

# LIST OF DRAWINGS

- 1 Key Plan
- 2 Plan & Profile 0+000 to 0+500
- 3 Plan & Profile 0+500 to 1+100
- 4 Plan & Profile 1+100 to 1+700
- 5 Plan & Profile 1+700 to 2+300
- 6 Plan & Profile 2+300 to 2+900
- 7 Plan & Profile 2+900 to 3+500
- 8 Plan & Profile 3+500 to 4+100
- 9 Plan & Profile 4+100 to 4+700
- 10 Plan & Profile 4+700 to 5+300
- 11 Plan & Profile 5+300 to 5+900
- 12 Plan & Profile 5+900 to 6+500
- 13 Parking Lots
- 14 Detail Sheet
- 15 Logicroft Intersection

## KOUCHIBOUGUAC NATIONAL PARK

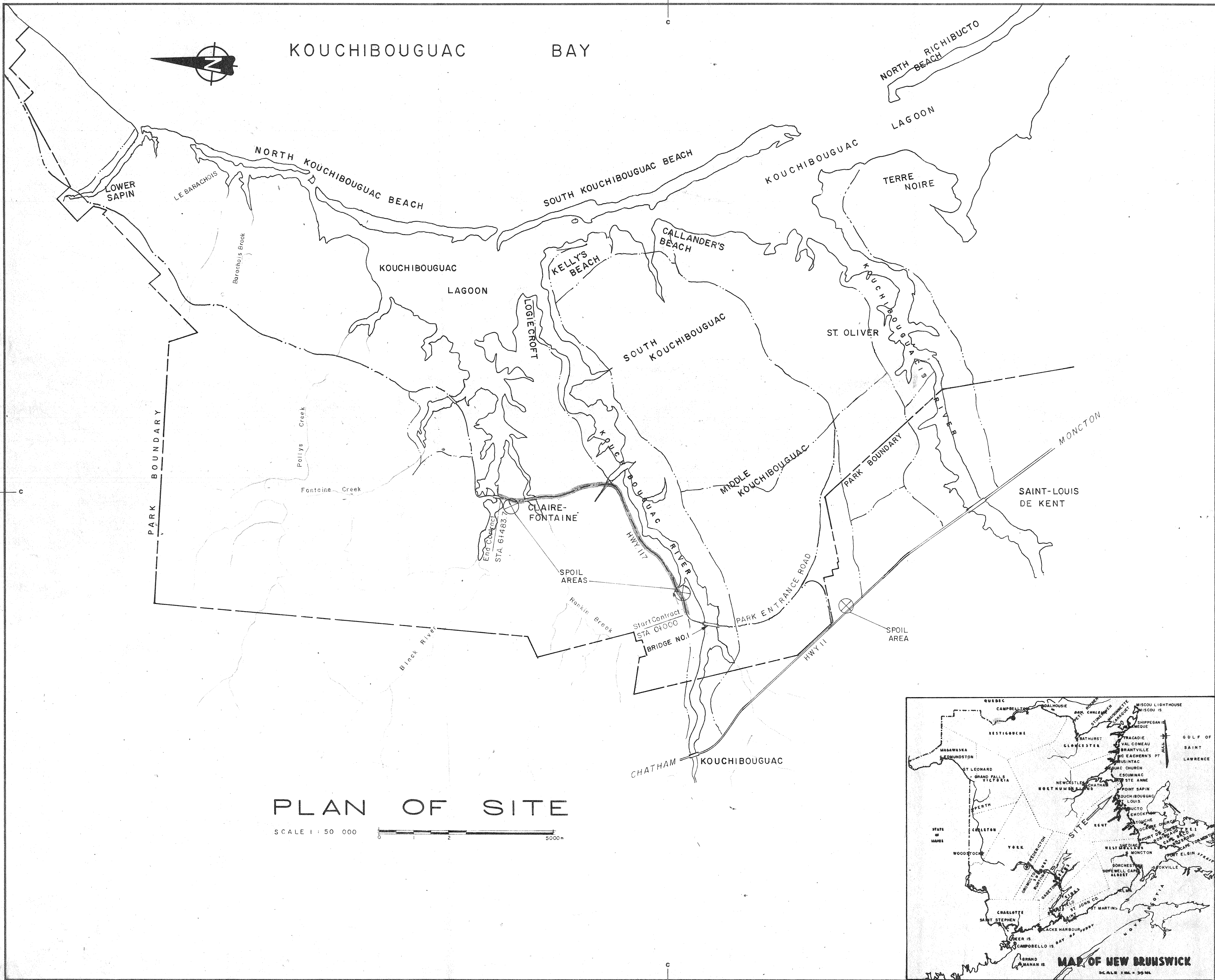
UPGRADING HIGHWAY 117 Km 0 to 6.5

324042

DEPT. OF PUBLIC WORKS  
OF CANADA

RETURN PLANS AND SPECIFICATIONS TO:  
MANAGER OF ADMINISTRATIVE SERVICES  
DEPARTMENT OF PUBLIC WORKS OF CANADA  
P. O. BOX 7350, POSTAL STA. "A"  
SAINT JOHN, N. B.  
E2L 4A4  
SET NO. 2





PLAN OF SITE  
SCALE 1:50 000

**Public Works Canada / Travaux publics Canada**

GRAPHIC SCALES (Used in this contract)

SCALE 1:1000  
0 20 40 60m

SCALE 1:100  
0 1 2 3 4 5m

SCALE 1:500  
0 5 10 15 20 30m

revisions	date
<div> <div>A</div> <div>C</div> </div> A detail no. no. du détail <div> <div>B</div> <div>C</div> </div> B location drawing no. sur dessin no. <div> <div>C</div> <div>C</div> </div> C drawing no. dessin no.	<div> <div>A</div> <div>B</div> <div>C</div> </div>

project / projet: **UPGRADING HWY. 117 KOUCHIBOUGUAC NATIONAL PARK**

drawing / dessin: **KEY PLAN**

designed / conçu: *A. McArthur P.Eng.*

date

drawn / dessiné: *[Signature]*

date

reviewed / examiné: *A. McArthur P.Eng.*

date: **81-06-09**

approved / approuvé: *[Signature]*

date

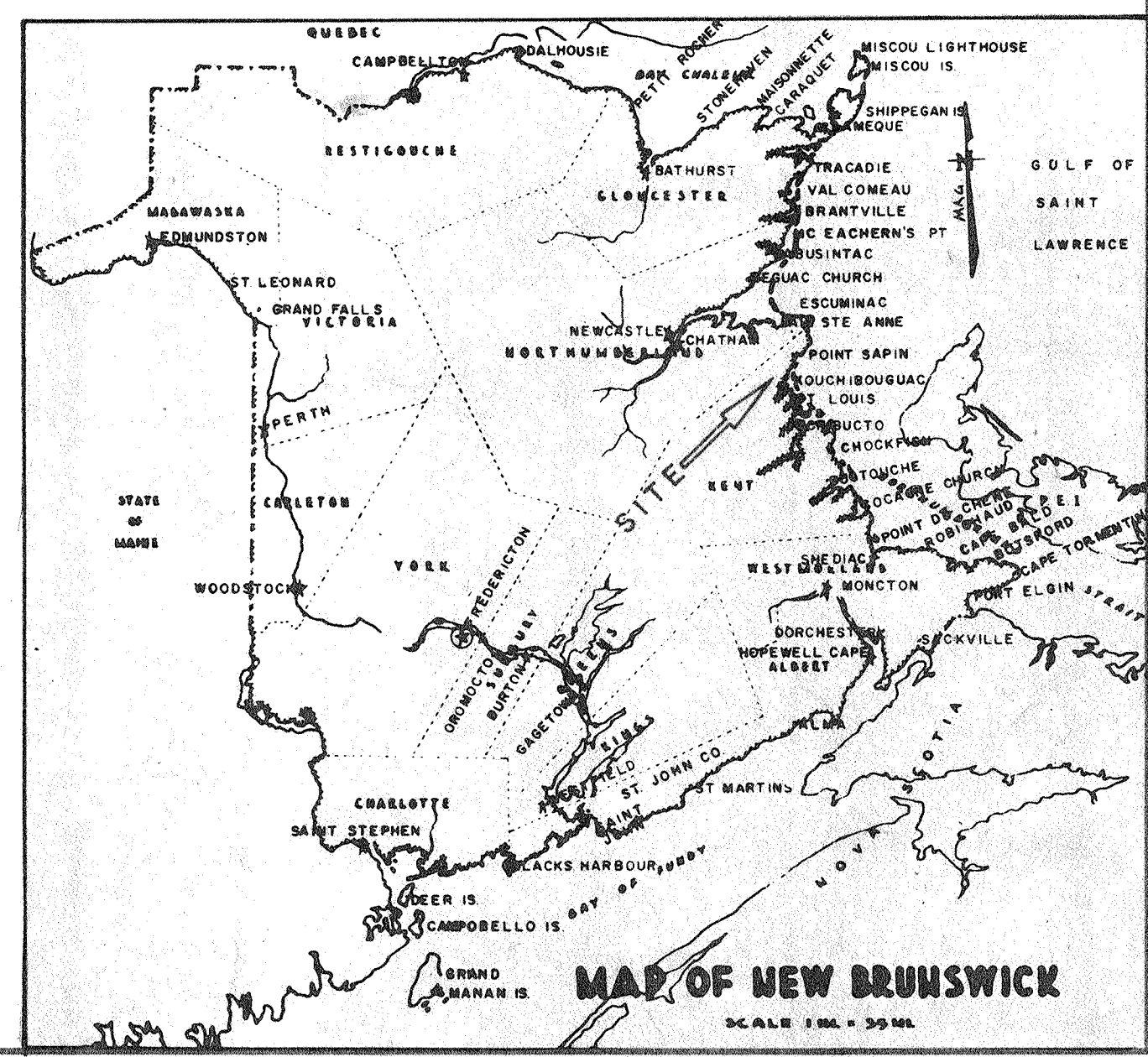
Tender / Soumission: *V.F.L. 10, P.Eng.*

PWC Project Manager / Administrateur de projets TPC: **324042**

project number / no. du projet: **324042**

drawing no. / no. du dessin: **1 OF 15**

Local Plan no. 35





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

JOB No. F-470  
81 02 23

LEGEND

- T.B. TEST BORING No. (169 TO 181) NOV '80
- BH BOREHOLE JAN. '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT

SCALES—  
Horiz — 1 : 1000  
Vert. — 1 : 100

revisions date

A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

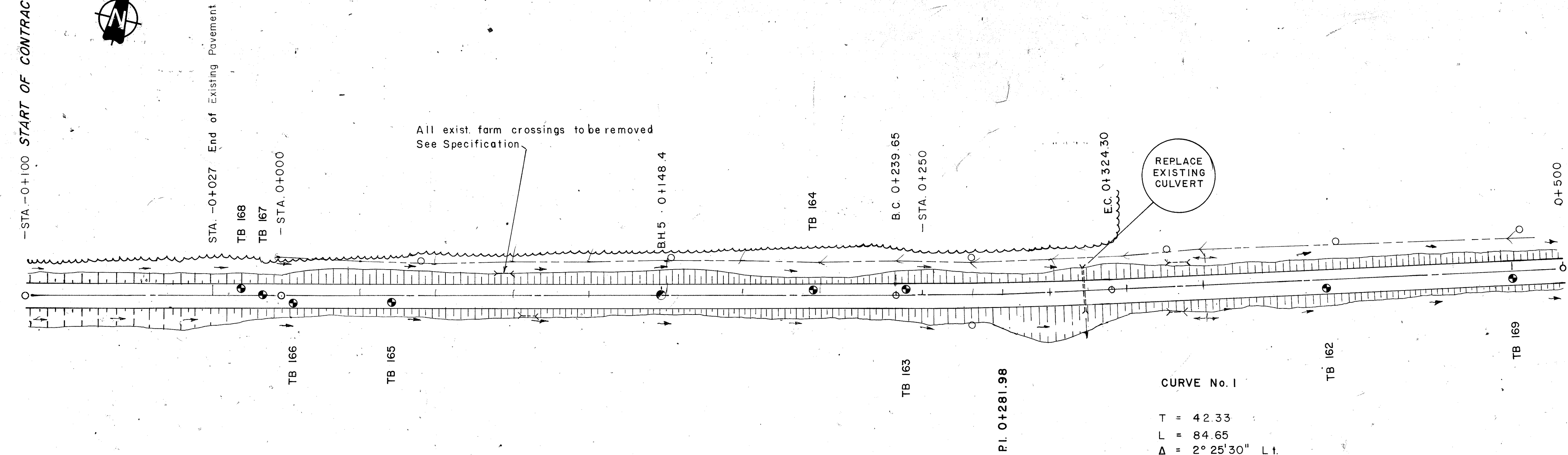
project  
**UPGRADING HWY. 117**  
**KOUCHIBOUGUAC NATIONAL PARK**  
Kent Co., N.B.

drawing  
**Km 0 to 6.5**  
**PLAN-PROFILE**

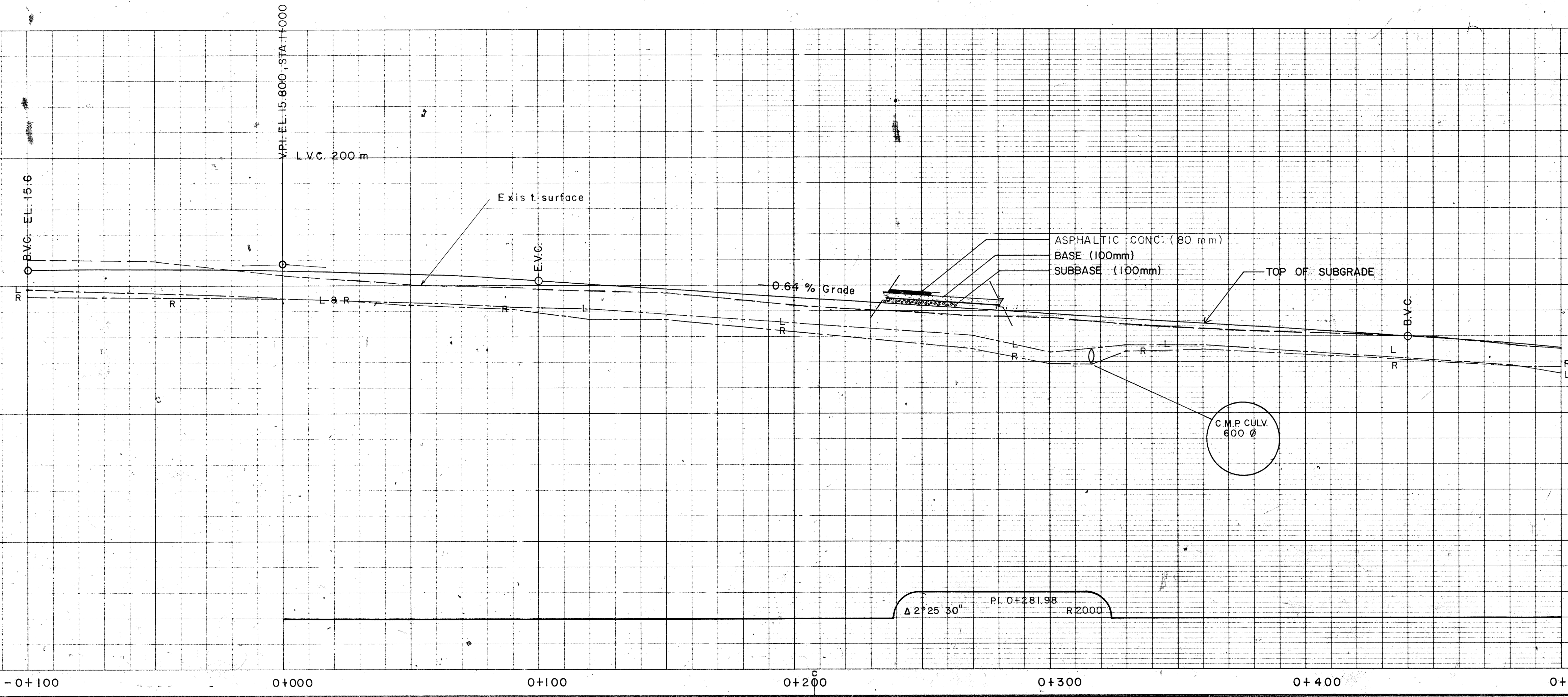
designed *A. McLaughlin P.Eng.*  
date  
drawn *[Signature]*  
date  
reviewed *A. McLaughlin P.Eng.*  
date *81-06-09*  
approved *[Signature]*  
date *81-06-12*  
Tender *W.F. Lord, P.Eng.*  
PWC Project Manager  
project number  
**324042**

drawing no. **2 OF 15**  
no. du dessin

— STA -0+100 START OF CONTRACT



CURVE No. 1  
T = 42.33  
L = 84.65  
Δ = 2° 25' 30" Lt.  
R = 2000  
Superelevation  
e max 0.020 m/m





# SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS

FREDERICTON N.B.

JOB No. F-470  
81 02 23

## LEGEND

- TEST BORING No. 169 TO 181 NOV. '80
- BOREHOLE JAN. '79
- UTILITY POLE
- FARM CROSSING CULVERT
- GUIDE RAIL
- UNDERGROUND CONDUIT

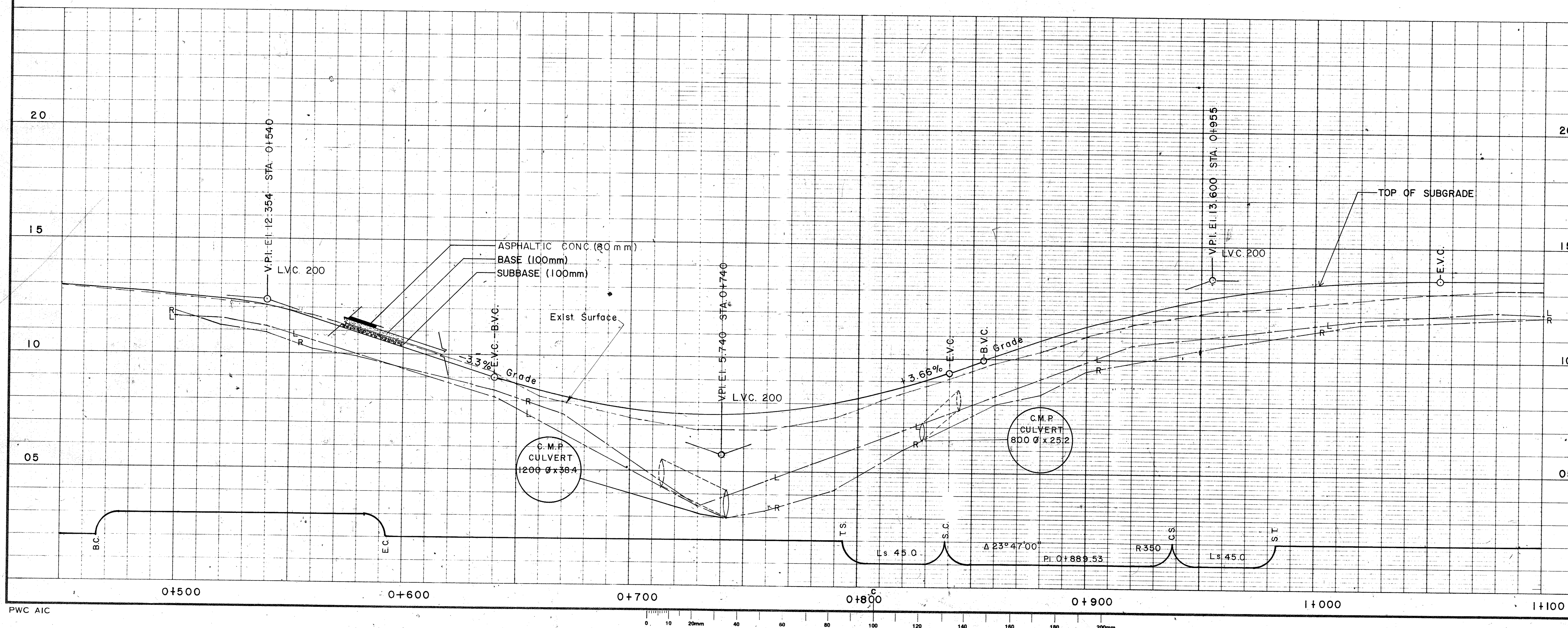
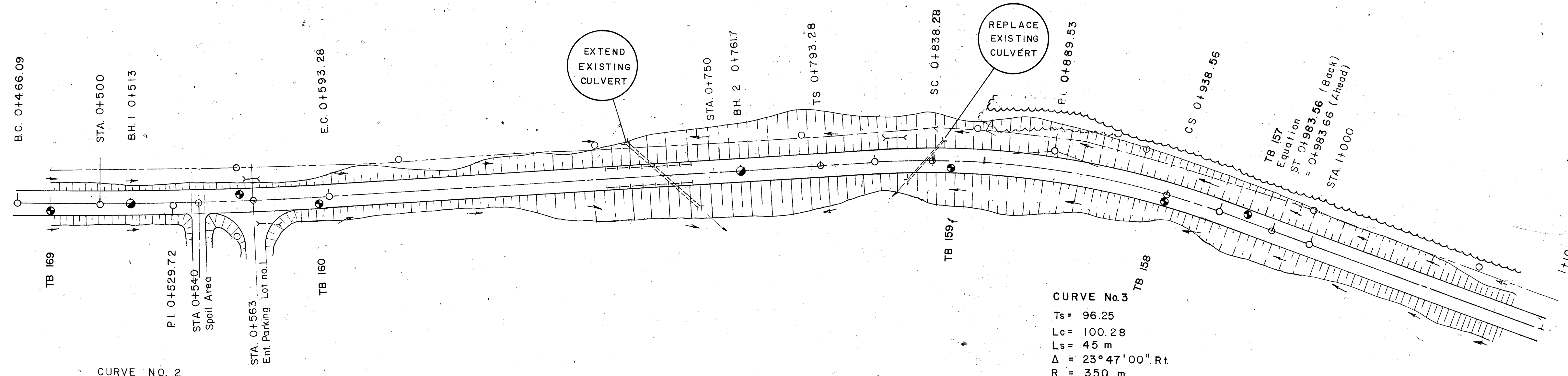
SCALES  
Horiz. — 1:1000  
Vert. — 1:100

revisions	date
A	A
C	B C

project  
**UPGRADING HWY.117**  
**KOUCHIBOUGUAC**  
**NATIONAL PARK**  
Kent Co., N.B.

drawing  
Km 0 to 65  
**PLAN-PROFILE**

designed	A. McArthur P.Eng.	conçu
date		
drawn		dessiné
date		
reviewed	A. McArthur P.Eng.	examiné
date	01-06-09	
approved		approuvé
date		
Tender	W. J. L. Ltd. P. Eng.	Soumission
PWC Project Manager	Administrateur de projets TPC	
project number	324042	no. du projet
drawing no.	3 OF 15	no. du dessin





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

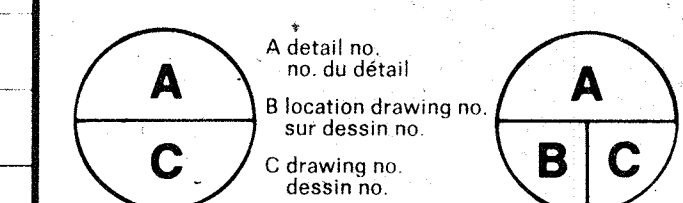
JOB No. F-470  
81 02 23

LEGEND

- TEST BORING No. (114 TO 168) NOV. 80
- BOREHOLE JAN. '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT

SCALES —  
Horiz. 1 : 1000  
Vert. 1 : 100

revisions date



project projet  
**UPGRADING HWY. 117**  
**KOUCHIBOUGUAC**  
**NATIONAL PARK**  
Kent Co., N.B.

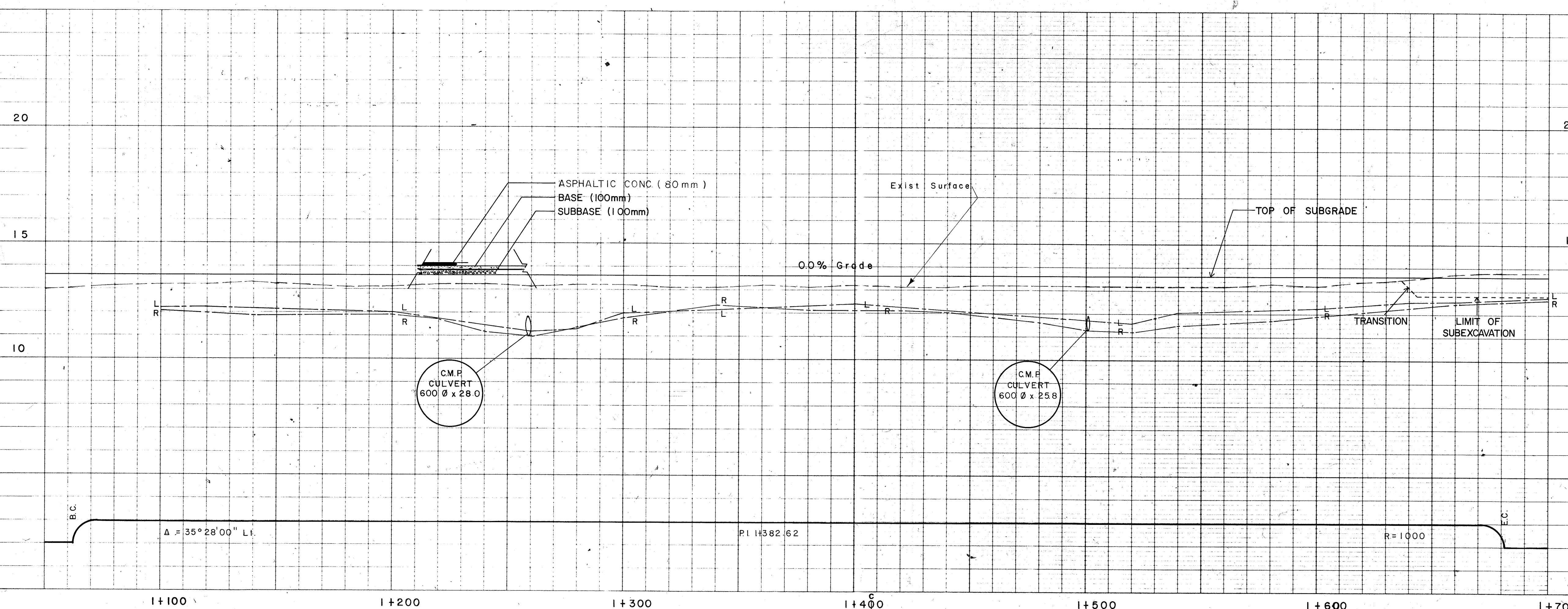
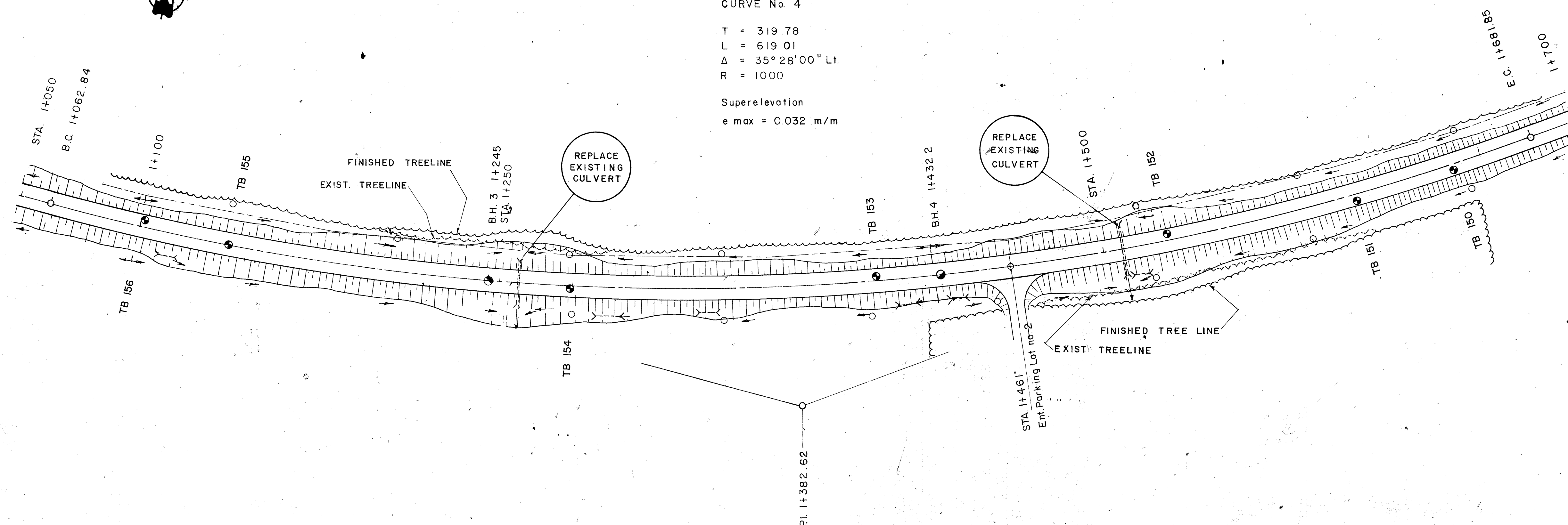
drawing dessin  
Km 0 to 6.5  
**PLAN - PROFILE**

designed *A. McRobb P. Eng.* conçu  
date  
drawn *A* dessiné  
date  
reviewed *A. McRobb P. Eng.* examiné  
date 81-06-09  
approved *A. McRobb P. Eng.* approuvé  
date 81-06-12  
Tender *W.F. Lord, P. Eng.* Submission  
PWC Project Manager Administrateur de projets TPC  
project number  
**324042**  
drawing no. 4 OF 15 no. du dessin

CURVE No. 4

T = 319.78  
L = 619.01  
 $\Delta = 35^\circ 28' 00''$  Lt.  
R = 1000

Superelevation  
e max = 0.032 m/m





SUB SURFACE SURVEYS

CONSULTING  
TECHNICAL ENGINEERS

FREDERICTON, N.B.

JOB No F-470  
81 02 23

LEGEND

- TEST BORING No. (169 TO 181) MAR 81
- BOREHOLE JAN '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT

SCALES

Horiz. 1:1000  
Vert. 1:100

revisions date

A	A
C	B C

project project

UPGRADING HWY. 117

KOUCHIBOUGUAC  
NATIONAL PARK

Kent Co., N.B.

drawing dessin

Km 0 to 6.5

PLAN-PROFILE

designed A. McArthur P. Eng. conçu

date

drawn

date

reviewed A. McArthur P. Eng. examiné

date 81-06-09

approved

date 81-06-12

render V.P. LORR, P. Eng. 81-06-09

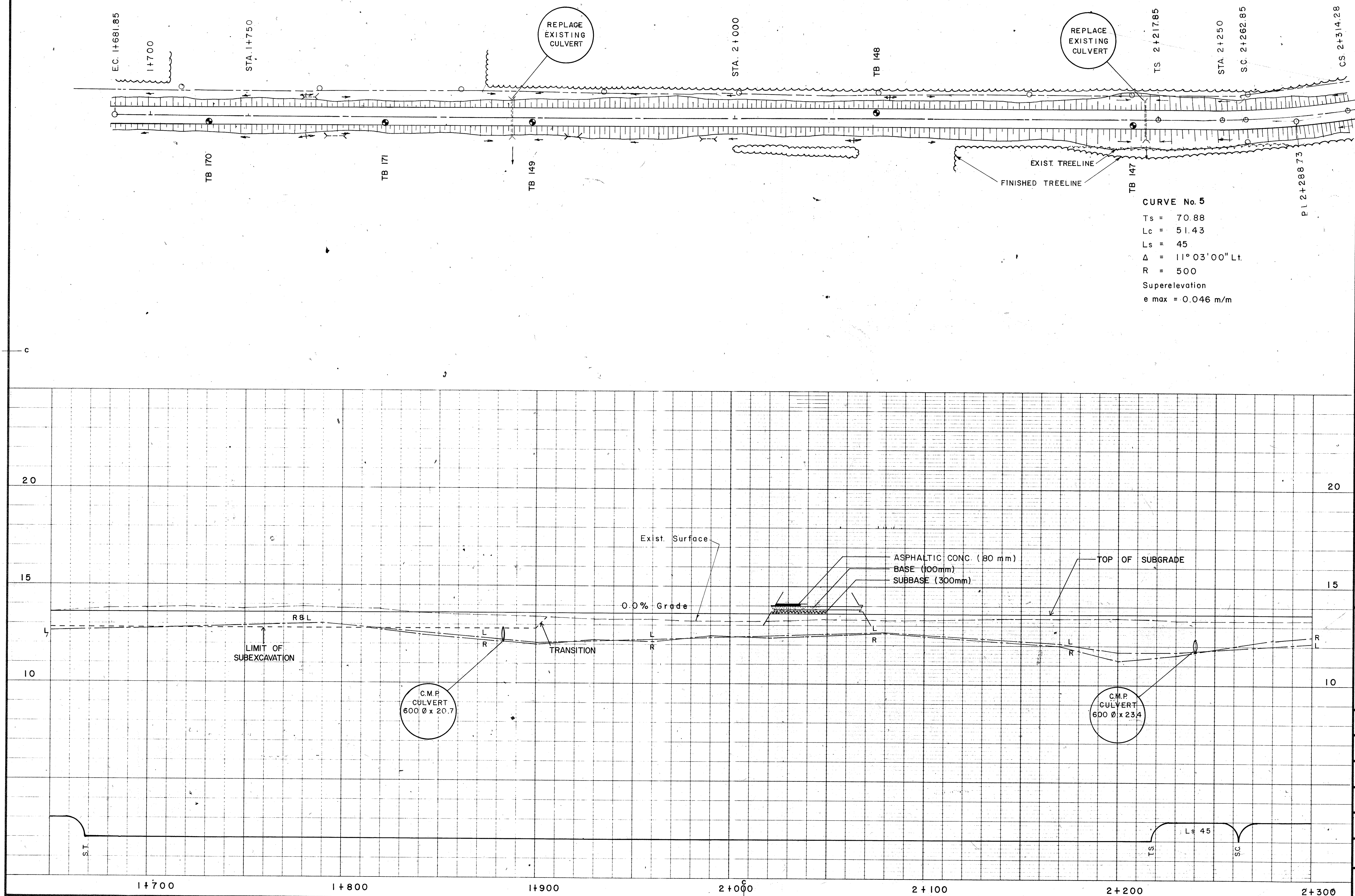
PWC Project Manager Administrateur de projets TPC

project number no. du projet

324042

drawing no. no. du dessin

5 OF 15





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

JOB No. F-470  
81 02 23

LEGEND

- TEST BORING (114 TO 168) NOV '80
- BOREHOLE JAN '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT

SCALES —  
Horiz. 1:1000  
Vert. 1:100

revisions date

A detail no. no. du détail  
B location drawing no. sur dessin no.  
C drawing no. dessin no.

project projet

UPGRADING HWY. 117  
KOUCHIBOUGUAC  
NATIONAL PARK

Kent Co., N.B.

drawing dessin

Km 0 to 6.5  
PLAN-PROFILE

designed *D. Mc Intosh P. Eng.* conçu

date drawn dessiné

date reviewed *D. Mc Intosh P. Eng.* examiné

date 81-06-09

approved *D. Mc Intosh P. Eng.* approuvé

date 81-06-12

Tender *W. F. Lord, P. Eng.* 81-06-07

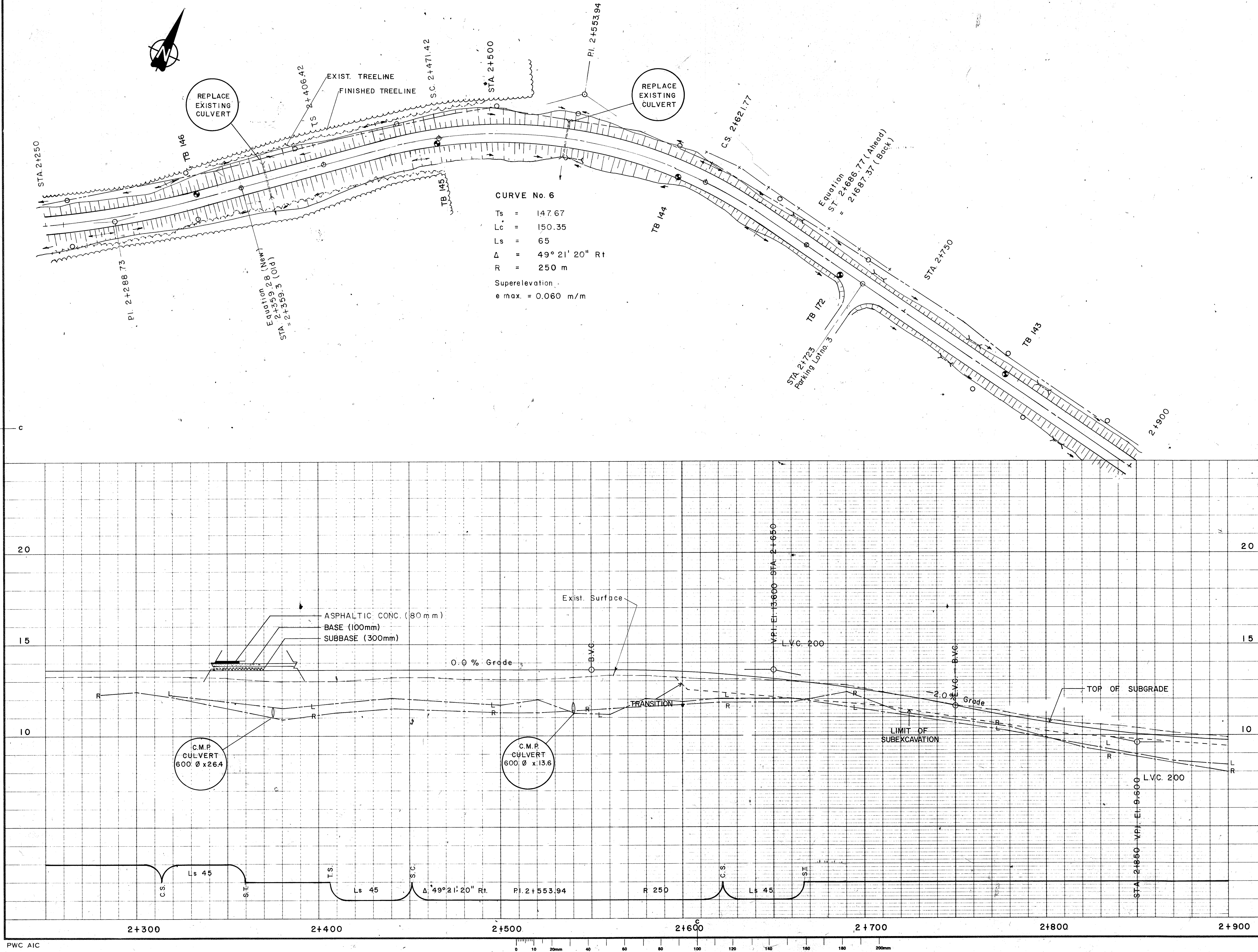
PWC Project Manager Administrateur de projets TPC

project number no. du projet

324042

drawing no. no. du dessin

6 OF 15





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

JOB No. F-470  
81 02 23

LEGEND

- (114 TO 169) NOV. 80  
● TEST BORING No. 069 TO 181 MAR. 81  
● BOREHOLE JAN. '79  
○ UTILITY POLE  
--- FARM CROSSING CULVERT  
--- UNDERGROUND CONDUIT  
--- GUIDE RAIL

SCALES  
Horiz. 1:1000  
Vert. 1:100

A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B
	C drawing no. dessin no.	C

project projet  
UPGRADING HWY. 117  
KOUCHIBOUGUAC  
NATIONAL PARK  
Kent Co., N.B.

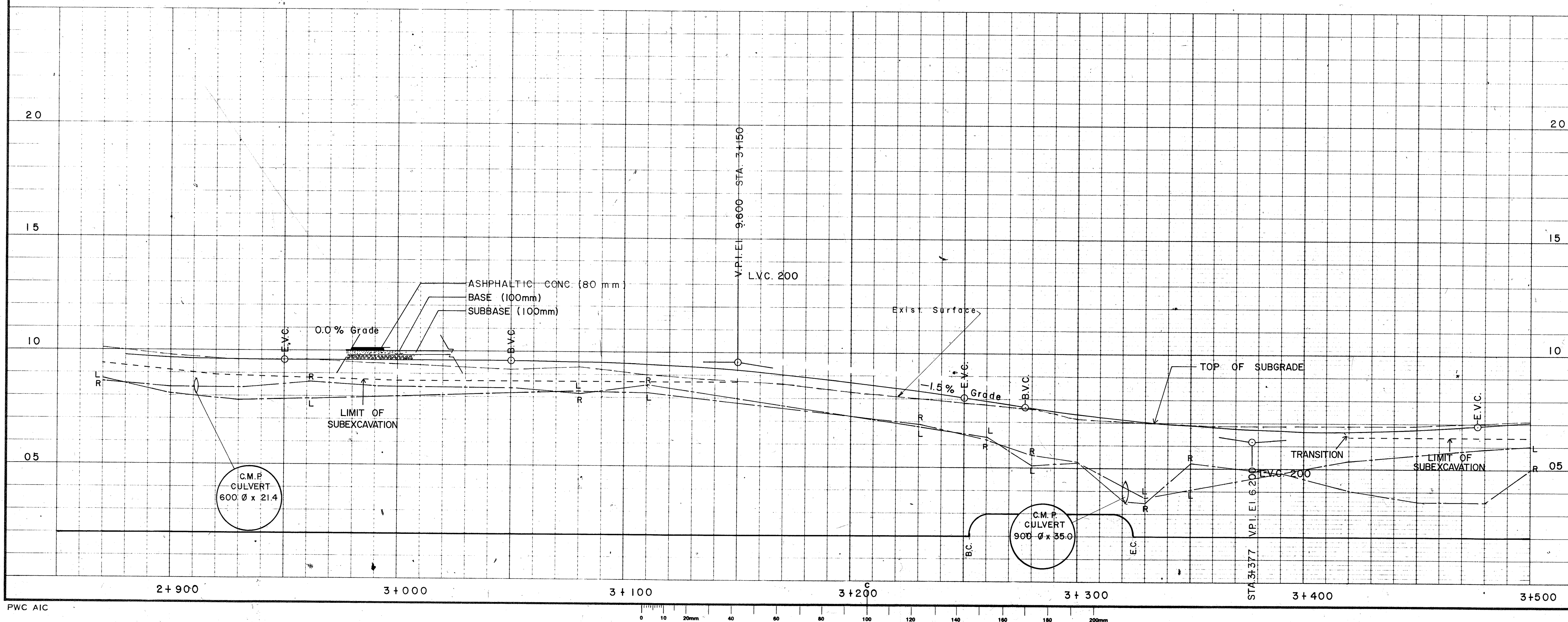
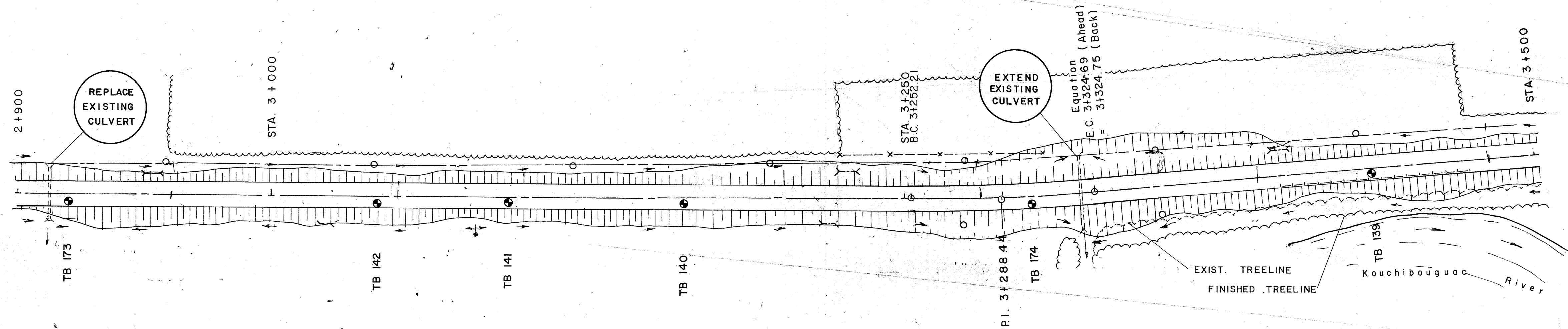
Km 0 to 6.5  
PLAN - PROFILE

designed	A. McRobb P. Eng.	conçu
date		
drawn		dessiné
date		
reviewed	A. McRobb P. Eng.	examiné
date	81-06-09	
approved		approuvé
date	81-06-12	
Tender	W.F. Lord, P. Eng.	Submission
PWC Project Manager	Administrateur de projets TPC	
project number	no. du projet	
324042		
drawing no.	no. du dessin	
7 OF 15		

CURVE No. 7

T = 36.29  
L = 72.54  
Δ = 5° 11' 42" Lt.  
R = 800

Superelevation  
e max. = 0.043 m/m





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS

FREDERICTON N.B.

JOB No. F-470  
81 01 23

LEGEND

- TEST BORING No. (169 TO 181) NOV '80
- BOREHOLE JAN '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT
- ◁ MONUMENT
- GUIDE RAIL

SCALES —  
Horiz. 1:1000  
Vert. 1:100

revisions date

A detail no. du détail  
B location drawing no. sur dessin no.  
C drawing no. dessin no.

project projet

UPGRADING HWY. 117  
KOUCHIBOUGUAC  
NATIONAL PARK  
Kent Co., N.B.

drawing dessin

Km 0 to 6.5  
PLAN - PROFILE

designer O. McLaughlin P. Eng. conçu

date

drawn dessiné

reviewed O. McLaughlin P. Eng. examiné

date 81-06-09

approved W. J. Lord P. Eng. approuvé

date 81-06-12

Tender W. J. Lord P. Eng. soumission

PWC Project Manager Administrateur de projets PWC

project number no. du projet

324042

drawing no. 8 OF 15 no. du dessin

CURVE No. 8

Ts = 154.27

Lc = 150.08

Ls = 70'

$\Delta = 53^\circ 39' 30''$  Lt

R = 235

Superelevation

e max = 0.060 m/m

CURVE No. 9

Ts = 165.47

Lc = 178.86

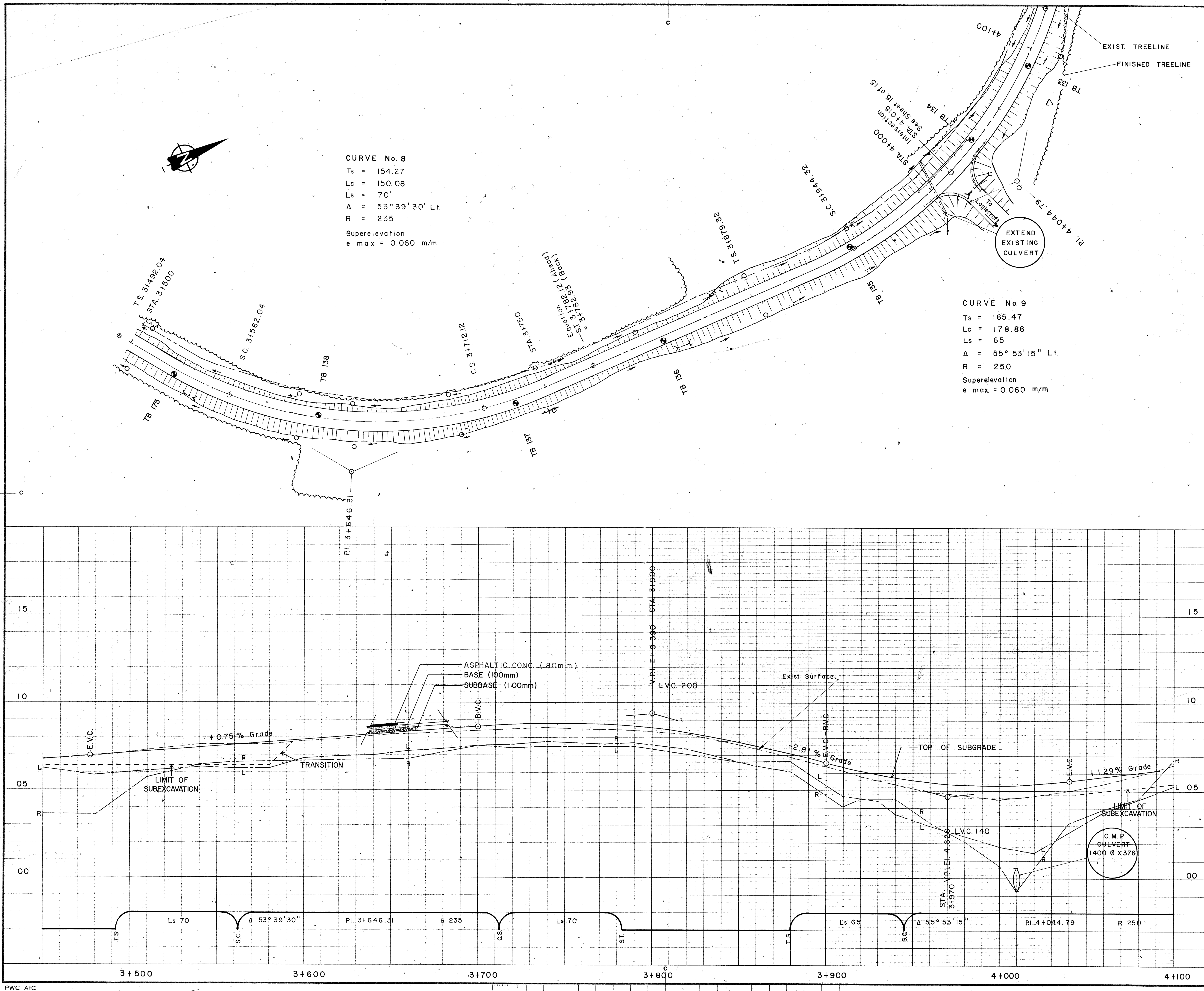
Ls = 65

$\Delta = 55^\circ 53' 15''$  Lt

R = 250

Superelevation

e max = 0.060 m/m





SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

JOB No. F-470  
81 02 23

LEGEND

- TEST BORING No. (114 TO 128 NOV '80)
- BOREHOLE JAN. '79
- UTILITY POLE
- FARM CROSSING CULVERT
- UNDERGROUND CONDUIT

SCALES  
Horiz. 1 : 1000  
Vert. 1 : 100

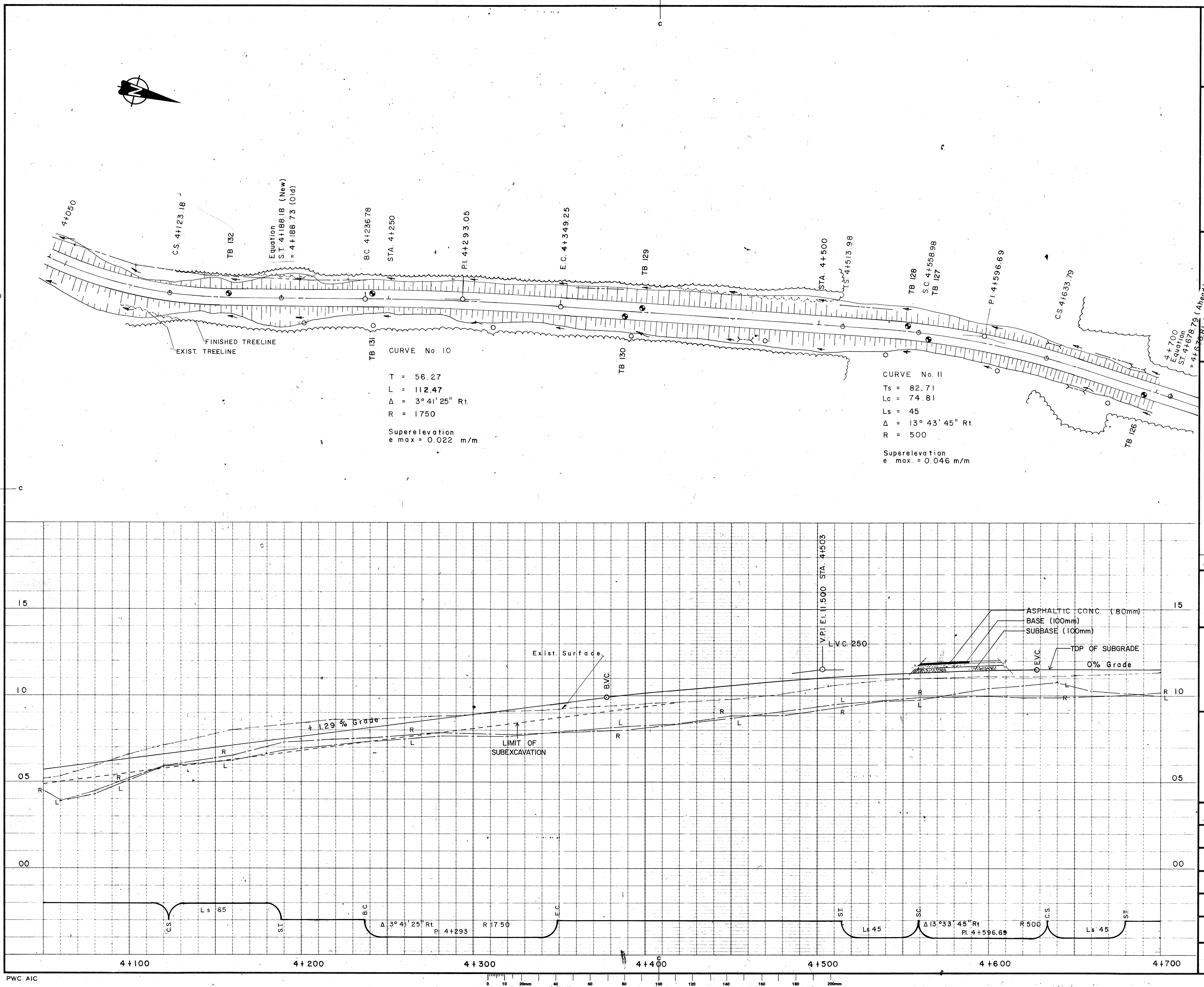
revisions date

A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project  
**UPGRADING HWY. 117**  
**KOUCHIBOUGUAC**  
**NATIONAL PARK**  
Kent Co., N.B.

drawing  
Km 0 to 6.5  
PLAN - PROFILE

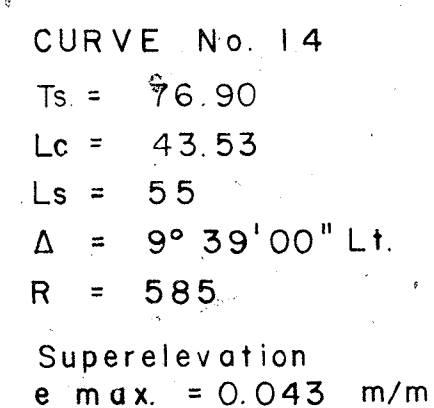
designer *A. Mc Intosh P. Eng.* conçu  
date  
drawn *[Signature]* dessiné  
date  
reviewed *A. Mc Intosh P. Eng.* examiné  
date *81-06-09*  
approved *[Signature]* approuvé  
date  
Tender *[Signature]* Soumission  
PWC Project Manager Administrateur de Projets PWC  
project number  
**324042**  
drawing no. 9 OF 15 no. du dessin











CURVE No 15

T = 19.23  
L = 38.49  
 $\Delta = 1^{\circ} 15' 45''$  Lt.  
R = 1750  
Superelevation  
e max. = 0.022 m/m

CURVE No. 16

$T_s = 187.74$   
 $L_c = 268.54$   
 $L_s = 50$   
 $\Delta = 28^\circ 44' 30''$  Rt.  
 $R = 635$   
 Superelevation  
 $e_{\max} = 0.041 \text{ m/m}$

 **Public Works** **Travaux publics**  
**Canada** **Canada**

## SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS  
FREDERICTON N.B.

JOB No. F-470  
81 02 23

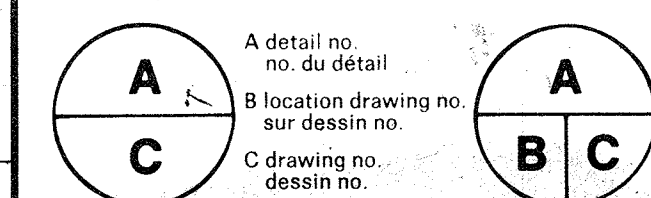
**LEGEND:**

- (114 TO 168) NOV. '80  
TEST BORING No. (169 TO 181) MAR '81
- BOREHOLE JAN '79
- UTILITY POLE
- FARM CROSSING CULVERT
- GUIDE RAIL
- UNDERGROUND CONDUIT
- ▽ EXISTING MONUMENT

SCALES —

· Horiz. 1:1000  
Vert. 1:100

revisions		da
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project project

UPGRADING HWY. 117

**KOUCHIBOUGUAC  
NATIONAL PARK**

Kent Co., N. B.

drawing	dessin
---------	--------

Km 0 to 6.5  
PLAN - PROFILE

designed *by M. J. L. P. E.* conçu

date *U. The above 1.1.1.1.*

drawn  dessinée

date 

reviewed C. M. J. de P. F. Examiné

date 81-06-09

approved 10 A B approuvé

date *Wm. Jones* 81-02-12

Tender WILLARD P. BIR Soumission

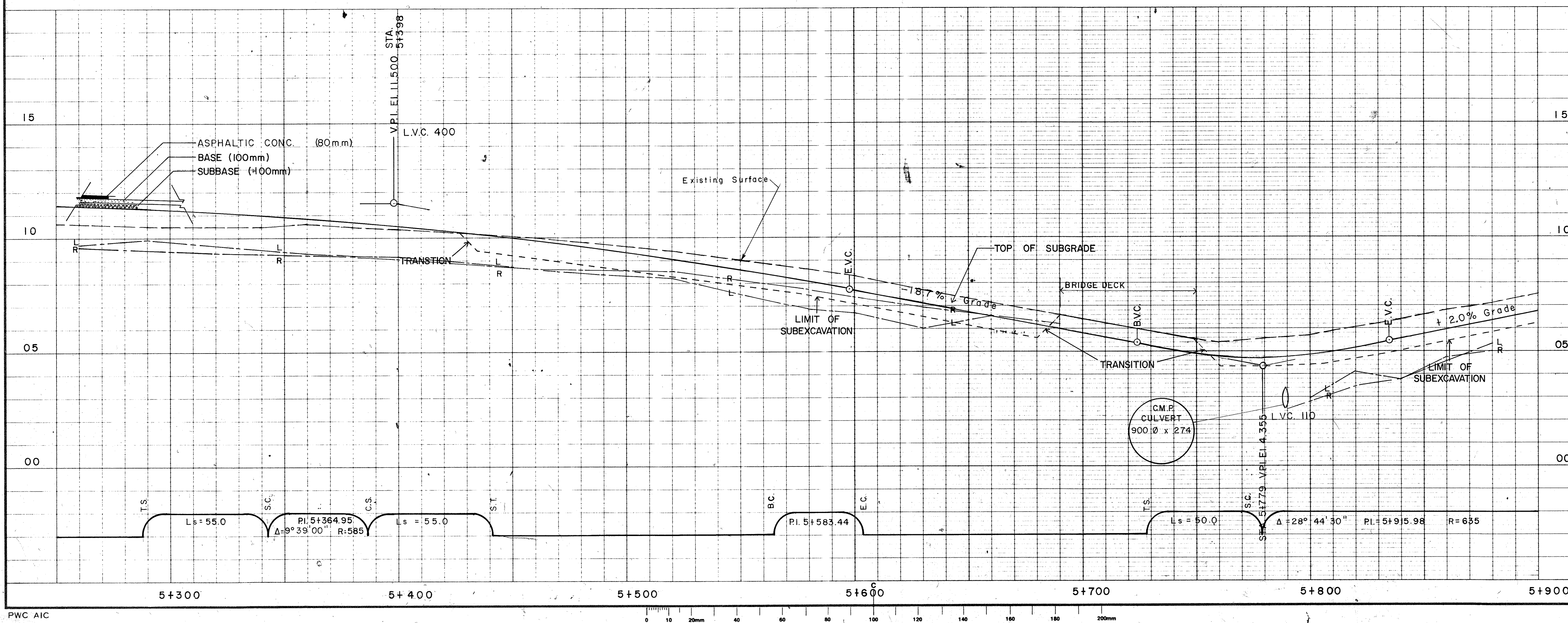
PWC Project Manager      Administrateur de projets TPC

project number	no. du projet
----------------	---------------

324042

524042

drawing no. 11 OF 15 no. du dessin



PWC AIC

Local plan no. 35



SUB SURFACE SURVEYS

CONSULTING  
GEOTECHNICAL ENGINEERS

FREDERICTON N.B.

JOB No. F-470  
81 02 23

LEGEND

- TEST BORING 114 TO 168 NOV '80
- BOREHOLE JAN '79
- UTILITY POLE
- FARM CROSSING CULVERT
- GUIDERAIL
- UNDERGROUND CONDUIT
- ▽ MONUMENT

SCALES —  
Horiz. 1 : 1000  
Vert. 1 : 100

revisions date

A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project  
**UPGRADING HWY. 117  
KOUCHIBOUGUAC NATIONAL PARK**

Kent Co., N.B.

drawing dessin

Km 0 to 6.5

PLAN - PROFILE

designed *A. McDaniel P.Eng.* conçu

date drawn dessiné

date reviewed *A. McDaniel P.Eng.* examiné

date *81-06-03*

approved *W. F. Loep, P. Eng.* approuvé

date *81-06-12*

Tender *W. F. Loep, P. Eng.* Soumission

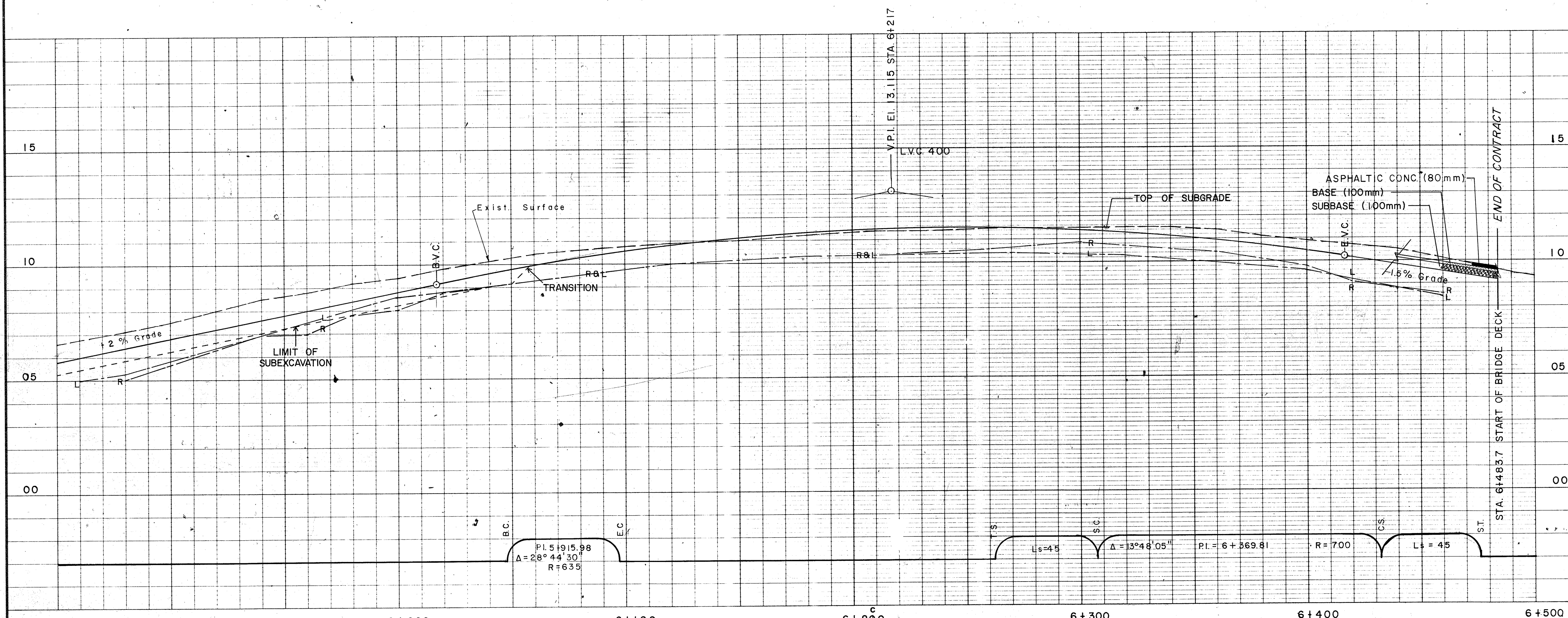
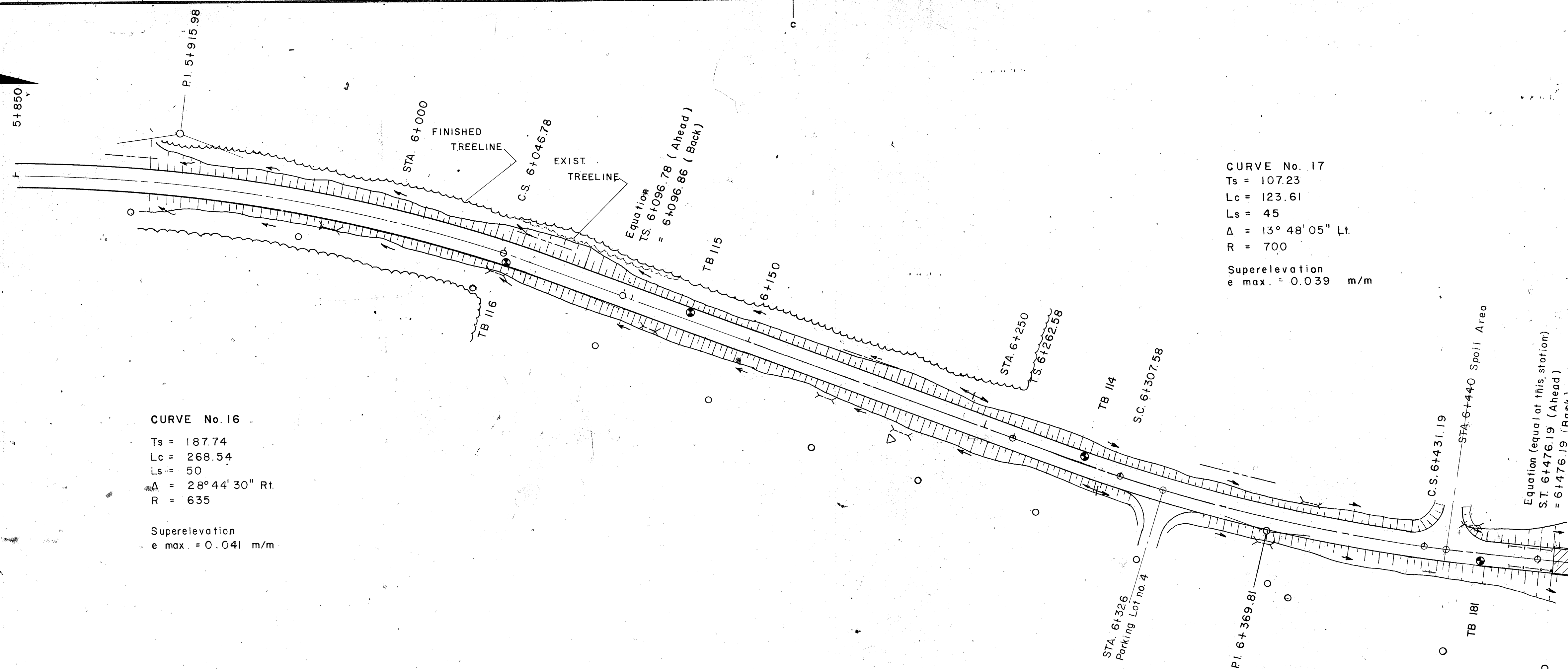
PWC Project Manager Administrateur de projets PWC

project number no. du projet

**324042**

drawing no. no. du dessin

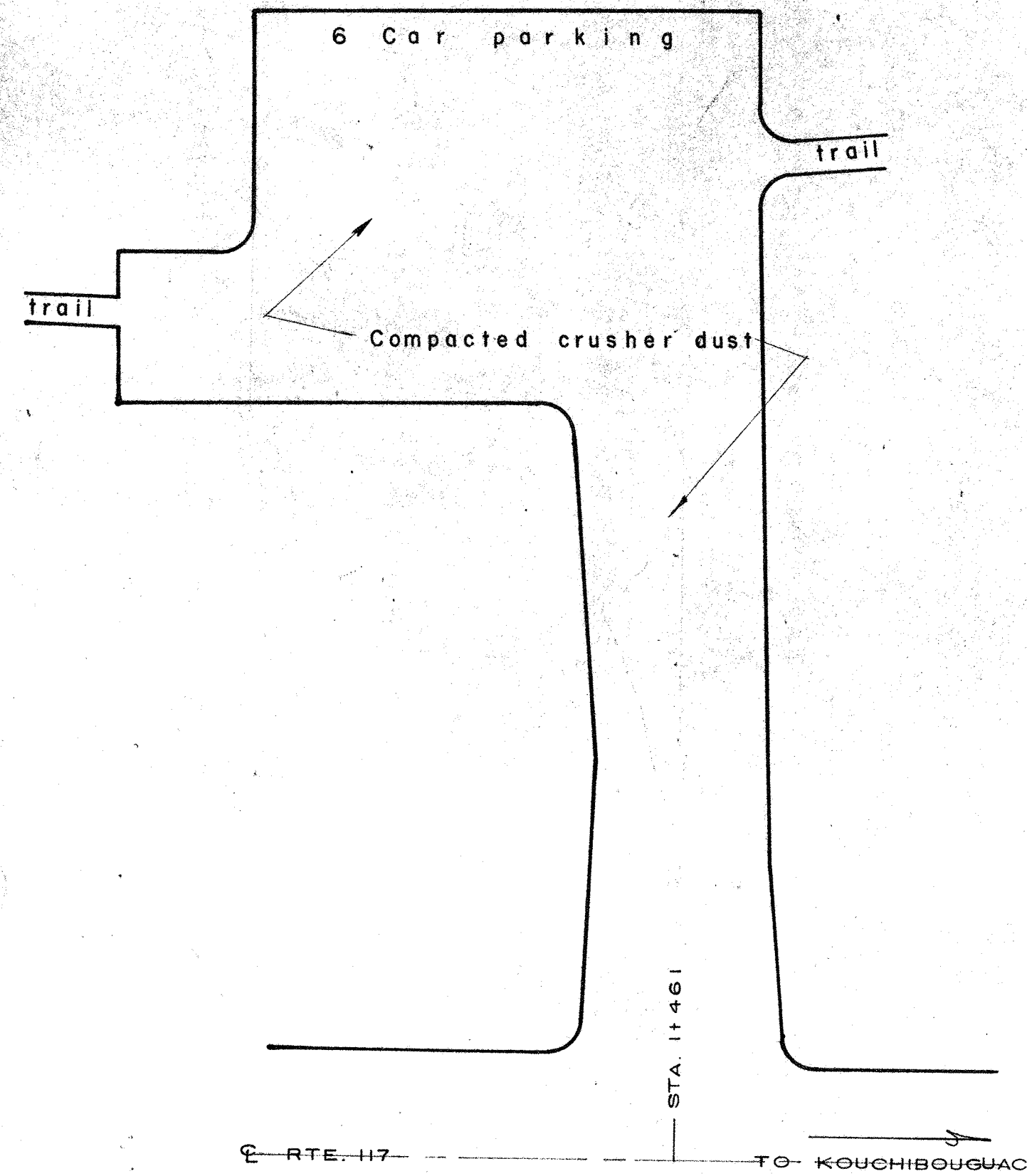
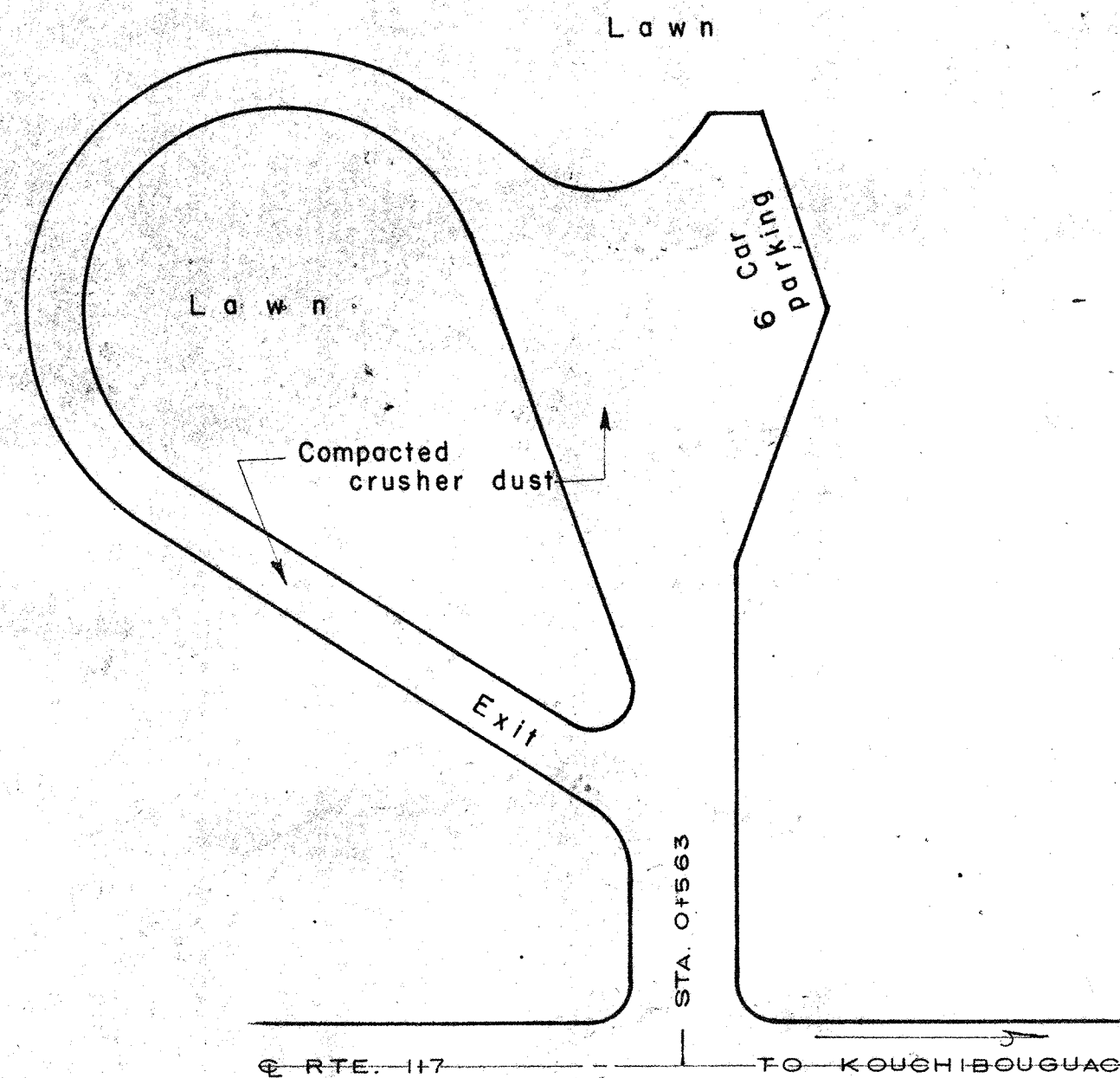
12 OF 15





# PARKING LOT NO. 1

Scale 1:500  
1:400

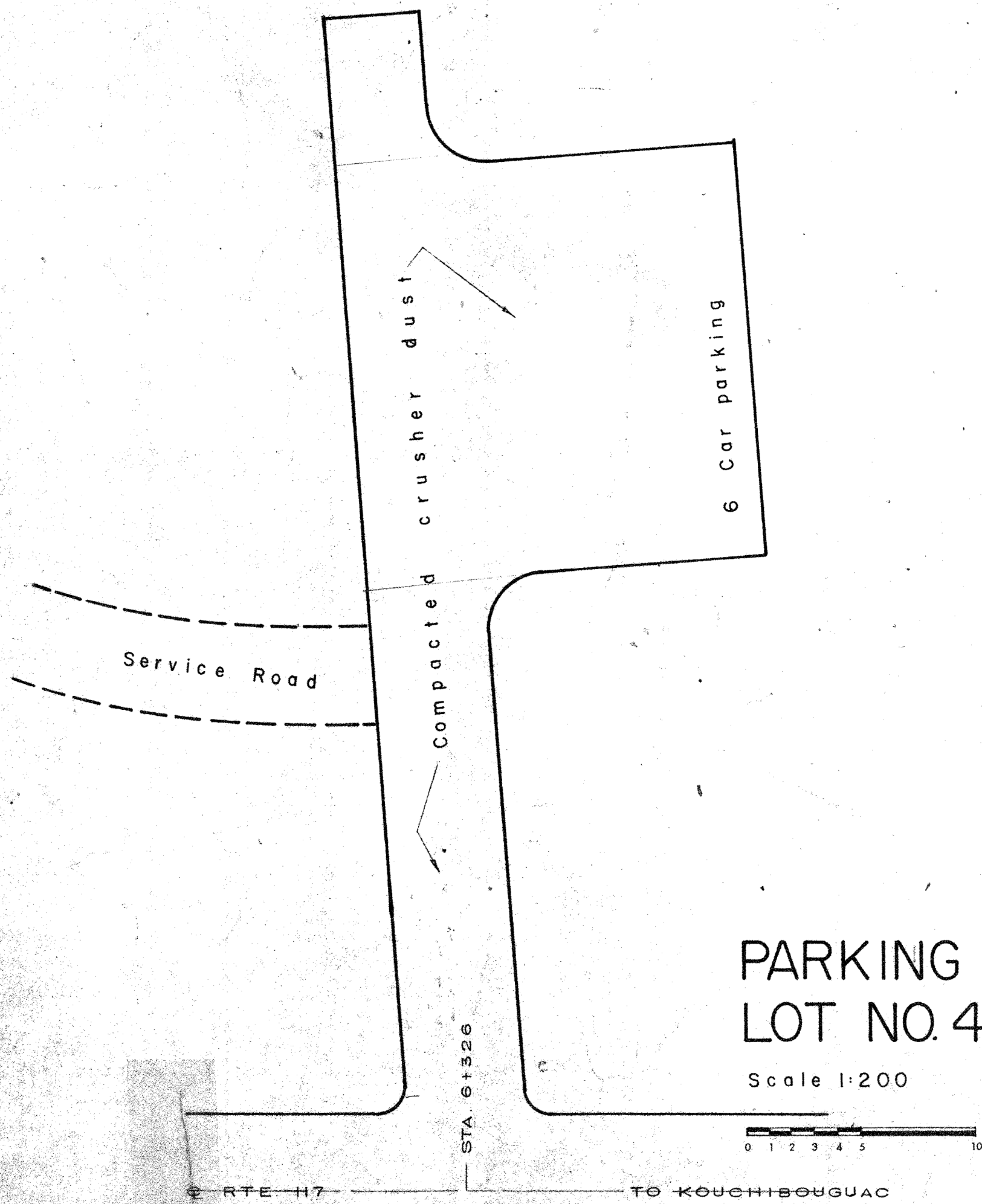
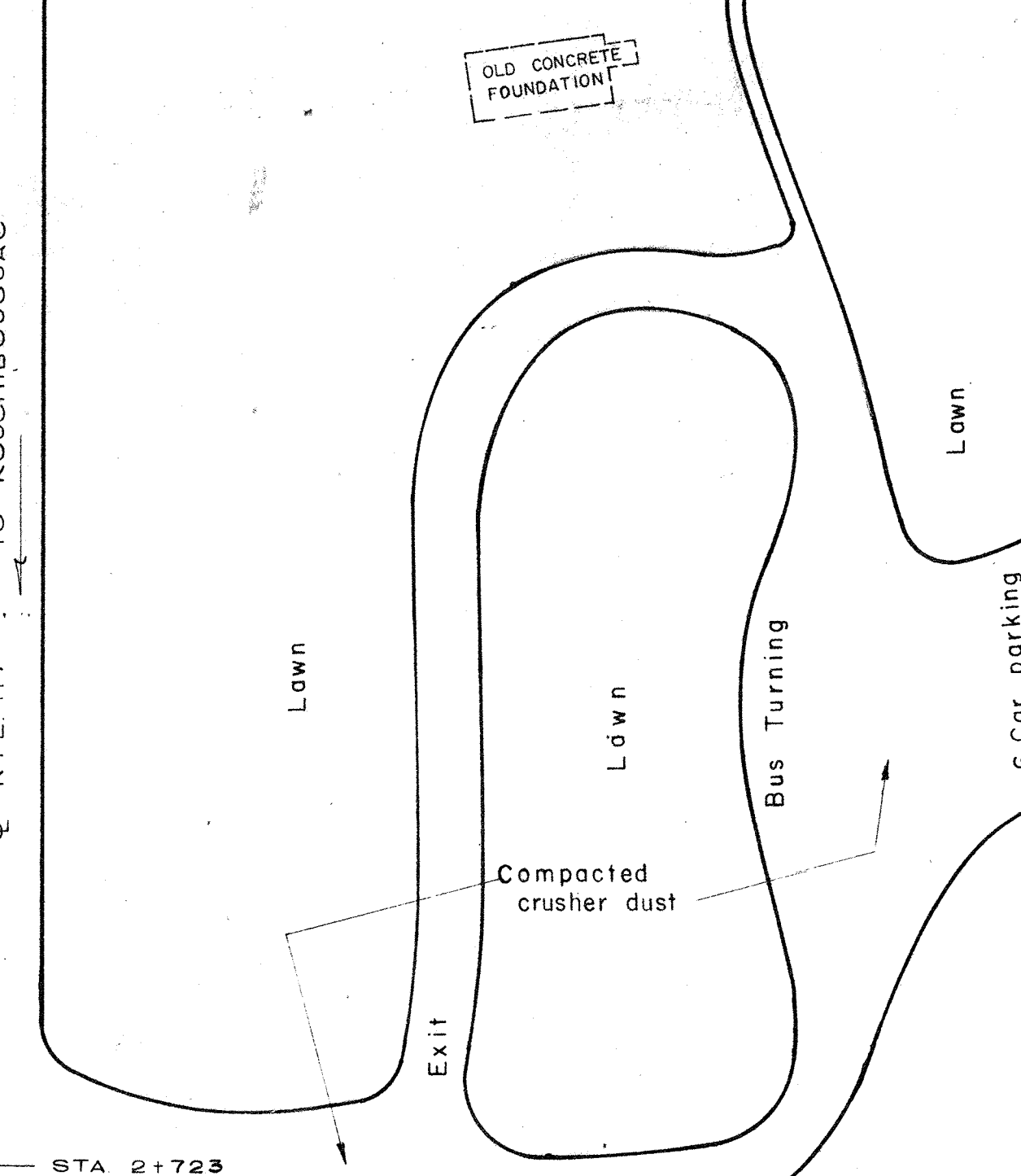


# PARKING LOT NO. 2

Scale 1:200

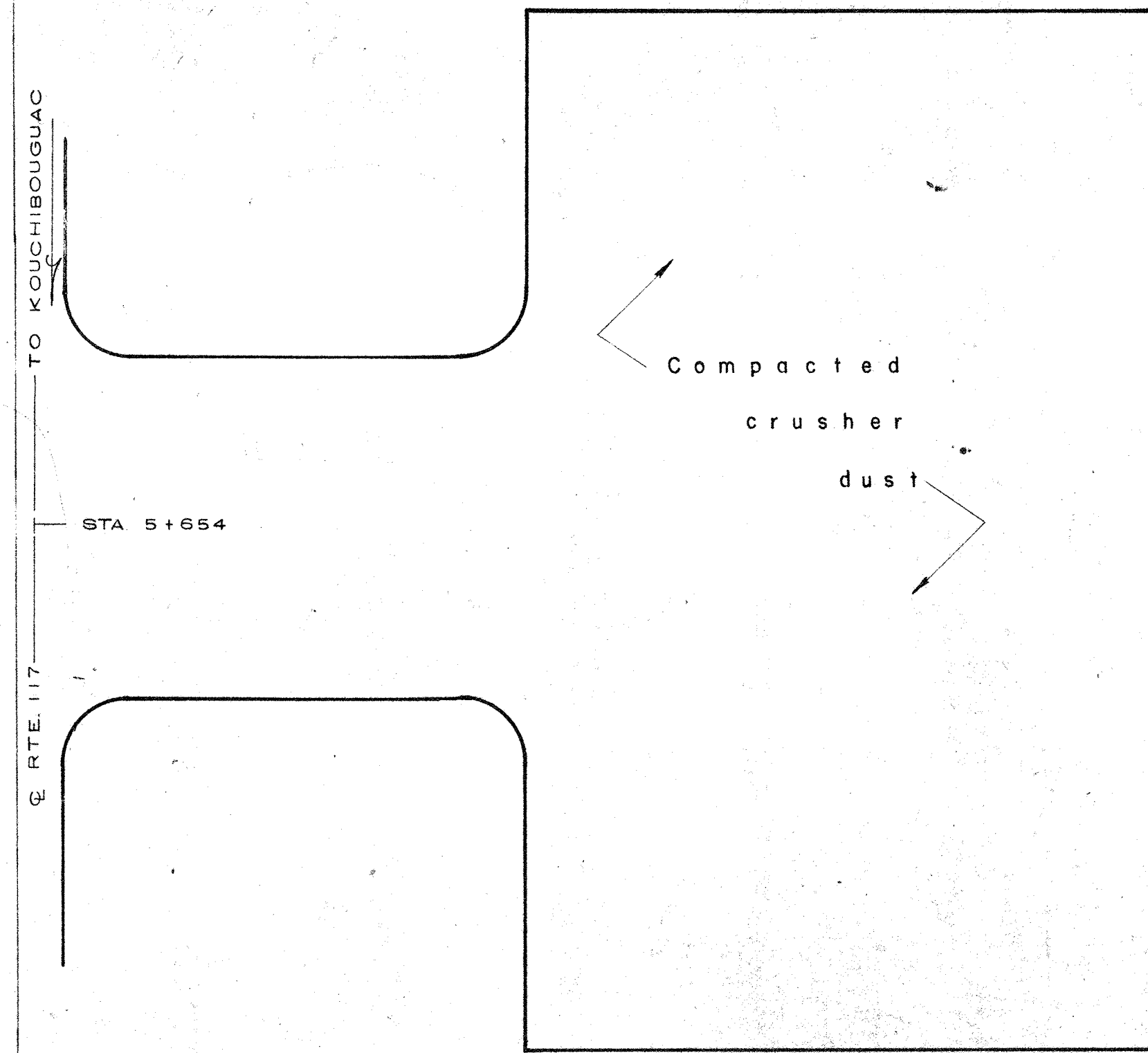
# PARKING LOT NO. 3

Scale 1:500  
1:400



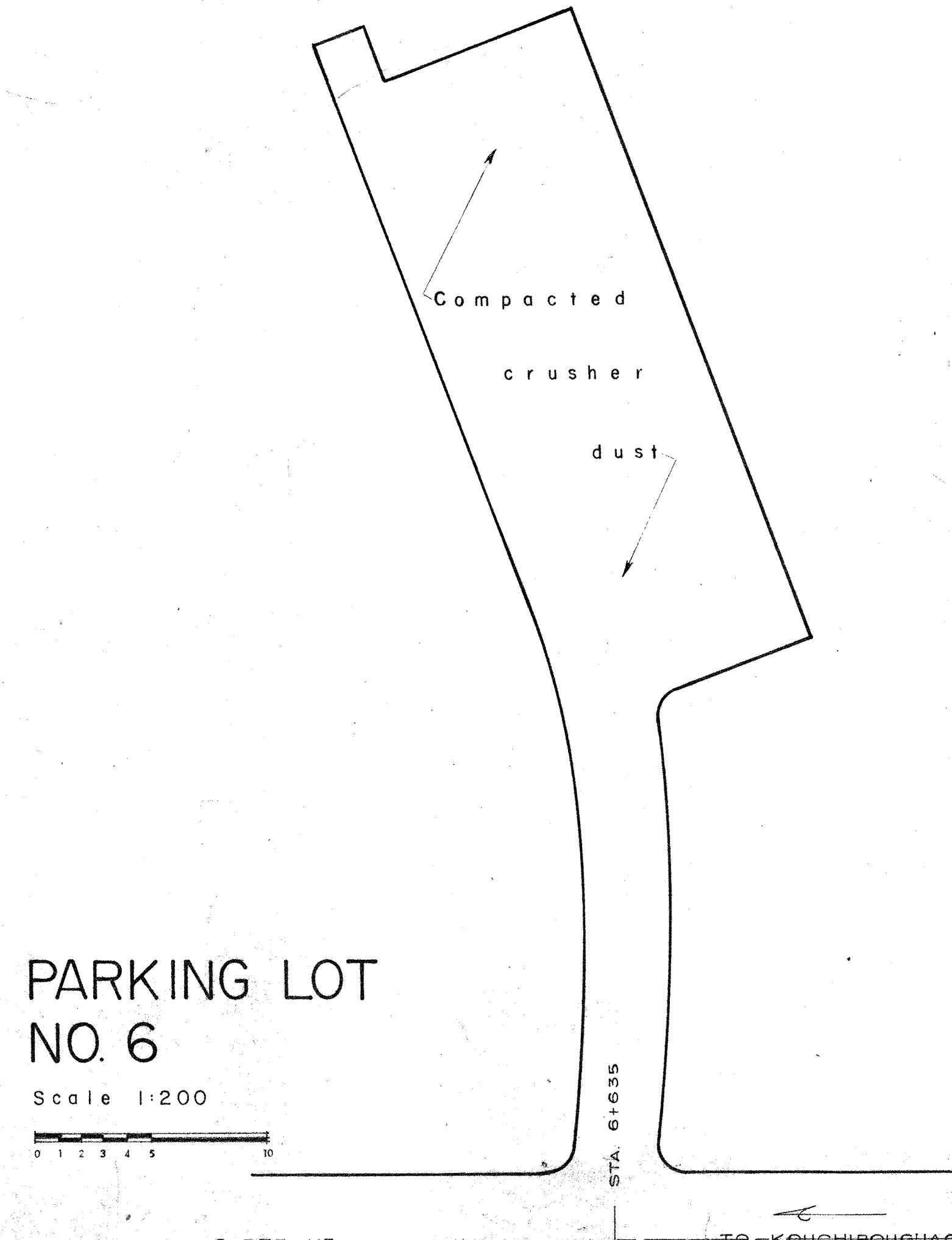
# PARKING LOT NO. 4

Scale 1:200



# PARKING LOT NO. 5

Scale 1:100



# PARKING LOT NO. 6

Scale 1:200

revisions date

A detail no. no. du détail  
B location drawing no. sur dessin no.  
C drawing no. dessin no.

project projet

UPGRADING HWY. 117  
KOUCHIBOUGUAC  
NATIONAL PARK

Kent Co., N.B.

drawing dessin

Km 0 to 6.5

PLAN  
PARKING  
LOTS

designed A. McNeil, P.Eng. conçu

date drawn dessiné

date reviewed A. McNeil, P.Eng. examiné

date 81-06-09

approved W. F. Lord, P.Eng. approuvé

date 81-06-12

Tender W. F. Lord, P.Eng. Soumission

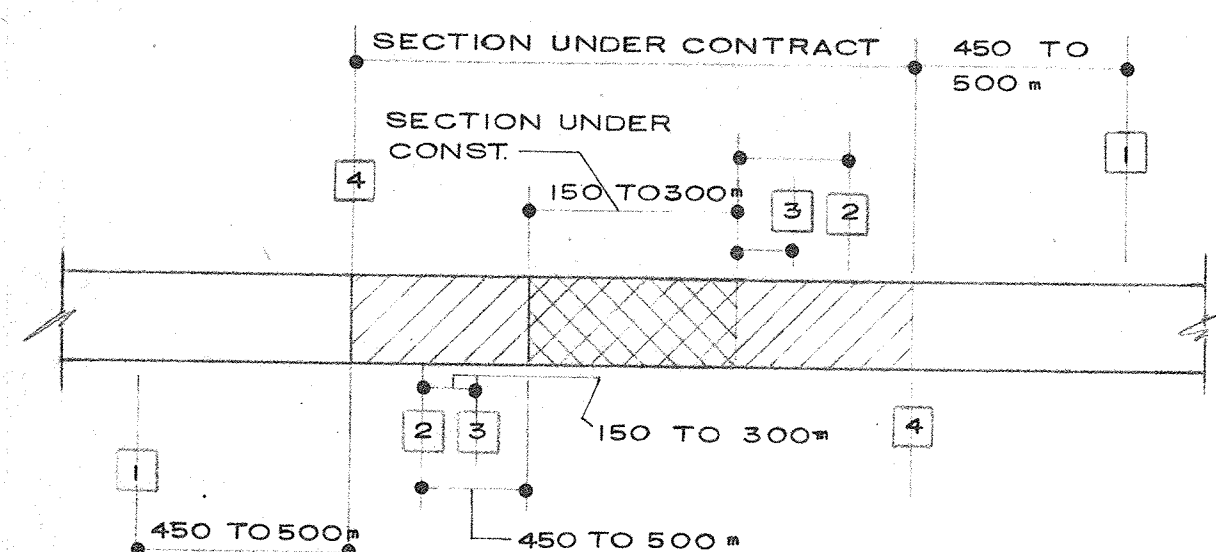
PWC Project Manager Administrateur de projets TPC

project number no. du projet

324042

drawing no. 13 OF 15 no. du dessin

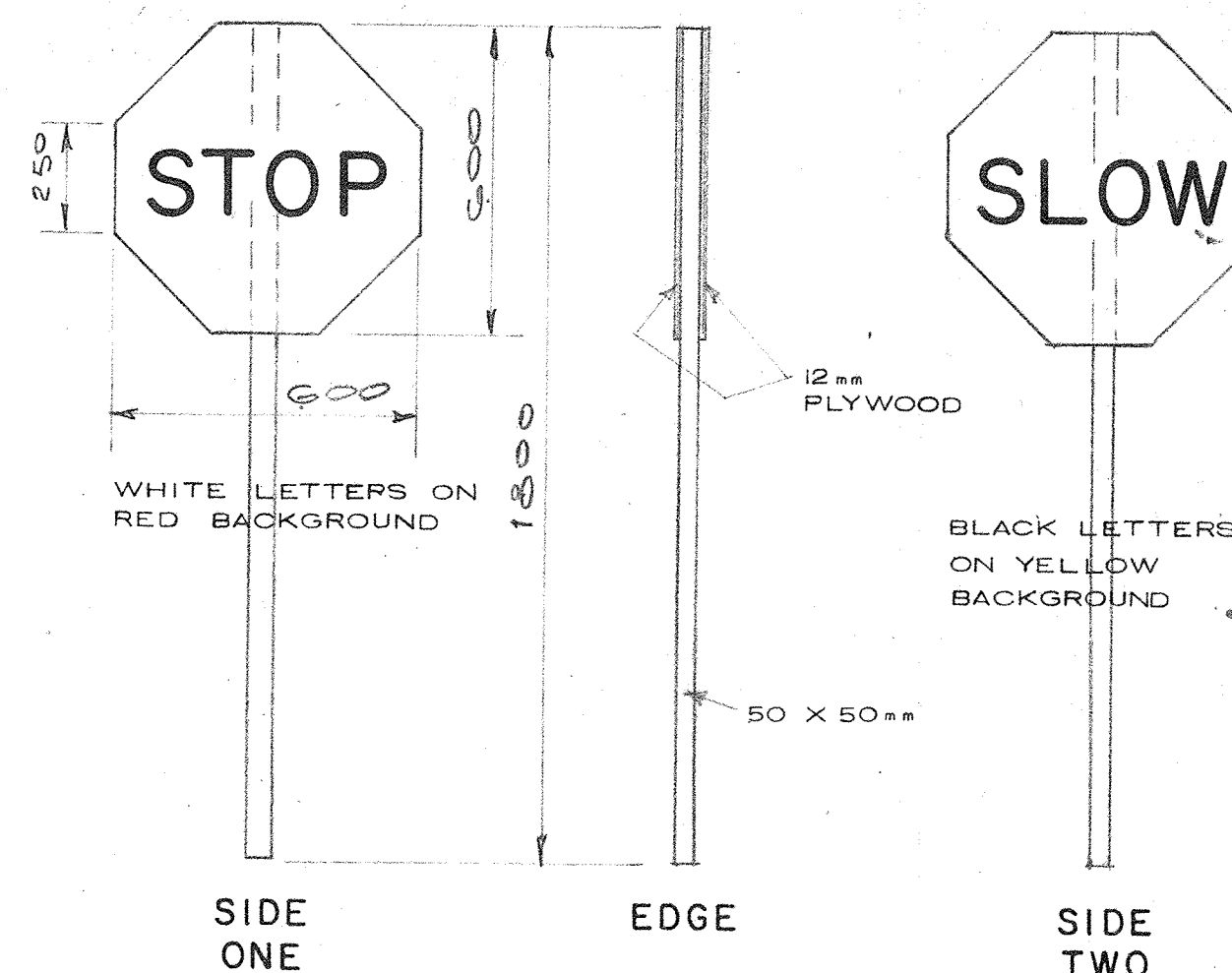




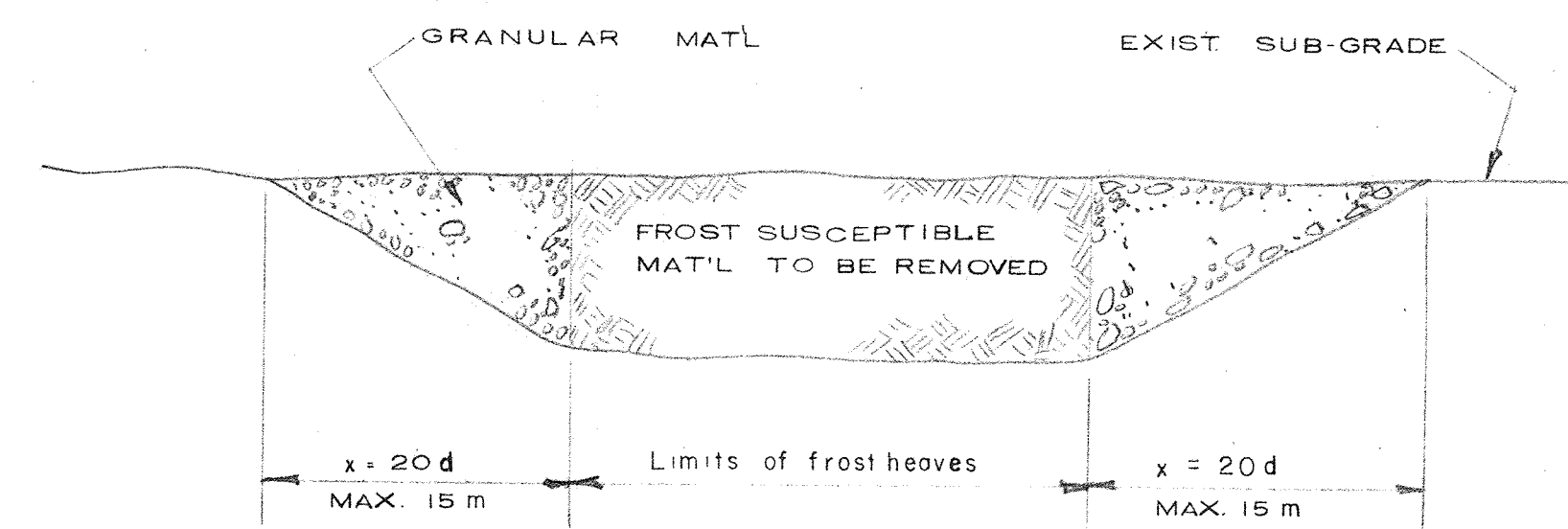
### Key To Signs

- SIGN NO. 1 ROAD CONSTRUCTION AHEAD.  
 2 ROAD CONSTRUCTION 450 m  
 THIS SIGN TO BE MOVED AS WORK PROGRESSES  
 3 FLAGMAN AHEAD  
 4 END CONSTRUCTION

### CONSTRUCTION SIGNS



### SIGNAL PADDLES



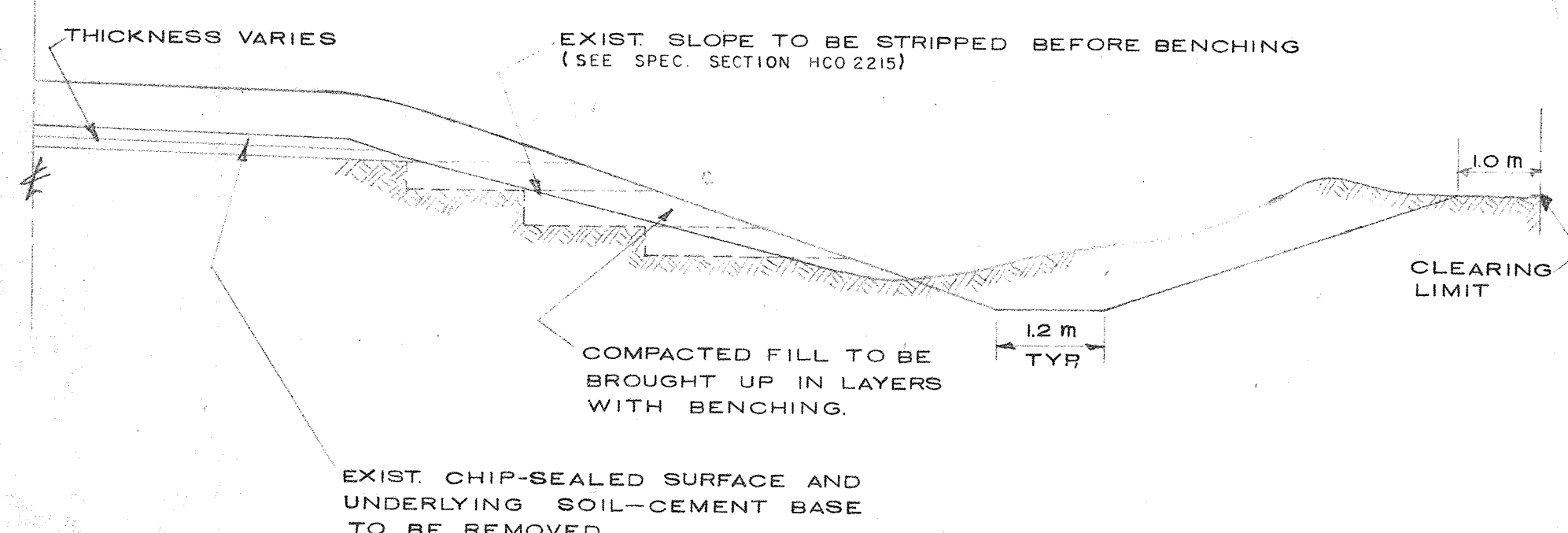
### NOTES

- A FROST SUSCEPTIBLE MATERIAL TO BE EXCAVATED AND REPLACED WITH GRANULAR MATERIAL  
 B ADEQUATE DRAINAGE IS TO BE PROVIDED FROM BOTTOM OF EXCAVATION.

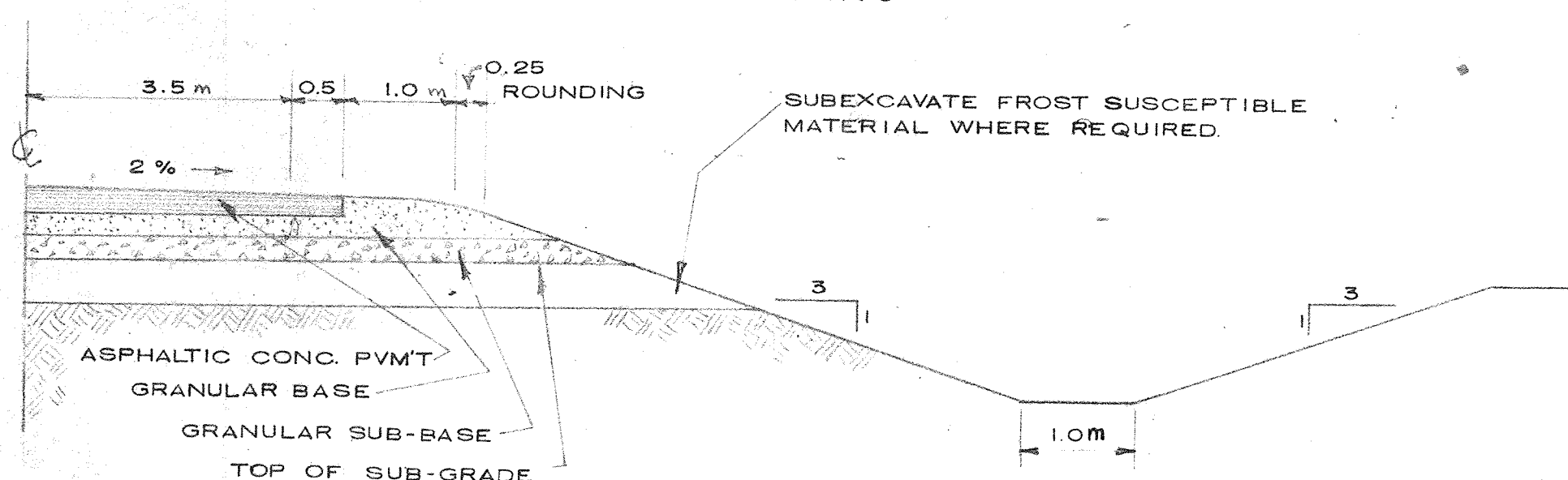
### LEGEND

- d DENOTES DEPTH OF FROST SUSCEPTIBLE MATERIAL.  
 x DENOTES LENGTH OF TAPER FROM BOTTOM OF FROST HEAVE TO SURFACE LEVEL.

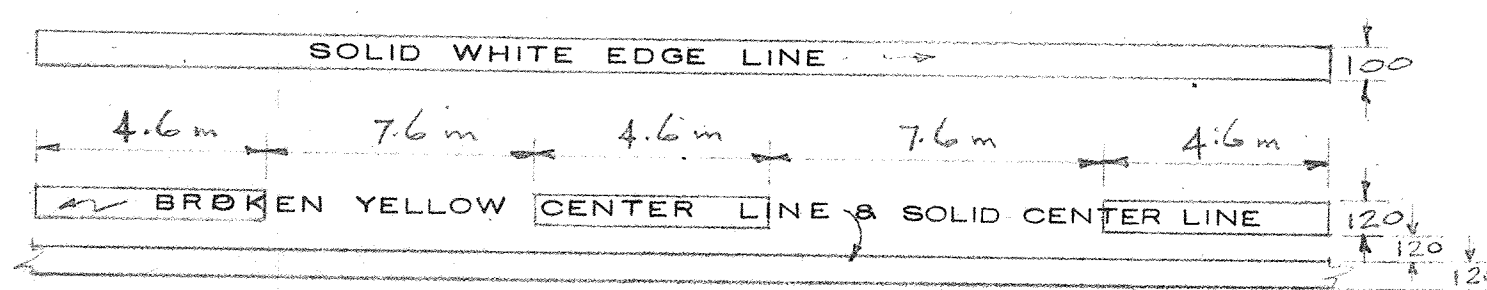
### EXCAVATION FOR TREATMENT OF FROST HEAVES



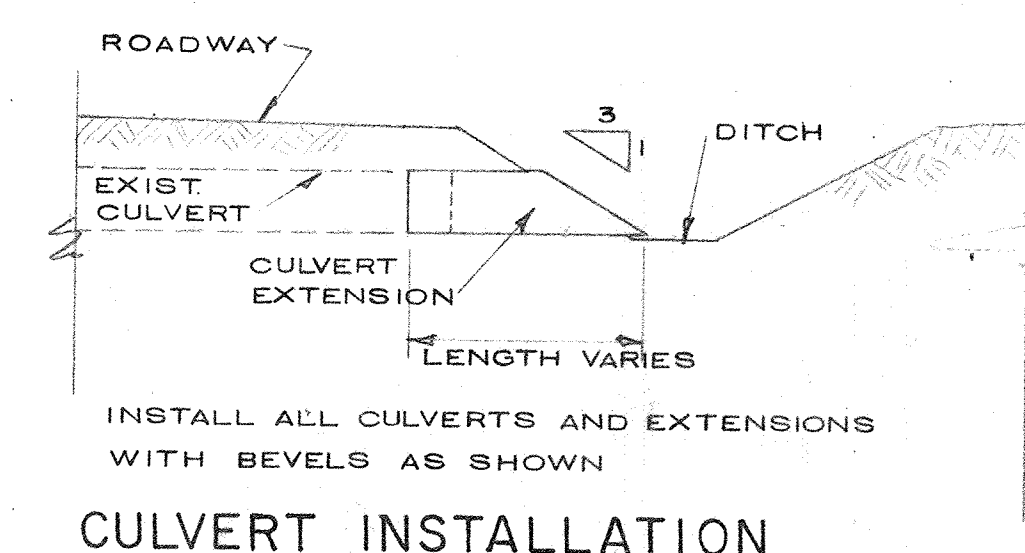
### TYPICAL CROSS SECTION SHOWING EXISTING CONDITIONS & BENCHING



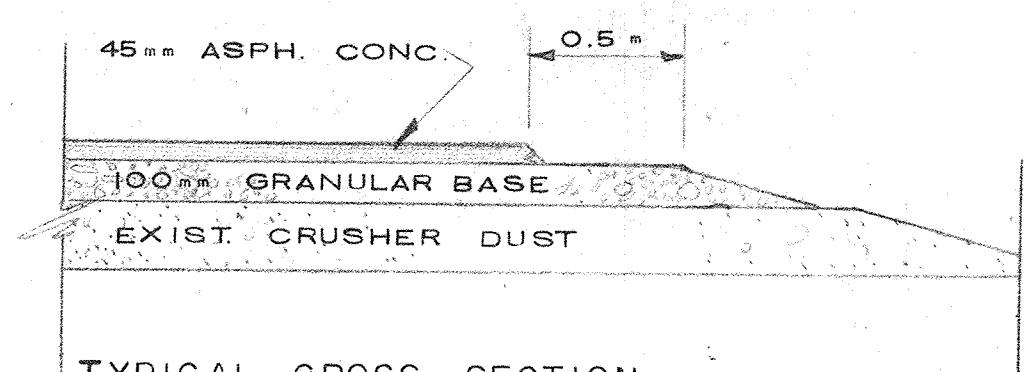
### TYPICAL CROSS SECTION SHOWING THICKNESSES & WIDTHS OF FINAL ROADWAY



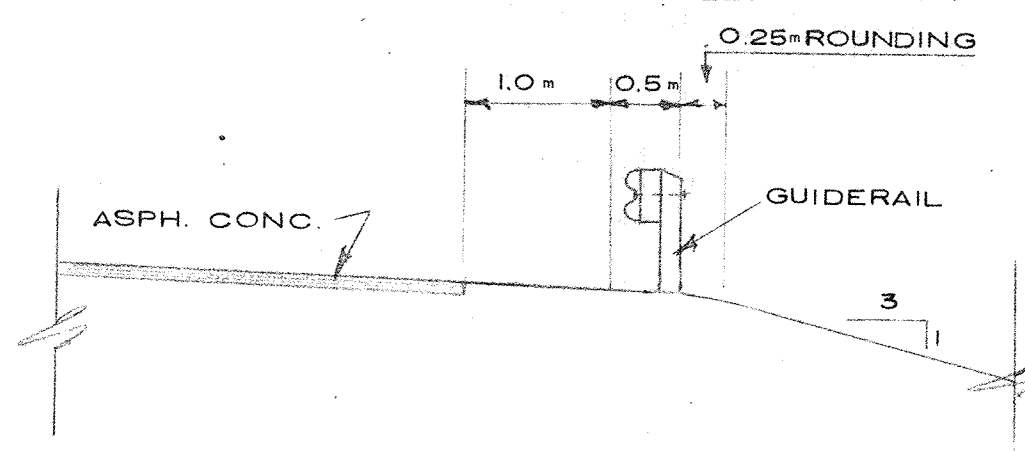
### TYPICAL DETAIL HIGHWAY LINE MARKINGS



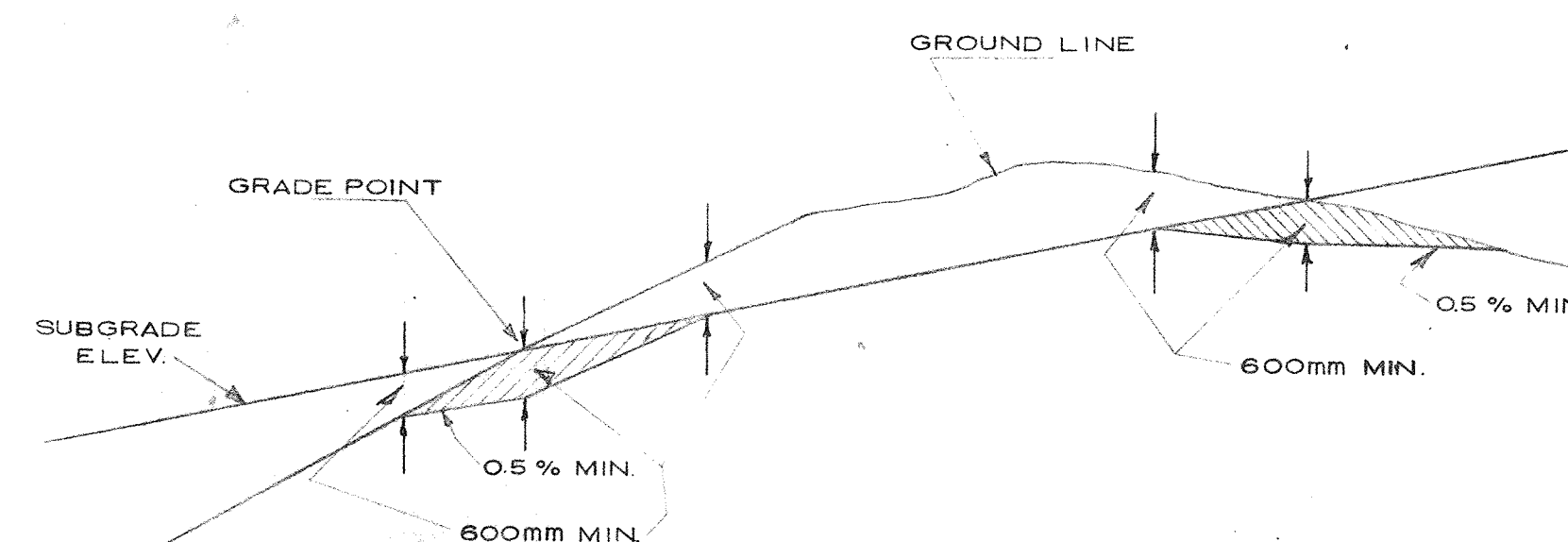
### CULVERT INSTALLATION



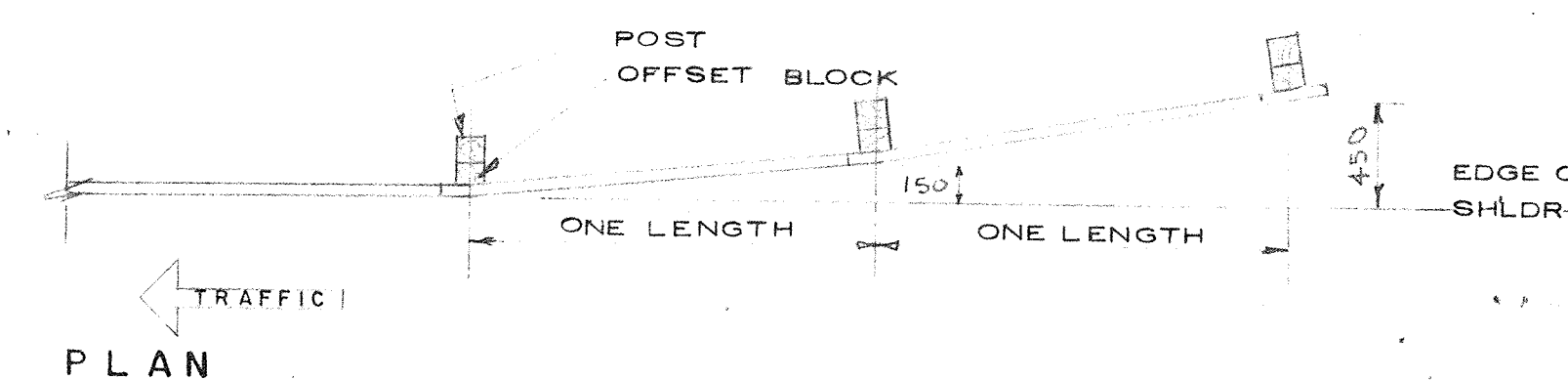
### TYPICAL CROSS SECTION PARKING LOTS (SEE SHEET 13 OF 15)



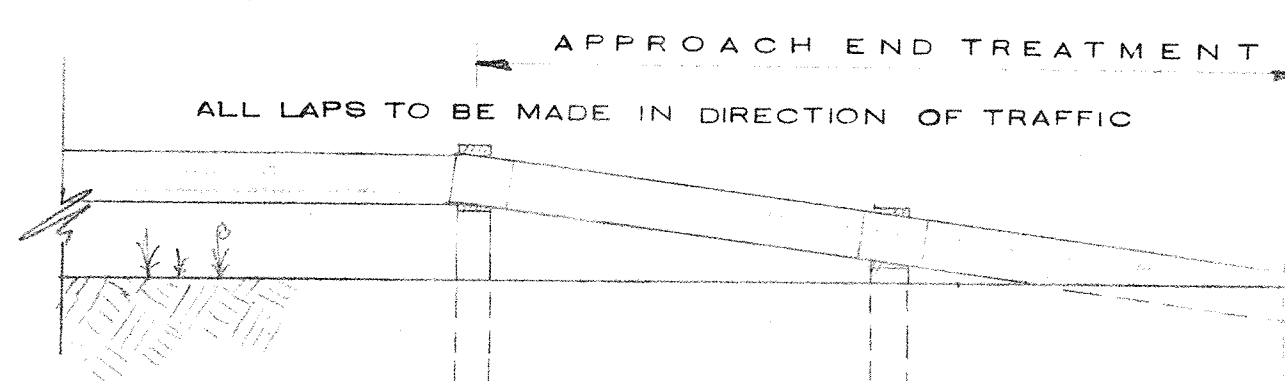
### TYPICAL CROSS SECTION GUIDERAIL INSTALLATION



### EARTH CUT & FILL CONSTRUCTION METHOD AT GRADE POINTS

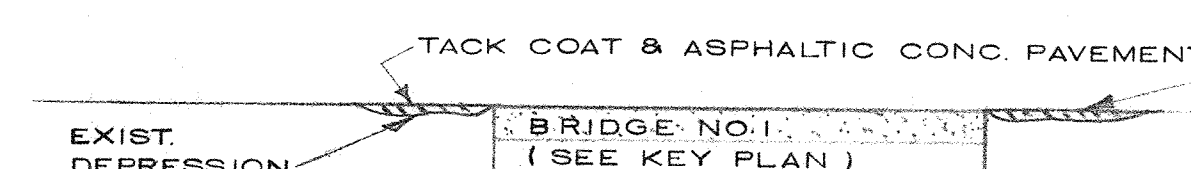


### PLAN



### ELEVATION

### STEEL BEAM GUIDE RAIL END TREATMENT



### REPAIRS TO BRIDGE APPROACHES

revisions	date
-----------	------

A	A detail no. no. du détail
C	B location drawing no. sur dessin no.
	C drawing no. dessin no.

project

UPGRADING HWY. 117  
 KOUCHIBOUGUAC NATIONAL PARK  
 Kent Co., N.B.

drawing

Km. 0 TO 6.5  
 DETAIL

SHEET

THIS SHEET OF DETAILS  
 NOT DRAWN TO SCALE

designed *A. McArthur P.Eng.* conçu

date

drawn *A. McArthur P.Eng.* dessiné

date

reviewed *A. McArthur P.Eng.* examiné

date *81-06-03*

approved *A. McArthur P.Eng.* approuvé

date *81-08-12*

Tender *W.F. Lord, P.Eng.* Soumission

PWC Project Manager Administrateur de projets TPC

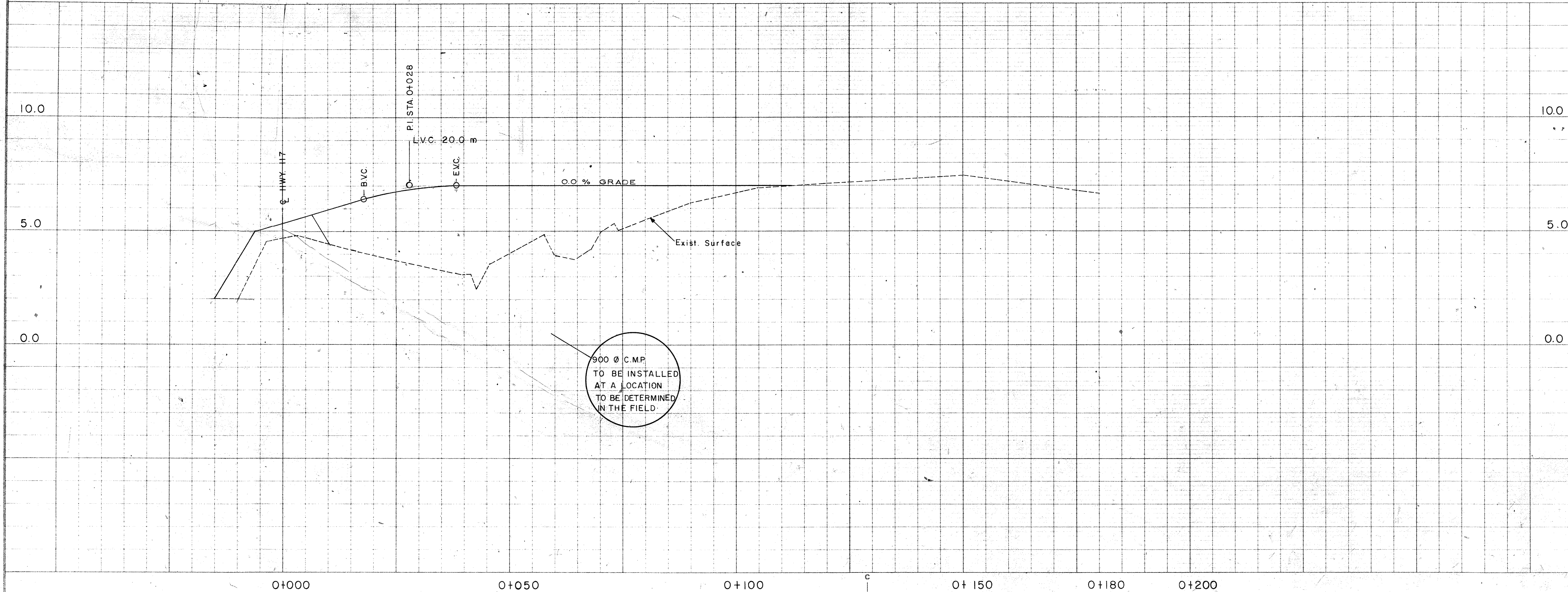
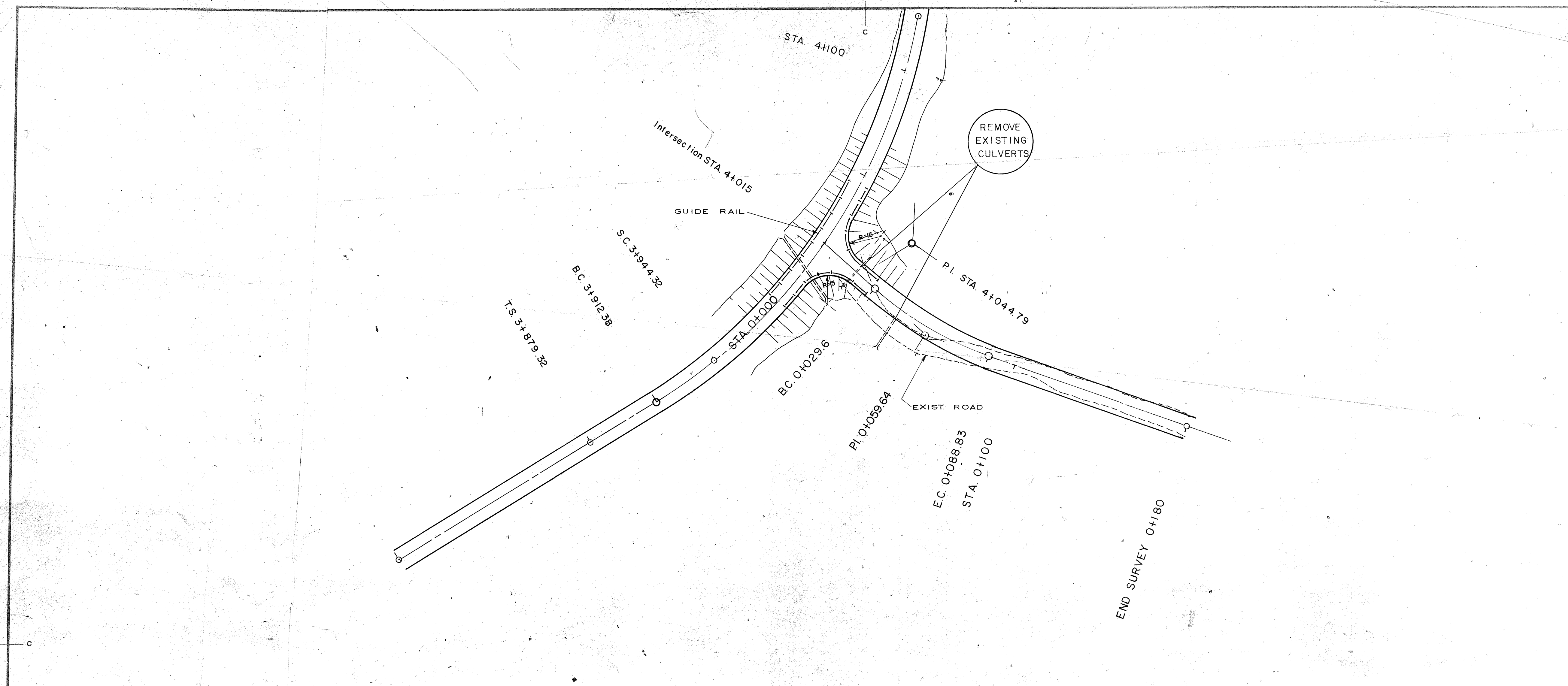
project number

324042

drawing no. no. du dessin

14 OF 15





Scales  
 Horiz. — 1:1000 (PLAN)  
 Vert. — 1:100 (PROFILE)  
 Horiz — 1:500 (PROFILE)

revisions	date
A	A detail no. no. du détail
B	B location drawing no. sur dessin no.
C	C drawing no. dessin no.

UPGRADING HWY. 117  
 KOUCHIBOUGUAC  
 NATIONAL PARK

LOGIECROFT  
 INTERSECTION

designed	A. Mc Intosh P.Eng.	conçu
drawn	W.S.	dessiné
reviewed	A. Mc Intosh P.Eng.	examiné
date	81-06-09	
approved	W. Lord P.Eng.	approuvé
date	81-06-09	
Tender	W. Lord, P. Eng.	Submission
PWC Project Manager		Administrateur du projet PWC
project number		no. du projet

324042