

MEMORANDUM

6. GENERAL FILES

W.P. 351-64-5

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

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

Attention: Mr. S. McCombie

DATE: January 22, 1968

OUR FILE REF.

IN REPLY TO

JAN 29 1968

SUBJECT:

FOUNDATION INVESTIGATION REPORT  
For

Proposed New Structure over the  
Creek (unnamed) at Hwy. #7  
0.2 Miles West of Hwy. #50  
District No. 6 (Toronto)  
W.J. 67-F-116 -- W.P. 351-64-05

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 prove adequate for your design  
requirements. Should additional information be required,  
please feel free to contact our Office.

AGS/MdeF  
Attach.

cc: Messrs. B. R. Davis (2)  
H. A. Tragaskes  
D. W. Farren  
G. K. Hunter (2)  
F. Allen  
W. S. Melinyshyn  
T. J. Kovich  
B. A. Singh

*A. G. Sternac*  
A. G. Sternac  
PRINCIPAL FOUNDATION ENGINEER

Foundations Files  
Gen. Files

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FOUNDATION INVESTIGATION REPORT  
For  
Proposed New Structure over the  
Creek (unnamed) at Hwy. #7  
0.2 Miles West of Hwy. #50  
District No. 6 (Toronto)  
W.J. 67-F-116 -- W.P. 351-64-05

1. INTRODUCTION:

A request for a foundation investigation at the site of the proposed new structure at the unnamed creek and Hwy. #7, was received from Mr. W. S. Melinyshyn, Regional Bridge Location Engineer, in a memo dated November 29, 1967.

A field investigation was subsequently carried out by this Section to determine the subsoil conditions existing at the location of the proposed structure. Presented in this report are the results of this investigation, together with recommendations pertaining to the design of the proposed foundations and approach embankments.

2. DESCRIPTION OF THE SITE:

The site is located on Hwy. #7, 0.2 miles west of Hwy. #50, near Woodbridge, Ontario. The surrounding area is farmland and the topography is nearly flat.

Physiographically, the site is located in the region referred to as Peel Plain.

3. FIELD INVESTIGATION PROCEDURE:

A total of four boreholes and seven dynamic cone penetration tests, was carried out during the course of the field work. Boring was achieved by means of conventional diamond drilling equipment adapted for soil sampling purposes. Samples were recovered using a 2-inch O.D. split-spoon sampler driven according to the specifications of the Standard Penetration Test.

3. FIELD INVESTIGATION PROCEDURE: (cont'd.) ...

Samples were visually examined in the field and subsequently in the laboratory.

The locations and elevations of all boreholes are shown on Drawing 67-F-116A, which accompanies this report.

4. LABORATORY TESTS:

Laboratory tests were carried out on selected samples to determine Atterberg limits, grain-size distribution, and natural moisture contents.

The results of tests carried out in the field and laboratory are plotted on the borehole logs which form part of this report.

5. SOIL TYPES AND SOIL CONDITIONS:

5.1) General:

Subsoil at the site consists of three different layers. The boundaries of the deposits are shown on the accompanying borelog sheets. From ground level downwards, the various soil types are as follows:

5.2) Fill Material:

This deposit consists of the material in the highway embankment, and was intersected in B.H.'s 1 and 5. In B.H. 1 the soil consists of a heterogeneous mixture of loose to very dense sandy gravel with traces of silt and clay. In B.H. 5 the soil consists of firm to stiff clayey silt to silty sand with traces of gravel and traces of organics. The average moisture content of the granular type material is about 8% and of the cohesive material, about 20%.

cont'd. /3 ...

5. SOIL TYPES AND SOIL CONDITIONS: (cont'd.) ...

5.3) Clayey Silt with Gravel and Sand:

This deposit was observed in B.H. 3 only, and extends from the ground surface to a depth of 6.0 ft. The material consists of clayey silt with gravel and sand. The natural moisture content is about 15%, and the consistency is estimated to range from firm to very stiff.

5.4) Alluvial Deposit:

This deposit was encountered in B.H. 6 only. The material consists of sandy silt with clay and organics and traces of gravel. The depth of this layer is about 7.0 ft. The layer itself has probably been deposited by the creek and is therefore classified as alluvial. The natural moisture content was found to be about 12.0%, and the relative density is estimated to range from loose to dense.

5.5) Sandy Silt with Clay and occasional Gravel (Till):

This is the main subsoil at the site. The material consists of a heterogeneous mixture of gravel, sand, silt and clay, and is classified as sandy silt with clay and occasional gravel. 'N' values obtained from the Standard Penetration Test range from 41 to above 170 blows per foot, indicating a generally very dense relative density. From the grain-size distribution curves, the material contains:

Gravel .....	7 - 16%
Sand .....	28 - 38%
Silt and Clay	56 - 59%

The material in this deposit has a slight internal strength due to cohesion. It is believed, therefore, that excavations carried out some 7.0 - 8.0 ft. below groundwater level, will not encounter any difficulties due to 'boiling' during dewatering operations.

contd. /4 ...

5. SOIL TYPES AND SOIL CONDITIONS: (cont'd.) ...

5.6) Bedrock:

Bedrock was encountered immediately below the aforementioned Till deposit. It consists of layers of shale and limestone, generally in a sound condition from the surface downward.

6. GROUNDWATER CONDITIONS:

No attempt was made to establish an accurate groundwater level by means of piezometers. However, since the boreholes are close to the creek, the groundwater level can be assumed to be approximately 580.0 which was the water level of the creek at the time of investigation.

7. DISCUSSION AND RECOMMENDATIONS:

7.1) General:

A new structure over the unnamed creek at Hwy. #7, 0.2 miles west of Hwy. #50, is proposed to be constructed. The new centre-line will coincide with the present one. The new structure, which could be either a small bridge, special culvert or S.P.P., will be of 30-ft. span, and the new profile grade will be about 9.0 ft. higher than the existing grade. The proposed structure will be about 72.0 ft. in length.

The various aspects of the proposed project are discussed below, under appropriate headings.

7.2) Structure Foundations:

The proposed structure may consist of a small bridge or a culvert, depending on hydrological considerations. Recommendations as to foundation support for the various cases, are as follows:

cont'd. /5 ...

7. DISCUSSION AND RECOMMENDATIONS: (cont'd.) ...

7.2) Structure Foundations: (cont'd.) ...

(1) Bridge or Culvert on Spread Footings:

These types of structures may be supported on spread footings placed at or below el. 574.0. A safe bearing capacity of 3.0 t.s.f. may be assumed for design purposes.

No major dewatering problems are anticipated.

(2) Flexible Pipe Arch or Box Culvert:

These types of structures may be constructed with the required invert depth on a 2.0-ft. minimum thickness granular pad after removing all subsoil of an organic nature below the structure.

No major dewatering problems are anticipated.

7.3) Structure Approaches:

No stability problems are anticipated for the proposed embankments provided standard 2:1 slopes are constructed.

8. SUMMARY:

A foundation investigation at the site of the proposed new structure at Hwy. #7 over the unnamed creek, 0.2 miles west of Hwy. #50, District No. 6, Toronto, is reported.

Subsoil at the site consists of about 20 feet of fill material followed by 15 to 25 ft. of very dense glacial till followed by shale and limestone bedrock.

Recommendations pertaining to the structure foundations and approach embankments, are as follows:

cont'd. /6 ...

8. SUMMARY: (cont'd.) ...

8.1) The proposed structure may be supported on spread footings.

No major dewatering problems are anticipated.

8.2) No stability problems with regard to the approaches are anticipated, provided that standard 2:1 slopes are used.

9. MISCELLANEOUS:

The field investigation was carried out during the period December 5 to 13, 1967.

Equipment used was owned and operated by Dominion Soil Investigation, Ltd.

The supervision of the field work and the preparation of this report, were undertaken by Mr. S. Nassif, Project Foundation Engineer.

The report was reviewed by Mr. K. G. Selby, Supervising Foundation Engineer.

January, 1968.



APPENDIX I.

FOUNDATION SECTION

CHECKED BY AK

[illegible]

[illegible]

FOUNDATION SECTION

ORIGINATED BY SN

COMPILED BY \_\_\_\_\_ SN \_\_\_\_\_

CHECKED BY AK

SOIL PROFILE			SAMPLES			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	ELEV. SCALE	BLOWS / FOOT 20 40 60 80 100	SHEAR STRENGTH P.S.F.	WATER CONTENT % 10 20 30	WATER CONTENT — W				
581.6	Ground Level													
0.0	Clayey silt with gravel and sand. Firm to very stiff.					580								580.1
575.8			1	SS	25									
6.0			2	SS	41									
	Sandy silt with clay & occ. gravel.  Very dense.  (Till)		3	SS	76	570								
			4	SS	77									
			5	SS	171	560								
553.8														
28.0	Bedrock Shale with Limestone					550								
548.8														
33.0	End of Borehole					540								

[illegible]

DEPARTMENT OF HIGHWAYS - ONTARIO

## MATERIALS &amp; TESTING DIVISION

67-F-116

LOCATION Sta. 14 + 07 o/s 33' Rt.

ORIGINATED BY SN

W. P. 351-64-05

BORING DATE December 11, 1967

COMPILED BY \_\_\_\_\_ SN

Geodetic

BOREHOLE TYPE BX Casing & wash

CHECKED BY AK

[illegible]

DEPARTMENT OF HIGHWAYS - ONTARIO

## MATERIALS &amp; TESTING DIVISION

67-F-116

LOCATION Sta. 13 + 75 o/s 29.0' Rt.

ORIGINATED BY SN

W. P. 351-64-05

BORING DATE Dec. 12, 1967

COMPILED BY \_\_\_\_\_ SN

DATUM Geodetic

BOREHOLE TYPE BX Casing and Wash

CHECKED BY AK

[illegible]





## 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

Q <sub>u</sub>	UNCONFINED COMPRESSION	L.V.	LABORATORY VANE
Q	UNDRAINED TRIAXIAL	F.V.	FIELD VANE
Q <sub>cu</sub>	CONSOLIDATED UNDRAINED TRIAXIAL	C	CONSOLIDATION
Q <sub>d</sub>	DRAINED TRIAXIAL	S	SENSITIVITY

# ABBREVIATIONS USED IN THIS REPORT

## SOIL PROPERTIES

$\gamma$	UNIT WEIGHT OF SOIL (BULK DENSITY)
$\gamma_s$	UNIT WEIGHT OF SOLID PARTICLES
$\gamma_w$	UNIT WEIGHT OF WATER
$\gamma_d$	UNIT DRY WEIGHT OF SOIL (DRY DENSITY)
$\gamma'$	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
$\tau_f$	SHEAR STRENGTH
$c'$	EFFECTIVE COHESION INTERCEPT
$\phi'$	EFFECTIVE ANGLE OF SHEARING RESISTANCE, OR FRICTION
$c_u$	APPARENT COHESION
$\phi_u$	APPARENT ANGLE OF SHEARING RESISTANCE, OR FRICTION
$\mu$	COEFFICIENT OF FRICTION
$S_t$	SENSITIVITY

## GENERAL

$\pi$	= 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
$\sigma$	NORMAL STRESS
$\sigma'$	NORMAL EFFECTIVE STRESS ( $\bar{\sigma}$ IS ALSO USED)
$\tau$	SHEAR STRESS
$\epsilon$	LINEAR STRAIN
$\gamma$	SHEAR STRAIN
$\nu$	POISSON'S RATIO ( $\mu$ IS ALSO USED)
E	MODULUS OF LINEAR DEFORMATION (YOUNG'S MODULUS)
G	MODULUS OF SHEAR DEFORMATION
K	MODULUS OF COMPRESSIBILITY
$\eta$	COEFFICIENT OF VISCOSITY

## EARTH PRESSURE

d	DISTANCE FROM TOP OF WALL TO POINT OF APPLICATION OF PRESSURE
$\delta$	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. 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
$\beta$	ANGLE OF SLOPE TO HORIZONTAL

Hwy. 401 & Keele St.,  
Downsview, Ontario.

Tel. 248-3282  
(Area Code 416)

Materials and Testing Division

January 17, 1968

Dominion Soil Investigation Ltd.,  
77 Crocaford Blvd.,  
Scarborough, Ontario.

Dear Sirs:

This is to confirm our request of December 4, 1967,  
for the supply of a diamond drill, together with all necessary  
equipment, as specified under the terms of our Contract  
Agreement, at Hwy. 7 and 50 junction, on December 5, 1967.

This project bears Job Number 67-F-116 & 117 & 120.

Yours truly,

*K. G. Selby*

KGS/WdeF

K. G. Selby,  
Supervising Foundation Engineer  
For: A. G. Stermac,  
Principal Foundation Engineer

cc: Mr. H. Konings

Foundation Files  
Gen. Files

## MEMORANDUM

To: Mr. K. Selby,  
Foundation Section,  
Lab. Building

FROM: Bridge Division,  
Downsview, Ontario

ATTENTION:

DATE: October 17, 1968

OUR FILE REF:

IN REPLY TO

SUBJECT: Unnamed Creek Structure  
W.F. 351-64-5, Site 24-282  
Highway 7, District No. 6

67-15-116

The attached preliminary drawing, D-6442-P, shows the proposed 5 gauge structural plate pipe arch under 12'-0" fill at the above site.

The computed reactive soil pressures are as follows:

Corner pressure ----- 4700 p.s.f.

Bottom pressure ----- 400 p.s.f.

Top pressure ----- 1400 p.s.f.

We would be obliged if you would consider these values when you review the preliminary, and advise us accordingly should you decide any of them are excessive.

*H.S. Bawcutt.*

H.S. Bawcutt,  
Regional Bridge Project Tech'n

HSE:rd

Attach.

No Comments

*K. L. Selby*

Oct. 28th 1968.

Department of Highways Ontario

Copy for the information of

Mr. A. Stermac

Mr. W. Selinskyhyn,  
Reg. Bridge Location Engineer,  
Central Region,  
Admin. Building

Bridge Division,  
Downsview, Ontario

November 8, 1968

Unnamed Creek

0.2 Miles West of Hwy. 50

N.P. 351-64-5, Site H4-282

Highway 7, District No. 6

67-F-116

Attached herewith are prints of the revised Preliminary Bridge Plan Drawing P-6442-2 for the above-mentioned structure.

The estimated cost of the proposed structure is \$47,000. This cost includes tender, materials, engineering and sundry construction.

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

G.S. Grabaki,  
Bridge Design Engineer

CSU:rs

Attach.

c.c. S. McCombie  
A. Stermac (2)  
J. Anderson

No Comments

A. G. Selby

Nov. 12<sup>th</sup> 1968

Department of Highways Ontario

Copy for the information of

Mr. A. Stermac

Mr. W. Melinshyn,  
Reg. Bridge Location Engineer,  
Central Region, Admin. Bldg.

Bridge Office,  
Downsview, Ontario

December 12, 1968

Unnamed Creek  
0.2 Mi. West of Hwy. 50  
W.P. 351-64-5, Site 24-282  
Highway 7, District No. 6

67-F-116

Attached herewith are prints of the revised Preliminary Bridge Plan Drawing D-6442-P1 for the above-mentioned structure.

The estimated cost of the proposed structure is \$47,000. This cost includes tender, materials, engineering and sundry construction.

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

CSG:rd

C.S. Grebaki,  
Bridge Design Engineer

Attach.

c.c. S. McCamble  
A. Stermac (2)  
J. Anderson

17 DEC 1968

NO COMMENTS

A.R.B.

*(Signature)*

## MEMORANDUM

To: Mr. A. Ferguson,  
Principal Foundation Engineer,  
Room 107, Lab. Building

From: Bridge Office,  
Downsview

Attention:

Date: January 20, 1969

Our File Ref.

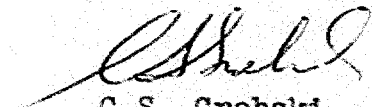
In Reply To

Subject: Unnamed Creek  
0.2 Mile West of Hwy. 50  
W.P. 351-64-5, Site 24-282  
Highway 7, District No. 6

67-F-116

Attached herewith we are submitting the final bridge drawings which show the foundation design for this structure.

Kindly give us your comments at your earliest convenience.



C.S. Grebski,  
Bridge Design Engineer

CSG:rd

Attach.

c.c. Foundation Section

*Original sent at the same time  
should be removed,  
no other comments*

*APR 29/1/69*

*Ry*



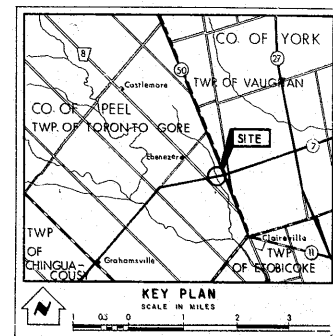
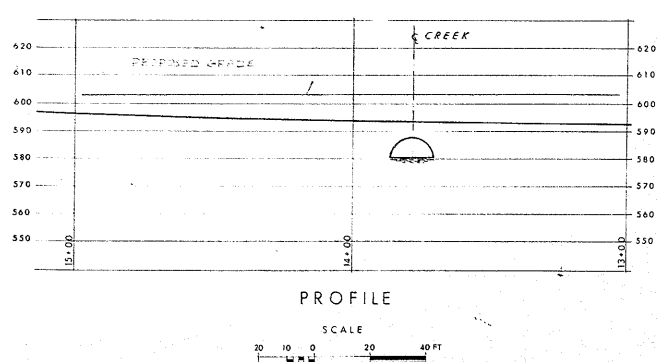
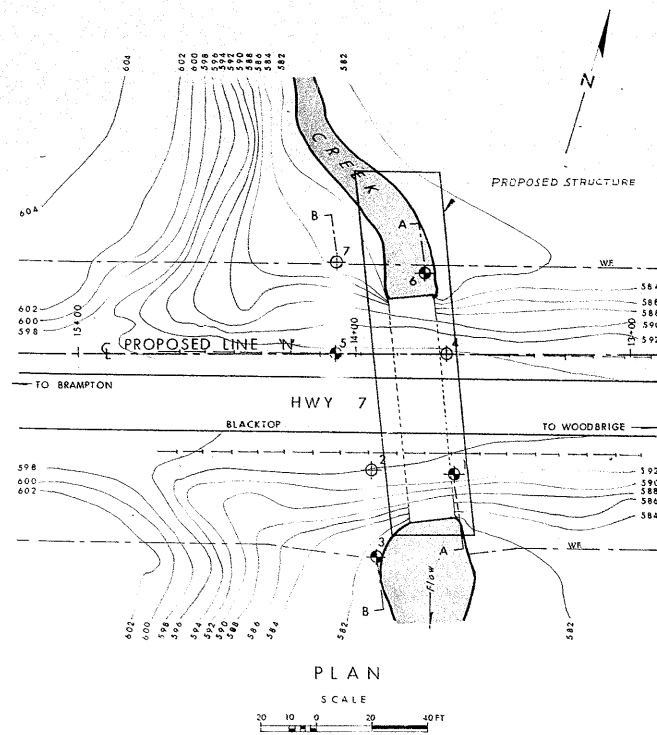
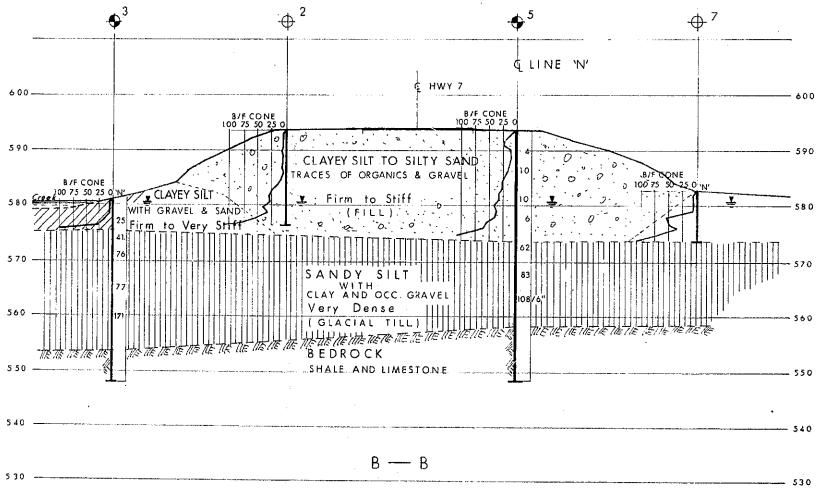
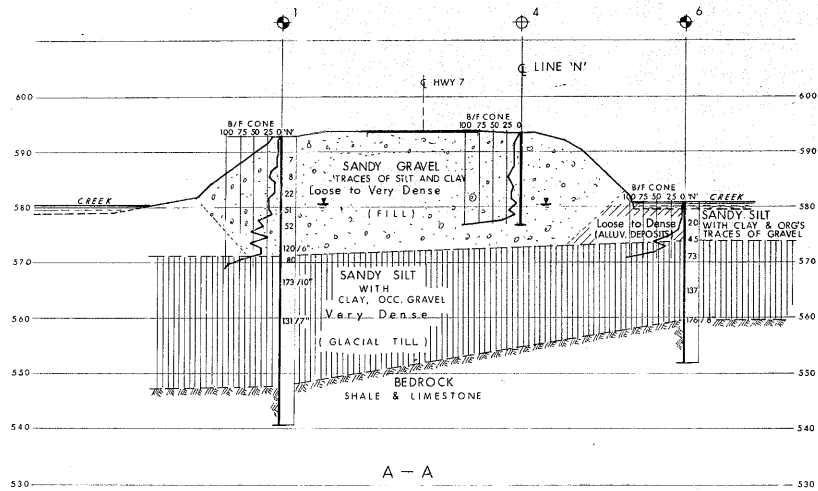
#67-F-116

W.P. # 351-64-05

Hwy # 7

UNNAMED  
CREEK





**LEGEND**

- Bore Hole
- Cone Penetration Hole
- Bore & Cone Penetration Hole
- Water Levels established at time of field investigation, DEC. 1967

NO.	ELEVATION	STATION	OFFSET
1	592.6	13+64	43' LT
2	593.8	13+94	42' LT
3	581.8	13+92	73' LT
4	593.2	13+67	C
5	593.6	14+07	C
6	580.8	13+75	29' RT
7	582.3	14+07	33' RT

**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

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

**CREEK**

KING'S HIGHWAY NO. 7 LINE 'N' DIST. NO. 6  
CO. PEEL  
TWP. TORONTO GORE LOT 4 CON. X

**BORE HOLE LOCATIONS & SOIL STRATA**

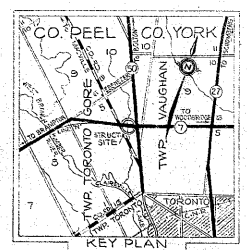
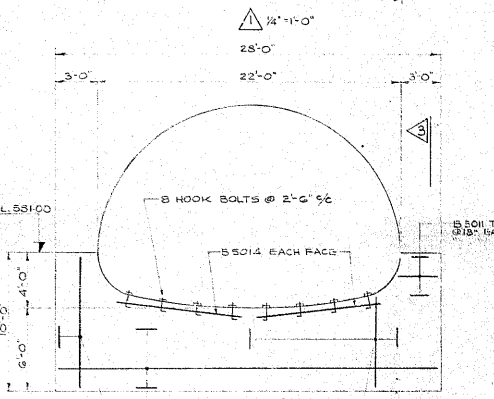
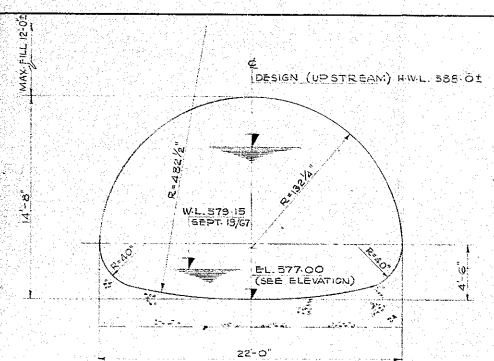
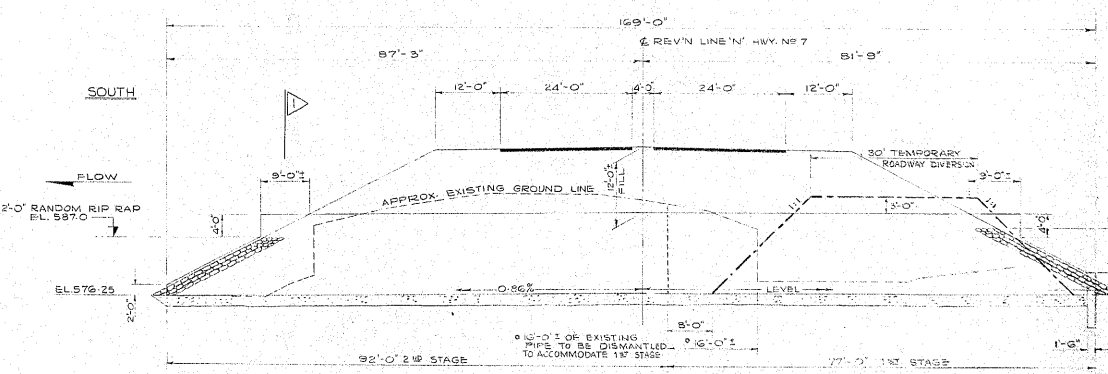
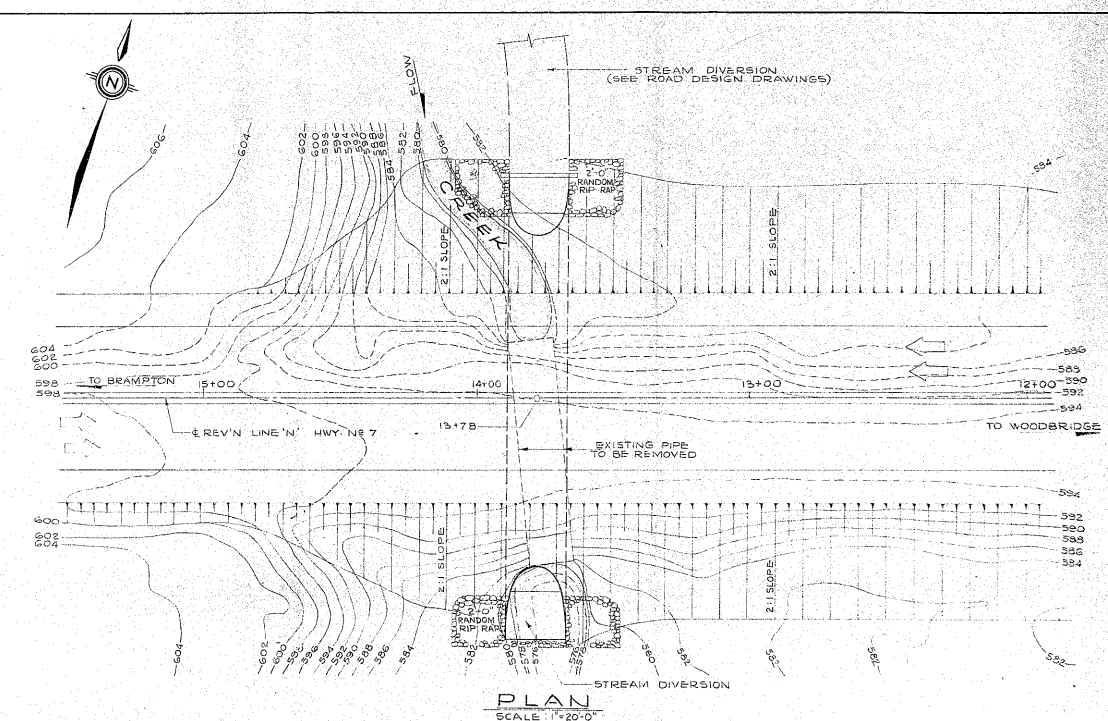
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DRAWN A.B.	CHECKED	JOB NO.	67-F-116	67-F-116 A

DATE JAN. 18, 1968 SITE NO.   BRIDGE DRAWING NO.  

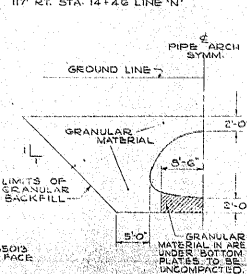
APPROVED   SOILS ENGINEER

PRINT RECORD

NO.	FOR	DATE



B.M. 597.76  
GEODETIC DATUM  
N.T.W. IN S.W. ROOT OF 1/5 BASSWOOD  
17' E. STA. 16+4.5 LINE N



NOTES:  
1. SECTION PERPENDICULAR TO PIPE.  
2. LATERAL LIMITS FACE TO FACE  
EMBANKMENT.

DETAIL - GRANULAR BACK-FILL  
N.T.S.

NOTES:  
CLASS OF CONCRETE - 3000 P.S.I.  
CLEAR COVER ON REINFORCING STEEL - 3"  
STEEL PIPE TO BE 22'-0" X 14'-6" PLAIN  
GALVANIZED MULTIPLATE OR K-D PLATE  
STRUCTURAL PLATE PIPE ARCH GAUGE #5

REVISION	DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS ONTARIO  
BRIDGE DIVISION

67-F-116

UNNAMED CREEK  
0.2 MI. WEST OF HWY 50

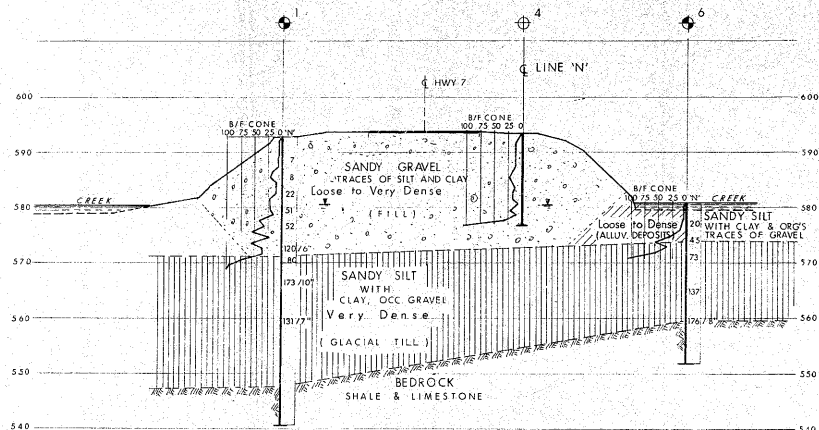
KING'S HIGHWAY No. 7 LINE 'N' DIST. No. G  
CO. PEEL  
TWP. TORONTO SORE LOT 4 CON. X

GENERAL LAYOUT

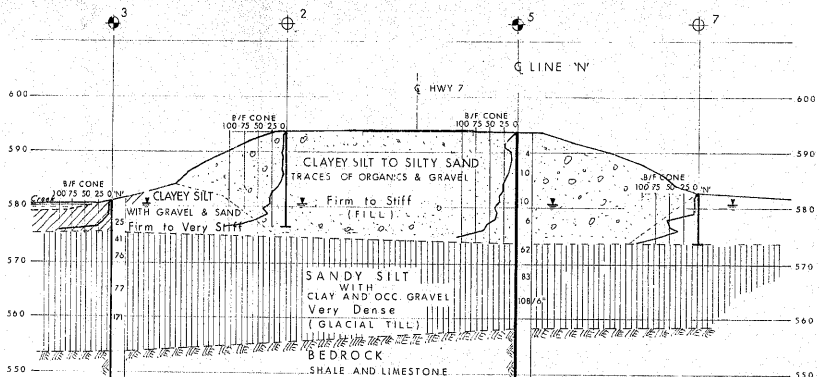
APPROVED  
DESIGN: ADAPTED CHECK REE  
DRAWING: D.G. CHECK REE  
DATE: NOV 1964 (LOADING 1/5 2014)

CONTRACT No. 24-202 551-64-5  
DRAWING No. D-6442-1

LIST OF DRAWINGS  
D-6442-1 GENERAL LAYOUT  
BORE HOLE LOCATIONS & SOIL STRATA



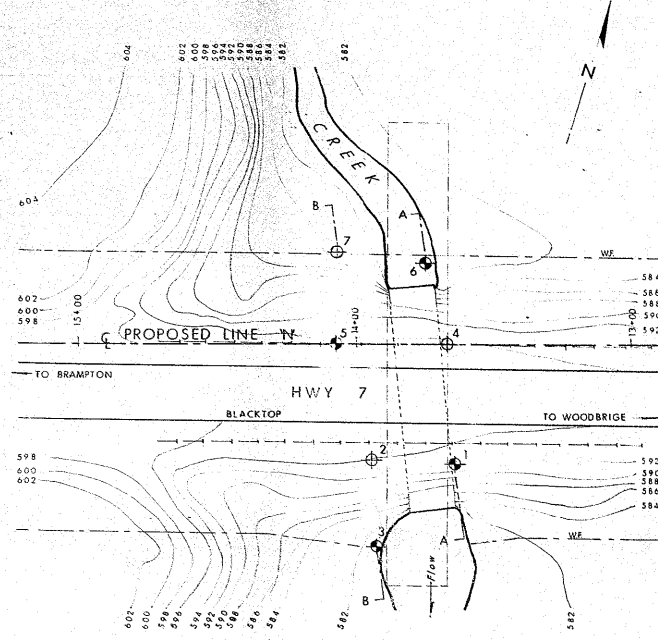
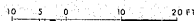
A - A



B - B

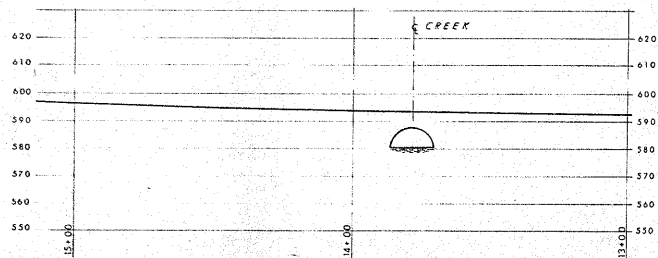
SECTIONS

SCALE



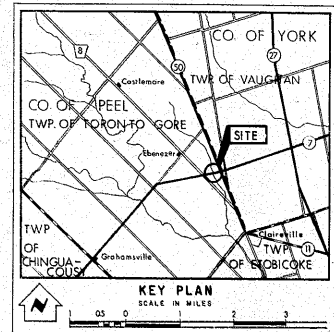
PLAN

SCALE



PROFILE

SCALE



LEGEND

- Bore Hole
- Cone Penetration Hole
- Bore & Cone Penetration Hole
- Water Levels established at time of field investigation, DEC. 1967

NO.	ELEVATION	STATION	OFFSET
1	592.6	13+64	43' LT
2	593.8	13+94	42' LT
3	581.8	13+92	73' LT
4	593.2	13+67	6'
5	593.4	14+07	6'
6	580.8	13+75	29' RT
7	582.3	14+07	33' RT

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.

DATE	BY	DESCRIPTION

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

UNNAMED CREEK  
0.2 MI. WEST OF HWY 50

KING'S HIGHWAY NO. 7	LINE 'N'	DIST. NO. 6
CO. PEEL		
TWP. TORONTO GORE	LOT 4	CON. K
BORE HOLE LOCATIONS & SOIL STRATA		
SUBWD. S.N.	CHECKED: 11	W.P. NO. 351-64-05
DRAWN A.B.	CHECKED: 11	JOB NO. 67-F-116
DATE JAN. 18, 1968	SITE NO. 24-282	BRIDGE DRAWING NO.
APPROVED: [Signature]	CONT. NO.	D-6442-2

REF. NO. E-4799-1