free to contact our Office.

AGS/MdeF
Attach.

cc: Messrs. B. R. Davis (2)
H. A. Tregaskes
D. W. Farren
A. Gater
J. G. Tillcock
J. Roy
A. Watt

Foundations Office
Gen. Files

A. G. Stermac
A. G. Stermac,
PRINCIPAL FOUNDATION ENGINEER

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 2. DESCRIPTION OF SITE AND GEOLOGY.
 3. SUBSOIL CONDITIONS:
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 - 3.2) Fill Material.
 - 3.3) Clayey Silt.
 - 3.4) Silty Sand and Gravel.
 4. GROUND WATER.
 5. DISCUSSION AND RECOMMENDATIONS.
 6. MISCELLANEOUS.
-

FOUNDATION INVESTIGATION REPORT
For
New Bridge at Hwy. 86 and Realigned
Smith Creek Crossing in Twp. of
Mornington and Twp. of Maryborough,
County of Wellington, District No.3.
W.J. 66-F-45 -- W.P. 287-64

1. INTRODUCTION:

The Foundation Section was requested by the Bridge Location Section, in a memo dated May 13, 1966, from Mr. A. P. Watt, Regional Bridge Location Engineer, to carry out a foundation investigation at the crossing of Hwy. 86 and relocated Smith Creek, about 7 miles east of Listowell.

Subsequently, an investigation was carried out by this Section to determine the subsoil conditions existing at the site. This report contains the results of the field investigation, together with recommendations pertaining to the foundations of the proposed structure.

2. DESCRIPTION OF SITE AND GEOLOGY:

Hwy. 86 crosses Smith Creek on a single-span steel girder T-bridge, approximately one mile east of Tralee. At the time of investigation, the creek level was very low and the volume of flow was small. In general, the surrounding area is under cultivation with field crops. The general area is flat to undulating. The site is situated in the physiographic region known as the "Stratford Till Plain".

3. SUBSOIL CONDITIONS:

3.1) General:

Two borings and four dynamic cone penetration tests were carried out during the course of the field work, revealing subsoil conditions to be generally uniform over the site area. The boundaries between different deposits are shown on borelog sheets

cont'd. /2 ...

3. SUBSOIL CONDITIONS: (cont'd.) ...

3.1) General:

attached to this report. The estimated stratigraphical profile shown on Dwg. 66-F-45A, is based on this information. From ground level downward, the different soil types encountered are as follows:

3.2) Fill Material:

This deposit was encountered on both banks of Smith Creek for a depth of 7 ft. The material consists essentially of a mixture of sand and gravel with pockets of clay. 'N' values ranged from 17 to 23 blows/ft., indicating a compact relative density. The moisture content ranges from 7 to 13%.

3.3) Clayey Silt:

This deposit was encountered below the fill material in both the boreholes and extends for a depth of 33 ft. The material consists of clayey silt with some sand and gravel and is cohesive in nature. The consistency of the deposit is very stiff to hard with 'N' values ranging from 32 to >100 blows/ft. with the major portion of the deposit of a hard consistency. The average grain-size distribution is: gravel 8%, sand 21%, silt 42%, clay 29%. Liquid and plastic limit ranges are: 22% - 35% and 13% - 18%, respectively. The average moisture content is about 15%.

3.4) Silty Sand and Gravel:

This stratum underlies the clayey silt with sand and gravel layer and extends for a depth of at least 12 ft. to elev. 1251.5. The constituent material is silty sand and gravel with varying percentages of clay. The deposit is very dense, having 'N' values in excess of 100 blows/ft.

4. GROUND WATER:

The water level in the creek during the time of the field investigation, was at elev. 1294.0. In view of the impermeable nature of the clayey silt stratum, precise ground water levels were not established during the time of the field investigation. The ground water levels in the boreholes ranged from elev. 1276 to elev. 1273.

cont'd. /3 ...

5. DISCUSSION AND RECOMMENDATIONS:

It is proposed to relocate Smith Creek some 90 ft. west of the present crossing of Hwy. 86. At this location a 34-ft. single-span structure some 42 ft. wide, is contemplated. The proposed embankments will be about 4 ft. higher than the original ground on the approaches to the bridge.

The subsoil conditions are suitable for spread footing type foundations. The existing creek bed is about elev. 1292 and it can be assumed that the creek bed of the proposed diversion will be also at the same elevation. Spread footings established on undisturbed ground at elev. 1288, could support an allowable load of 3 t.s.f. However, hydrological consideration may govern the elevations of the footings.

No major dewatering problems are anticipated during excavations because of the low permeability of the clayey silt stratum. Any seepage inflow should be handled adequately by low-capacity pumps. When the desired elevation is reached, a working slab should be cast immediately to prevent softening of the subsoil.

With standard 2:1 slopes, no stability problems are anticipated for the proposed approaches.

6. MISCELLANEOUS:

The field work, performed during the period May 18 to 24, 1966, was undertaken by Mr. V. Korlu, Project Foundation Engineer. Equipment used was owned by Canadian Longyear Limited. The investigation was carried out under the general supervision of Mr. M. Devata, Senior Foundation Engineer, who also reviewed the report.

June 1966

APPENDIX I

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

RECORD OF BOREHOLE NO. 1

FOUNDATION SECTION

JOB 66-F-45 LOCATION Hwy. 86 & Smith Cr. Sta. 208+08 21' Lt. ORIGINATED BY V.K.
W.P. 287-64 BORING DATE May 18, 1966 COMPILED BY V.K.
DATUM Geodetic BOREHOLE TYPE Drive NX Casing & Wash CHECKED BY SR

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE		LIQUID LIMIT — WL		BULK DENSITY	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		BLOWS / FOOT	SHEAR STRENGTH P.S.F.	PLASTIC LIMIT — WP	WATER CONTENT — W		
1303.0	Ground Level						20 40 60 80 100		WP WL	W		
0.0	Fill Material-Mixture of Sand & Gravel with Clayey Silt (Compact)		1	SS	23	300						
1296.0			2	SS	11							Gravel 57
7.0	Clayey Silt with traces of Sand and Gravel (Hard)		3	SS	32							Sand 36
			4	SS	73	1290						Clay 7
			5	SS	100/5"							Gravel 13
			6	SS	94							Sand 27
						1280						Silt 41
			7	SS	75							Clay 19
			8	SS	55							Gravel 2
						1270						Sand 17
			9	SS	78							Silt 51
1263.0												Clay 30
1261.5	SILTY SAND & GRAVEL		10	SS	100/6"							W.L. 1272.5
41.5	Very Dense End of Borehole					1260						30.5'

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

JOB 66-F-45

W. P. 287-64

DATUM Geodetic

LOCATION

Hwy. 86 & Smith Cr. Sta. 208/42 21' Lt.

BORING DATE

May 24, 1966

BOREHOLE TYPE

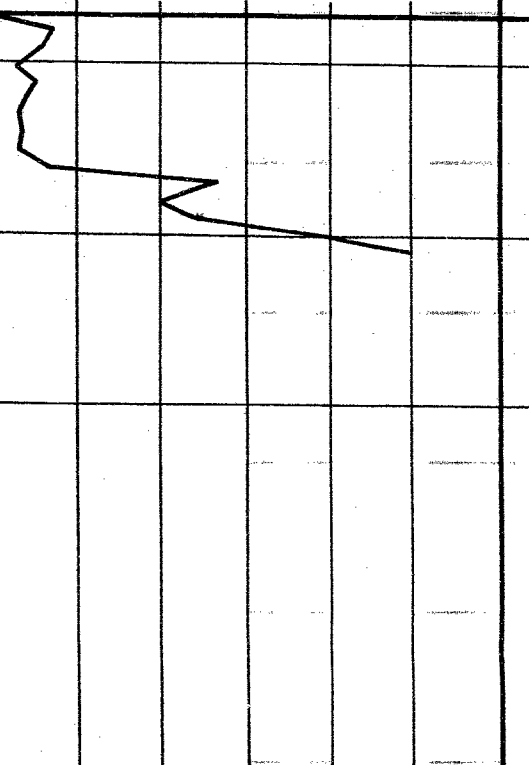
Dynamic Cone Penetration

FOUNDATION SECTION

ORIGINATED BY V.K.

COMPILED BY V.K.

CHECKED BY AK

SOIL PROFILE			SAMPLES			ELEV. SCALE ELEV. / FOOT	DYNAMIC PENETRATION RESISTANCE BLOWS / FOOT	LIQUID LIMIT — WL PLASTIC LIMIT — WP WATER CONTENT — W		BULK DENSITY P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		SHEAR STRENGTH P.S.F.	 WP WL ----- 10 20 30 WATER CONTENT %			
1303.0 0.0	Ground Level					1300					
1289.0 14.0	End of Cone Penetration					1290					
						1280					

CHECKED BY

Gr.15 Sa	Si.50 Cl
Gr. 10 S	Si.38 Cl
Gr.3 Sa.	Si.46 Cl
W.L.	
▼1277.	
26.	
Gr.2 Sa.	Si.46 Cl
Gr.45 Sa	Si.9

MATERIALS & TESTING DIVISION

RECORD OF BOREHOLE NO. 4

FOUNDATION SECTION

JOB 66-F-45LOCATION Hwy. 86 & Smith Cr. Sta. 208+08 21' Rt.ORIGINATED BY V.K.W. P. 287-64BORING DATE May 26, 1966COMPILED BY V.K.DATUM GeodeticBOREHOLE TYPE Dynamic Cone PenetrationCHECKED BY SR

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE BLOWS / FOOT 20 40 60 80 100 SHEAR STRENGTH P.S.F.	LIQUID LIMIT — WL PLASTIC LIMIT — WP WATER CONTENT — W wp — w — WL WATER CONTENT % 10 20 30	BULK DENSITY P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT					
1303.0 0.0	Ground Level					1300				
1284.0 19.0	End of Cone Penetration					1290				
						1280				
						1270				

MATERIALS & TESTING DIVISION

RECORD OF BOREHOLE NO. 5

FOUNDATION SECTION

JOB 66-F-45LOCATION Hwy. 86 & Smith Cr., Sta. 207 + 71 19' Rt.ORIGINATED BY VKW.P. 287-64BORING DATE May 2, 1967COMPILED BY VKDATUM GeodeticBOREHOLE TYPE Pen Drill AugerCHECKED BY VR

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE BLOWS / FOOT 20 40 60 80 100 SHEAR STRENGTH P.S.F.	LIQUID LIMIT — WL PLASTIC LIMIT — WP WATER CONTENT — W WP — W — WL WATER CONTENT % 15 30 45	BULK DENSITY P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT					
1303.0	GROUND LEVEL									
0.0	Fill material mixture of sand & gravel with clayey silt. Compact.		1	SS	11	1300				
1296.0			2	SS	14					
7.0	Clayey silt with sand & gravel.		3	SS	34					
			4	SS	70	1290				
			5	SS	72					
			6	SS	90					
	Hard.		7	SS	94	1280				
			8	SS	53					
			9	SS	45	1270				
1268.5										
34.5	End of Borehole					1260				

WL. 25.0

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

RECORD OF BOREHOLE NO. 6

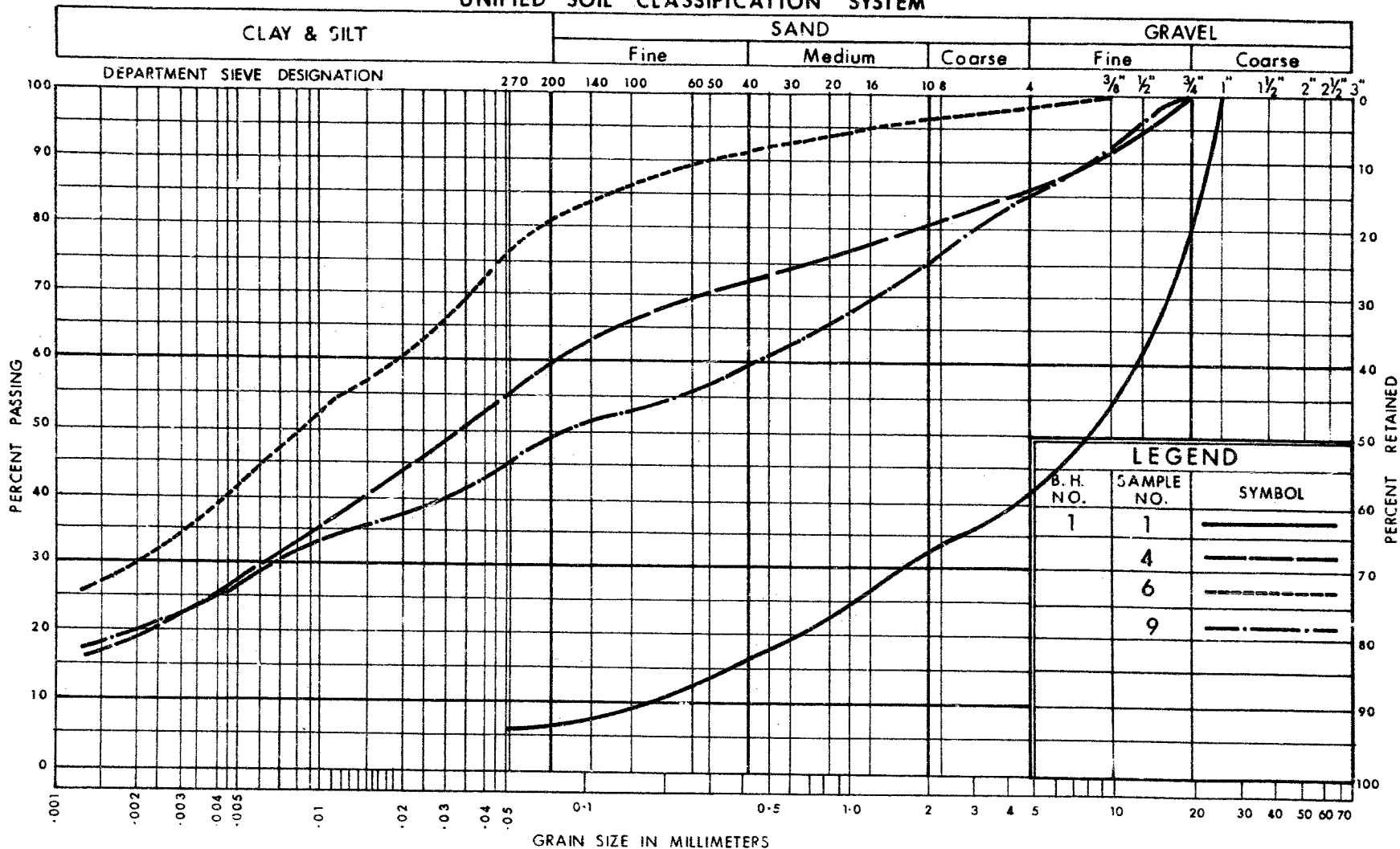
FOUNDATION SECTION

JOB 66-P-45LOCATION Hwy. 86 & Smith Cr., Sta. 207 / 04 19' Lt.ORIGINATED BY VKW.P. 287-64BORING DATE May 3, 1967COMPILED BY VKDATUM GeodeticBOREHOLE TYPE Pen DrillCHECKED BY SR

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE		LIQUID LIMIT — WL PLASTIC LIMIT — WP WATER CONTENT — W		BULK DENSITY P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		BLOWS / FOOT	SHEAR STRENGTH P.S.F.	WATER CONTENT %			
1303.0	GROUND LEVEL											
0.0	Fill material mixture of sand & gravel with clayey silt. Compact.		1	SS	23	1300						
1296.0			2	SS	30							
7.0			3	SS	37							
	Clayey silt with sand & gravel.		4	SS	81	1290						
			5	SS	102							
				SS	113							
	Hard.			SS	97	1280						
			8	SS	64							
			9	SS	65	1270						
1261.5			10	SS	100	1260						
41.5	End of Borehole											

WL. 25.0%

UNIFIED SOIL CLASSIFICATION SYSTEM



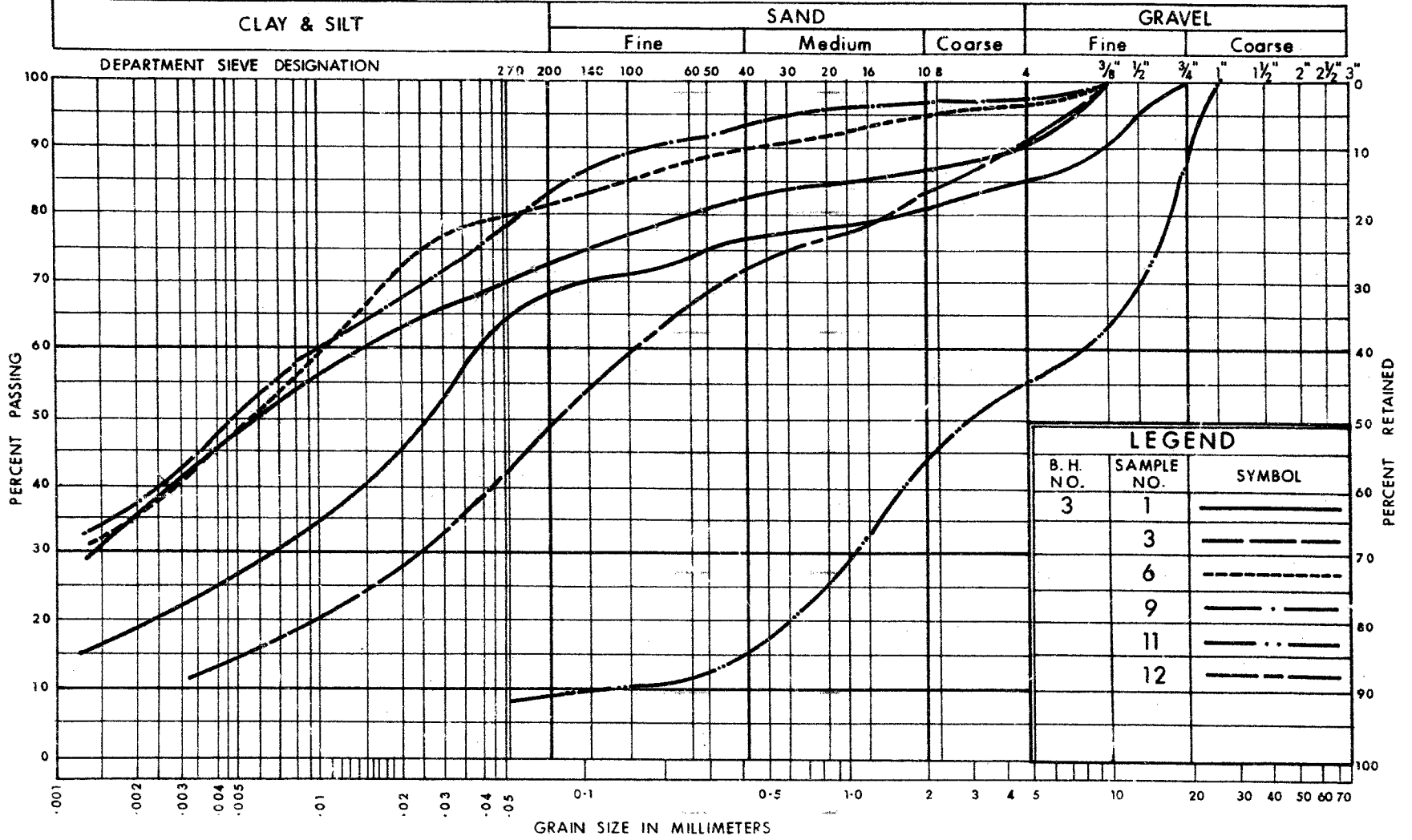
DEPARTMENT OF HIGHWAYS
MATERIALS and
TESTING
DIVISION

GRAIN SIZE DISTRIBUTION

W.P. No. 287-64

JOB No. 66-F-45

UNIFIED SOIL CLASSIFICATION SYSTEM



DEPARTMENT OF HIGHWAYS
MATERIALS and
TESTING
DIVISION

GRAIN SIZE DISTRIBUTION

W.P. No. 287-64
JOB No. 66- F - 45

ABBREVIATIONS USED IN THIS REPORT

PENETRATION RESISTANCE

STANDARD PENETRATION RESISTANCE 'N' - THE NUMBER OF BLOWS REQUIRED TO ADVANCE A STANDARD SPLIT SPOON SAMPLER 12 INCHES INTO THE SUBSOIL, DRIVEN BY MEANS OF A 140 POUND HAMMER FALLING FREELY A DISTANCE OF 30 INCHES.

DYNAMIC PENETRATION RESISTANCE - THE NUMBER OF BLOWS REQUIRED TO ADVANCE A 2 INCH, 60 DEGREE CONE, FITTED TO THE END OF DRILL RODS, 12 INCHES INTO THE SUBSOIL, THE DRIVING ENERGY BEING 350 FOOT POUNDS PER BLOW.

DESCRIPTION OF SOIL

THE CONSISTENCY OF COHESIVE SOILS AND THE RELATIVE DENSITY OR DENSENESS OF COHESIONLESS SOILS ARE DESCRIBED IN THE FOLLOWING TERMS:-

<u>CONSISTENCY</u>	<u>'N' BLOWS / FT.</u>	<u>c LB. / SQ. FT.</u>	<u>DENSENESS</u>	<u>'N' BLOWS / FT.</u>
VERY SOFT	0 - 2	0 - 250	VERY LOOSE	0 - 4
SOFT	2 - 4	250 - 500	LOOSE	4 - 10
FIRM	4 - 8	500 - 1000	COMPACT	10 - 30
STIFF	8 - 15	1000 - 2000	DENSE	30 - 50
VERY STIFF	15 - 30	2000 - 4000	VERY DENSE	> 50
HARD	> 30	> 4000		

TYPE OF SAMPLE

S.S.	SPLIT SPOON	T.W.	THINWALL OPEN
W.S.	WASHED SAMPLE	T.P.	THINWALL PISTON
S.B.	SCRAPER BUCKET SAMPLE	O.S.	OESTERBERG SAMPLE
A.S.	AUGER SAMPLE	F.S.	FOIL SAMPLE
C.S.	CHUNK SAMPLE	R.C.	ROCK CORE
S.T.	SLOTTED TUBE SAMPLE		
	P.H. SAMPLE ADVANCED HYDRAULICALLY		
	P.M. SAMPLE ADVANCED MANUALLY		

SOIL TESTS

Qu	UNCONFINED COMPRESSION	L-V	LABORATORY VANE
Q	UNDRAINED TRIAXIAL	F.V.	FIELD VANE
Qcu	CONSOLIDATED UNDRAINED TRIAXIAL	C	CONSOLIDATION
Qd	DRAINED TRIAXIAL	S	SENSITIVITY

ABBREVIATIONS USED IN THIS REPORT

SOIL PROPERTIES

γ	UNIT WEIGHT OF SOIL (BULK DENSITY)
γ_s	UNIT WEIGHT OF SOLID PARTICLES
γ_w	UNIT WEIGHT OF WATER
γ_d	UNIT DRY WEIGHT OF SOIL (DRY DENSITY)
γ'	UNIT WEIGHT OF SUBMERGED SOIL
G	SPECIFIC GRAVITY OF SOLID PARTICLES $G = \frac{\gamma_s}{\gamma_w}$
e	VOID RATIO
n	POROSITY
w	WATER CONTENT
S_r	DEGREE OF SATURATION
w_L	LIQUID LIMIT
w_p	PLASTIC LIMIT
I_p	PLASTICITY INDEX
s	SHRINKAGE LIMIT
I_L	LIQUIDITY INDEX = $\frac{w - w_p}{I_p}$
I_C	CONSISTENCY INDEX = $\frac{w_L - w}{I_p}$
e_{max}	VOID RATIO IN LOOSEST STATE
e_{min}	VOID RATIO IN DENSEST STATE
I_D	DENSITY INDEX = $\frac{e_{max} - e}{e_{max} - e_{min}}$
	RELATIVE DENSITY D_r IS ALSO USED
h	HYDRAULIC HEAD OR POTENTIAL
q	RATE OF DISCHARGE
v	VELOCITY OF FLOW
i	HYDRAULIC GRADIENT
k	COEFFICIENT OF PERMEABILITY
j	SEEPAGE FORCE PER UNIT VOLUME
m_v	COEFFICIENT OF VOLUME CHANGE = $\frac{-\Delta e}{(1+e)\Delta\sigma}$
C_v	COEFFICIENT OF CONSOLIDATION
C_c	COMPRESSION INDEX = $\frac{\Delta e}{\Delta \log_{10} \sigma}$
T_v	TIME FACTOR = $\frac{C_v t}{d^2}$ (d, DRAINAGE PATH)
U	DEGREE OF CONSOLIDATION
T_f	SHEAR STRENGTH
c'	EFFECTIVE COHESION INTERCEPT
ϕ'	EFFECTIVE ANGLE OF SHEARING RESISTANCE, OR FRICTION
c_u	APPARENT COHESION
ϕ_u	APPARENT ANGLE OF SHEARING RESISTANCE, OR FRICTION
μ	COEFFICIENT OF FRICTION
S_f	SENSITIVITY

GENERAL

π	= 3.1416
e	BASE OF NATURAL LOGARITHMS 2.7183
$\log_e a$ OR $\ln a$	NATURAL LOGARITHM OF a
$\log_{10} a$ OR $\log a$	LOGARITHM OF a TO BASE 10
t	TIME
g	ACCELERATION DUE TO GRAVITY
V	VOLUME
W	WEIGHT
M	MOMENT
F	FACTOR OF SAFETY

STRESS AND STRAIN

u	PORE PRESSURE
σ	NORMAL STRESS
$\bar{\sigma}$	NORMAL EFFECTIVE STRESS ($\bar{\sigma}$ IS ALSO USED)
τ	SHEAR STRESS
ϵ	LINEAR STRAIN
γ	SHEAR STRAIN
ν	POISSON'S RATIO (μ IS ALSO USED)
E	MODULUS OF LINEAR DEFORMATION (YOUNG'S MODULUS)
G	MODULUS OF SHEAR DEFORMATION
K	MODULUS OF COMPRESSIBILITY
η	COEFFICIENT OF VISCOSITY

EARTH PRESSURE

d	DISTANCE FROM TOP OF WALL TO POINT OF APPLICATION OF PRESSURE
δ	ANGLE OF WALL FRICTION
K	DIMENSIONLESS COEFFICIENT TO BE USED WITH VARIOUS SUFFIXES IN EXPRESSIONS REFERRING TO NORMAL STRESS ON WALLS
K_0	COEFFICIENT OF EARTH PRESSURE AT REST

FOUNDATIONS

B	BREADTH OF FOUNDATION
L	LENGTH OF FOUNDATION
D	DEPTH OF FOUNDATION BENEATH GROUND
N	DIMENSIONLESS COEFFICIENT USED WITH A SUFFIX APPLYING TO SPECIFIC GRAVITY, DEPTH AND COHESION ETC. IN THE FORMULA FOR BEARING CAPACITY
k_s	MODULUS OF SUBGRADE REACTION

SLOPES

H	VERTICAL HEIGHT OF SLOPE
D	DEPTH BELOW TOE OF SLOPE TO HARD STRATUM
β	ANGLE OF SLOPE TO HORIZONTAL

66-F-45

MAY 17 PM 3:07

1366

L

LOND DOWN 7 MAY 17/66 255 P VR

J ROY REG MAT ENGR

RESMITH CREEK BRIDGE 0.7 MILES EAST OF HWY 19 ON HWY 86

DIST 3 STRATFORD WP 287-64 WJ 66-F-45

THE FIELD WORK FOR THE A/M PROJ WILL COMMENCE

ON MAY 18TH/66

M DEVATA MATLS & TESTG FOR A STERMAC

KS

66-F-48

MAY 17 PM 2:46

348

S

STFD DOWN 9 MAY 17/66 2.25 P VR

J G TILLCOCK DIST ENGR

ATN R J O'BRIEN MICE ENGR

RE SMITH CREEK BRIDGE 0.7 MILES EAST OF HWY 19 ON HWY 26 DIST

3 STRATFORD WP 287-64 WJ66-F-45

THE FIELD WORK FOR THE A/M PROJ. WILL COMMENCE ON

MAY 18/66

M DEVATA MATLS & TESTG / FOR A G STERMAC

KS

MEMORANDUM

Mr. A. G. Stermac
Principal Foundation Engineer
Lab Building
D O W N S V I E W

FROM: A. P. Watt

DATE: February 24, 1967

UR FILE REF.

IN REPLY TO

SUBJECT:

W.P. 287-64, Bridge Site 35-160,
Smith Creek Bridge,
0.7 miles east of Hwy. 19,
Highway 86,
District 3, Stratford.

Attached please find two copies of the site plan number E-4376-1 with the revised probable footing locations marked in red. As you will notice the new bridge location is at the location of the existing bridge. The revised location of the bridge was decided by Mr. McIlmoyle, Legal Branch, and Mr. J. D. Harris, Bridge Hydrology Engineer because of the property owner, Mr. Elgin Vollmer's complaint to having the bridge moved west of its present location.

The bridge is being issued for design supplying the Foundation Report BA 2351 (W.J. 66-F-45).

A preliminary bridge plan will be sent to you in the near future by the designer for comment.



A. P. WATT
REGIONAL BRIDGE LOCATION ENGINEER

APW:gf
ATT'D

c.c. Mr. S. McCombie

Department of Highways Ontario

Copy for the information of
Mr. A. Stermac, Principal Foundation Engineer,
Room 107, Lab. Building

Mr. A. Watt,
Regional Bridge Location Engineer,
London Regional Office,
London, Ontario

Bridge Division,
Downsview, Ontario

April 24, 1967

Smith Creek Bridge
0.7 Miles East of Highway 19
W.P. 287-64, Site No. 35-160
Highway 86, District No. 3

66-F-45

Attached herewith are prints of the Preliminary Bridge
Plan Drawing B-6017-P1 for the above-mentioned structure.

The estimated cost of the proposed structure is \$50,000.
This cost includes tender, materials, engineering and sundry
construction.

Any comments or revisions you may have should be submitted
within three weeks.

CSB:rd

C.S. Grebaki,
Bridge Design Engineer

Attach.

c.c. S. McCombie
A. Stermac
R. Forrest
E. Cross

alp

Mr. C. S. Grebski,
Bridge Design Engineer,
Bridge Division,
Admin. Bldg.

Foundation Section,
Materials & Testing Div.,
Room 107, Lab. Bldg.

May 5, 1967

Smith Creek Bridge --
0.7 Miles East of Hwy. #19,
W.P. 287-64 -- W.J. 66-P-45,
Hwy. #86, District #3 (Stratford).

We have reviewed the Preliminary Bridge Plan Drawing D-6017-P1 for the above mentioned structure, and submit the following comments:

Our foundation investigation has been carried out at the crossing of the realigned Smith Creek and Hwy. #86, some 90 ft. west of the existing structure. It appears from the Preliminary Bridge Plan that the new bridge will be constructed at the existing structure location.

Following a discussion with Mr. A. P. Watt of the Bridge Planning Section, it was decided that additional borings should be carried out at the revised bridge location in order to confirm the subsoil conditions reported in our original foundation investigation report W.J. 66-P-45. These borings (B.H.'s #5 and #6) have now been completed, and the log sheets, together with the subsoil stratigraphy Dwg. #66-P-45A (Revised) will be forwarded to you in the near future.

The recent investigation revealed that the subsoil conditions are very similar to those we have previously reported and in view of this, we have no comments pertaining to the structure foundations.

ED/MdeF

cc: Messrs. S. McCombie
A. P. Watt

Foundations Files ✓
Gen. Files

M. Devata
M. Devata,
SUPERVISING FOUNDATION ENGR.
For:
A. G. Stermac,
PRINCIPAL FOUNDATION ENGR.

WJS

Mr. B. R. Davis,
Bridge Engineer,
Bridge Division,
Admin. Bldg.

Foundation Section,
Materials & Testing Div.,
Room 107, Lab. Bldg.

Attn: Mr. C. S. Grebski

May 25, 1967

Additional Borings --
Smith Creek Bridge,
0.7 Miles East of Hwy. #19,
W.F. 287-64 -- W.J. 66-P-45,
Hwy. #86, District #3 (Stratford).

As mentioned in our memo to Mr. C. S. Grebski, dated May 5, 1967, please find attached hereto, the additional log sheets (B.H.'s #5 and #6), together with revised Drawing No. 66-P-45A, to be included with your copy(s) of our Foundation Report W.J. 66-P-45 (June 23, 1966).

Revised Drawing will replace existing drawing(s).

MD/AdP

Attach.

cc: Messrs. B. R. Davis (2)
H. A. Tregaskas
D. W. Farren
A. Geter
J. G. Tillicock
A. P. Watt
J. Roy
S. A. Singh

Foundations Files
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M. Devata

M. Devata,
SUPERVISING FOUNDATION ENGR.
For:
A. G. Sternac,
PRINCIPAL FOUNDATION ENGR.

Mr. B. B. Davis,
Bridge Engineer,
Bridge Division,
Admin. Bldg.

Foundation Section,
Materials & Testing Div.,
Room 107, Lab. Bldg.

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MD/MSF

Attach.

cc: Messrs. B. B. Davis (2)
H. A. Tregekas
D. W. Farren
A. Gater
J. G. Tillson
A. P. Watt
J. Ray
B. A. Singh

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PRINCIPAL FOUNDATION ENGR.

ok