



**FOUNDATION INVESTIGATION REPORT
SWAMP AND HIGH FILL CROSSINGS**

for

**HIGHWAY 69 FOUR-LANING
FROM 3.8 KM NORTH OF HIGHWAY 522 TO
10.7 KM NORTH OF HIGHWAY 522
TOWNSHIP OF MOWAT
G.W.P. 5203-06-00
DISTRICT 54, SUDBURY, ONTARIO**

PHASE 3, STA. 13+400 TO 20+300 (TOWNSHIP OF MOWAT)

VOLUME 4

PETO MacCALLUM LTD.
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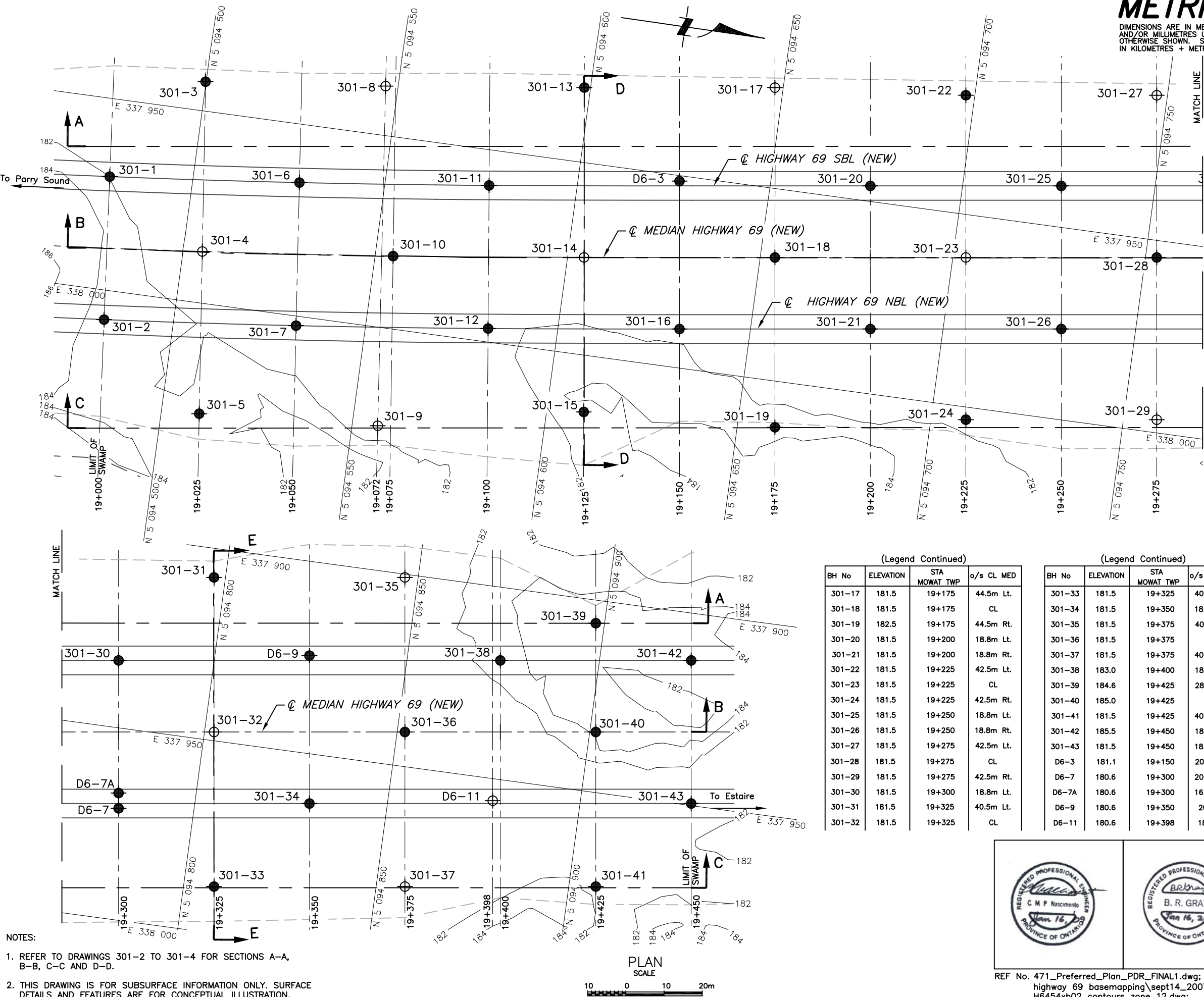
PML Ref.: 06TF033C
Index No.: 2485FIR
GEOCRES No.: 41H-67
August 7, 2013



APPENDIX C

Drawings 301-1 to 314-5

Borehole Locations and Soil Strata



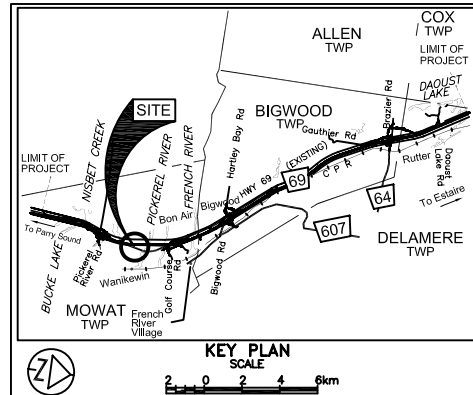
CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 301, STA. 19+000 TO 19+450 MOWAT TWP
BOREHOLE LOCATIONS



SHEET

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- LEGEND**
- Borehole
 - Dynamic Cone Penetration Test (Cone)
 - Borehole & Cone
 - N Blows/0.3m (Std. Pen Test, 475 J/blow)
 - CONE Blows/0.3m (60° Cone, 475 J/blow)
 - W L at time of investigation Mar 2007
 - D6 Series Mar 2004
 - Head
 - ARTESIAN WATER Encountered
 - PIEZOMETER

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
301-17	181.5	19+175	44.5m Lt.
301-18	181.5	19+175	CL
301-19	182.5	19+175	44.5m Rt.
301-20	181.5	19+200	18.8m Lt.
301-21	181.5	19+200	18.8m Rt.
301-22	181.5	19+225	42.5m Lt.
301-23	181.5	19+225	CL
301-24	181.5	19+225	42.5m Rt.
301-25	181.5	19+250	18.8m Lt.
301-26	181.5	19+250	18.8m Rt.
301-27	181.5	19+275	42.5m Lt.
301-28	181.5	19+275	CL
301-29	181.5	19+275	42.5m Rt.
301-30	181.5	19+300	18.8m Lt.
301-31	181.5	19+325	40.5m Lt.
301-32	181.5	19+325	CL

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
301-33	181.5	19+325	40.5m Rt.
301-34	181.5	19+350	18.8m Rt.
301-35	181.5	19+375	40.5m Lt.
301-36	181.5	19+375	CL
301-37	181.5	19+375	40.5m Rt.
301-38	183.0	19+400	18.8m Lt.
301-39	184.6	19+425	28.5m Lt.
301-40	185.0	19+425	CL
301-41	181.5	19+425	40.5m Rt.
301-42	185.5	19+450	18.8m Lt.
301-43	181.5	19+450	18.8m Rt.
D6-3	181.1	19+150	20.0m Lt.
D6-7	180.6	19+300	20.0m Rt.
D6-7A	180.6	19+300	16.0m Rt.
D6-9	180.6	19+350	20m Lt.
D6-11	180.6	19+398	18m Rt.

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
301-1	182.0	19+000	18.8m Lt.
301-2	183.0	19+000	18.8m Rt.
301-3	181.5	19+025	44.5m Lt.
301-4	182.1	19+025	CL
301-5	182.5	19+025	42.5m Rt.
301-6	181.6	19+050	18.8m Lt.
301-7	181.9	19+050	18.8m Rt.
301-8	181.5	19+072	44.5m Lt.
301-9	182.0	19+072	42.5m Rt.
301-10	181.6	19+075	CL
301-11	181.5	19+100	18.8m Lt.
301-12	181.8	19+100	18.8m Rt.
301-13	181.5	19+125	44.5m Lt.
301-14	181.5	19+125	CL
301-15	184.1	19+125	40.5m Rt.
301-16	182.1	19+150	18.8m Rt.



(Legend Continues)

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	301-1

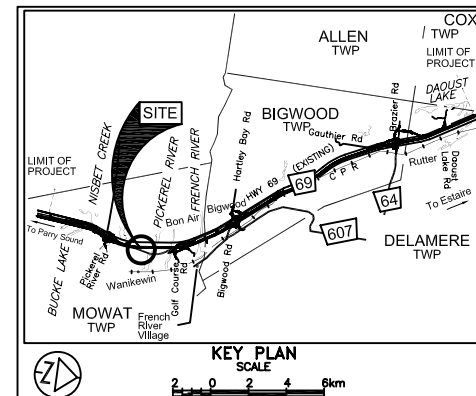
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highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

METRIC

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRESCONT No
GWP No 5203-06-00HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 301, STA. 19+000 TO 19+450 MOWAT TWP
SOIL STRATA

SHEET

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CONSULTING ENGINEERS

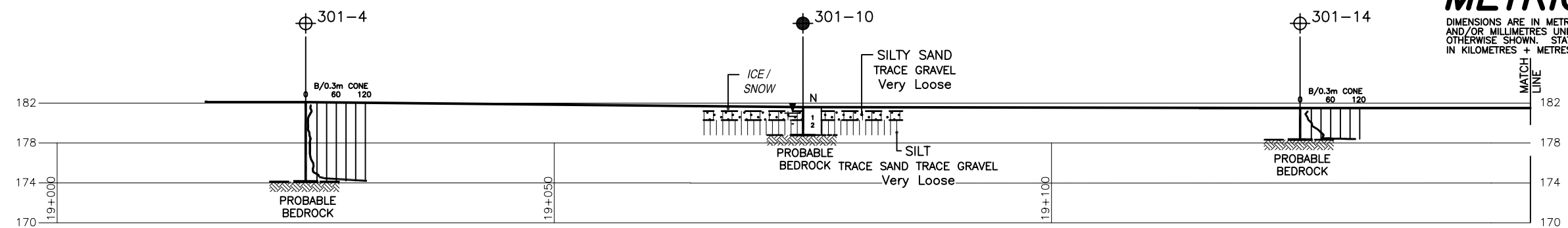
LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60' Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	at time of investigation Mar 2007		
D6 Series	Mar 2004		
Head			
ARTESIAN WATER	Encountered		
PIEZOMETER			

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 301-1 FOR DETAILS			

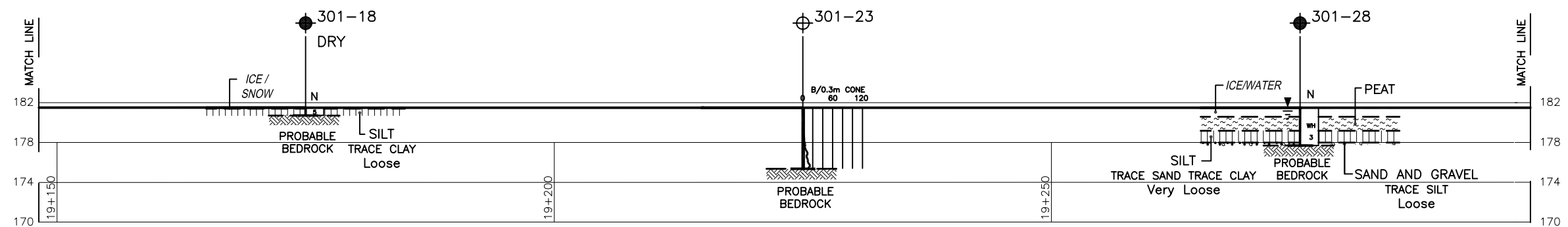
— NOTE —
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REVISIONS	DATE	BY	DESCRIPTION

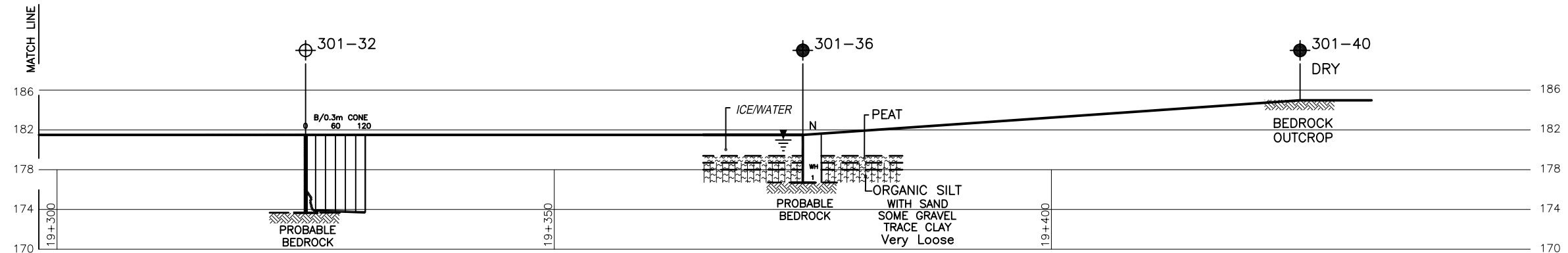
Geocres No.	41H-67
HWY No	69
SUBM'D	NSB
CHECKED	CN
DATE	JAN. 16, 2009
SITE	---
DIST	54
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CHECKED	CN
APPROVED	BRG
DWG	301-3



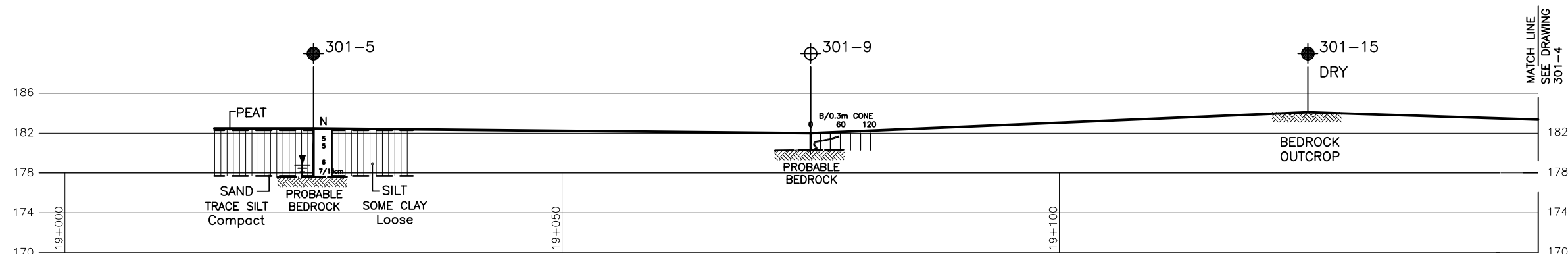
PROFILE B-B



PROFILE B-B (Continued)



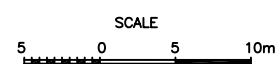
PROFILE B-B (Continued)



PROFILE C-C

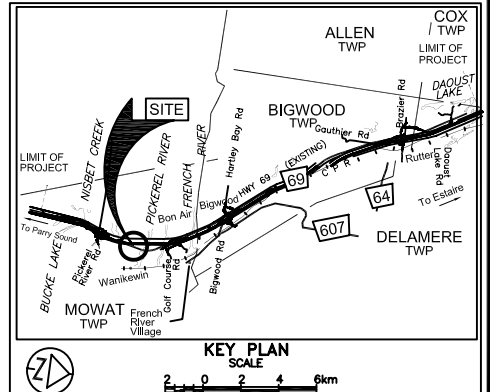
NOTES:

- REFER TO DRAWING 301-1 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 301-2 AND 301-4 FOR SECTIONS A-A, C-C(Continued), D-D AND E-E.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

REF No. 471-Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 301, STA. 19+000 TO 19+450 MOWAT TWP
SOIL STRATA
SHEET

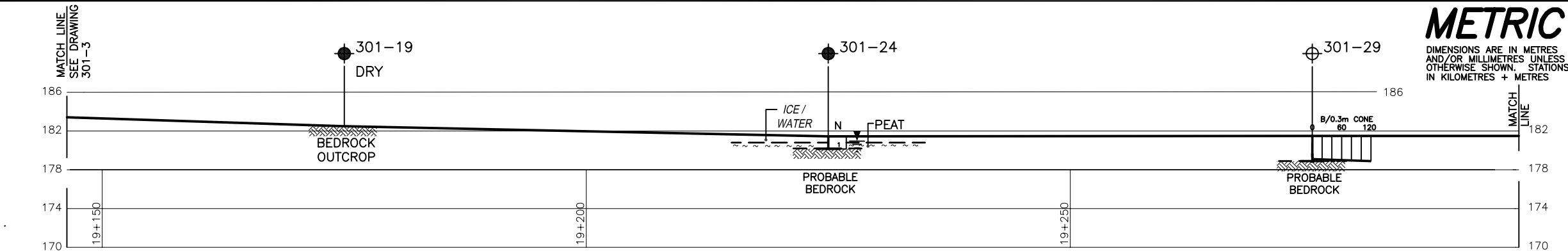


LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
	W L at time of investigation Mar 2007		
	D6 Series Mar 2004		
	ARTESIAN WATER Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 301-1 FOR DETAILS			

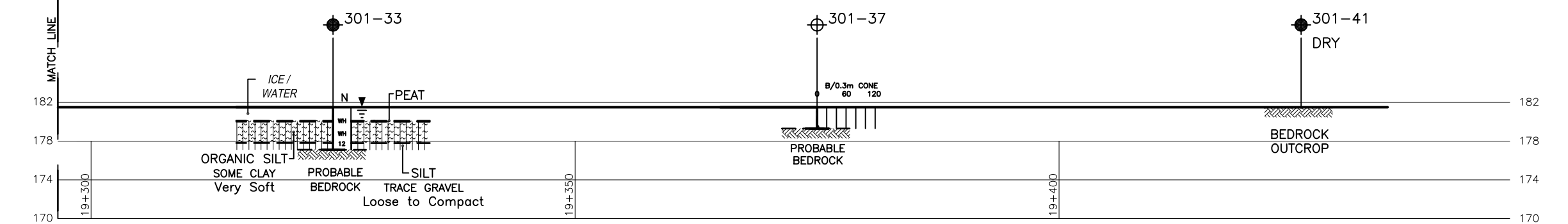
— NOTE —
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REVISIONS	DATE	BY	DESCRIPTION

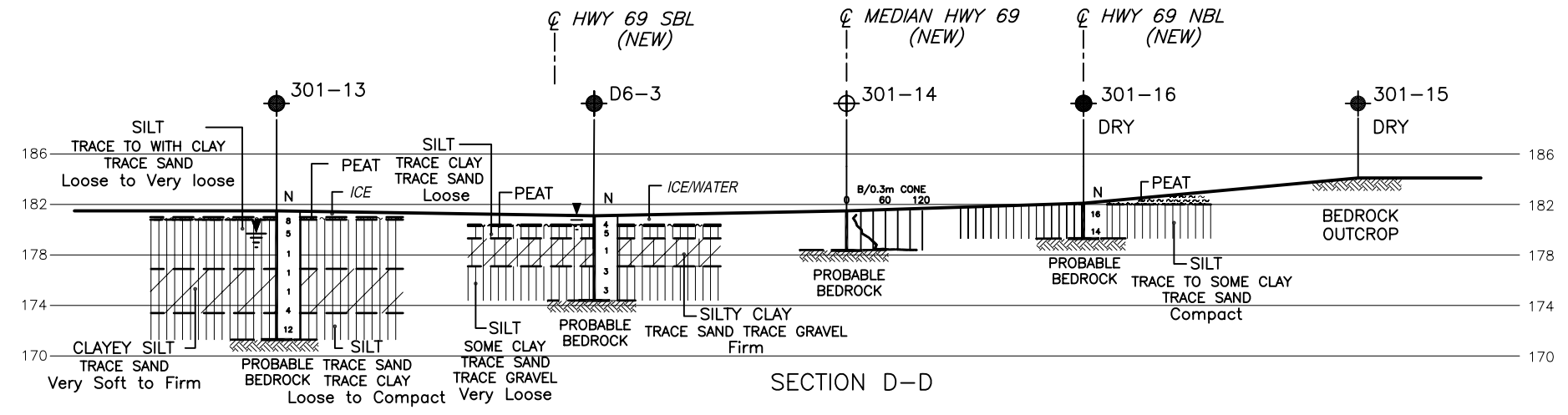
Geocres No. 41H-67
HWY No 69
SUBM'D NSB/CHECKED CN
DATE JAN. 16, 2009
DRAWN NA/CHECKED CN
APPROVED BRG
DIST 54
SITE ---
DWG 301-4



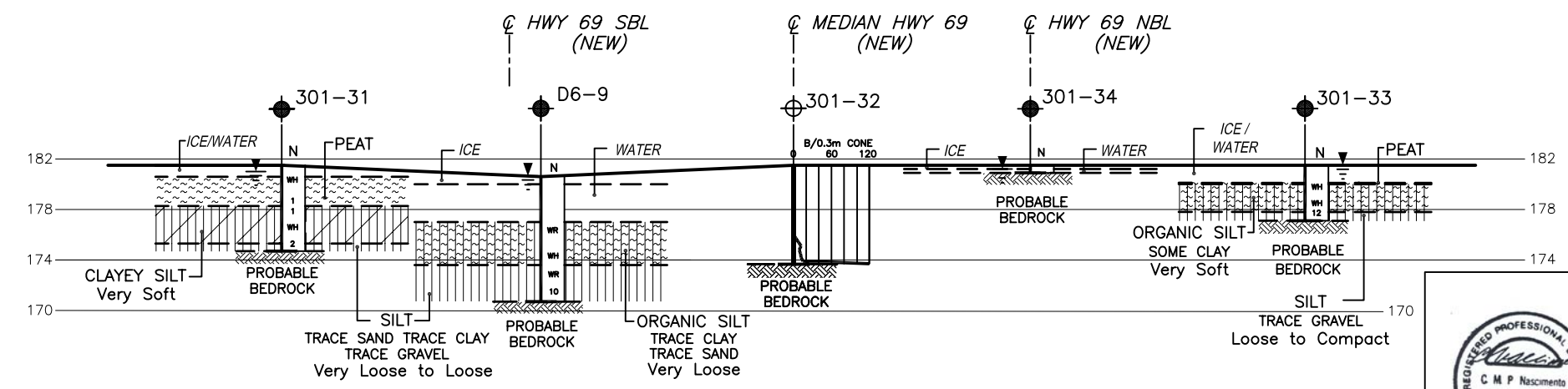
PROFILE C-C (Continued)



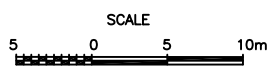
PROFILE C-C (Continued)



SECTION D-D



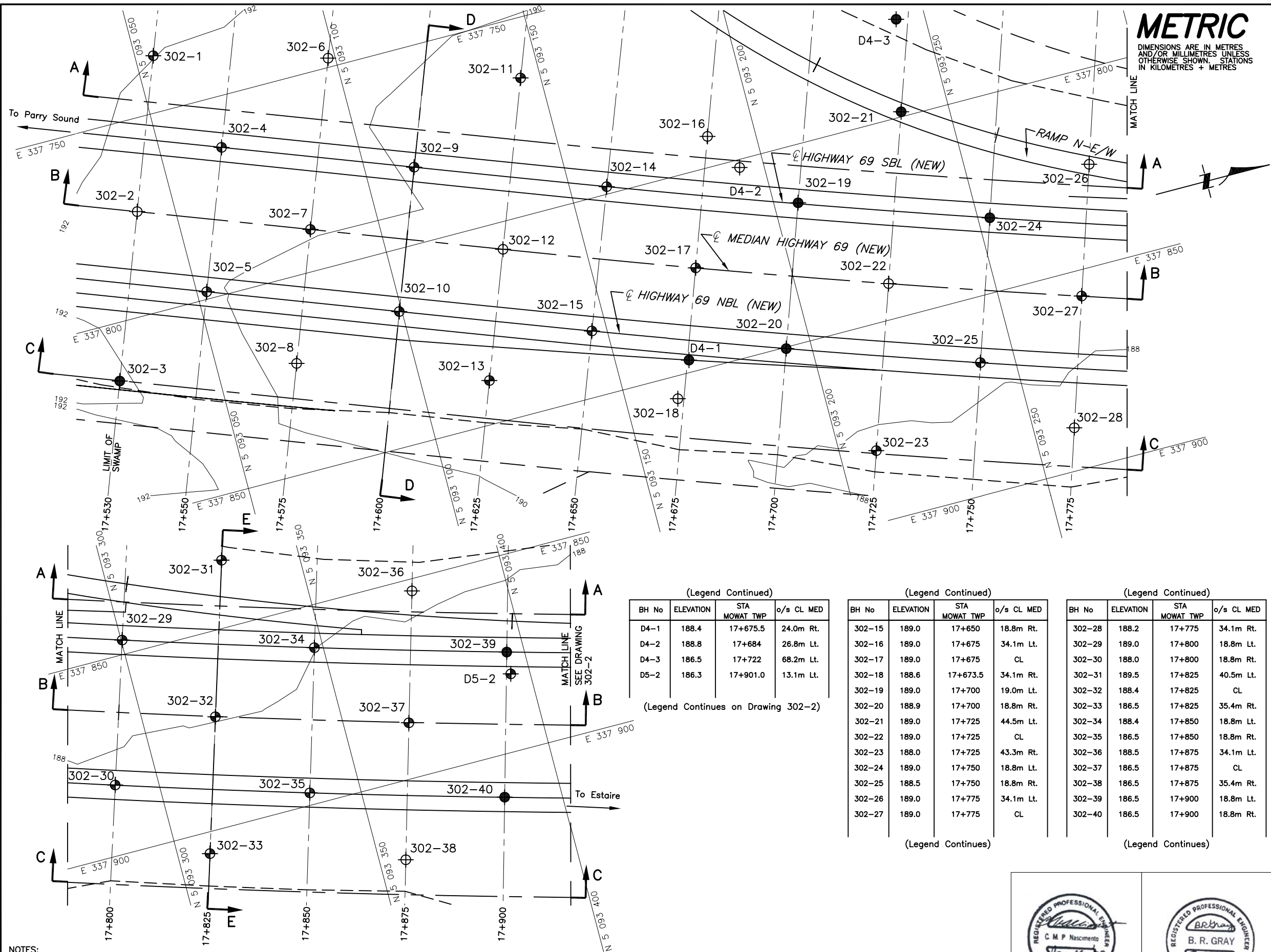
SECTION E-E



NOTES:
1. REFER TO DRAWING 301-1 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 301-2 AND 301-3 FOR SECTIONS A-A, B-B AND C-C (Continued).
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



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highway 69 basemapping\sept14_2007\
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- NOTES:
- REFER TO DRAWING 302-2 FOR CONTINUATION OF NORTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 302-3 TO 306-8 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
 - D4 AND D5 SERIES BOREHOLES STATION AND OFFSET ARE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN STATION.

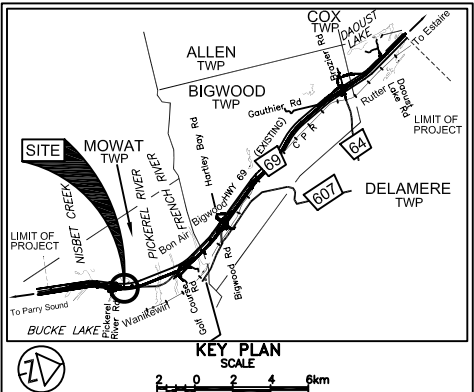
PLAN
SCALE
10 0 10 20m

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 302, STA. 17+530 TO 18+300 MOWAT TWP
BOREHOLE LOCATIONS



PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



- LEGEND
- Borehole
 - Dynamic Cone Penetration Test (Cone)
 - Borehole & Cone
 - N Blows/0.3m (Std. Pen Test, 475 J/blow)
 - CONE Blows/0.3m (60° Cone, 475 J/blow)
 - W L at time of investigation 302 Series Feb-Mar 2007; D4 & D5 Series Mar 2004
 - Head
 - ARTESIAN WATER
 - Encountered
 - PIEZOMETER

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
D4-1	188.4	17+675.5	24.0m Rt.
D4-2	188.8	17+684	26.8m Lt.
D4-3	186.5	17+722	68.2m Lt.
D5-2	186.3	17+901.0	13.1m Lt.

(Legend Continues on Drawing 302-2)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-15	189.0	17+650	18.8m Rt.
302-16	189.0	17+675	34.1m Lt.
302-17	189.0	17+675	CL
302-18	188.6	17+673.5	34.1m Rt.
302-19	189.0	17+700	19.0m Lt.
302-20	188.9	17+700	18.8m Rt.
302-21	189.0	17+725	44.5m Lt.
302-22	189.0	17+725	CL
302-23	188.0	17+725	43.3m Rt.
302-24	189.0	17+750	18.8m Lt.
302-25	188.5	17+750	18.8m Rt.
302-26	189.0	17+775	34.1m Lt.
302-27	189.0	17+775	CL

(Legend Continues)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-28	188.2	17+775	34.1m Rt.
302-29	189.0	17+800	18.8m Lt.
302-30	188.0	17+800	18.8m Rt.
302-31	189.5	17+825	40.5m Lt.
302-32	188.4	17+825	CL
302-33	186.5	17+825	35.4m Rt.
302-34	188.4	17+850	18.8m Lt.
302-35	186.5	17+850	18.8m Rt.
302-36	188.5	17+875	34.1m Lt.
302-37	186.5	17+875	CL
302-38	186.5	17+875	35.4m Rt.
302-39	186.5	17+900	18.8m Lt.
302-40	186.5	17+900	18.8m Rt.

(Legend Continues)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-1	192.6	17+530	40.5m Lt.
302-2	191.8	17+530	CL
302-3	192.0	17+530	44.0m Rt.
302-4	191.5	17+550	18.8m Lt.
302-5	190.1	17+550	18.8m Rt.
302-6	191.3	17+575	44.5m Lt.
302-7	190.3	17+575	CL
302-8	190.1	17+575	34.8m Rt.
302-9	190.3	17+600	18.8m Lt.
302-10	189.6	17+600	18.8m Rt.
302-11	190.2	17+625	44.5m Lt.
302-12	189.5	17+625	CL
302-13	189.0	17+625	34.1m Rt.
302-14	189.1	17+650	18.8m Lt.

(Legend Continues)

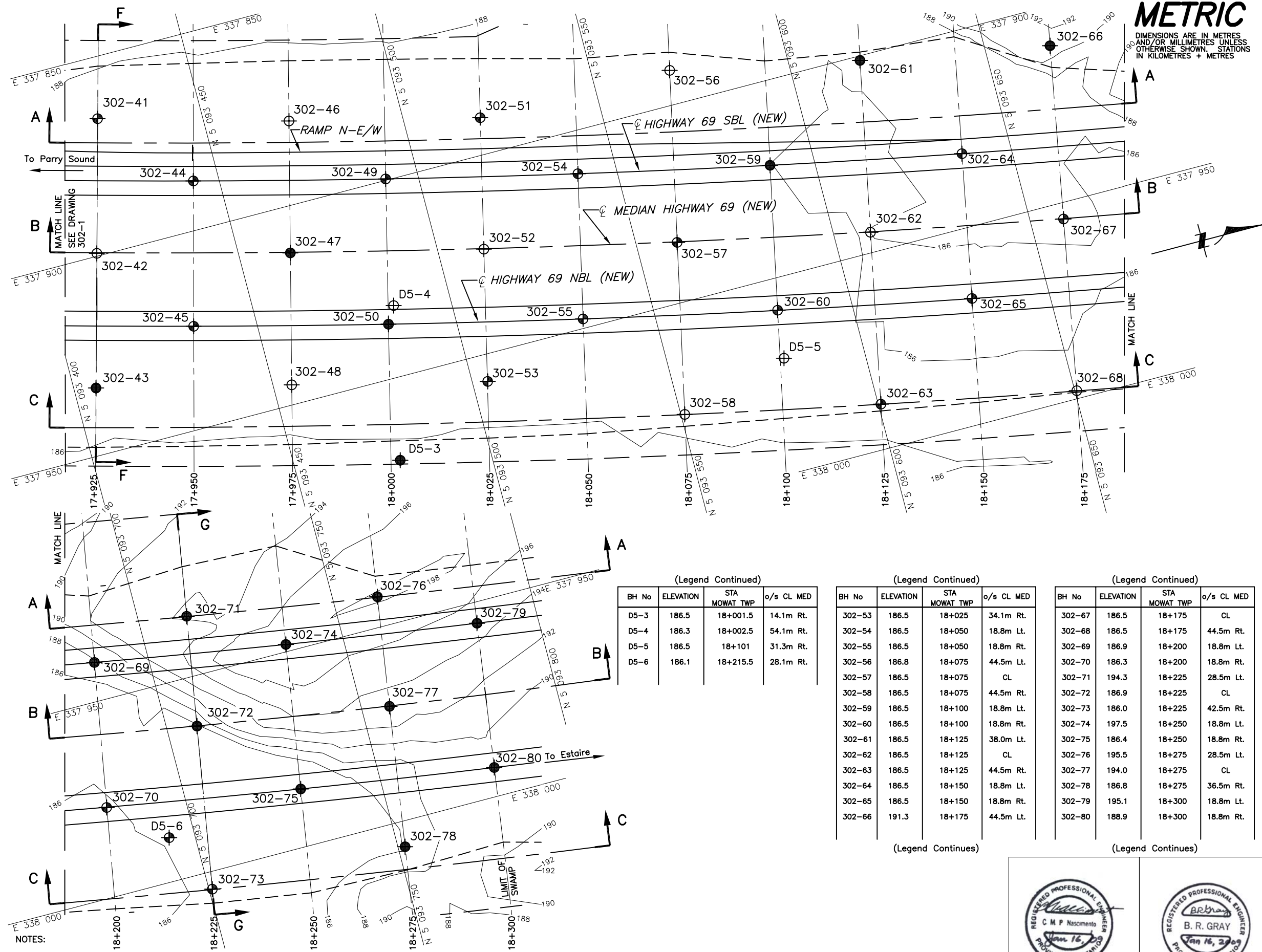


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highway69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;

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DATE	BY	DESCRIPTION

Geocres No. 41H-67					
HWY No 69				DIST 54	
SUBM'D NSB		CHECKED GD	DATE JAN. 16, 2009		SITE --
DRAWN NA		CHECKED CN	APPROVED BRG		DWG 302-1



- NOTES:
- REFER TO DRAWING 302-1 FOR CONTINUATION OF SOUTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 302-3 TO 302-8 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
 - D4 AND D5 SERIES BOREHOLES STATION AND OFFSET ARE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN STATION.

PLAN (Continued)

SCALE

10 0 10 20m

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
D5-3	186.5	18+001.5	14.1m Rt.
D5-4	186.3	18+002.5	54.1m Rt.
D5-5	186.5	18+101	31.3m Rt.
D5-6	186.1	18+215.5	28.1m Rt.

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-53	186.5	18+025	34.1m Rt.
302-54	186.5	18+050	18.8m Lt.
302-55	186.5	18+050	18.8m Rt.
302-56	186.8	18+075	44.5m Lt.
302-57	186.5	18+075	CL
302-58	186.5	18+075	44.5m Rt.
302-59	186.5	18+100	18.8m Lt.
302-60	186.5	18+100	18.8m Rt.
302-61	186.5	18+125	38.0m Lt.
302-62	186.5	18+125	CL
302-63	186.5	18+125	44.5m Rt.
302-64	186.5	18+150	18.8m Lt.
302-65	186.5	18+150	18.8m Rt.
302-66	191.3	18+175	44.5m Lt.

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-67	186.5	18+175	CL
302-68	186.5	18+175	44.5m Rt.
302-69	186.9	18+200	18.8m Lt.
302-70	186.3	18+200	18.8m Rt.
302-71	194.3	18+225	28.5m Lt.
302-72	186.9	18+225	CL
302-73	186.0	18+225	42.5m Rt.
302-74	197.5	18+250	18.8m Lt.
302-75	186.4	18+250	18.8m Rt.
302-76	195.5	18+275	28.5m Lt.
302-77	194.0	18+275	CL
302-78	186.8	18+275	36.5m Rt.
302-79	195.1	18+300	18.8m Lt.
302-80	188.9	18+300	18.8m Rt.

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
302-41	186.7	17+925	34.8m Lt.
302-42	186.5	17+925	CL
302-43	186.5	17+925	34.8m Rt.
302-44	186.5	17+950	18.8m Lt.
302-45	186.5	17+950	18.8m Rt.
302-46	186.5	17+975	34.1m Lt.
302-47	186.5	17+975	CL
302-48	186.5	17+975	34.1m Rt.
302-49	186.5	18+000	18.8m Lt.
302-50	186.5	18+000	18.8m Rt.
302-51	186.5	18+025	34.0m Lt.
302-52	186.5	18+025	CL



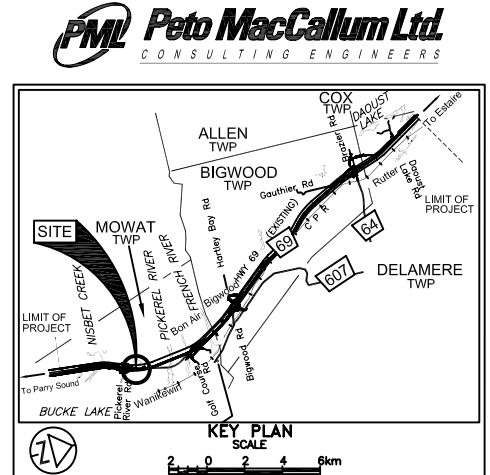
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highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

REVISIONS

DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	302-2



- LEGEND
- Borehole
 - Dynamic Cone Penetration Test (Cone)
 - Borehole & Cone
 - N Blows/0.3m (Std. Pen Test, 475 J/blow)
 - CONE Blows/0.3m (60° Cone, 475 J/blow)
 - W L at time of investigation 302 Series Feb-Mar 2007 and Mar 2008 and D5 Series Mar 2004
 - Head
 - ARTESIAN WATER Encountered
 - PIEZOMETER

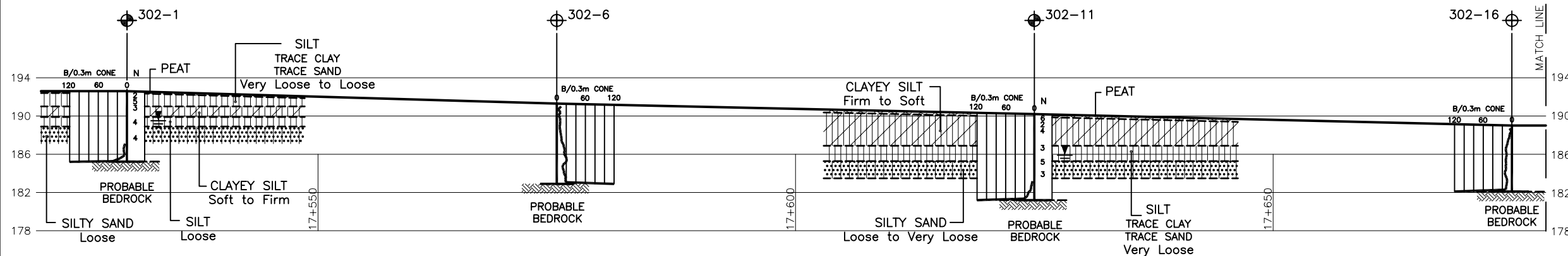
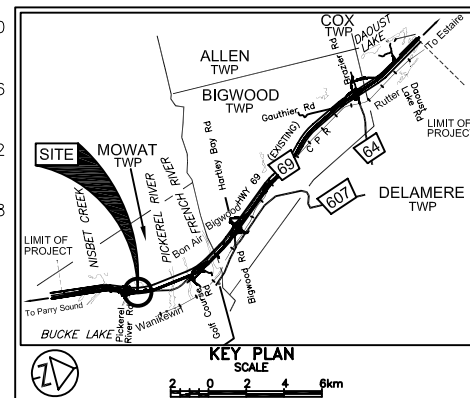
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AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

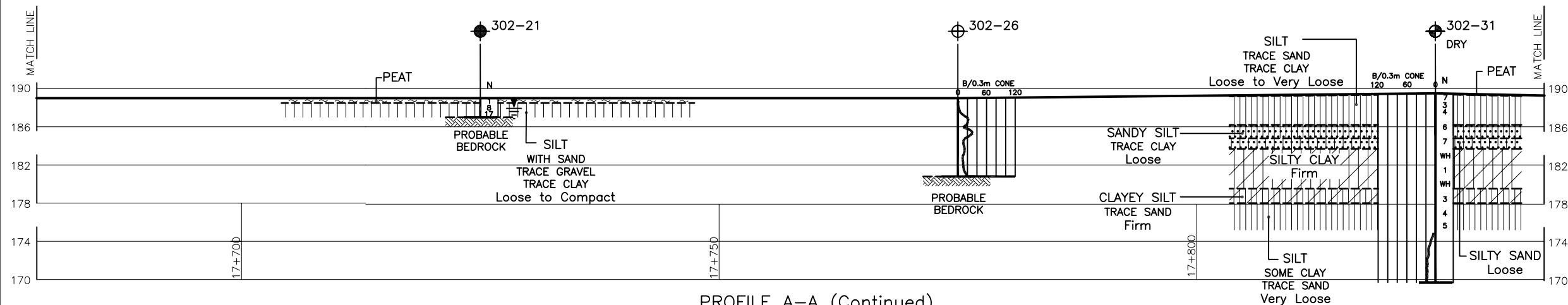
CONT No
GWP No 5203-06-00
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 302, STA. 17+530 TO 18+300 MOWAT TWP
SOIL STRATA

SHEET

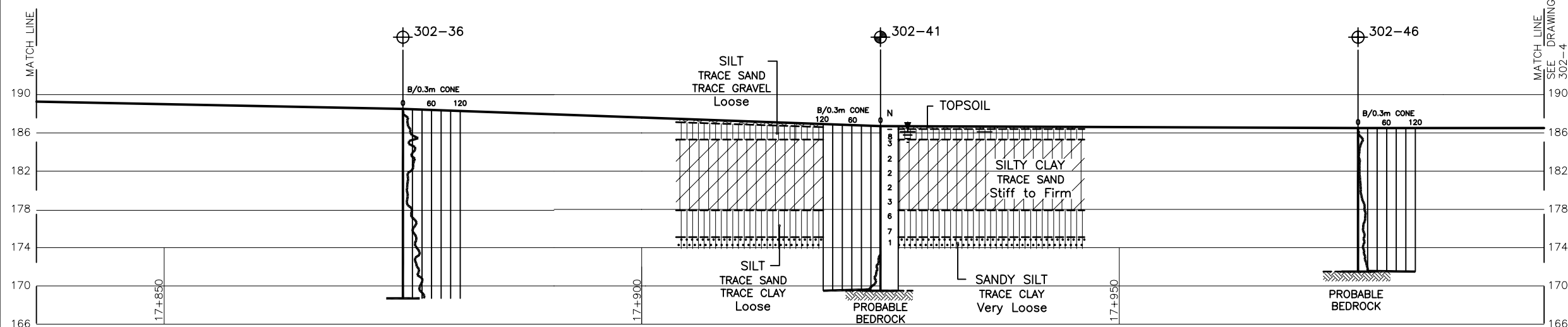
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



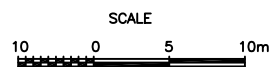
PROFILE A-A



PROFILE A-A (Continued)



PROFILE A-A (Continued)



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	at time of investigation Feb-Mar 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 302-1 AND 302-2 FOR DETAILS			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DATE	JAN. 16, 2009	SITE	---
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	302-3

NOTES:

- REFER TO DRAWINGS 302-1 AND 302-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 302-4 TO 302-9 FOR SECTIONS A-A (Continued), B-B, C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

METRIC

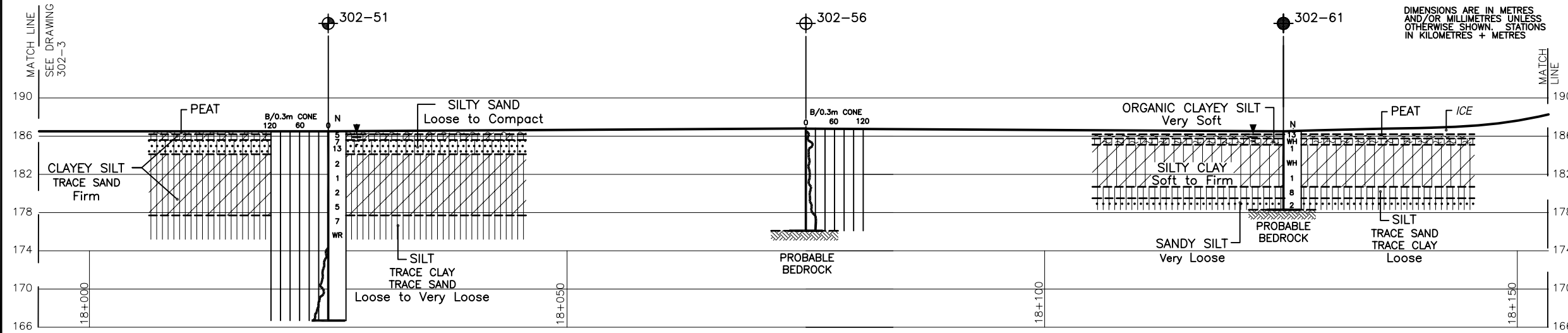
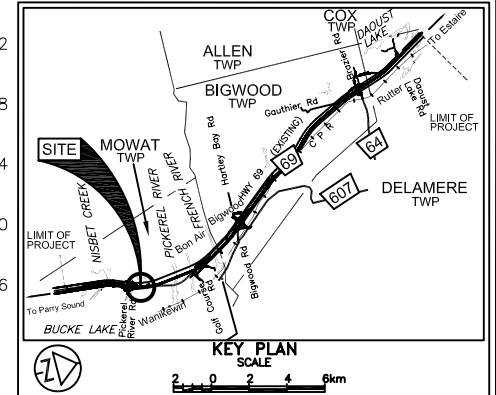
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

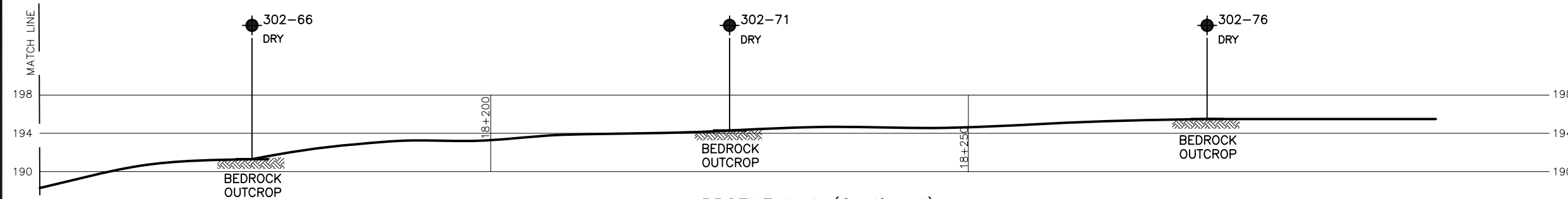
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 302, STA. 17+530 TO 18+300 MOWAT TWP
SOIL STRATA

SHEET

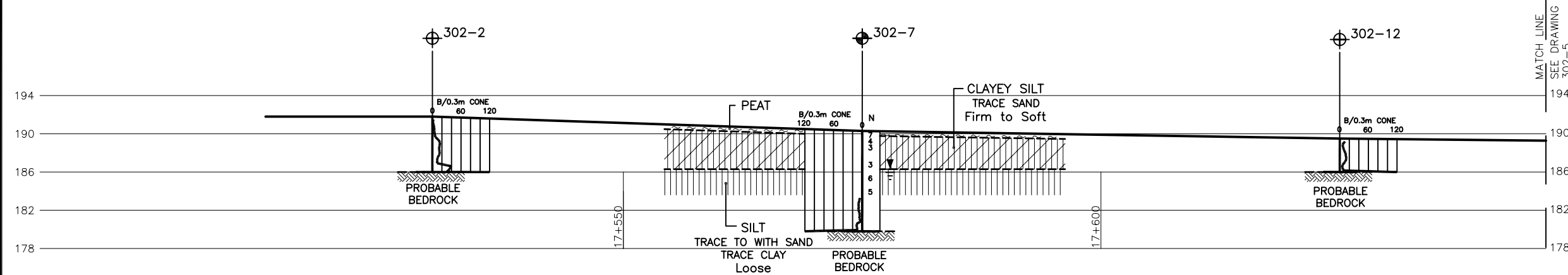
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



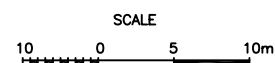
PROFILE A-A (Continued)



PROFILE A-A (Continued)



PROFILE B-B



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WR	Penetration due to weight of rods only		
	W L at time of investigation Feb-Mar 2007 and Mar 2008		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 302-1 AND 302-2 FOR DETAILS			

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67	HWY No 69	DIST 54
SUBM'D NSB	CHECKED GD	DATE JAN. 16, 2009
DRAWN NA	CHECKED CN	APPROVED BRG
SITE		DWG 302-4

NOTES:

- REFER TO DRAWINGS 302-1 AND 302-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWING 302-3 FOR SECTION A-A (Continued) AND DRAWINGS 302-5 TO 302-9 FOR SECTIONS B-B (Continued), C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

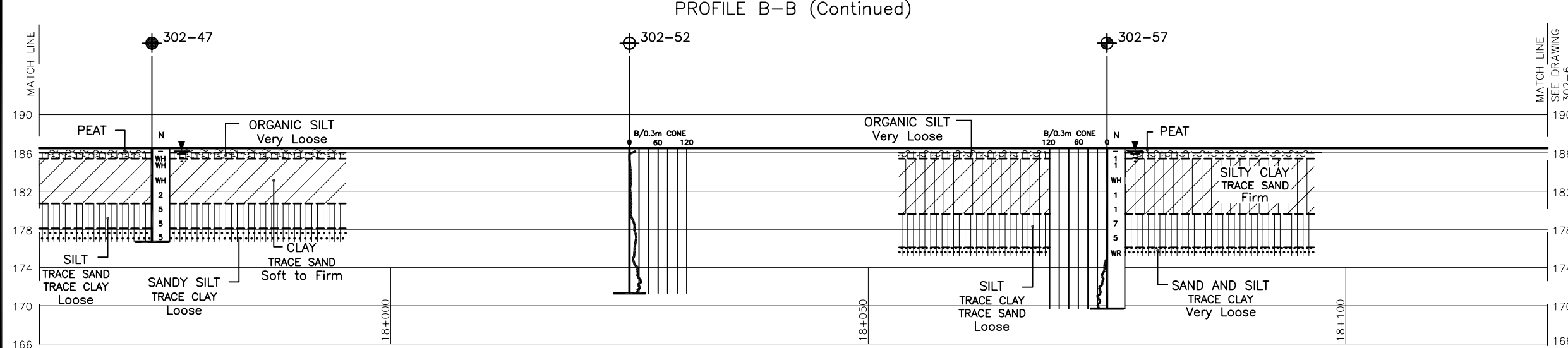
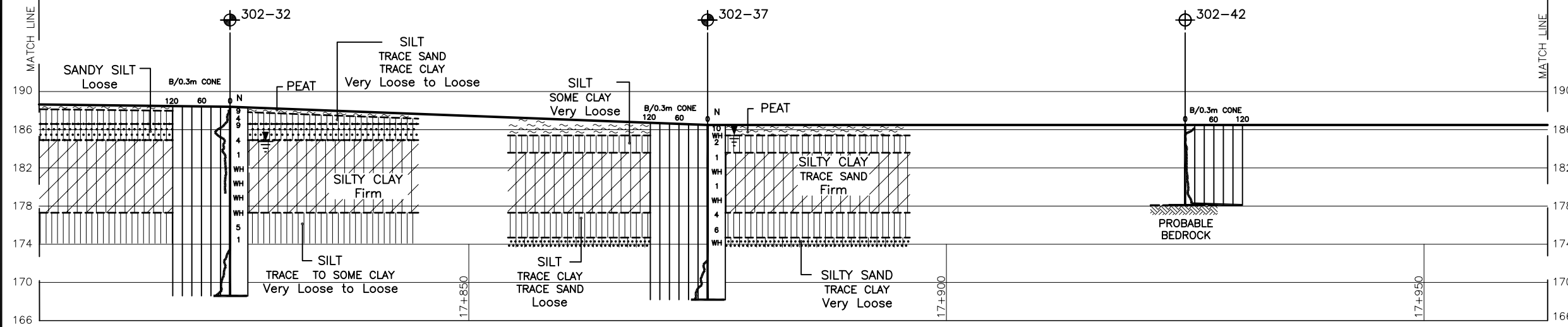
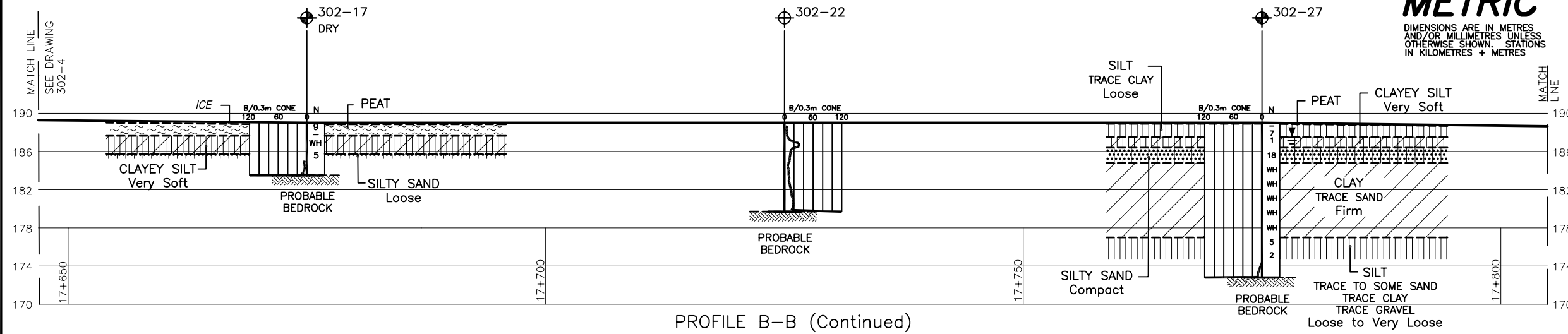
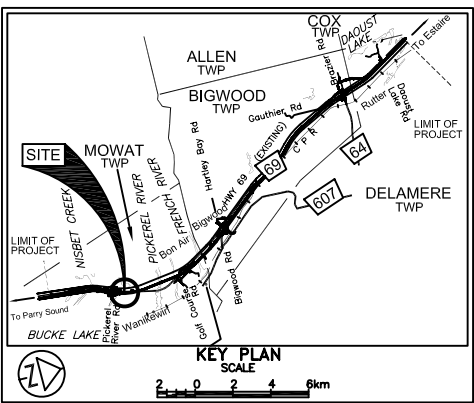


REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 302, STA. 17+530 TO 18+300 MOWAT TWP
SOIL STRATA

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CONSULTING ENGINEERS



- LEGEND**
- Borehole
 - Dynamic Cone Penetration Test (Cone)
 - Borehole & Cone
 - N Blows/0.3m (Std. Pen Test, 475 J/blow)
 - CONE Blows/0.3m (60° Cone, 475 J/blow)
 - WH Penetration due to weight of hammer and rods
 - WR Penetration due to weight of rods only
 - W L at time of investigation Feb-Mar 2007
 - Head
 - ARTESIAN WATER
 - Encountered
 - PIEZOMETER

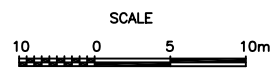
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 302-1 AND 302-2 FOR DETAILS			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

DATE	BY	DESCRIPTION

Geocres No. 41H-67	HWY No 69	DIST 54
SUBM'D NSB	CHECKED GD	DATE JAN. 16, 2009
DRAWN NA	CHECKED CN	APPROVED BRG
		DWG 302-5

- NOTES:**
- REFER TO DRAWINGS 302-1 AND 302-2 FOR BOREHOLE LOCATIONS AND DRAWINGS 302-3 AND 302-4 FOR SECTIONS A-A AND B-B (Continued) AND 302-6 TO 302-9 FOR SECTIONS B-B (Continued), C-C, D-D, E-E, F-F AND G-G.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

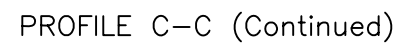
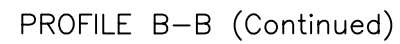
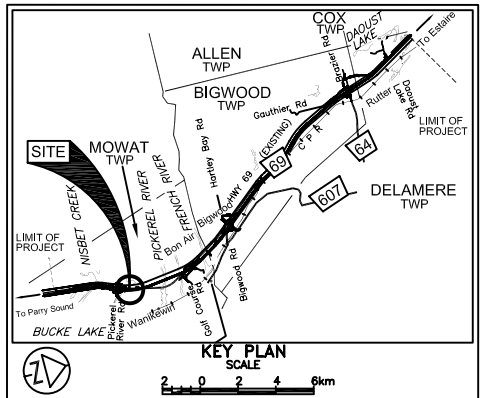


REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;


DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES



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CONSULTING ENGINEERS



2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

A circular professional seal for a Registered Professional Engineer in the Province of Ontario. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top, "C.M.P. Nascimento" in the center, and "PROVINCE OF ONTARIO" at the bottom. A signature is written across the seal, and the date "Jan 16, 2010" is stamped over the bottom portion.

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

Geocres No. 41H-67

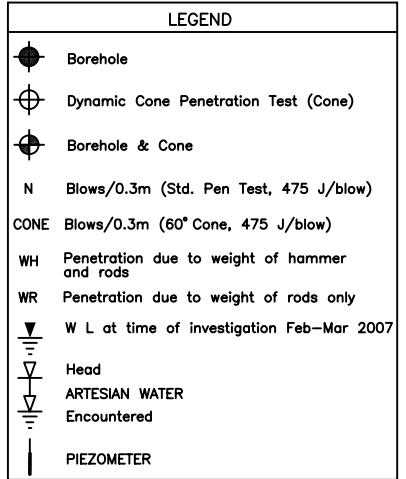
HWY No	69			DIST	54
SUBM'D	NSB	CHECKED GD	DATE JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED CN	APPROVED BRG	DWG	302-6

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

HIGHWAY 69 FOUR-LANING
 SWAMP 302, STA. 17+530 TO 18+300 MOWAT TWP
SOIL STRATA



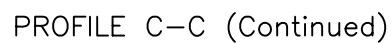
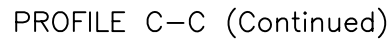
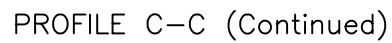
Peto MacCallum Ltd.
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- NOTE -

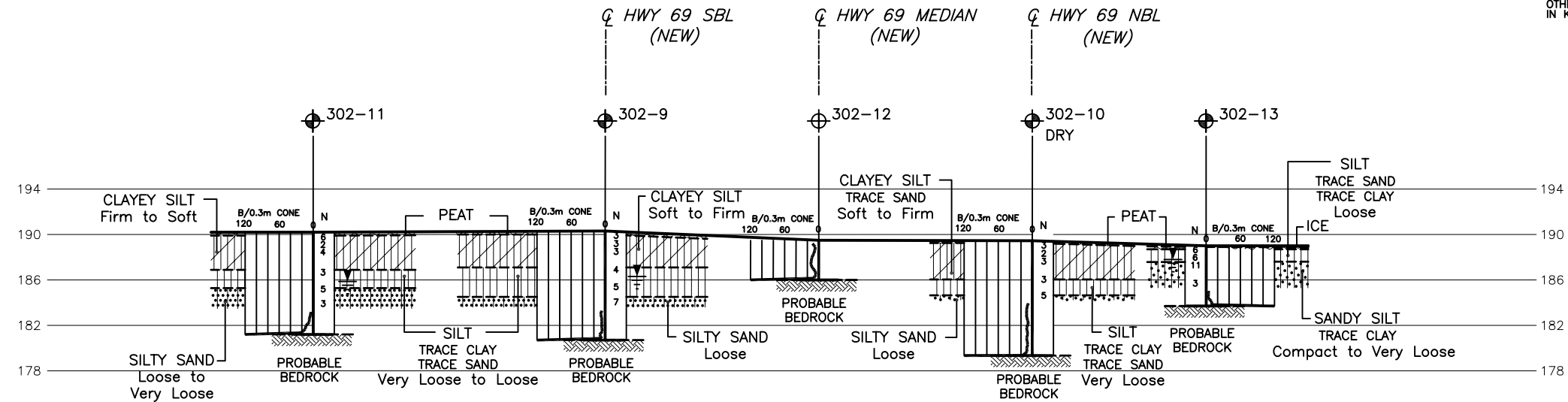
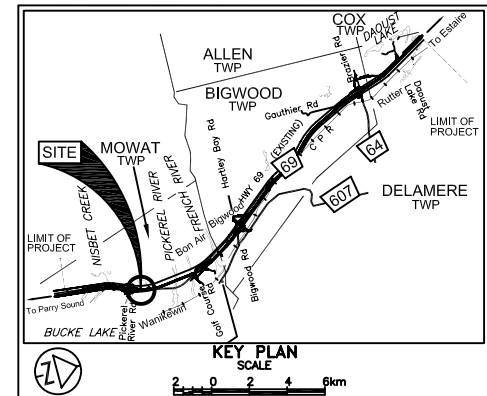
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

Geocres No. 41H-67					
HWY No 69				DIST 54	
SUBM'D NSB		CHECKED GD	DATE JAN. 16, 2009		SITE --
DRAWN NA		CHECKED CN	APPROVED BRG		DWG 302-7

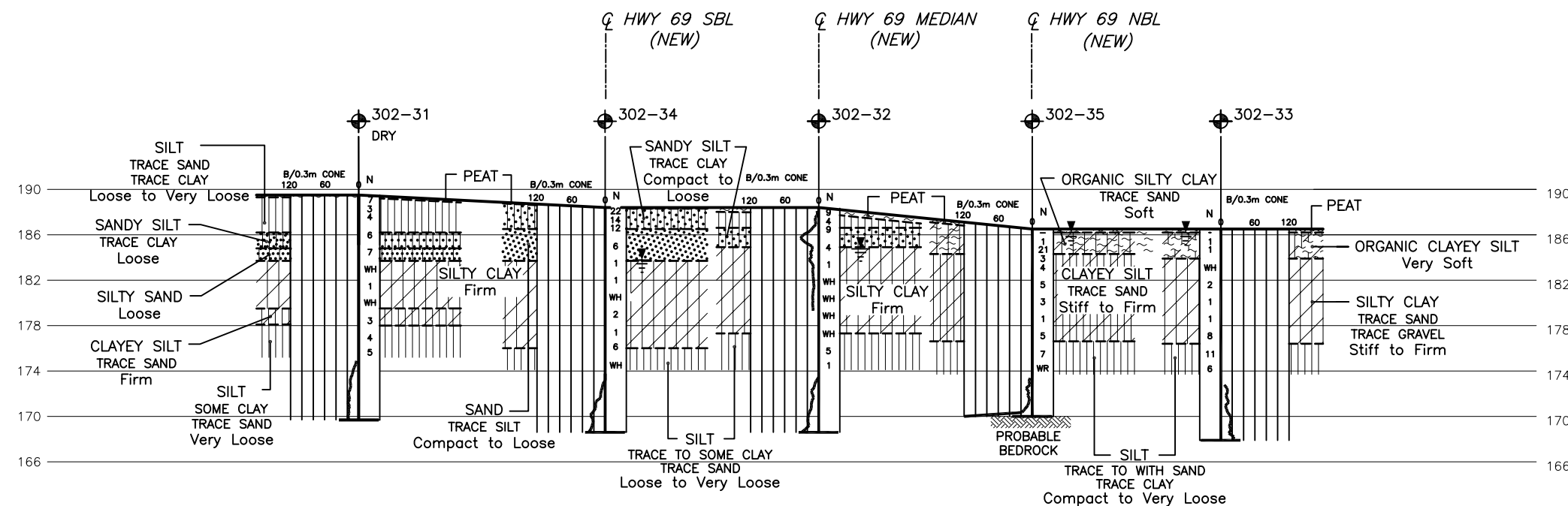


2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

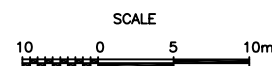
REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;



SECTION D-D



SECTION E-E



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	W L at time of investigation Feb-Mar 2007		
	Head		
	ARTESIAN WATER Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 302-1 AND 302-2 FOR DETAILS			

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

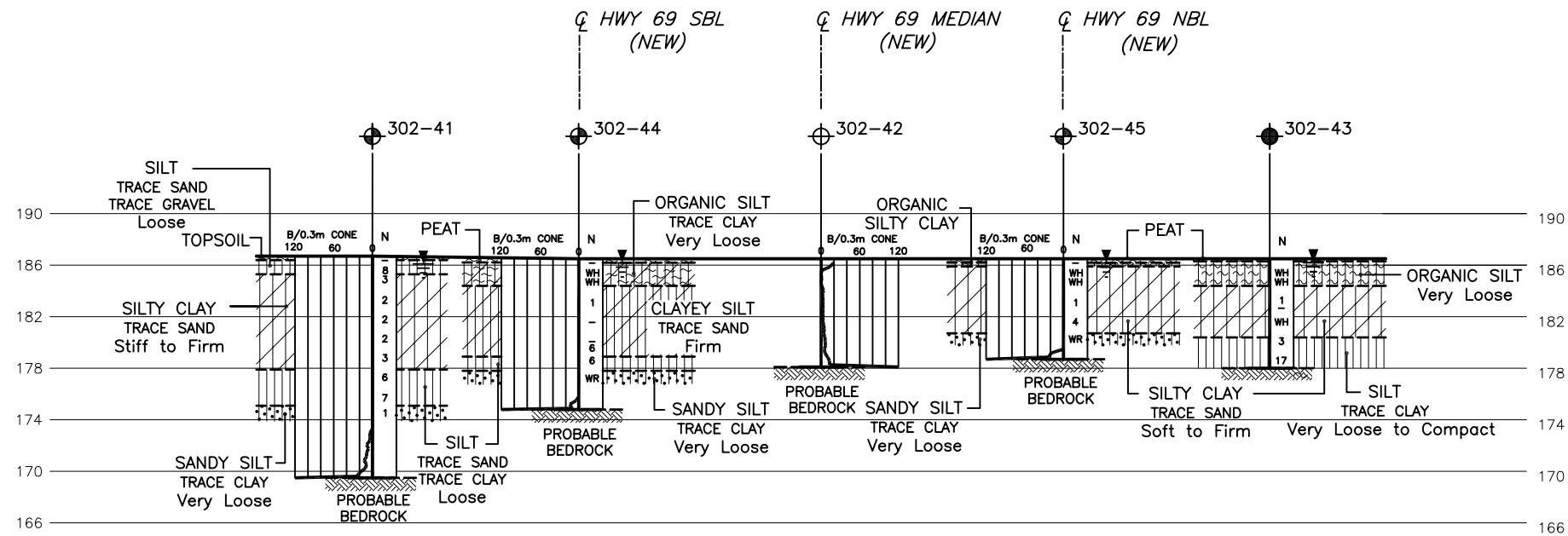
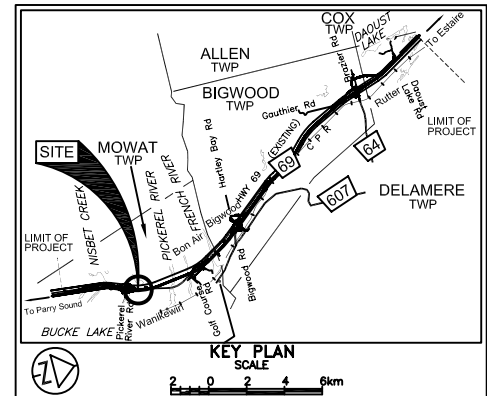
Geocres No. 41H-67					
HWY No 69	NSB	CHECKED GD	DATE JAN. 16, 2009	DIST 54	
SUBM'D	NA	CHECKED CN	APPROVED BRG	SITE --	
DRAWN	NA	CHECKED CN	APPROVED BRG	DWG 302-8	



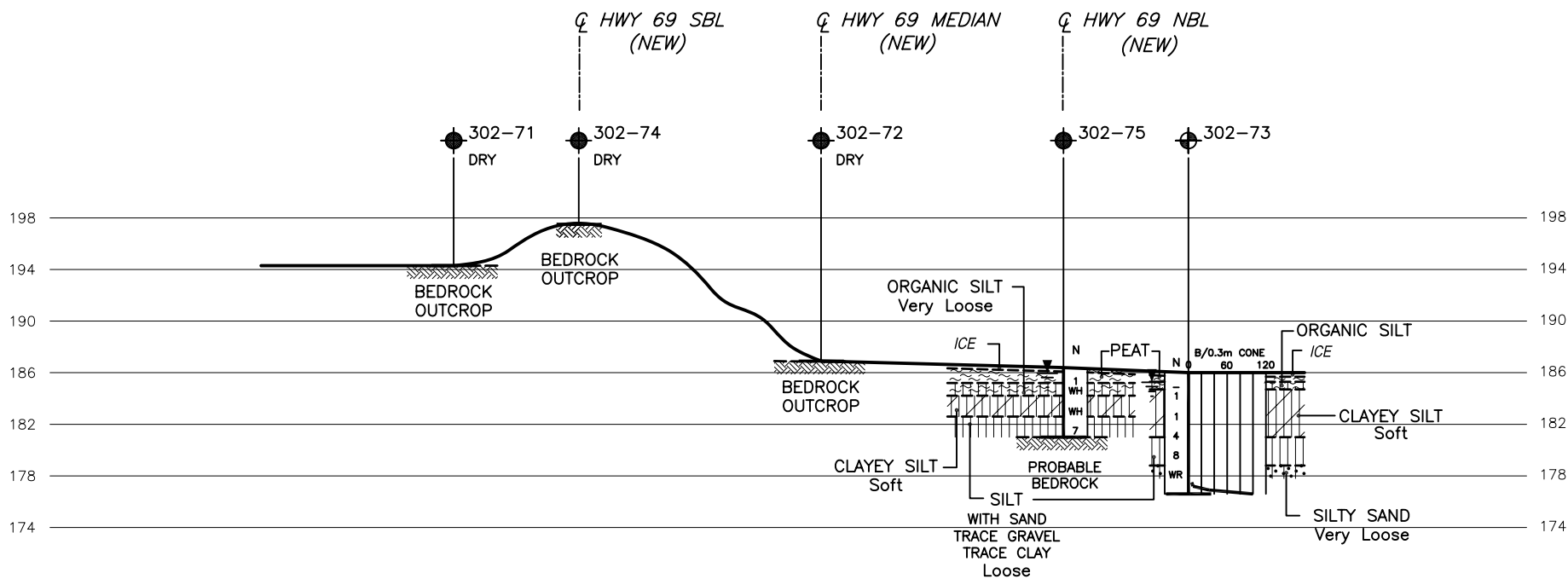
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highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

NOTES:

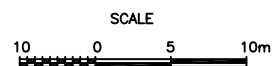
- REFER TO DRAWINGS 302-1 AND 302-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 302-3 TO 302-7 FOR SECTIONS A-A, B-B AND C-C AND 302-9 FOR SECTIONS F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



SECTION F-F



SECTION G-G



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
W L	at time of investigation Feb-Mar 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 302-1 AND 302-2 FOR DETAILS			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

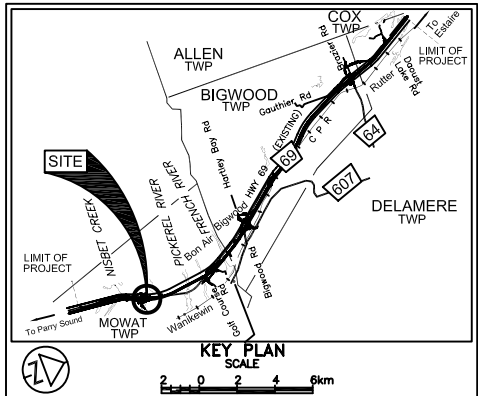
HWY No	69	DIST	54
SUBMTD	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE		DWG	302-9

NOTES:

- REFER TO DRAWINGS 302-1 AND 302-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 302-3 TO 302-8 FOR SECTIONS A-A, B-B, C-C, D-D AND E-E.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;



LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
	W L at time of investigation Mar 2007
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
303-1	197.3	17+375	19.0m Lt.
303-2	195.8	17+375	19.0m Rt.
303-3	196.3	17+387.5	28.5m Lt.
303-4	195.5	17+387.5	CL.
303-5	195.5	17+387.5	32.5m Rt.
303-6	195.5	17+400	19.0m Lt.
303-7	195.4	17+400	19.0m Rt.
303-8	195.3	17+412.5	30.5m Lt.
303-9	195.2	17+412.5	CL.
303-10	195.2	17+412.5	32.5m Rt.
303-11	195.0	17+425	19.0m Lt.
303-12	195.0	17+425	19.0m Rt.
303-13	194.8	17+437.5	30.5m Lt.
303-14	194.5	17+437.5	CL.
303-15	194.7	17+437.5	32.5 Rt.

(Legend Continues)

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

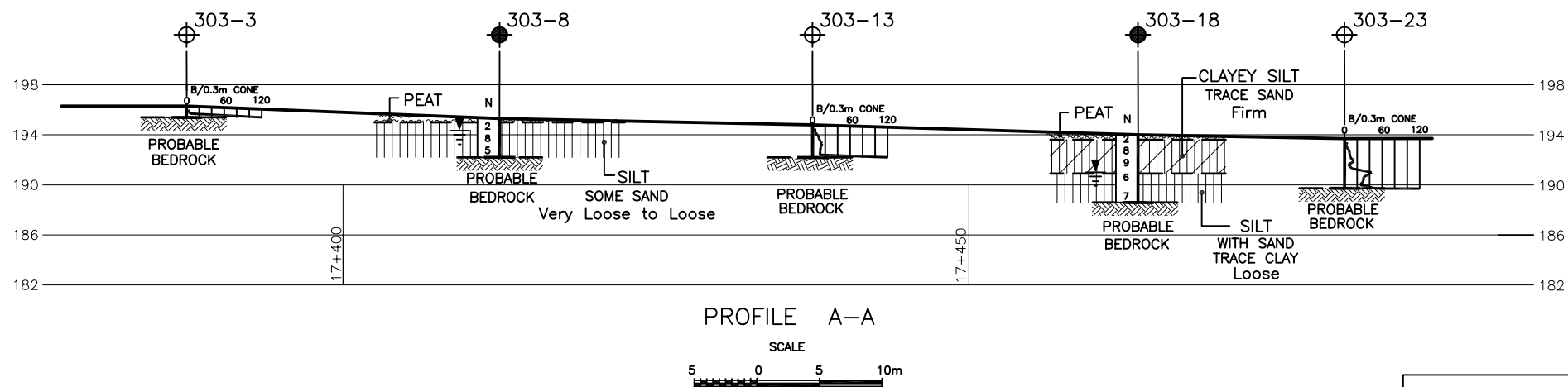
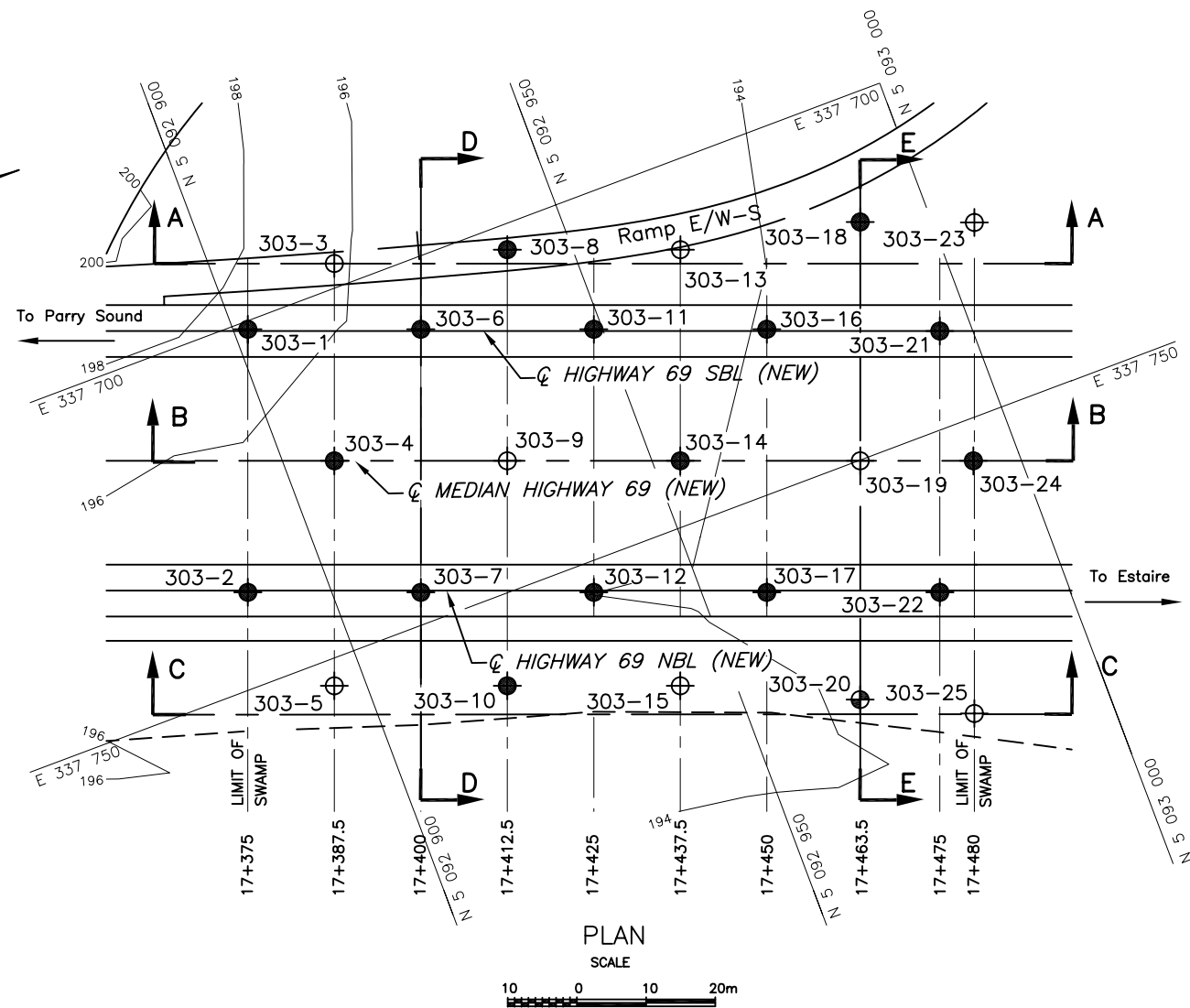


REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	303-1

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
303-16	194.5	17+450	19.0m Lt.
303-17	194.4	17+450	19.0m Rt.
303-18	194.0	17+463.5	34.5m Lt.
303-19	194.0	17+463.5	CL.
303-20	194.1	17+463.5	34.5m Rt.
303-21	193.6	17+475	19.0m Lt.
303-22	193.6	17+475	19.0m Rt.
303-23	193.7	17+480	36.5m Lt.
303-24	193.5	17+480	CL.
303-25	193.5	17+480	36.5m Rt.



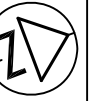
NOTES:

- REFER TO DRAWING 303-2 FOR SECTIONS B-B, C-C, D-D AND E-E.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

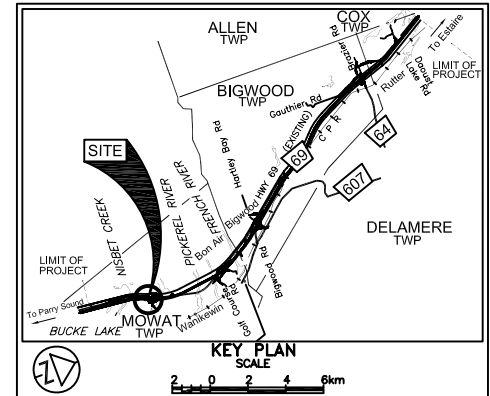
CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 304, STA. 16+910 TO 17+000 MOWAT TWP
BOREHOLE LOCATIONS AND SOIL STRATA



SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
	W L at time of investigation Apr and Sept 2007
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
304-1	203.4	16+910	28.5m Lt.
304-2	202.7	16+910	19.0m Lt.
304-3	202.1	16+910	CL
304-4	202.6	16+910	19.0m Rt.
304-5	202.2	16+910	28.5m Rt.
304-6	203.4	16+912.5	28.5m Lt.
304-7	202.1	16+912.5	CL
304-8	202.9	16+912.5	28.5m Rt.
304-9	203.6	16+925	19.0m Lt.
304-10	202.0	16+925	18.8m Rt.
304-11	205.0	16+927.5	28.5m Lt.
304-12	202.7	16+937.5	CL
304-13	202.0	16+937.5	28.5m Rt.
304-14	203.0	16+950	18.8m Lt.

(Legend Continues)

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

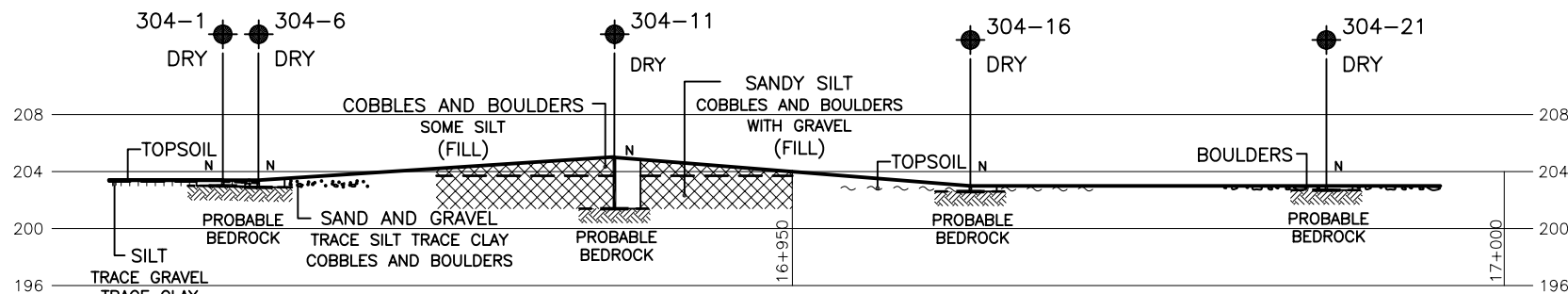
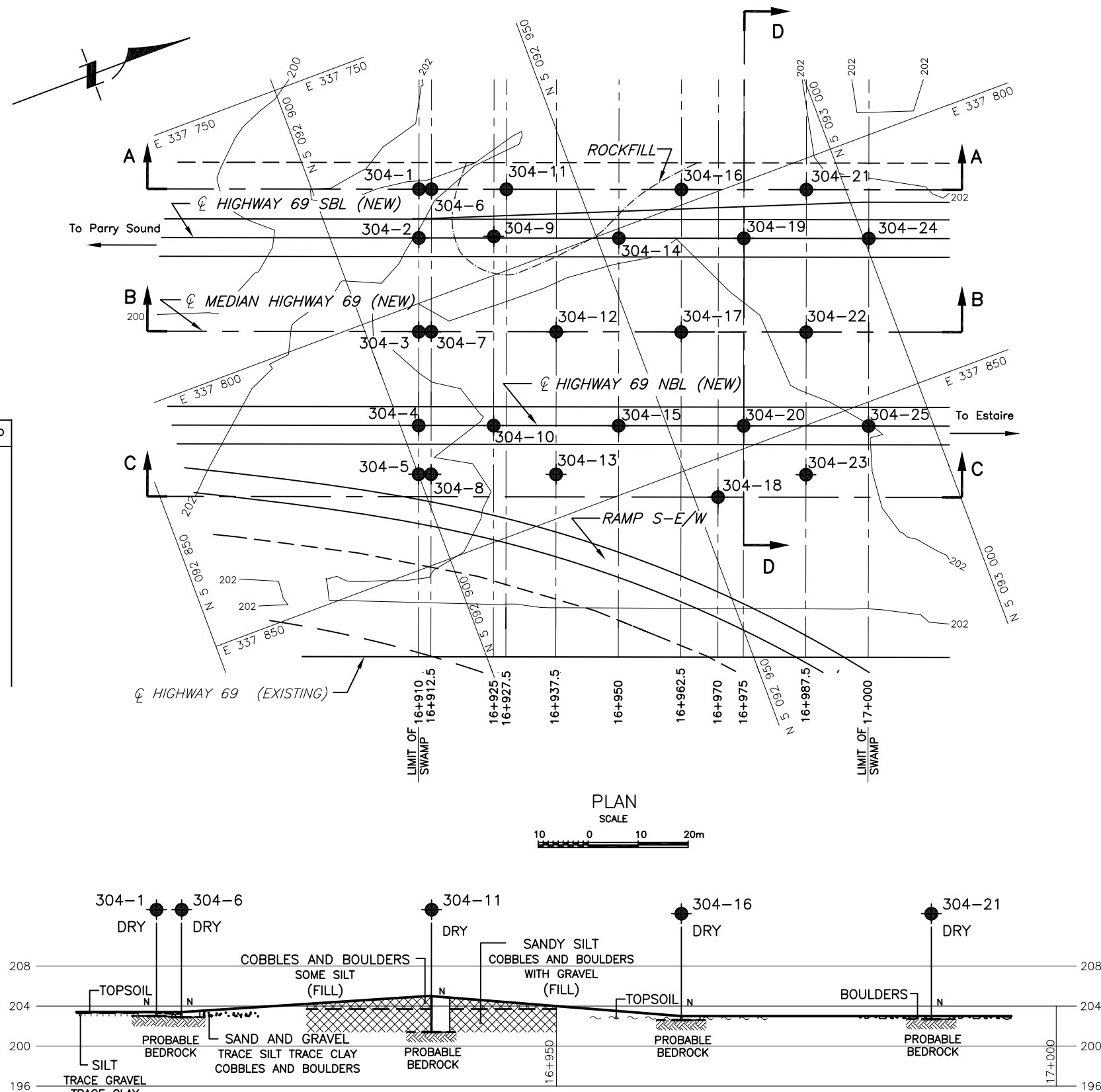
DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	304-1

(Legend Continued)

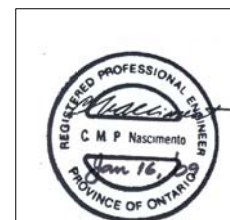
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
304-15	202.0	16+950	18.8m Rt.
304-16	203.0	16+962.5	28.5m Lt.
304-17	202.7	16+962.5	CL
304-18	200.8	16+970	33.0m Rt.
304-19	203.0	16+975	18.8m Lt.
304-20	202.0	16+975	18.8m Rt.
304-21	203.0	16+987.5	28.5m Lt.
304-22	203.0	16+987.5	CL
304-23	202.0	16+987.5	28.5m Rt.
304-24	203.0	17+000	18.8m Lt.
304-25	202.6	17+000	18.8m Rt.



NOTES:

1. REFER TO DRAWING 304-2 FOR SECTIONS B-B, C-C AND D-D.

2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;

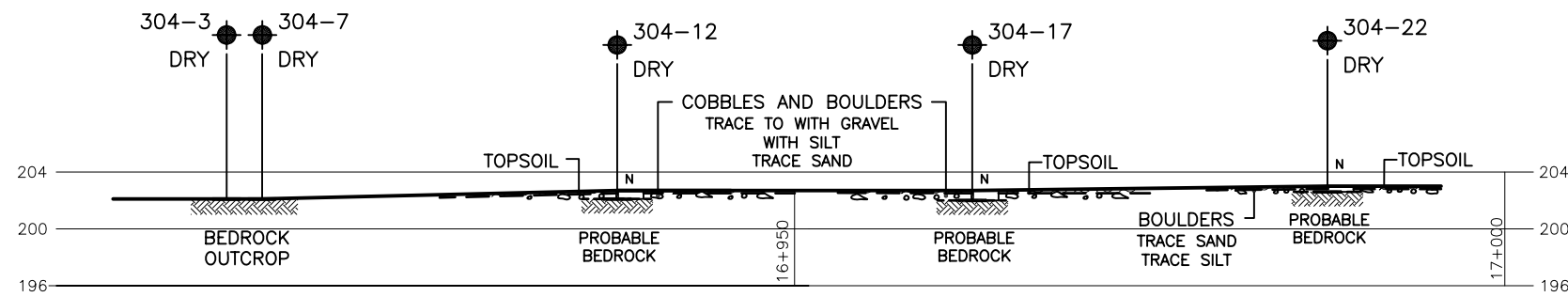
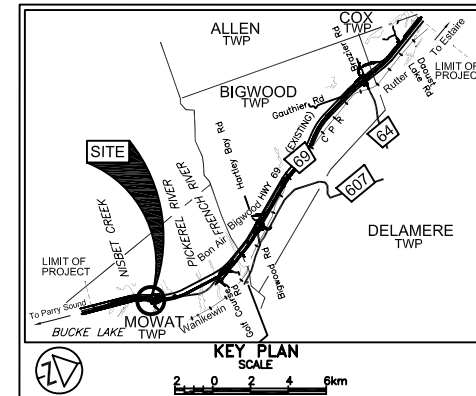
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

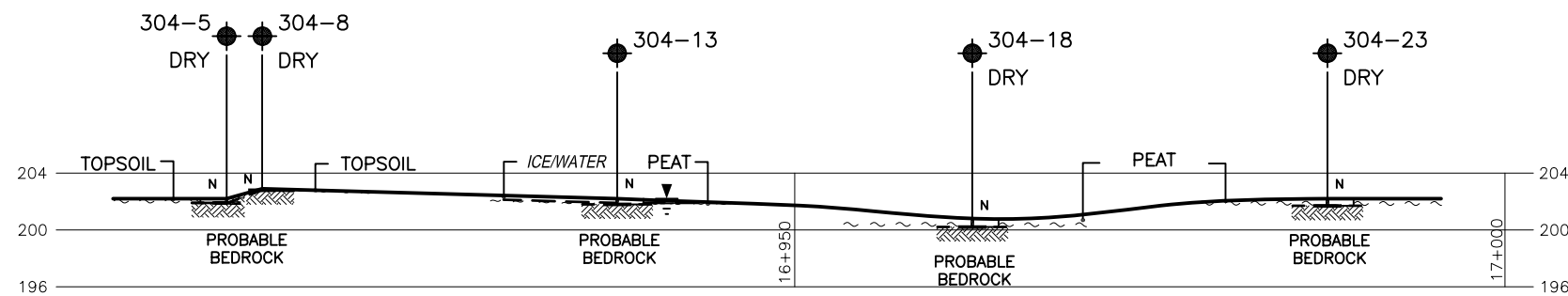
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 304, STA. 16+910 TO 17+000 MOWAT TWP
SOIL STRATA

SHEET

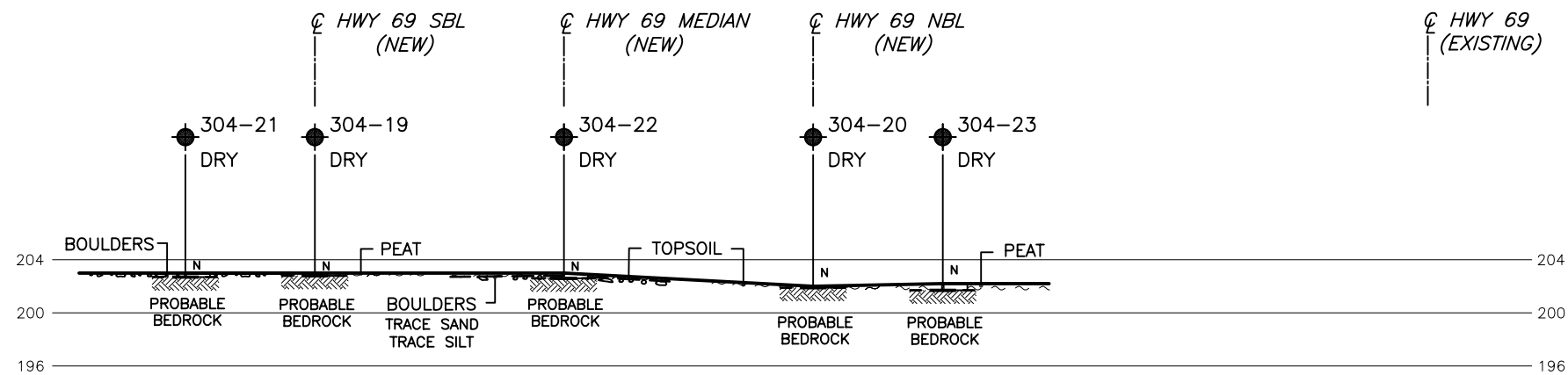
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



PROFILE B-B



PROFILE C-C



SECTION D-D



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
	W L at time of investigation Apr and Sept 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 304-1 FOR DETAILS			

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

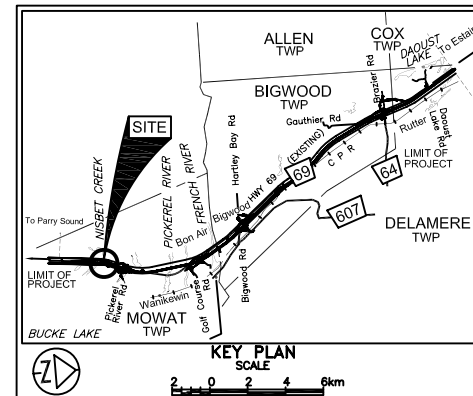
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	304-2

NOTES:

- REFER TO DRAWING 304-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008
- D3 Series Feb-Mar 2004
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
305-1	197.8	16+000	38.8m Lt.
305-2	191.0	16+000	23.4m Rt.
305-3	192.5	16+025	58.5m Lt.
305-4	192.8	16+025	30.5m Lt.
305-5	189.9	16+025	8.5m Rt.
305-6	190.0	16+025	28.5m Rt.
305-7	187.8	16+050	38.8m Lt.
305-8	189.8	16+050	12.2m Rt.
305-9	188.1	16+075	58.5m Lt.
305-10	187.5	16+075	20.5m Lt.
305-11	187.5	16+075	0.5m Rt.
305-12	187.5	16+075	38.5m Rt.
305-13	187.5	16+100	38.8m Lt.
305-14	188.5	16+100	23.4m Lt.
305-15	187.5	16+125	58.8m Lt.
305-16	187.5	16+125	20.5m Lt.

(Legend Continues)

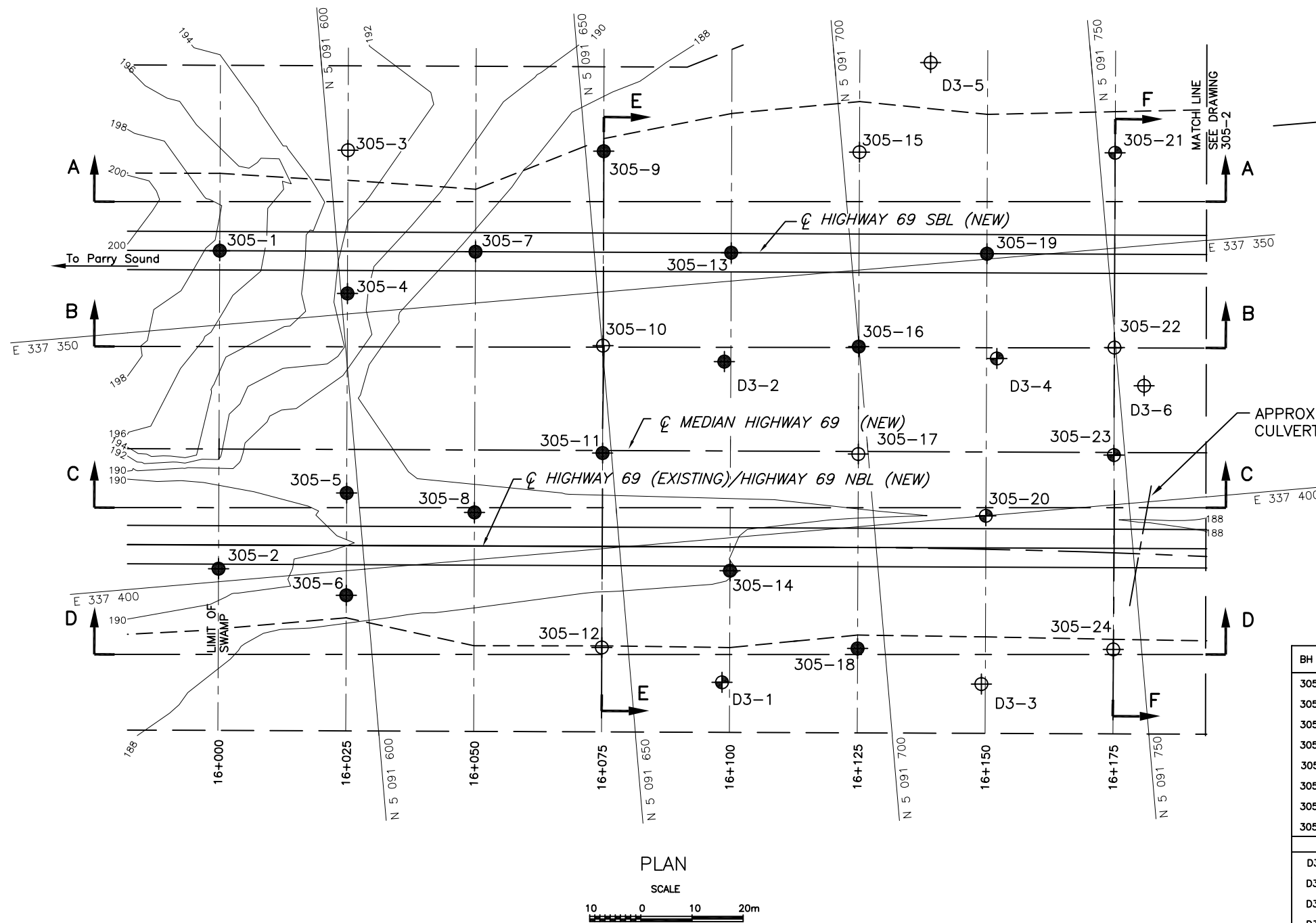
NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	SITE	---
APPROVED	BRG	DWG	305-1



(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
305-17	187.5	16+125	0.5m Rt.
305-18	187.5	16+125	38.5m Rt.
305-19	187.5	16+150	38.8m Lt.
305-20	188.3	16+150	11.9m Rt.
305-21	187.5	16+175	58.5m Lt.
305-22	187.5	16+175	20.5m Lt.
305-23	187.5	16+175	0.5m Rt.
305-24	187.5	16+175	38.5m Rt.
D3-1	186.4	16+099	45.2m Rt.
D3-2	186.7	16+099	17.5m Lt.
D3-3	186.6	16+150	45.3m Rt.
D3-4	187.0	16+152	18.3m Lt.
D3-5	187.0	16+139	76.0m Lt.
D3-6	186.8	16+181	13.0m Lt.

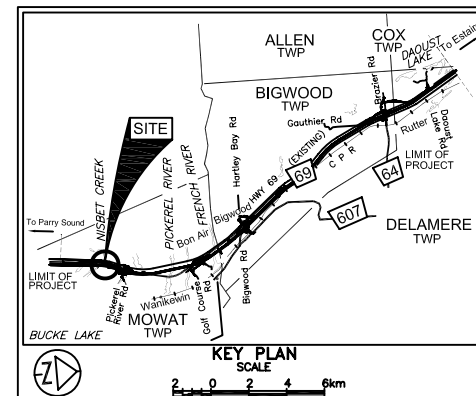
(Legend Continues on Drawing 305-2)

NOTES:

- REFER TO DRAWING 305-2 CONTINUATION OF NORTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 TO 305-8 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- D3 SERIES BOREHOLES STATION AND OFFSET ARE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN STATION.
- D3 SERIES BOREHOLES DATA WERE TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REFERENCE: 04TF008 - MID) GEOCRE NO. 411-171, DATED MAY 31, 2004.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
W L	W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008		
D3 Series	Feb-Mar 2004		
Head	ARTESIAN WATER Encountered		
PIEZOMETER			

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
305-40	191.2	16+325	28.5m Lt.
305-41	190.4	16+325	0.5m Rt.
305-42	191.5	16+325	37.0m Rt.
305-43	192.1	16+350	38.8m Lt.
305-44	190.5	16+350	25.0m Rt.
305-45	194.0	16+370	48.5m Lt.
305-46	192.9	16+370	30.5m Lt.
305-47	192.5	16+370	10.5m Rt.
305-48	192.5	16+370	27.0m Rt.
D3-9	186.9	16+251	14.9m Lt.
D3-10	186.9	16+257	90.0m Lt.

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
(Legend Continued)			
305-25	187.5	16+200	38.8m Lt.
305-26	188.5	16+200	25.1m Rt.
305-27	187.5	16+225	58.5m Lt.
305-28	187.5	16+225	20.5m Lt.
305-29	187.0	16+225	2.5m Lt.
305-30	187.5	16+225	38.5m Rt.
305-31	187.5	16+250	38.8m Lt.
305-32	189.9	16+250	17.0m Rt.
305-33	187.5	16+275	60.5m Lt.
305-34	187.5	16+275	18.5m Lt.
305-35	188.0	16+275	1.5m Rt.
305-36	188.2	16+275	40.5m Rt.
305-37	187.5	16+300	38.8m Lt.
305-38	191.0	16+300	22.0m Rt.
305-39	191.5	16+325	50.5m Lt.

(Legend Continues)

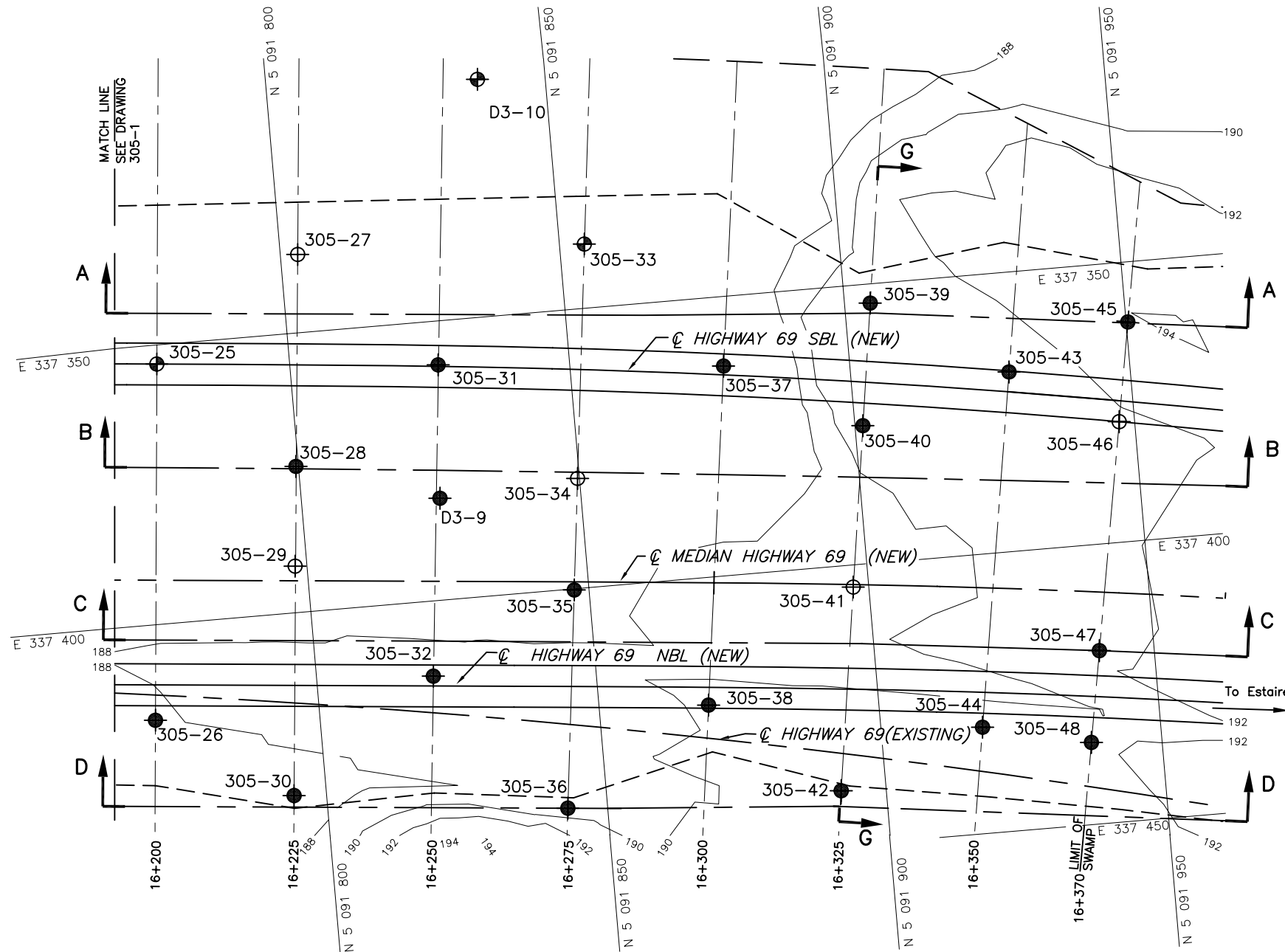
NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DATE	JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	305-2



PLAN (Continued)

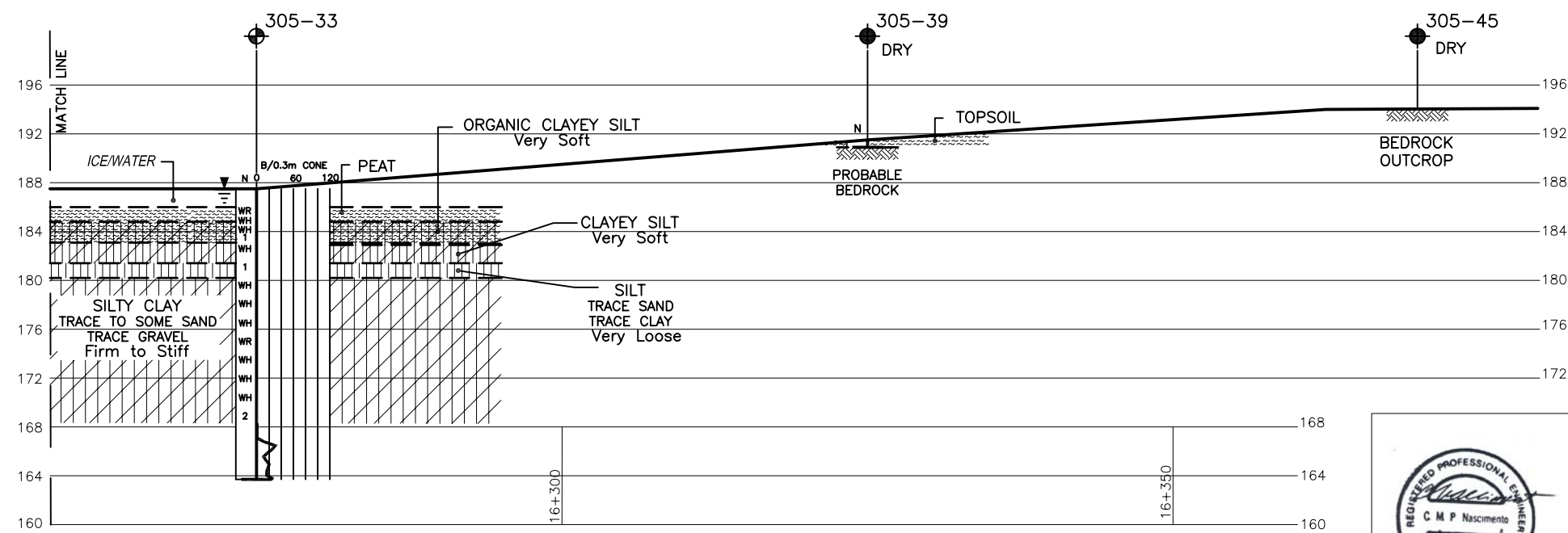
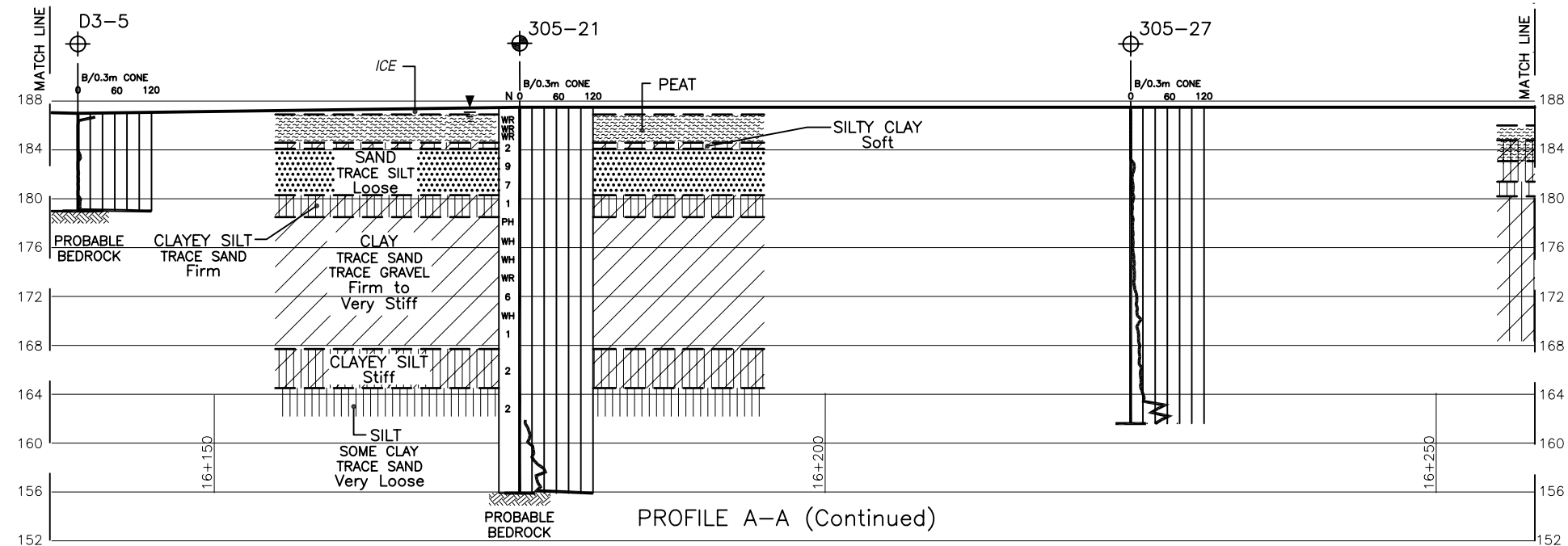
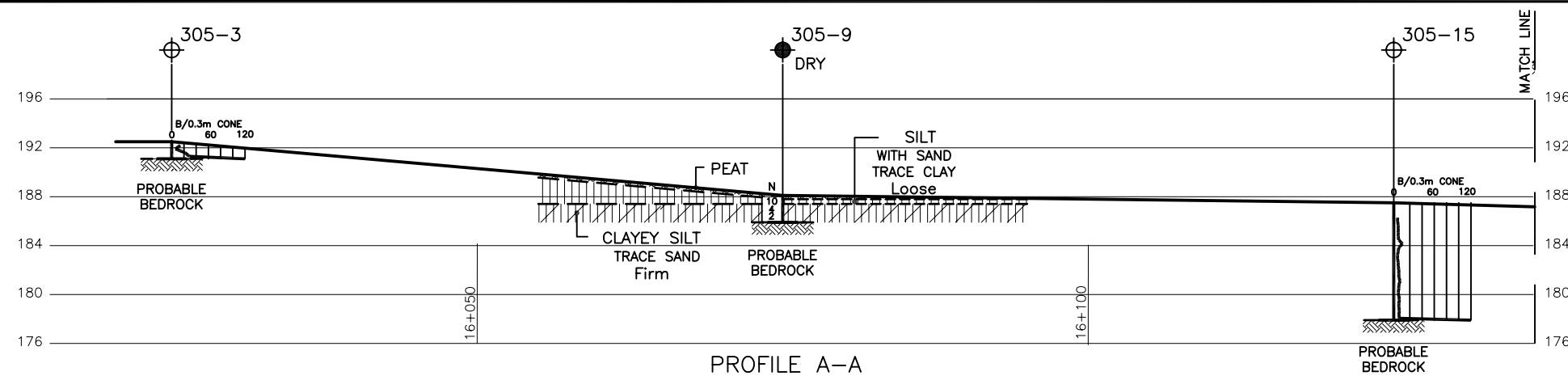


NOTES:

- REFER TO DRAWING 305-1 CONTINUATION OF SOUTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 TO 305-8 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- D3 SERIES BOREHOLES STATION AND OFFSET ARE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN STATION.
- D3 SERIES BOREHOLES DATA WERE TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REFERENCE: 04TF008 - MID) GEOCREs NO. 41I-171, DATED MAY 31, 2004.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

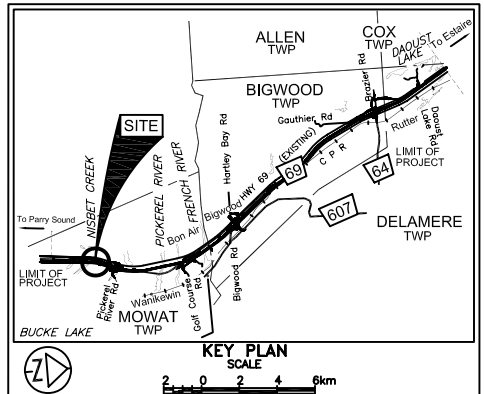











METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 305, STA. 16+000 TO 16+370 MOWAT TWP
SOIL STRATA

SHEET



LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
WR	Penetration due to weight of rods only
PH	Thinwall Sample – Advanced Hydraulically
	W L at time of investigation Oct–Nov 2006, Feb–July 2007 and Mar 2008
	D3 Series Feb–Mar 2004
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

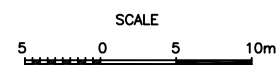
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS			

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

NOTES:

1. REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-4 TO 305-8 FOR SECTIONS B-B, C-C, D-D, E-E, F-F AND G-G.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

REVISIONS					
DATE	BY	DESCRIPTION			
Geocres No. 41H-67					
Hwy. No.	69			DIST	54
SUBMIT	NSR	CHECKED	GD	DATE JAN. 16, 2009	SITE --
DRAWN	NA	CHECKED	CN	APPROVED. BRG	DWG 305-3

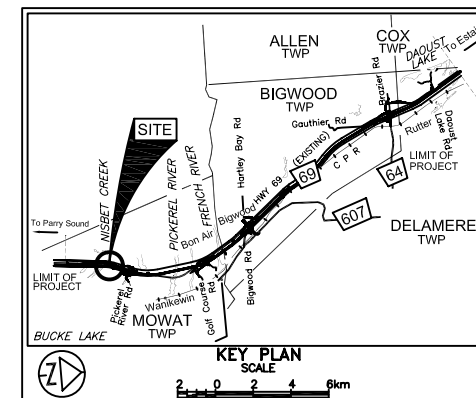
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 305, STA. 16+000 TO 16+370 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60' Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- WR Penetration due to weight of rods only
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008
D3 Series Feb-Mar 2004
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
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SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS

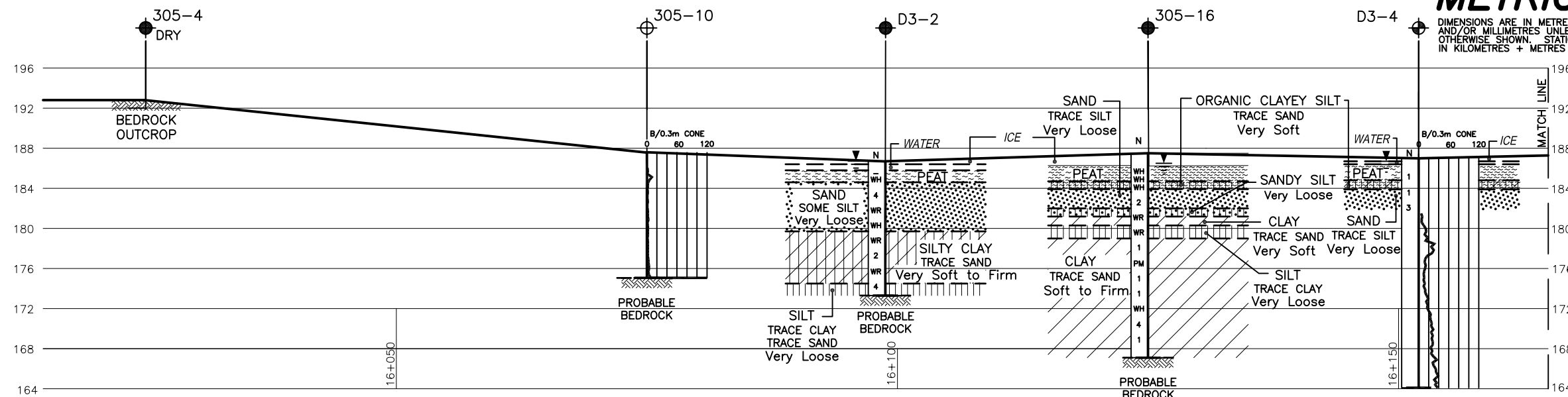
NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

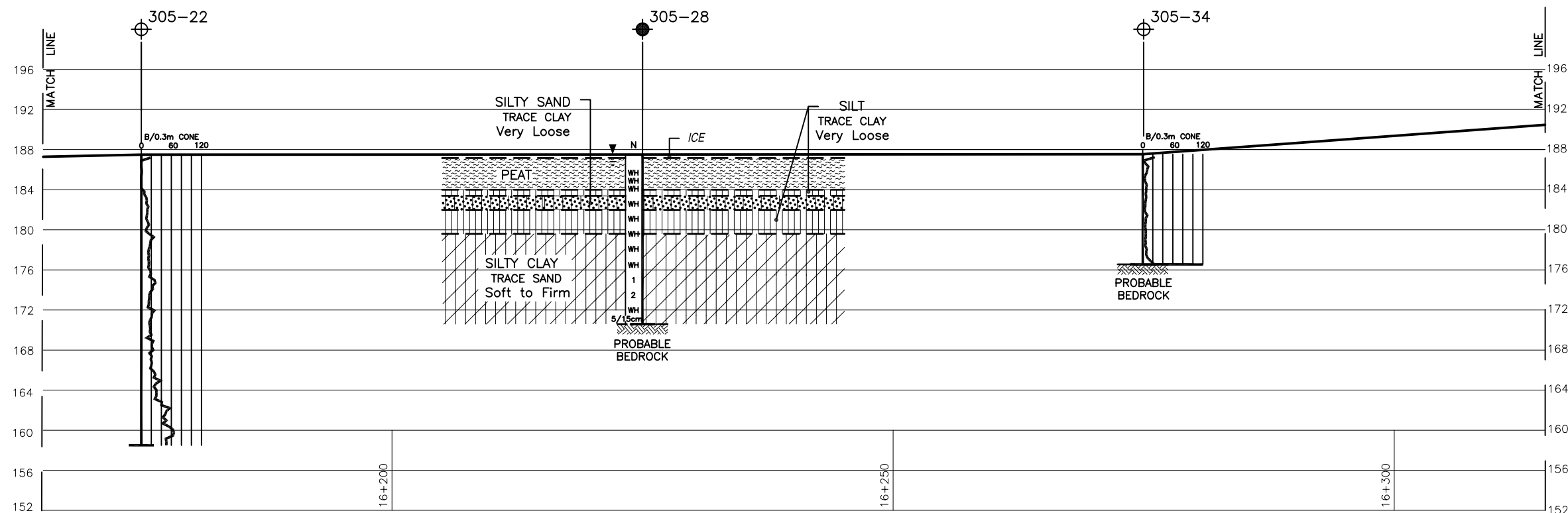
DATE	BY	DESCRIPTION

Geocres No. 41H-67

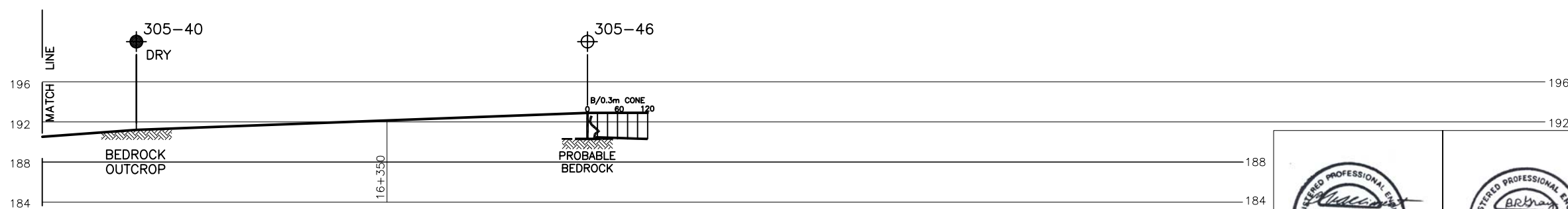
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DATE	JAN. 16, 2009	SITE	---
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	305-4



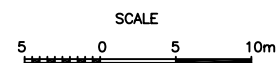
PROFILE B-B



PROFILE B-B (Continued)



PROFILE B-B (Continued)

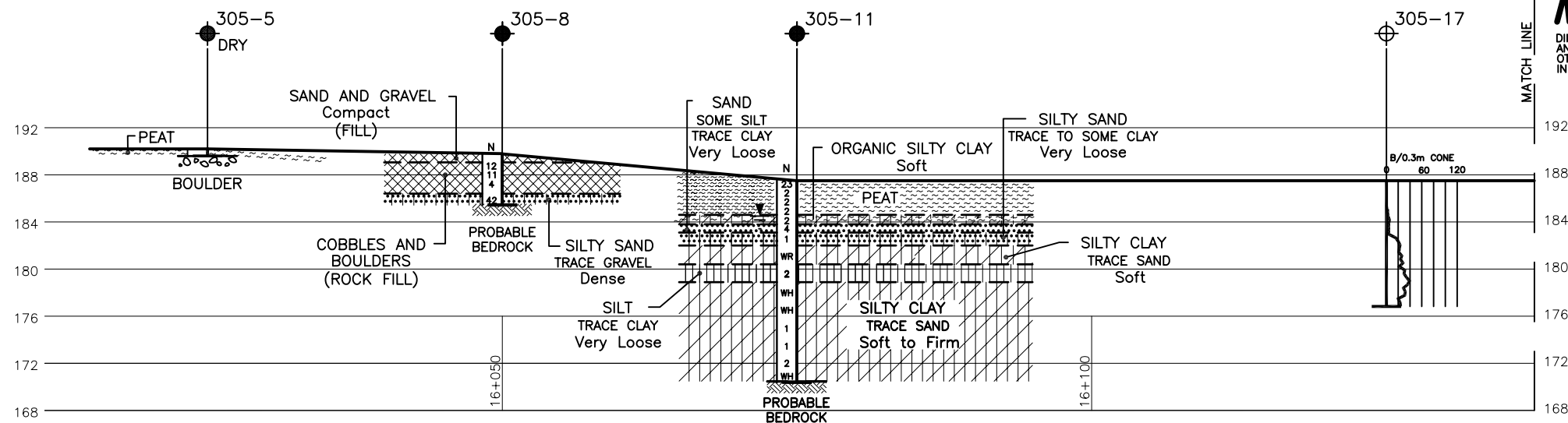


NOTES:

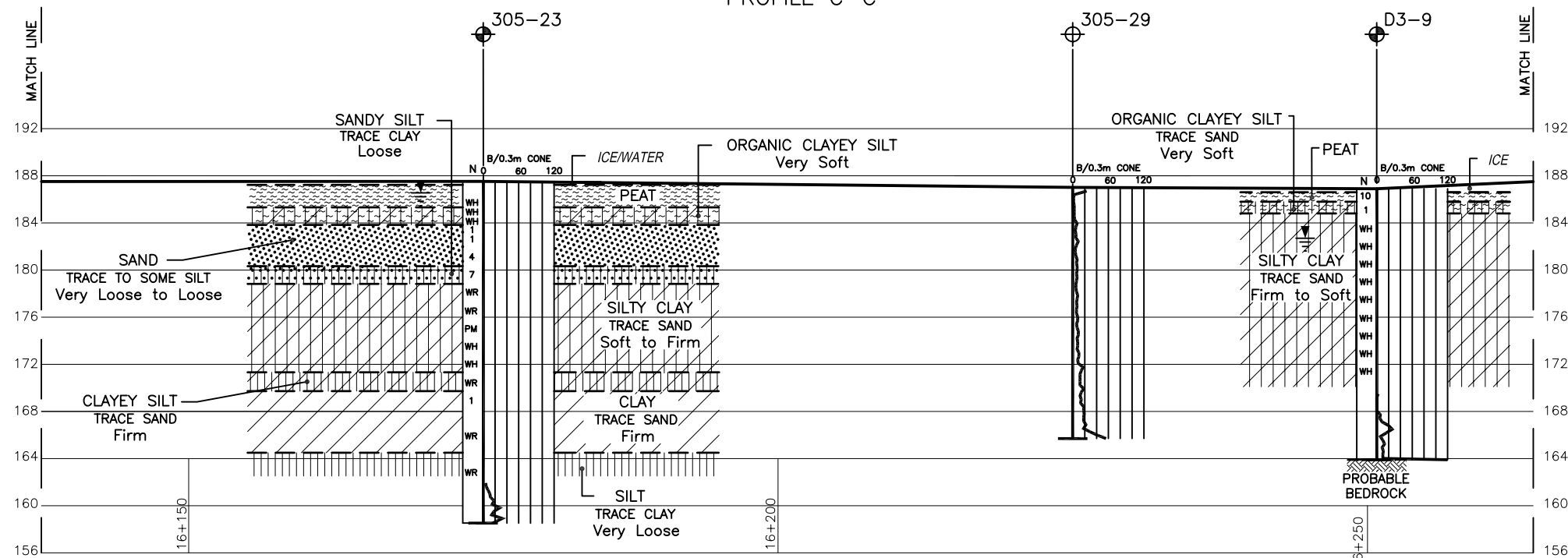
- REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWING 305-3 FOR SECTION A-A AND DRAWINGS 305-5 TO 305-8 FOR SECTIONS C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



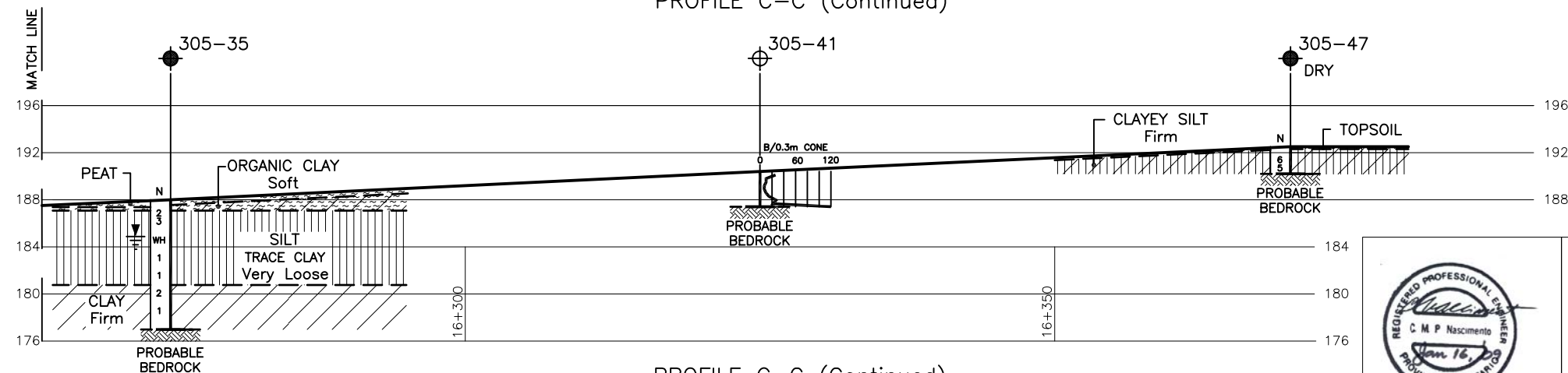
REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
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H6454XB02 contours zone 12.dwg;



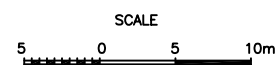
PROFILE C-C



PROFILE C-C (Continued)



PROFILE C-C (Continued)



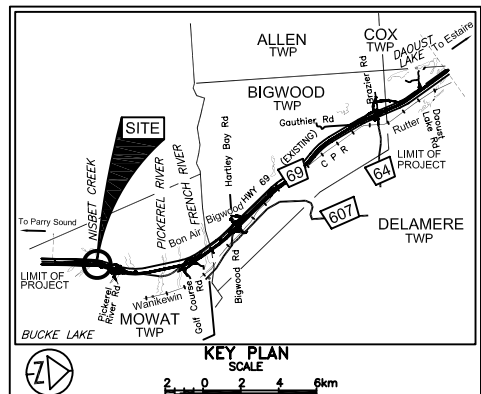
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 305, STA. 16+000 TO 16+370 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60 Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- WR Penetration due to weight of rods only
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008
- D3 Series Feb-Mar 2004
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS			

NOTES:

- REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 AND 305-4 FOR SECTIONS A-A AND B-B AND DRAWINGS 305-6 TO 305-8 FOR SECTIONS D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

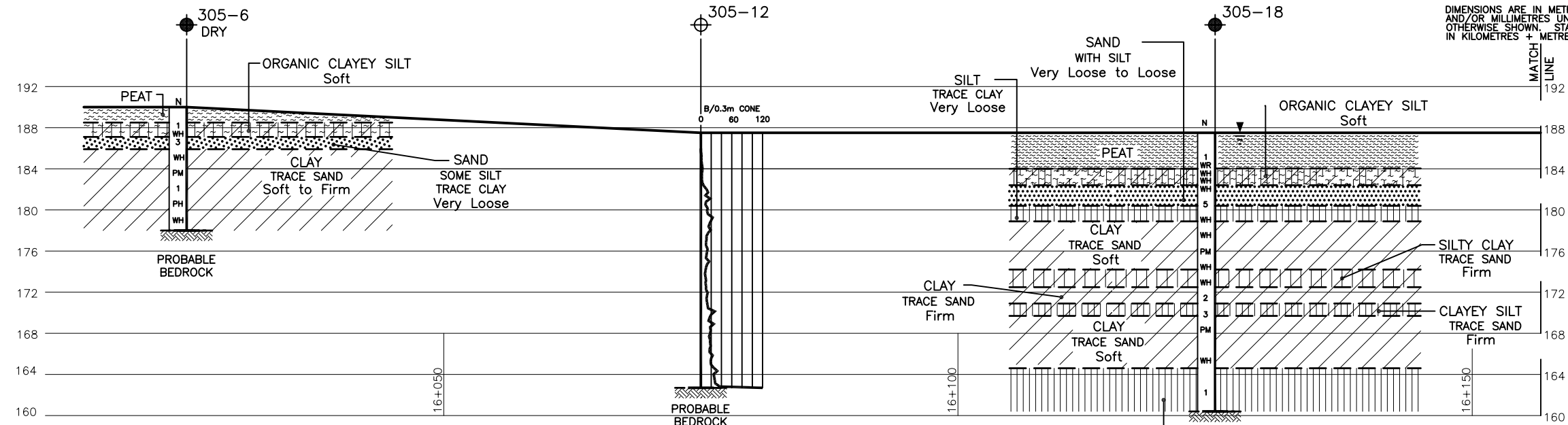
NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

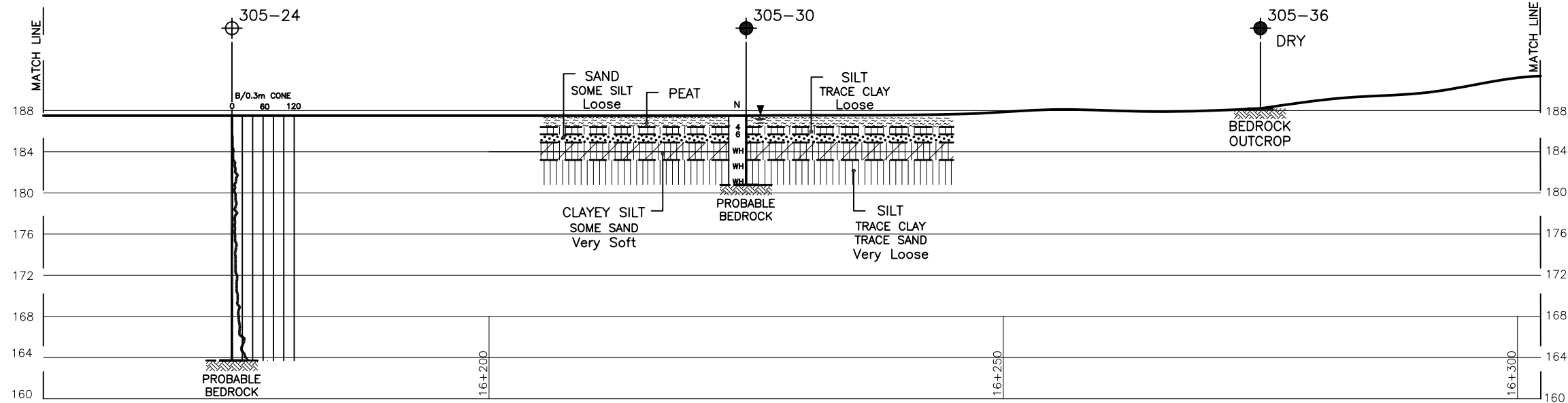
Geocres No. 41H-67	DIST 54
HWY No 69	SITE
SUBM'D NSB/CHECKED GD	DATE JAN. 16, 2009
DRAWN NA/CHECKED CN	APPROVED BRG
DWG 305-5	

METRIC

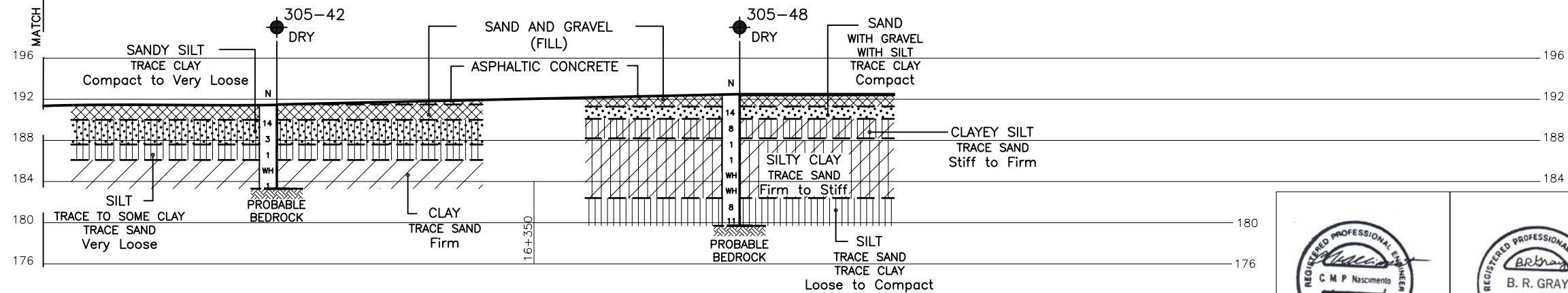
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES



PROFILE D-D



PROFILE D-D (Continued)



PROFILE D-D (Continued)



NOTES:

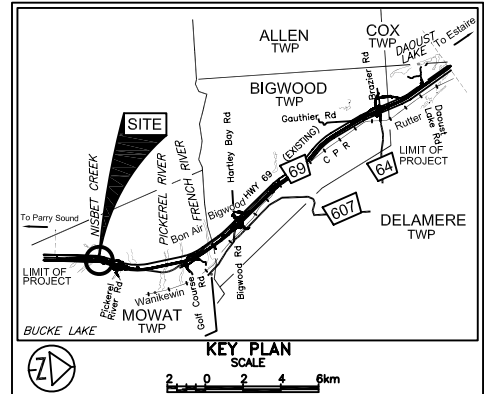
1. REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 TO 305-5 FOR SECTIONS A-A, B-B, C-C AND DRAWINGS 305-7 AND 305-8 FOR SECTIONS E-E, F-F, AND G-G.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 305, STA. 16+000 TO 16+370 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60' Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- WR Penetration due to weight of rods only
- PM Thinwall Sample - Advanced Manually
- PH Thinwall Sample - Advanced Hydraulically
- W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008
- Head
- ARTESIAN WATER
- Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS			

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

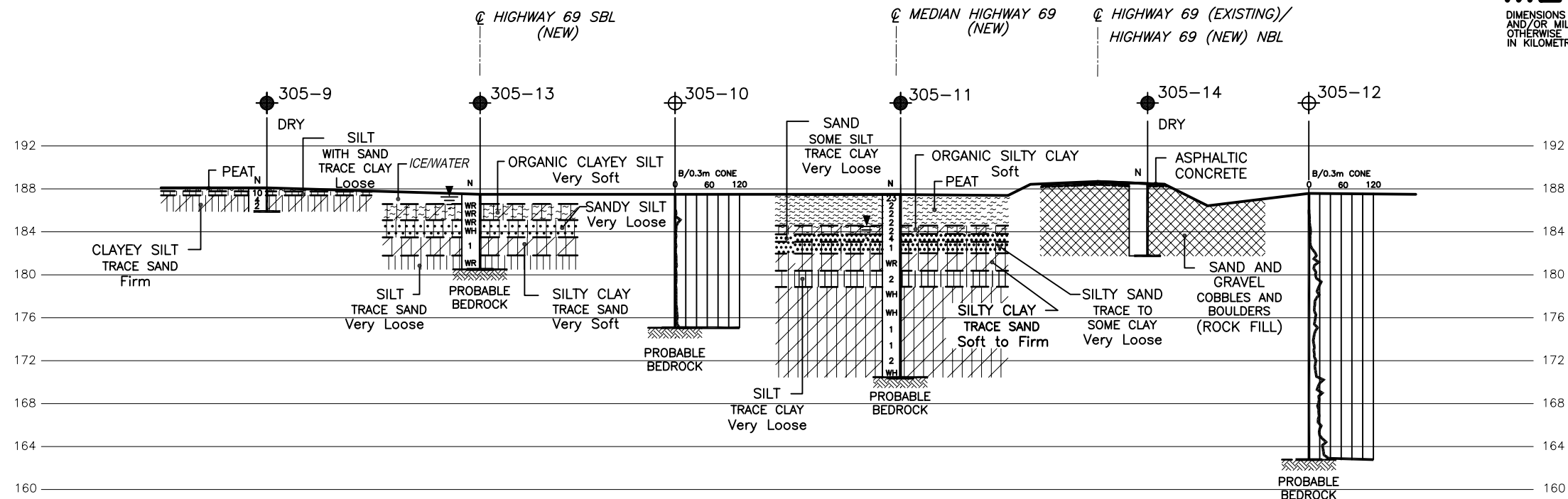
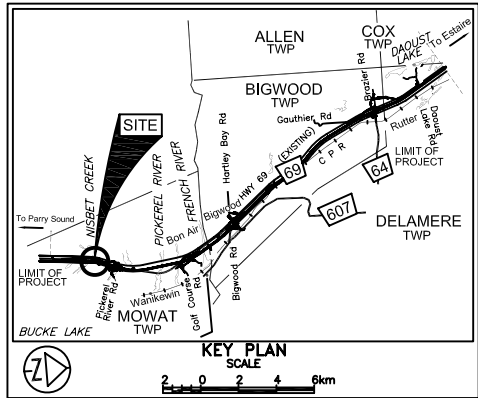


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highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

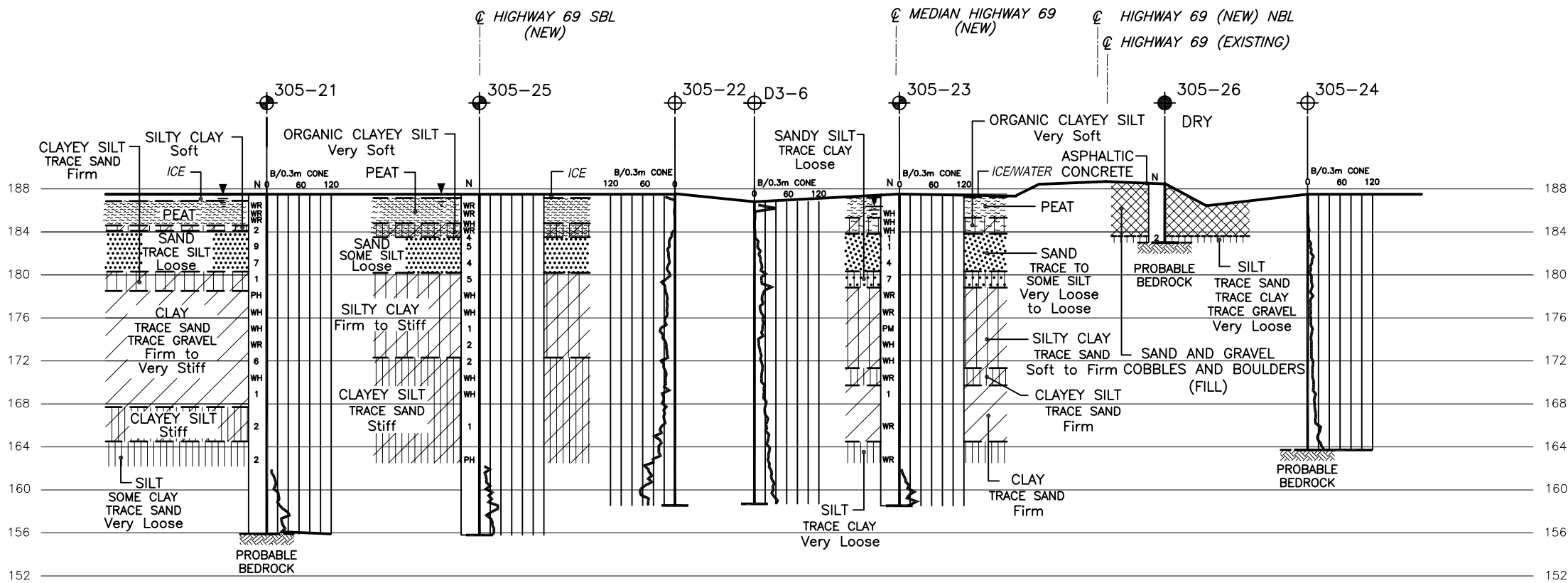
DATE	BY	DESCRIPTION

Geocres No. 41H-67

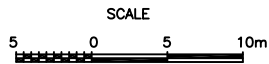
HWY No	69	DIST	54
SURV'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	SITE	---
APPROVED	BRG	DWG	305-6



SECTION E-E



SECTION F-F



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60' Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
PM	Thinwall Sample - Advanced Manually		
PH	Thinwall Sample - Advanced Hydraulically		
	W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008		
	D3 Series Feb-Mar 2004		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

DATE	BY	DESCRIPTION

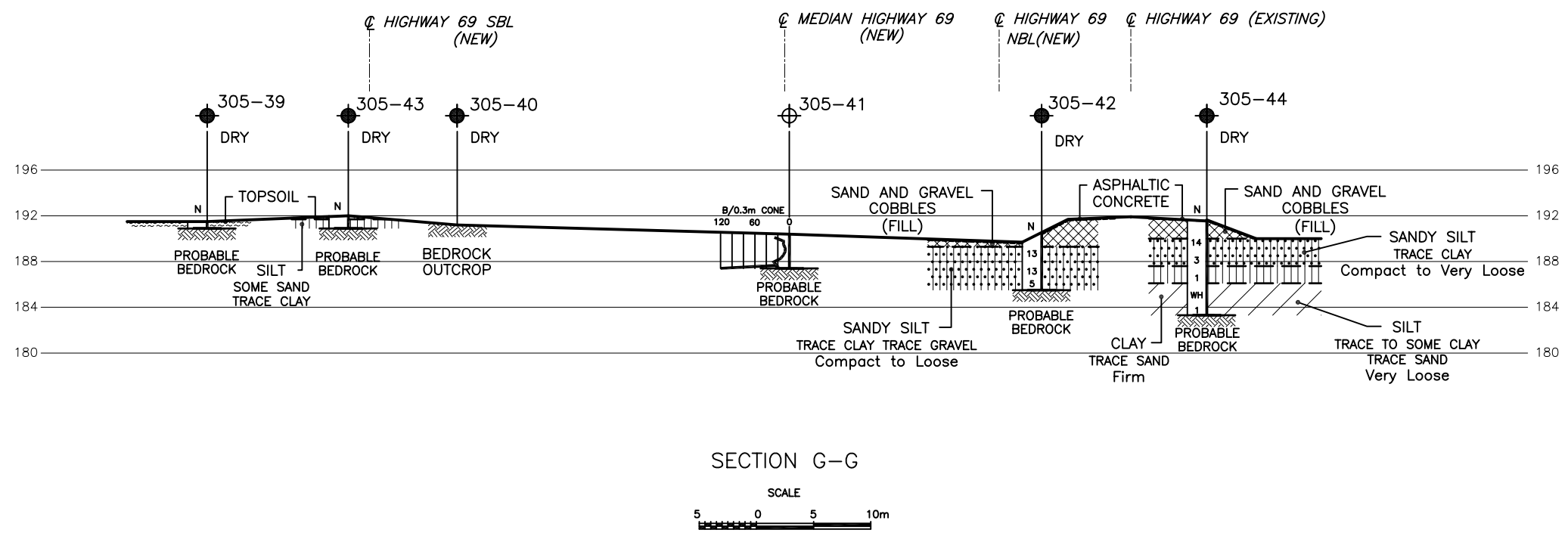
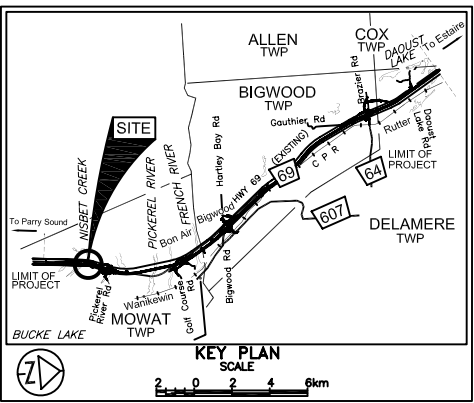
HWY No	69				DIST	54	
SUBM'D	NSB	CHECKED	GD	DATE	JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED	CN	APPROVED	BRG	DWG	305-7



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

NOTES:

1. REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 TO 305-6 FOR SECTIONS A-A, B-B, C-C AND D-D AND DRAWING 305-8 FOR SECTION G-G.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60' Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- W L at time of investigation Oct-Nov 2006, Feb-July 2007 and Mar 2008
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 305-1 AND 305-2 FOR DETAILS			

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

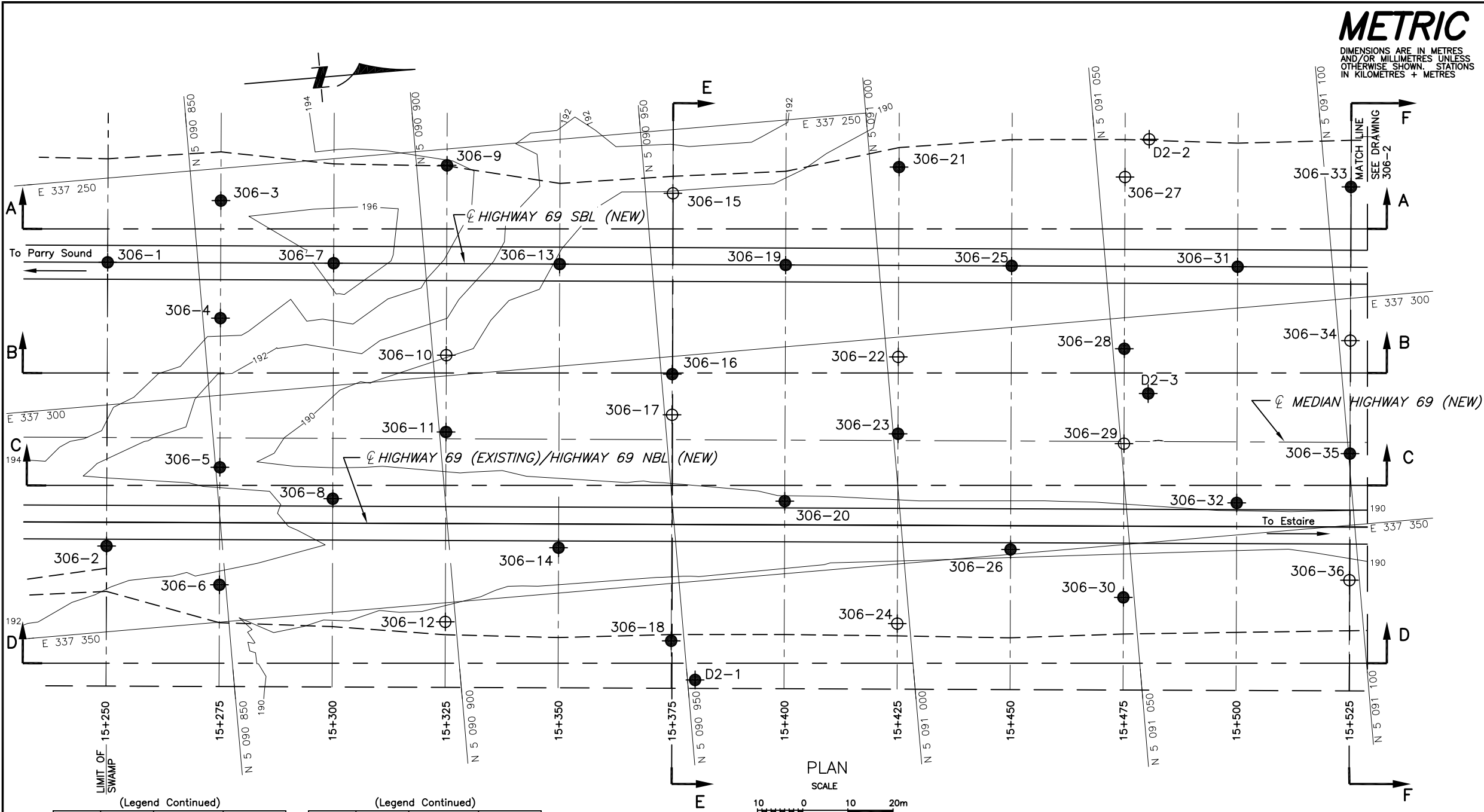
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67	
HWY No 69	DIST 54
SUBM'D NSB	CHECKED GD
DRAWN NA	CHECKED CN
DATE JAN. 16, 2009	SITE ---
APPROVED BRG	DWG 305-8



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

- NOTES:
- 1.REFER TO DRAWINGS 305-1 AND 305-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 305-3 TO 305-7 FOR SECTIONS A-A, B-B, C-C D-D, E-E AND F-F.
 - 2.THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
306-15	191.2	15+375	54.5m Lt.
306-16	189.0	15+375	14.5m Lt.
306-17	189.1	15+375	5.5m Lt.
306-18	189.9	15+375	44.5m Rt.
306-19	189.1	15+400	38.8m Lt.
306-20	190.4	15+400	13.5m Rt.
306-21	190.2	15+425	60.5m Lt.
306-22	188.9	15+425	18.5m Lt.
306-23	189.0	15+425	1.5m Lt.
306-24	189.6	15+425	40.5m Rt.
306-25	189.5	15+450	38.8m Lt.

(Legend Continues)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
306-26	190.4	15+450	24.0m Rt.
306-27	189.2	15+475	58.5m Lt.
306-28	189.2	15+475	20.5m Lt.
306-29	189.1	15+475	0.5m Rt.
306-30	189.8	15+475	34.5m Rt.
306-31	189.2	15+500	38.8m Lt.
306-32	190.4	15+500	13.5m Rt.
306-33	189.2	15+525	56.5m Lt.
306-34	189.1	15+525	22.5m Lt.
306-35	189.8	15+525	2.5m Rt.
306-36	189.7	15+525	30.5m Rt.

(Legend Continues on Drawing 306-2)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
D2-1	189.4	15+380	45.0m Rt.
D2-2	189.2	15+480	75.0m Lt.
D2-3	189.3	15+480	20.0m Lt.

NOTES:

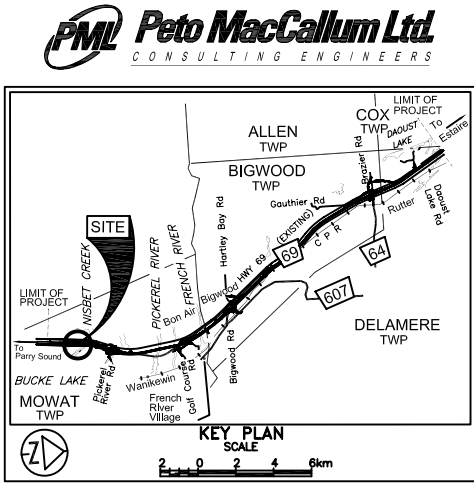
- REFER TO DRAWING 306-2 FOR CONTINUATION OF NORTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 TO 306-9 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- D2 SERIES BOREHOLES STATION AND OFFSET WERE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN CHAINAGE.
- D2 SERIES BOREHOLES DATA WERE TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REFERENCE: 04TF008 - MID) GEOCREs NO. 411-171, DATED MAY 31, 2004.

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
BOREHOLE LOCATIONS

SHEET



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- W L at time of investigation Oct-Nov 2006
- D2 Series Mar 2004
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
306-1	194.9	15+250	38.8m Lt.
306-2	193.2	15+250	24.0m Rt.
306-3	194.6	15+275	52.5m Lt.
306-4	194.2	15+275	26.5m Lt.
306-5	191.1	15+275	6.5m Rt.
306-6	190.2	15+275	32.5m Rt.
306-7	197.4	15+300	38.8m Lt.
306-8	192.1	15+300	13.5m Rt.
306-9	194.2	15+325	60.5m Lt.
306-10	189.3	15+325	18.5m Lt.
306-11	188.9	15+325	1.5m Lt.
306-12	189.8	15+325	40.5m Rt.
306-13	190.2	15+350	38.8m Lt.
306-14	190.8	15+350	24.0m Rt.

(Legend Continues)

NOTE

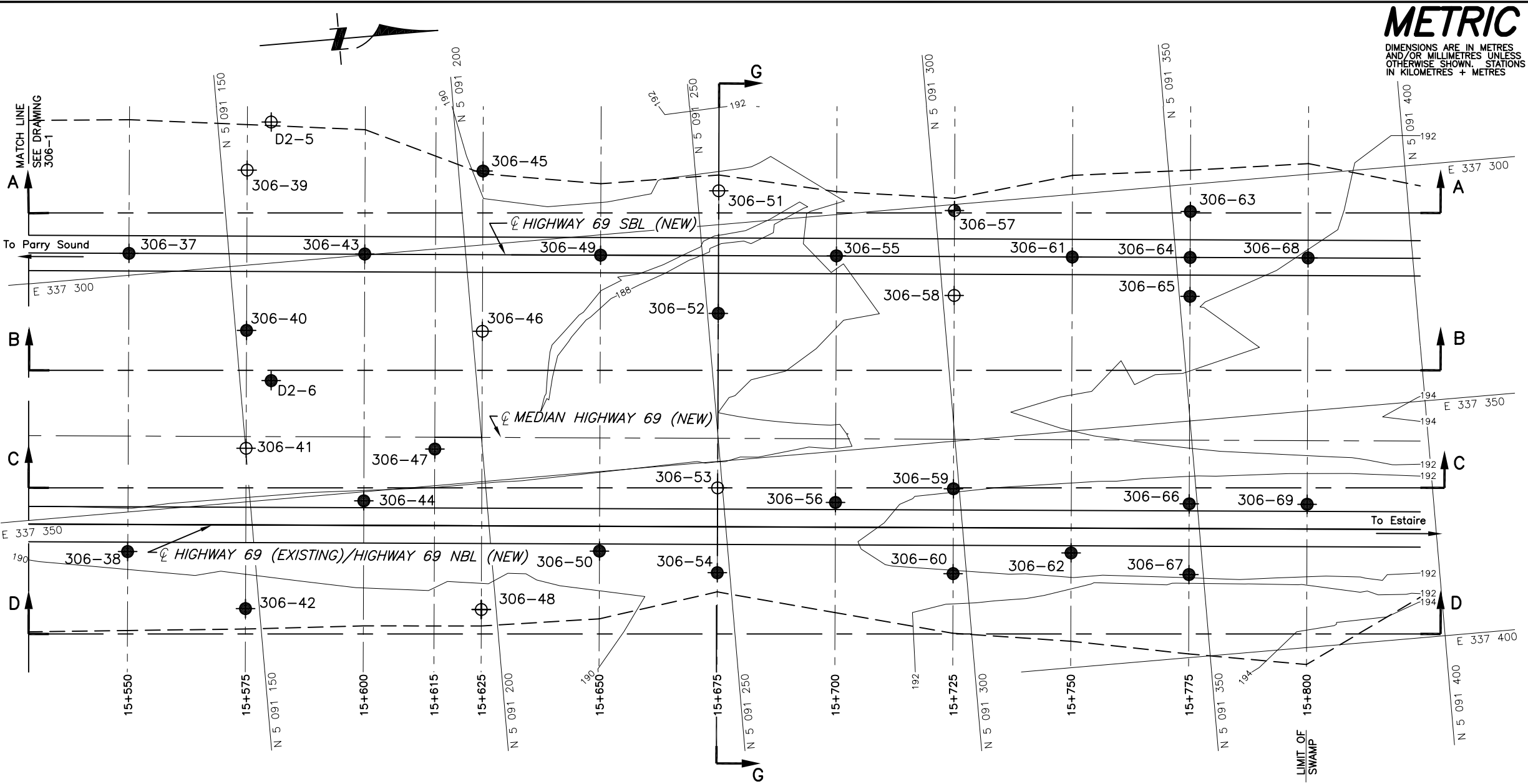
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	SITE	--
APPROVED	BRG	DWG	306-1



(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
306-50	191.2	15+650	24.0m Rt.
306-51	190.2	15+675	52.5m Lt.
306-52	189.8	15+675	26.5m Lt.
306-53	190.2	15+675	10.5m Rt.
306-54	190.4	15+675	28.5m Rt.
306-55	189.9	15+700	38.8m Lt.
306-56	192.0	15+700	13.5m Rt.
306-57	190.5	15+725	48.5m Rt.
306-58	190.0	15+725	30.5m Lt.
306-59	191.0	15+725	10.5m Rt.

(Legend Continues)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
306-60	191.5	15+725	28.5m Rt.
306-61	190.7	15+750	38.8m Lt.
306-62	192.6	15+750	24.0m Rt.
306-63	191.6	15+775	48.5m Lt.
306-64	191.8	15+775	38.8m Lt.
306-65	192.0	15+775	30.5m Lt.
306-66	192.7	15+775	13.5m Rt.
306-67	192.7	15+775	28.5m Rt.
306-68	192.2	15+800	38.8m Lt.
306-69	192.8	15+800	13.5m Rt.

(Legend Continues)

(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
D2-5	189.4	15+580	75.0m Lt.
D2-6	189.4	15+580	20.0m Lt.

- NOTES:
- REFER TO DRAWING 306-1 FOR CONTINUATION OF SOUTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 TO 306-9 FOR SECTIONS A-A, B-B, C-C, D-D, E-E, F-F AND G-G.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
 - D2 SERIES BOREHOLES STATION AND OFFSET WERE ADJUSTED TO THE NEW HIGHWAY 69 CL MEDIAN CHAINAGE.
 - D2 SERIES BOREHOLES DATA WERE TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REFERENCE: 04TF008 - MID) GEOCREs NO. 411-171, DATED MAY 31, 2004.

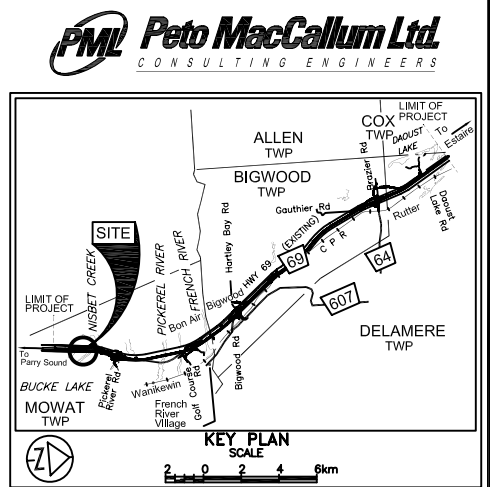


REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
BOREHOLE LOCATIONS

SHEET



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- W L at time of investigation Oct-Nov 2006 and Mar 2008, D2 Series Mar 2004
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
(Legend Continued)			
306-37	189.3	15+550	38.8m Lt.
306-38	190.1	15+550	24.5m Rt.
306-39	189.2	15+575	56.5m Lt.
306-40	189.3	15+575	22.5m Lt.
306-41	189.4	15+575	2.5m Rt.
306-42	189.7	15+575	36.5m Rt.
306-43	189.5	15+600	38.8m Lt.
306-44	189.5	15+600	13.5m Rt.
306-45	190.1	15+625	56.5m Lt.
306-46	189.6	15+625	22.5m Lt.
306-47	189.5	15+615	2.5m Rt.
306-48	190.0	15+625	36.5m Rt.
306-49	189.1	15+650	38.8m Lt.

(Legend Continues)

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION









Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	306-2

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

The map illustrates the proposed road alignment through three townships: Allen, Bigwood, and Delamere. The alignment starts near Nisbet Creek and Pickarel River, passing through Buckle Lake and Mowat Township. It then continues through Allen Township, Bigwood Township, and Delamere Township. Key roads shown include Highway 69, Highway 64, and Highway 607. The project site is marked with a circle and labeled 'SITE'. The map also shows the limits of the project and the townships. A scale bar indicates distances up to 6 km.

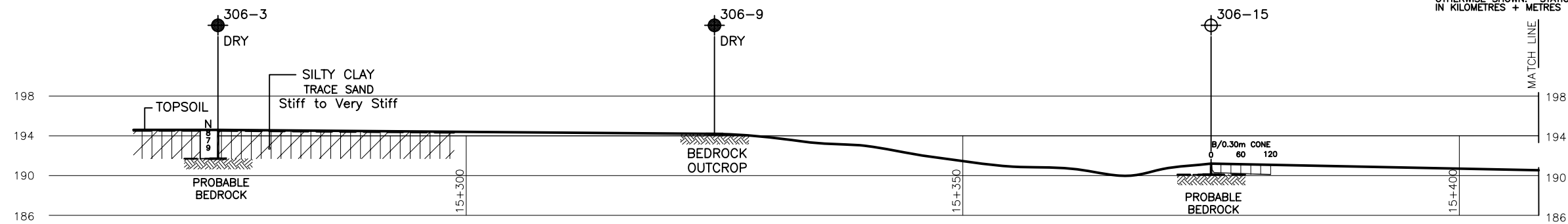
LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/ blow)
WH	Penetration due to weight of hammer and rods
	W L at time of investigation Oct–Nov 2007
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

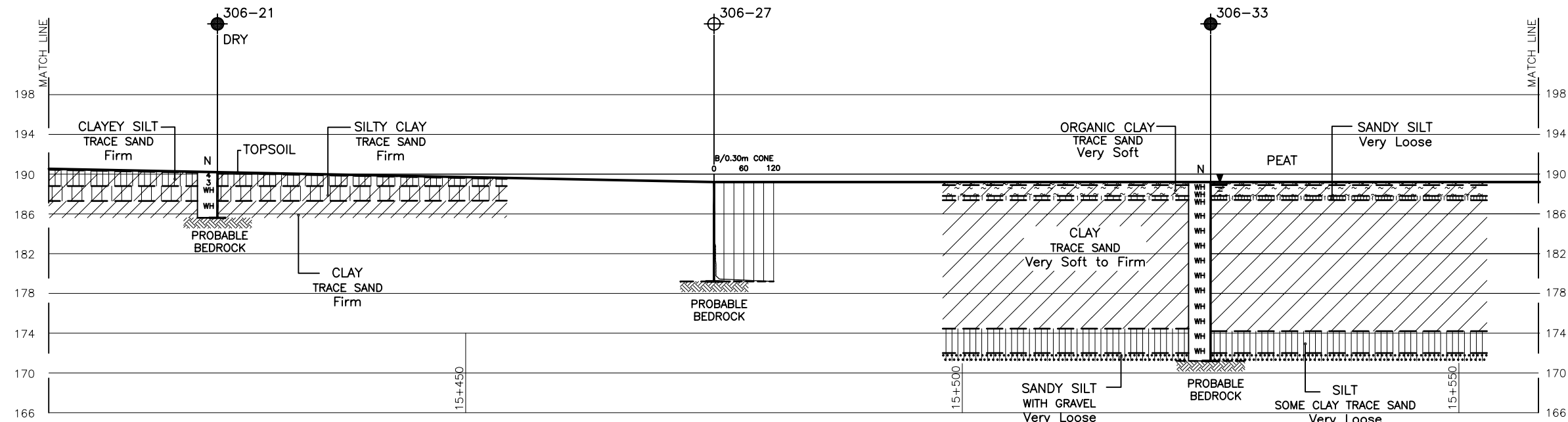
- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

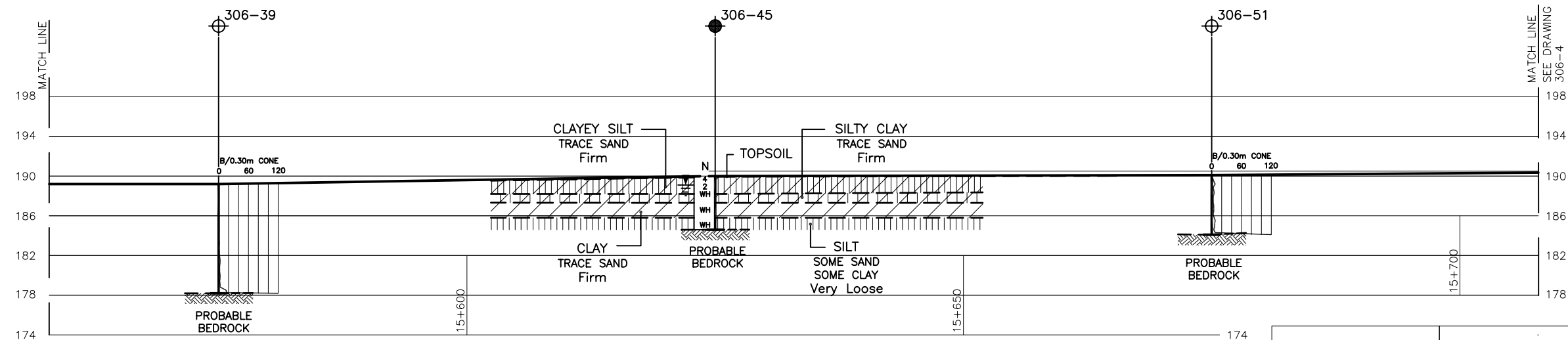
REVISIONS					
DATE	BY	DESCRIPTION			
Geocres No. 41H-67					
HWY No	69				DIST 54
SUBM'D	NSB	CHECKED	NSB	DATE JAN. 16, 2009	SITE --
DRAWN	NA	CHECKED	CN	APPROVED BRG	DWG 306-3



PROFILE A-A



PROFILE A-A (Continued)



PROFILE A-A (Continued)

1. REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-4 TO 306-9 FOR SECTION A-A (Continued), B-B, C-C, D-D, E-E, F-F AND G-G.

2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



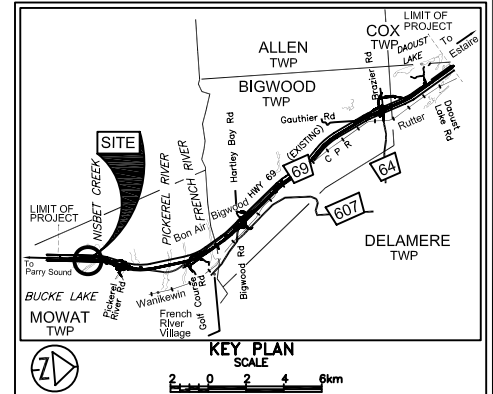
REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

SHEET



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Oct-Nov 2007
- Head
- ARTESIAN WATER
- Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

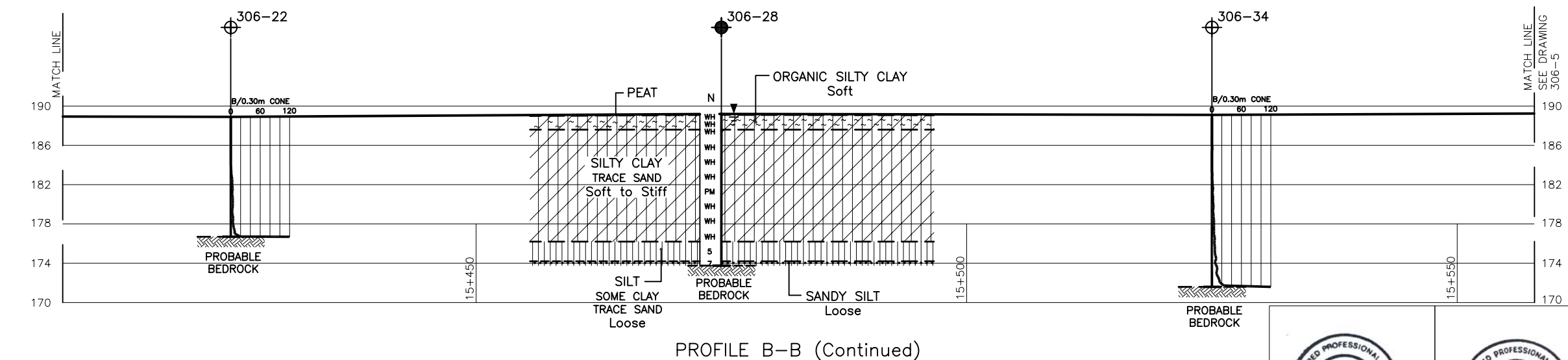
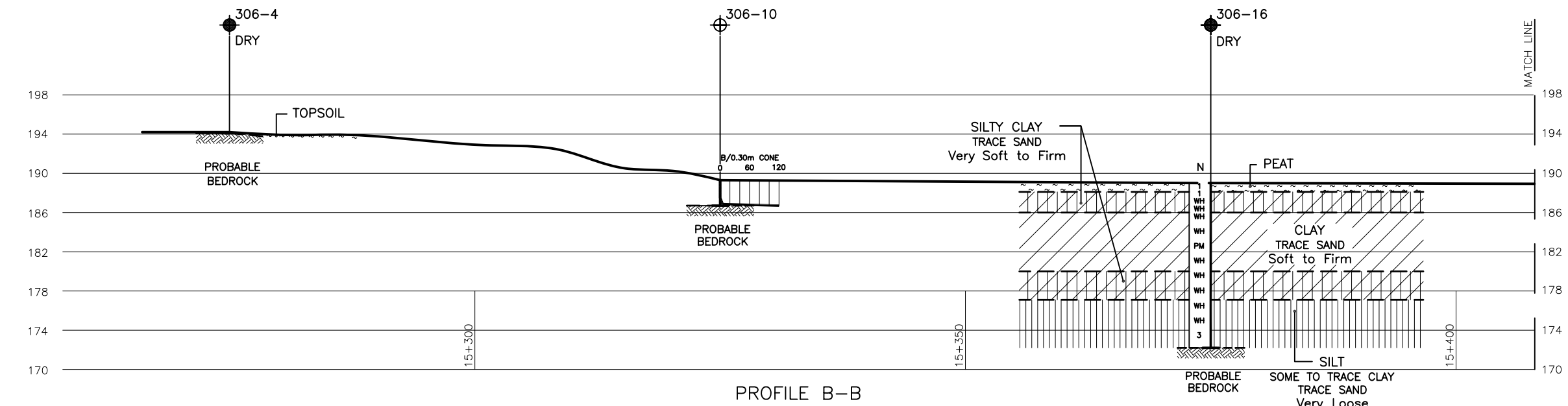
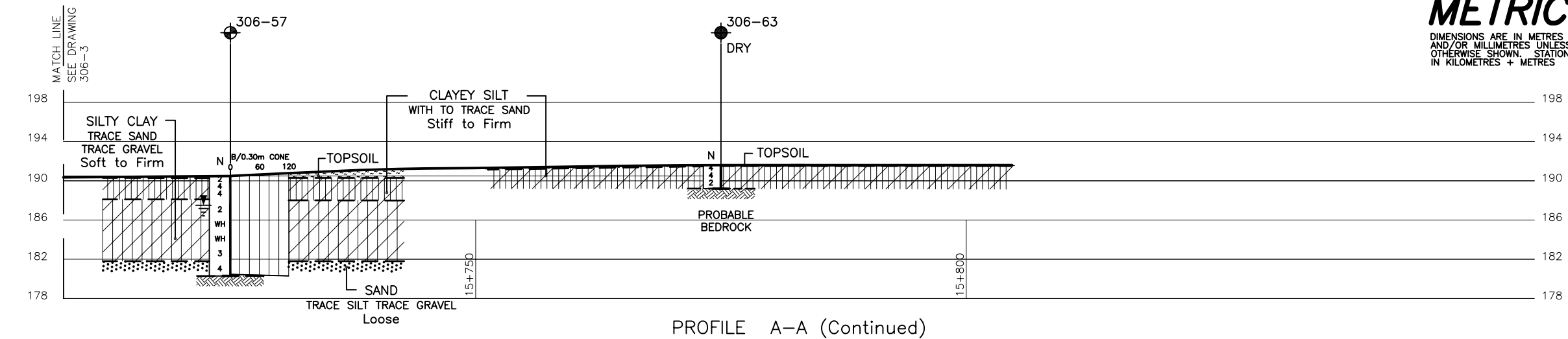
NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE		DWG	306-4



NOTES:

- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 FOR SECTION A-A AND 306-5 TO 306-9 FOR SECTIONS B-B (Continued), C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

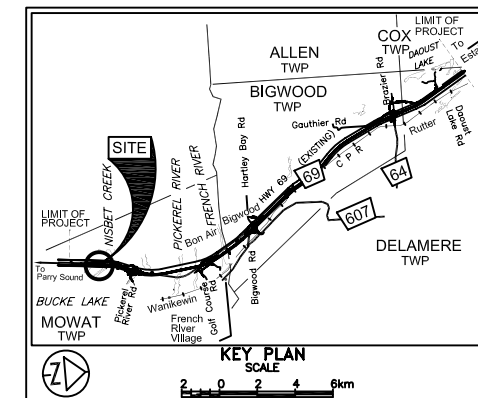
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



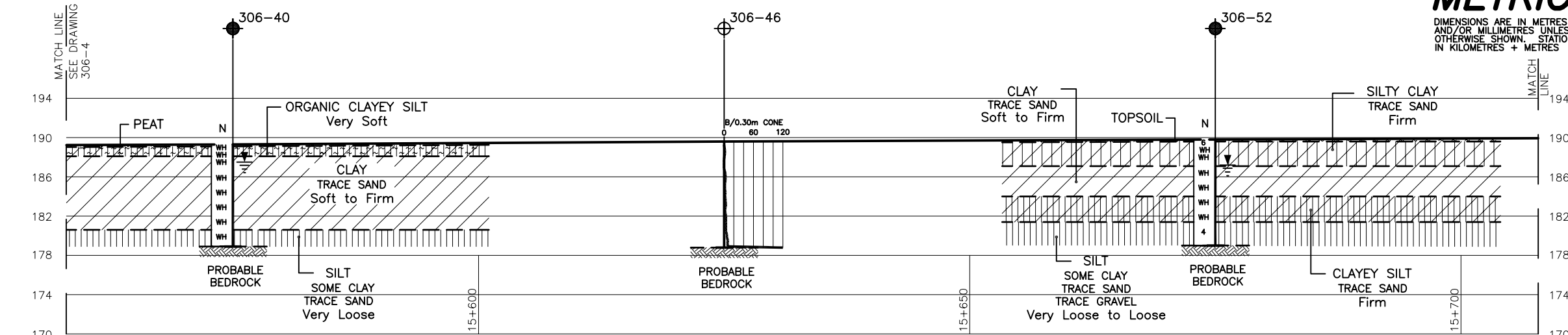
LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	at time of investigation Oct-Nov 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

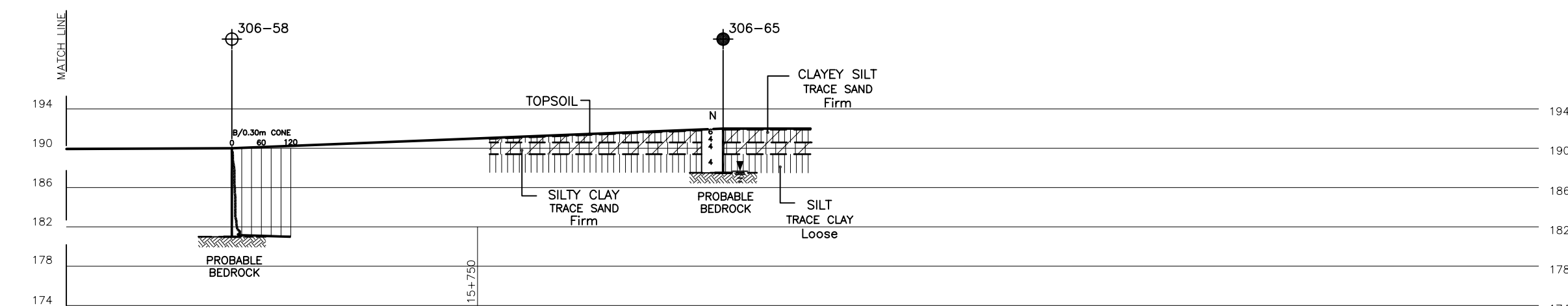
NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

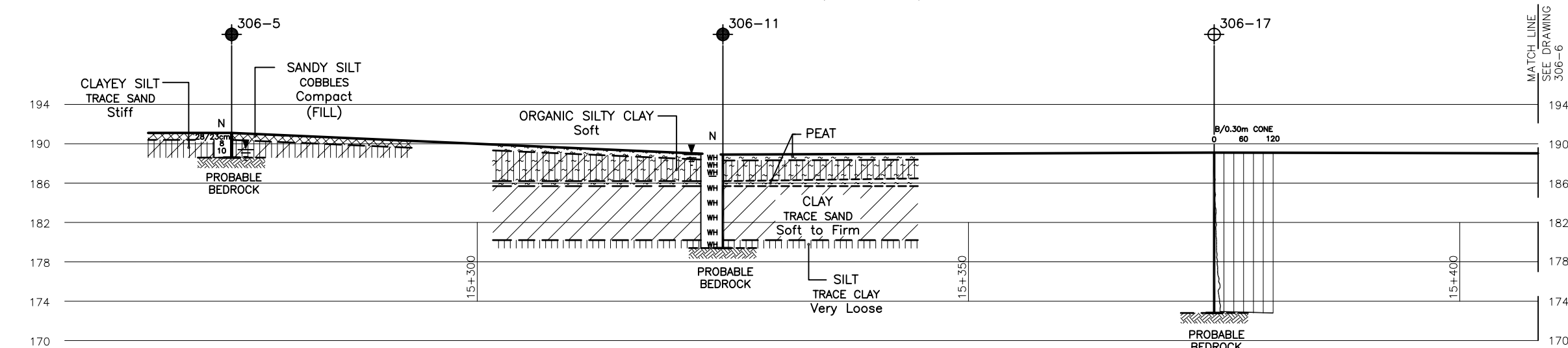
Geocres No. 41H-67			
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN 16, 2009	SITE	---
APPROVED	BRG	DWG	306-5



PROFILE B-B (Continued)



PROFILE B-B (Continued)



PROFILE C-C



NOTES:

- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 AND 306-4 FOR SECTIONS A-A AND B-B (Continued) AND 306-6 TO 360-9 FOR SECTIONS C-C, D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

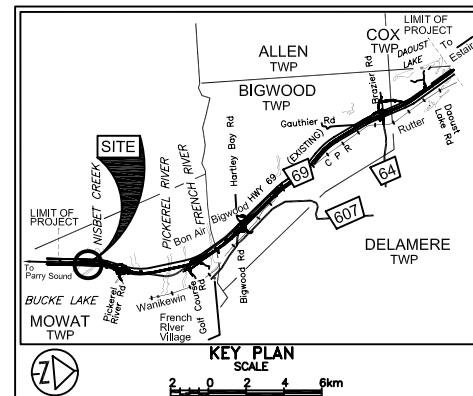
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN.
STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
	W.L. at time of investigation Oct-Nov 2007 and Mar 2008		
	Head		
	ARTESIAN WATER Encountered		
	PIEZOMETER		

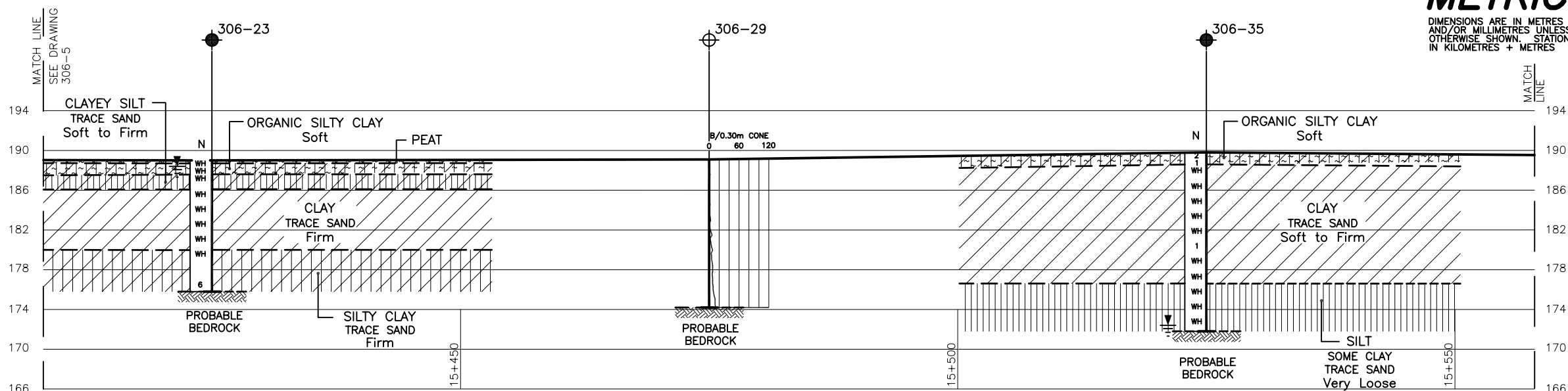
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

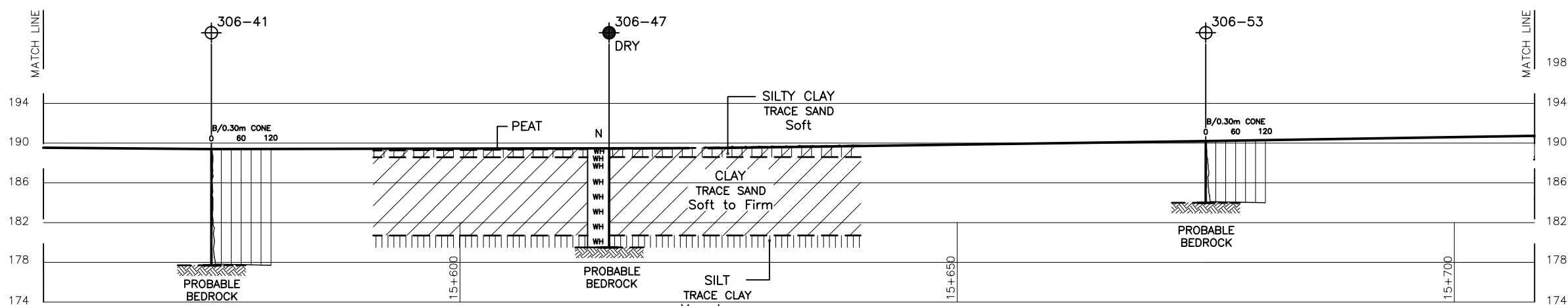
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

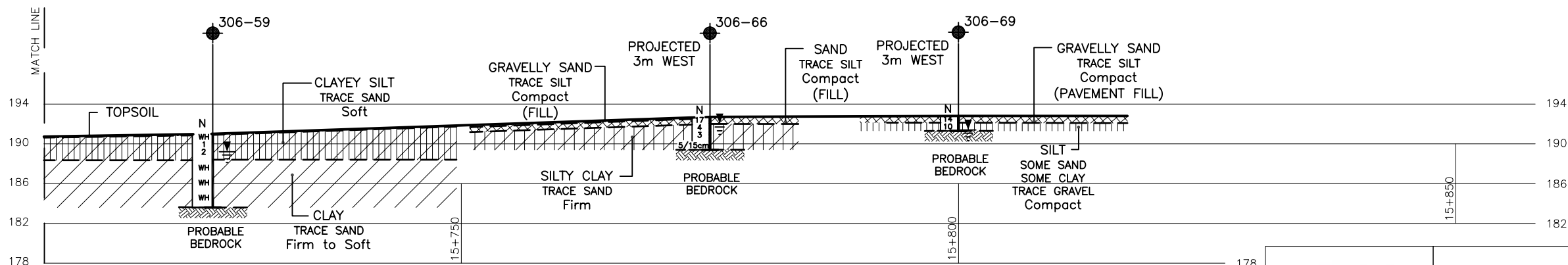
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	DATE	JAN. 16, 2009
APPROVED	BRG	APPROVED	BRG
SITE	---	SITE	---
DWG	306-6	DWG	306-6



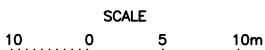
PROFILE C-C (Continued)



PROFILE C-C (Continued)



PROFILE C-C (Continued)



NOTES:

- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 TO 306-5 FOR SECTIONS A-A, B-B AND C-C (Continued) AND 306-7 TO 306-9 FOR SECTIONS D-D, E-E, F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

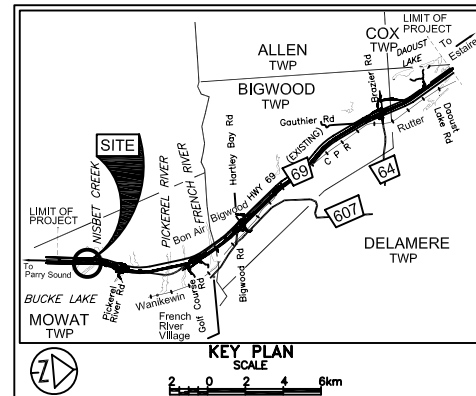
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

SHEET

PMI Peto MacCallum Ltd.
CONSULTING ENGINEERS



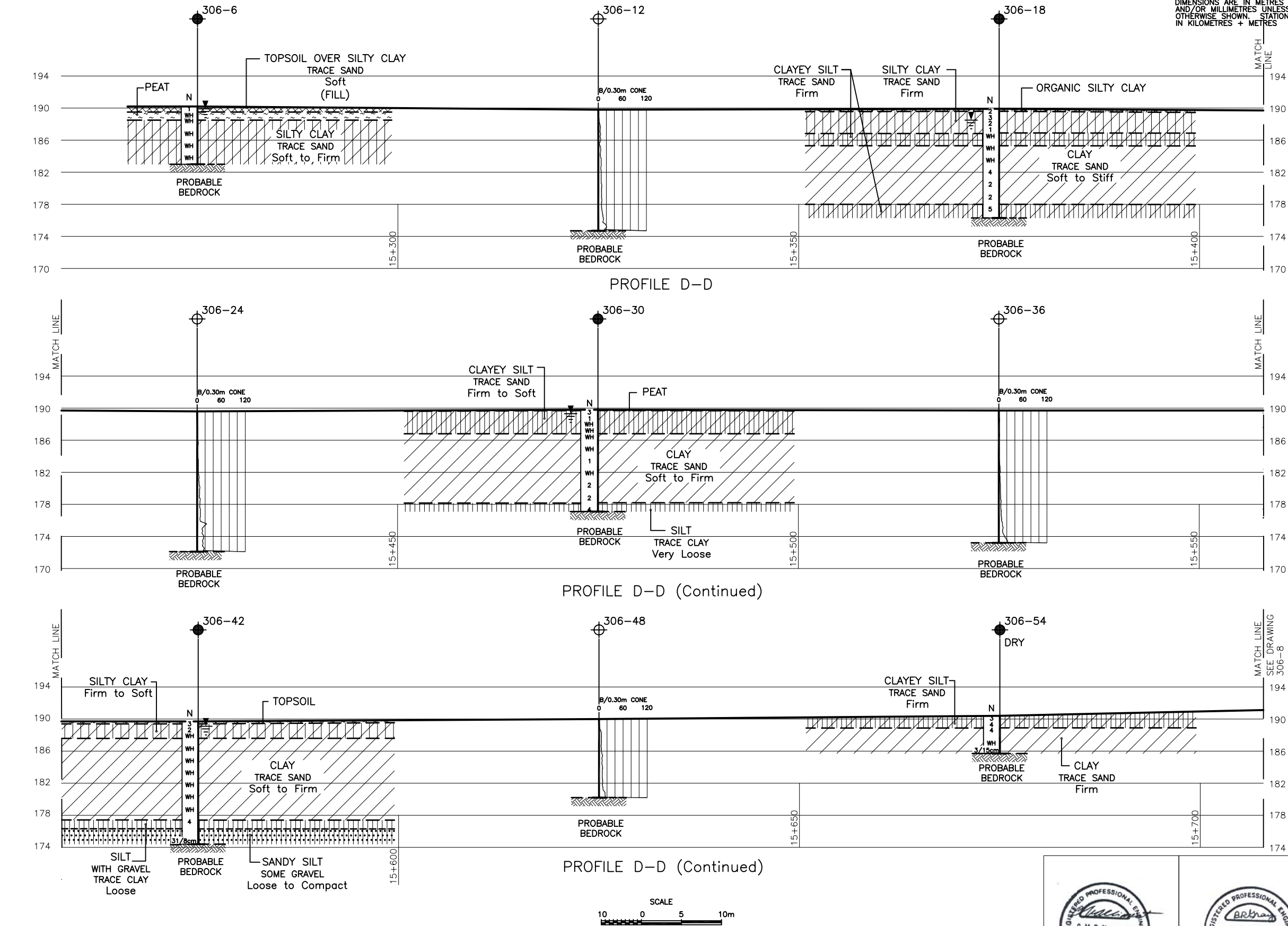
LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	at time of investigation Oct-Nov 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

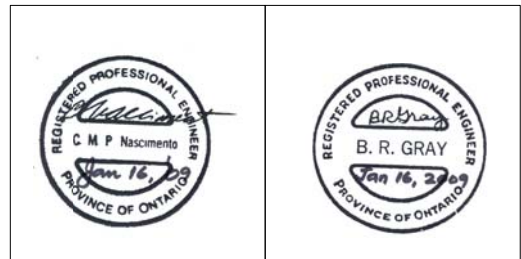
NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

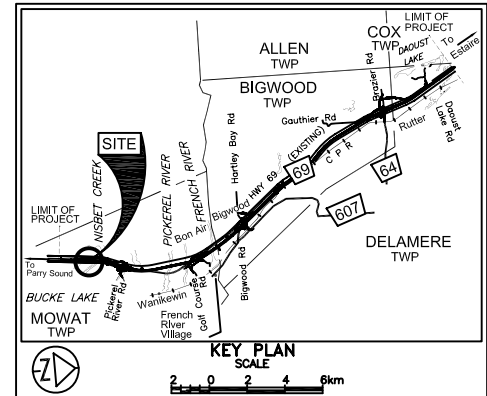
Geocres No. 41H-67				
HWY No 69			DIST 54	
SUBM'D	NSB	CHECKED NSB	DATE JAN. 16, 2009	SITE --
DRAWN	NA	CHECKED CN	APPROVED BRG	DWG 306-7



- NOTES:
- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 TO 306-6 FOR SECTIONS A-A, B-B, C-C, D-D (Continued) AND 306-8 AND 306-9 FOR SECTIONS D-D (Continued), E-E, F-F AND G-G.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;



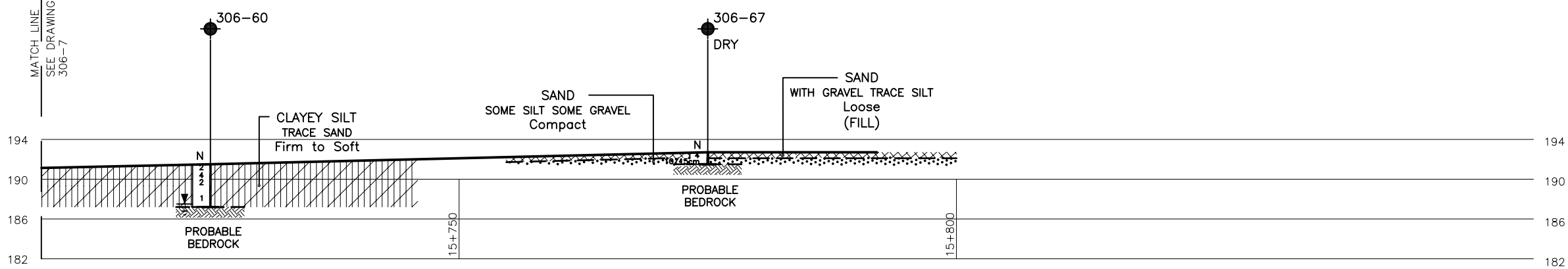
LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
PM	Thinwall Sample - Advanced Manually		
W L	W L at time of investigation Oct-Nov 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.			

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

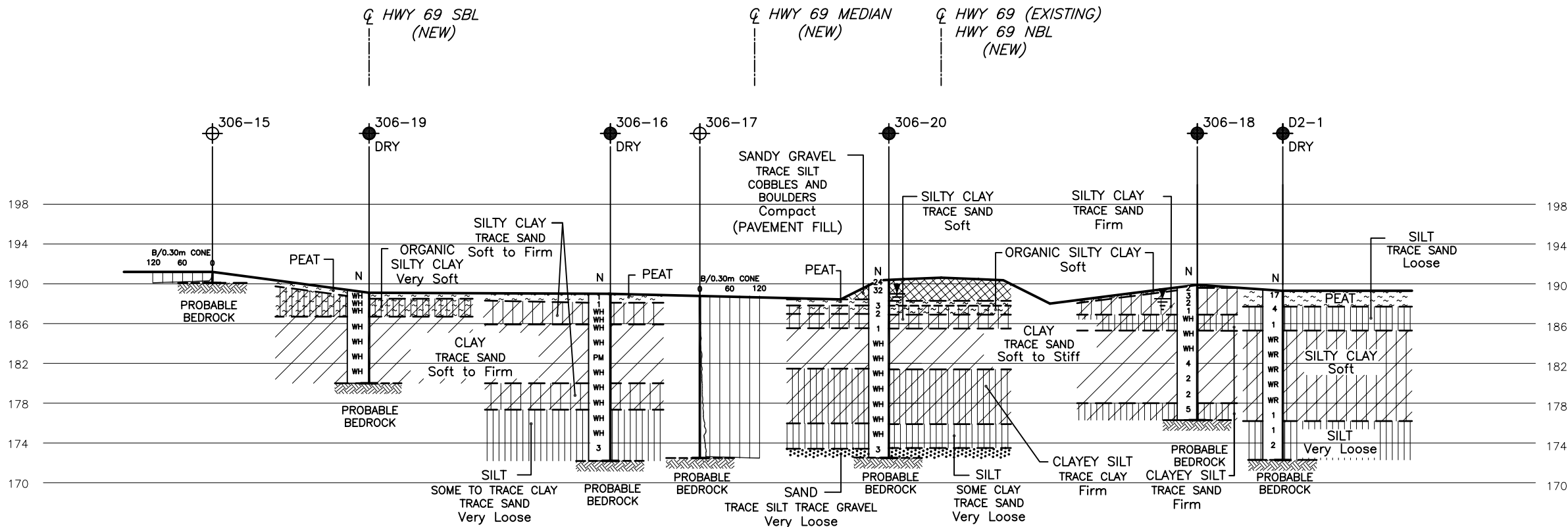
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DATE	JAN. 16, 2009	SITE	---
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	306-8



PROFILE D-D (Continued)



SECTION E-E



NOTES:

- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 306-3 TO 306-7 FOR SECTIONS A-A, B-B, C-C, D-D (Continued) AND 306-9 FOR SECTIONS F-F AND G-G.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

METRIC

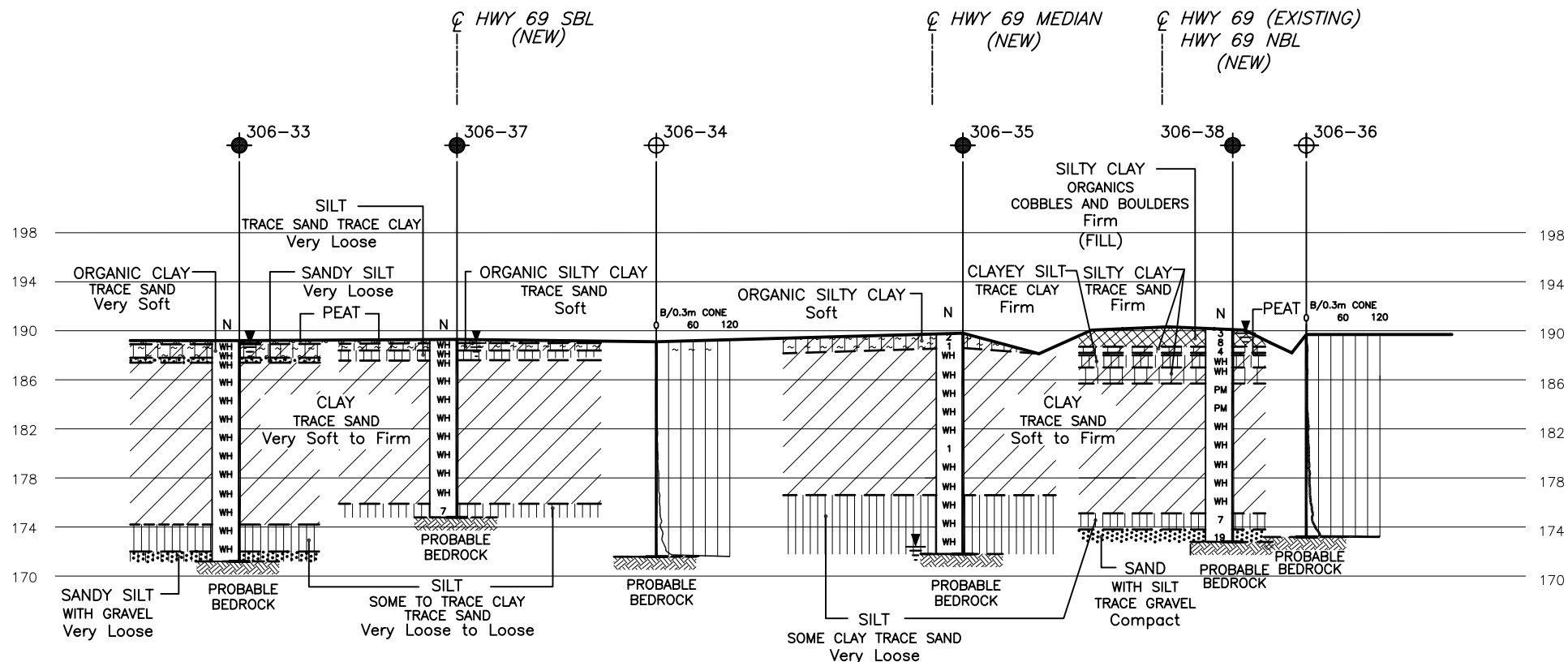
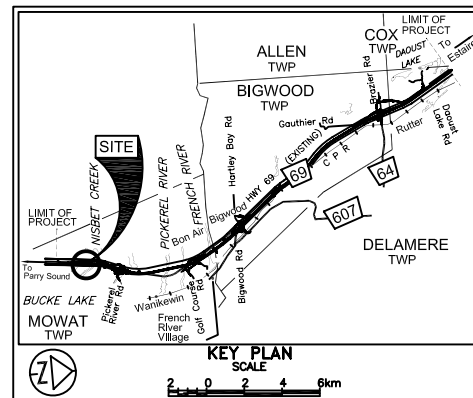
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

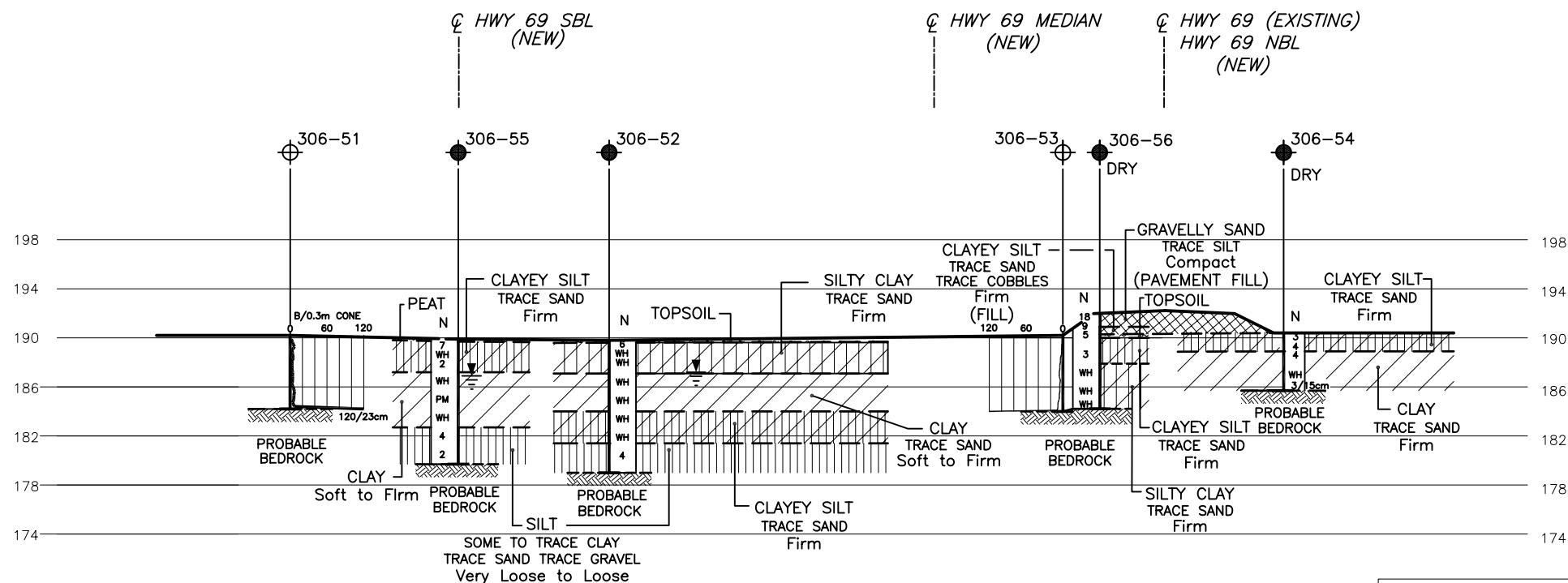
HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 306, STA. 15+250 TO 15+800 MOWAT TWP
SOIL STRATA

SHEET

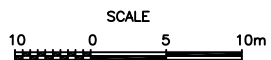
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



SECTION F-F



SECTION G-G



NOTES:

- REFER TO DRAWINGS 306-1 AND 306-2 FOR BOREHOLE LOCATIONS
PLAN AND DRAWINGS 306-3 TO 306-8 FOR SECTIONS A-A, B-B,
C-C, D-D AND E-E.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE
DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Oct-Nov 2007
- Head
- ARTESIAN WATER
- Encountered
- PIEZOMETER

BH No ELEVATION STA MOWAT TWP o/s CL MED

SEE DRAWINGS 306-1 AND 306-2 FOR DETAILS.

NOTE

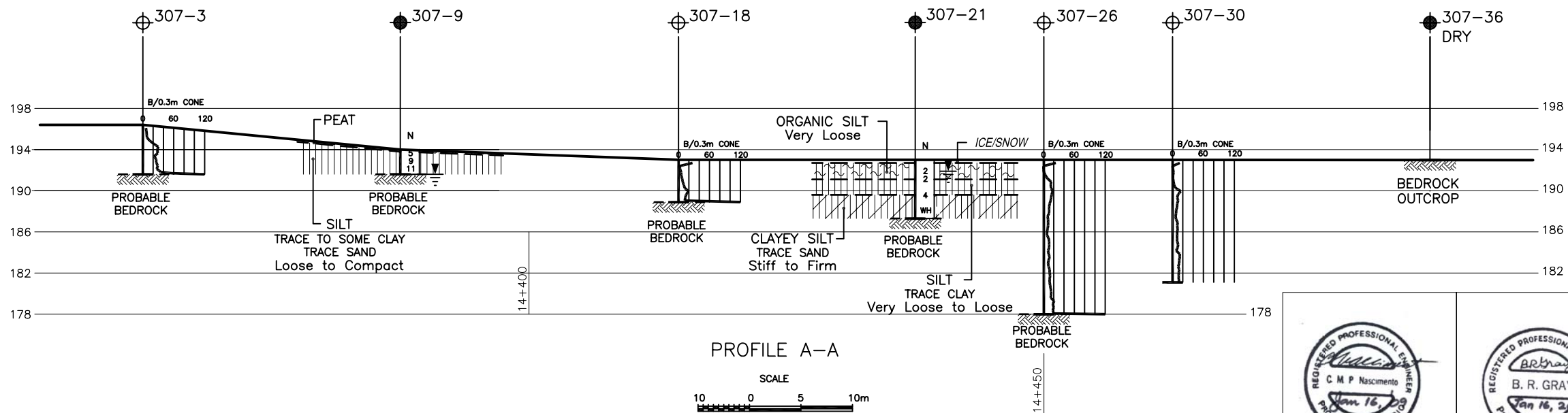
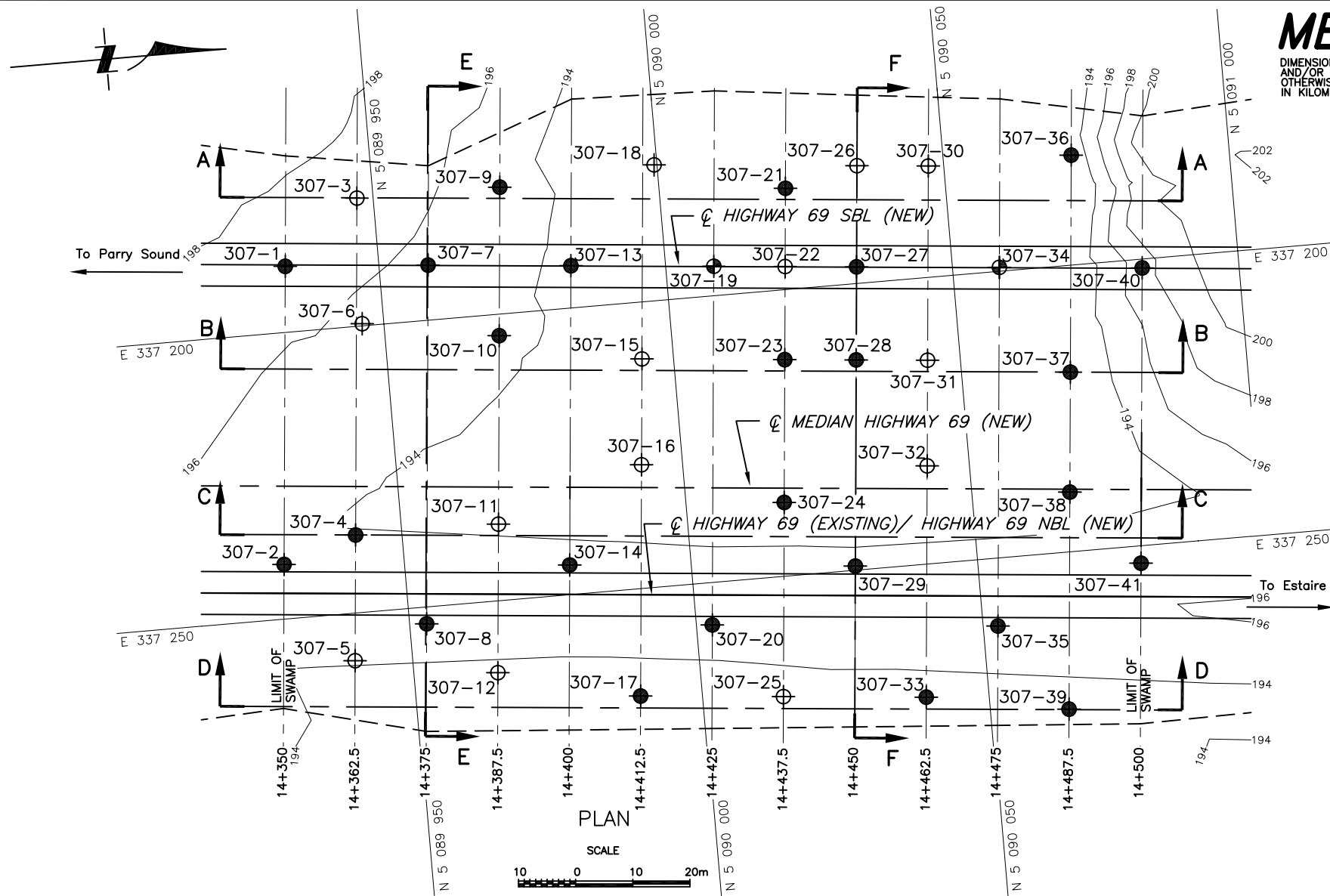
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	DATE	JAN. 16, 2009
SITE		SITE	
APPROVED	BRG	APPROVED	BRG
DWG	306-9	DWG	306-9

(Legend Continued)			
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
307-16	193.0	14+412.5	4.0m Lt.
307-17	193.4	14+412.5	36.5m Rt.
307-18	193.0	14+414.5	56.5m Lt.
307-19	193.0	14+425	38.8m Lt.
307-20	195.0	14+425	24.0m Rt.
307-21	193.0	14+437.5	52.5m Lt.
307-22	193.0	14+437.5	38.8m Lt.
307-23	193.0	14+437.5	22.5m Lt.
307-24	193.0	14+437.5	2.5m Rt.
307-25	193.4	14+437.5	36.5m Rt.
307-26	193.0	14+450	56.5m Lt.
307-27	193.0	14+450	38.8m Lt.
307-28	193.0	14+450	22.5m Lt.
307-29	195.0	14+450	13.6m Rt.
307-30	193.0	14+462.5	56.5m Lt.
307-31	193.0	14+462.5	22.5m Lt.
307-32	193.0	14+462.5	4.0m Lt.
307-33	193.5	14+462.5	36.5m Rt.
307-34	193.0	14+475	38.8m Lt..
307-35	195.5	14+475	24.0m Rt.
307-36	193.0	14+487.5	58.5m Lt.
307-37	193.4	14+487.5	20.5m Lt.
307-38	193.4	14+487.5	0.5m Rt.
307-39	193.5	14+487.5	38.5m Rt.
307-40	197.8	14+500	38.8m Lt.
307-41	196.0	14+500	12.9m Rt.



NOTES:

- REFER TO DRAWINGS 307-2 TO 307-3 FOR SECTIONS B-B, C-C, D-D, E-E AND F-F.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

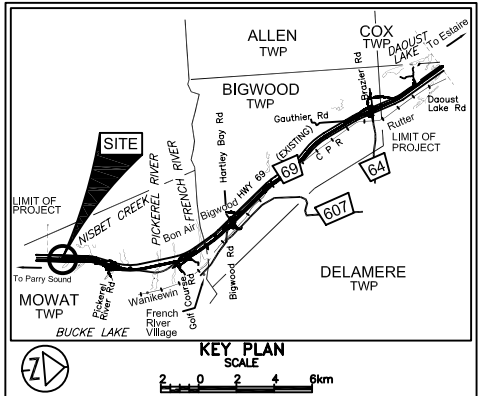


REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 307, STA. 14+350 TO 14+500 MOWAT TWP
BOREHOLE LOCATIONS AND SOIL STRATA

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
	W.L. at time of investigation Mar 2007
	D6 Series Mar 2004
	Head
	ARTESIAN WATER Encountered
	PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
307-1	196.7	14+350	38.5m Lt.
307-2	195.3	14+350	13.7m Rt.
307-3	196.4	14+362.5	50.5m Lt.
307-4	194.0	14+362.5	8.5m Rt.
307-5	194.2	14+362.5	30.5m Rt.
307-6	195.5	14+363.5	28.5m Lt.
307-7	195.1	14+375	38.8m Lt.
307-8	195.0	14+375	24.0m Rt.
307-9	194.3	14+387.5	52.5m Lt.
307-10	193.7	14+387.5	26.5m Lt.
307-11	193.3	14+387.5	6.5m Rt.
307-12	193.5	14+387.5	32.5m Rt.
307-13	193.0	14+400	38.8m Lt.
307-14	195.0	14+400	13.6m Rt.
307-15	193.0	14+412.5	22.5m Lt.

(Legend Continues)

NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

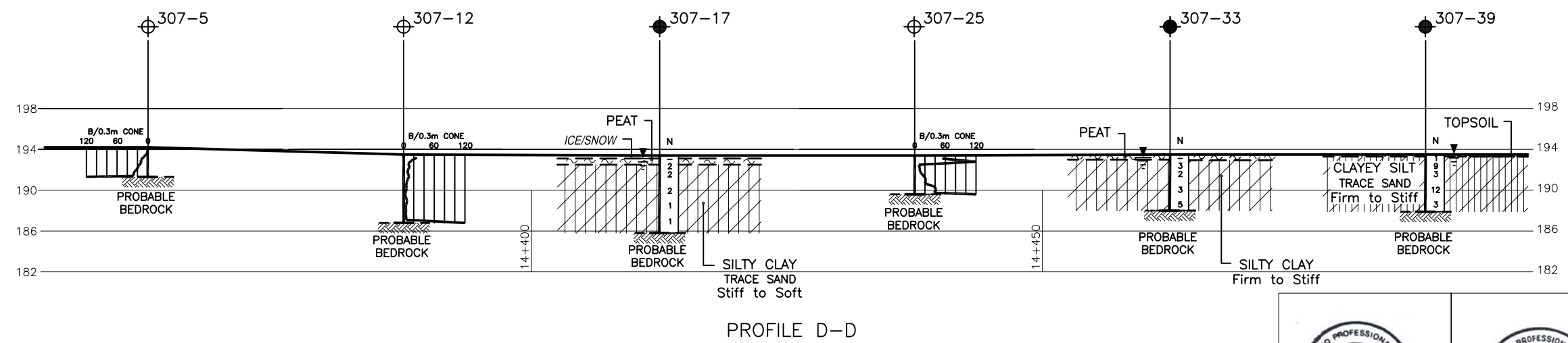
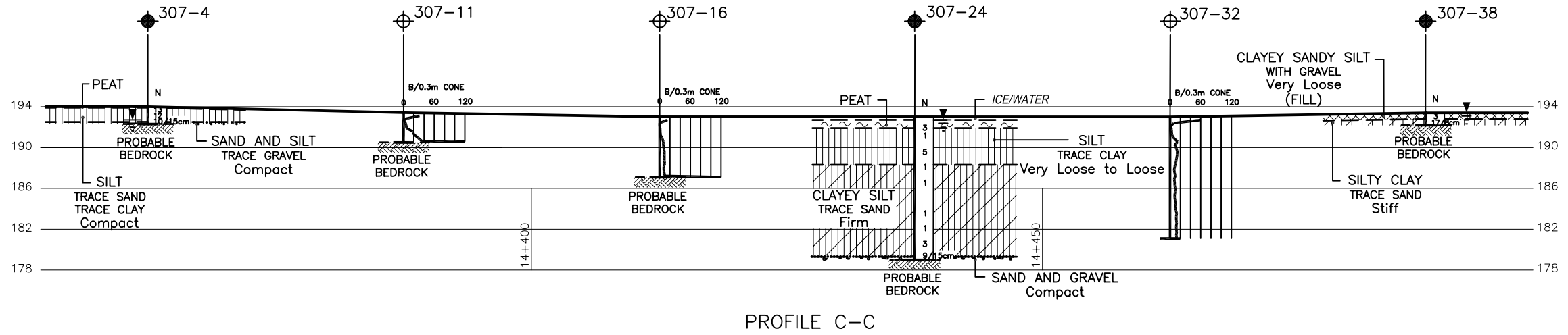
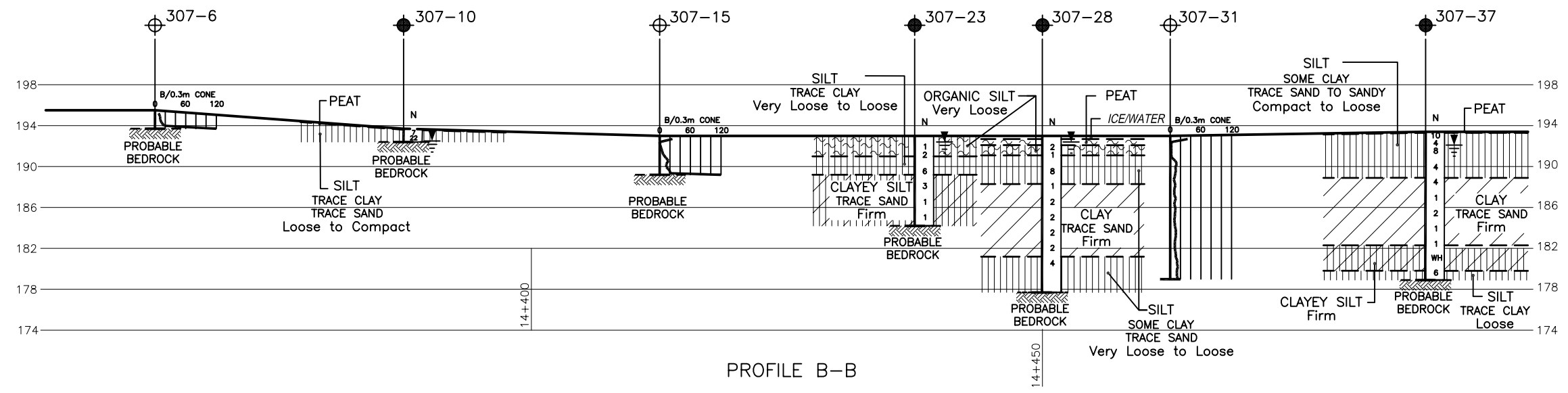
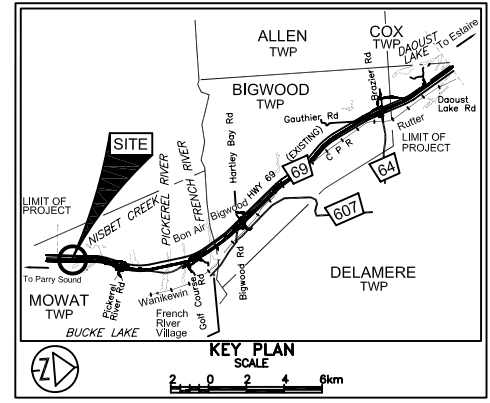
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE		DWG	307-1

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 307, STA. 14+350 TO 14+500 MOWAT TWP
SOIL STRATA

SHEET



- LEGEND**
- Borehole
 - Dynamic Cone Penetration Test (Cone)
 - Borehole & Cone
 - N Blows/0.3m (Std. Pen Test, 475 J/blow)
 - CONE Blows/0.3m (60° Cone, 475 J/blow)
 - W L at time of investigation Oct 2006 and Mar 2007
 - Head
 - ARTESIAN WATER Encountered
 - PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 307-1 FOR DETAILS			

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

DATE	BY	DESCRIPTION

Geocres No. 41H-67		DIST 54	
HWY No 69	NSB	CHECKED GD	DATE JAN. 16, 2009
SUBM'D	NA	CHECKED CN	APPROVED BRG
DRAWN	NA	CHECKED CN	DWG 307-2

- NOTES:
- REFER TO DRAWING 307-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A AND 307-3 FOR SECTIONS E-E AND F-F.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.











REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
SWAMP 307, STA. 14+350 TO 14+500 MOWAT TWP
SOIL STRATA

The map shows the project area situated between Mowat, Delamere, and Bigwood Townships. Key features include:

- Townships:** MOWAT TWP, DELAMERE TWP, BIGWOOD TWP, ALLEN TWP, COX TWP.
- Roads:** Highway 69 (WINDY RIVER RD), Highway 64 (RUTHER RD), Highway 607 (BIGWOOD RD), Highway 68 (HARTLEY BAY RD), Highway 60 (GOUTHIER RD), Highway 60 (DOUGLASS LAKE RD), Highway 60 (BUCKE LAKE RD), Highway 60 (PICKEREL RIVER RD), Highway 60 (NISBET CREEK RD), Highway 60 (FRENCH RIVER RD), Highway 60 (WANKOVIN RD), Highway 60 (GOAT CREEK RD), Highway 60 (BIGWOOD RD).
- Water Bodies:** NISBET CREEK, PICKEREL RIVER, FRENCH RIVER, BUCKE LAKE, DOUGLASS LAKE, WANKOVIN LAKE, GOAT CREEK, BIGWOOD LAKE.
- Other Features:** LIMIT OF PROJECT, To Perry Sound, To Estane.
- Scale:** 0 to 6 km.
- North Arrow:** Indicated by a circle with an arrow pointing up.

LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
PH	Thinwall Sample – Advanced Hydraulically
	W L at time of investigation Oct 2006 and Mar 2007
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED

SEE DRAWING 307-1 FOR DETAILS

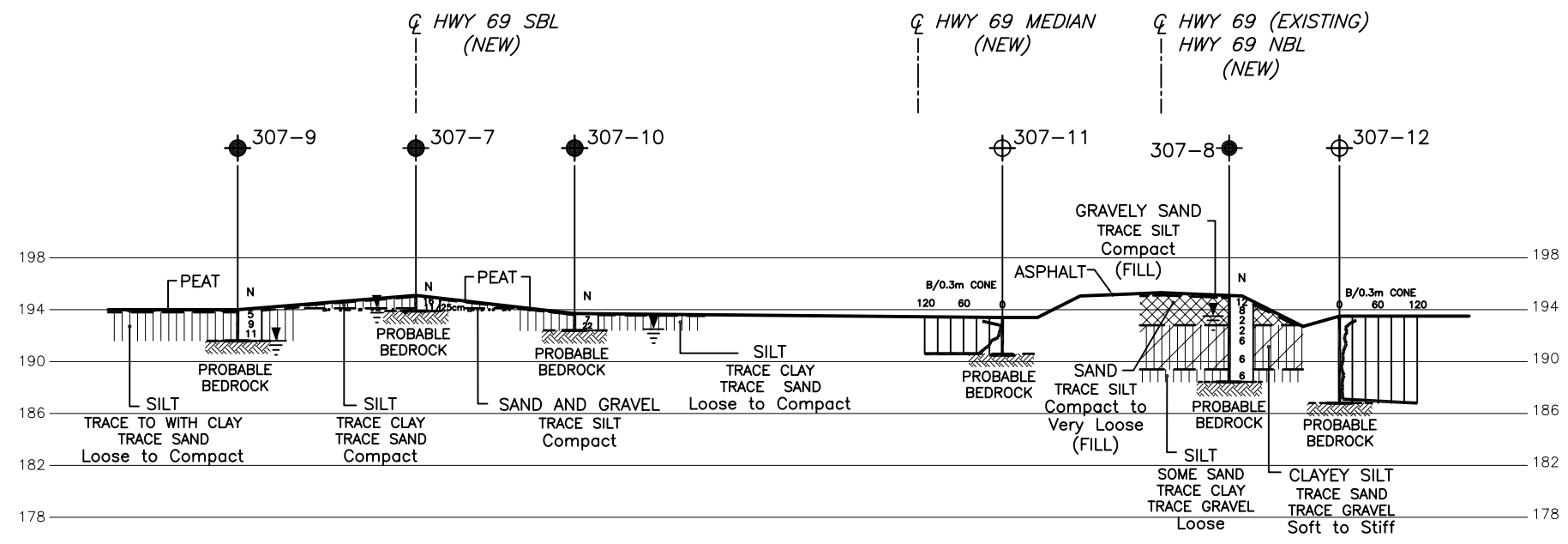
— NOTE —

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

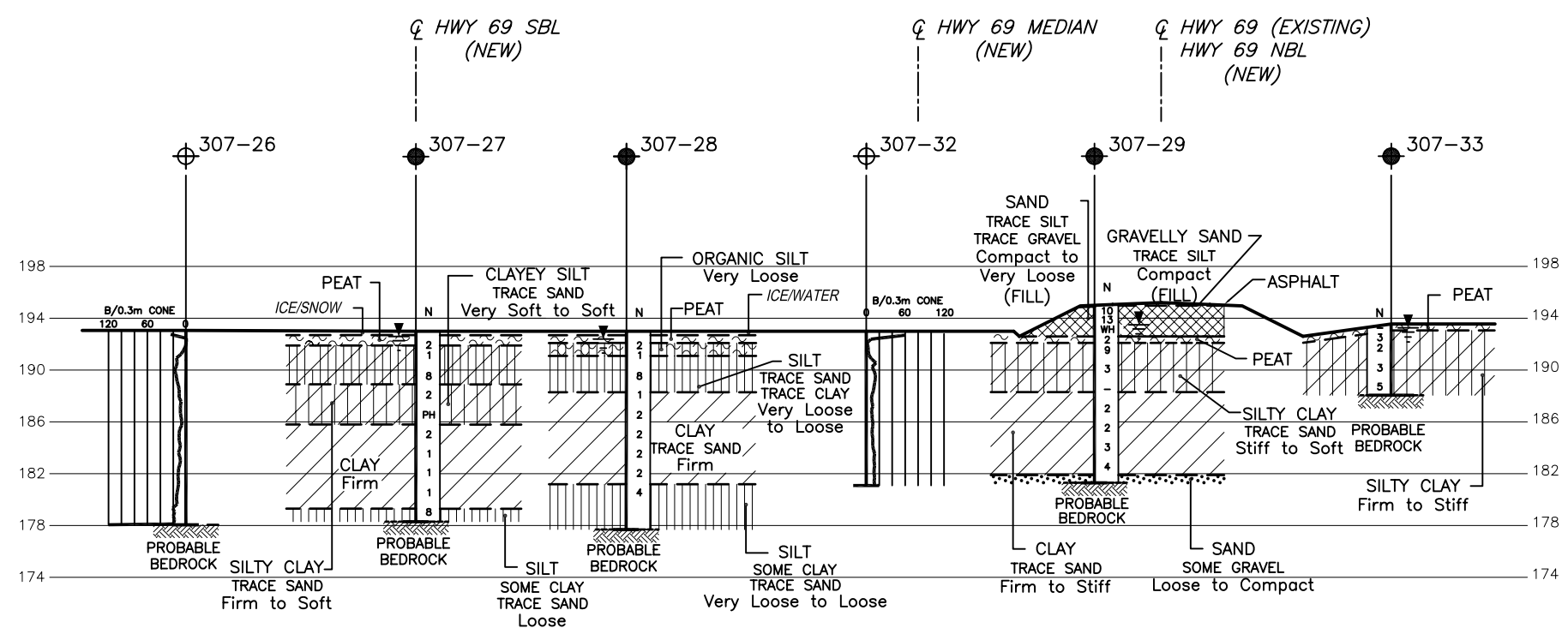
REVISIONS			
	DATE	BY	DESCRIPTION

Geocres No. 41H-67

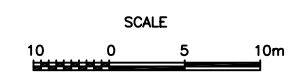
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED GD	DATE JAN. 16, 2009
DRAWN	NA	CHECKED CN	APPROVED BRG
			DWG 307-3



SECTION E-E



SECTION F-F



NOTES:

1. REFER TO DRAWING 307-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A AND DRAWING 307-2 FOR SECTIONS B-B, C-C AND D-D.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

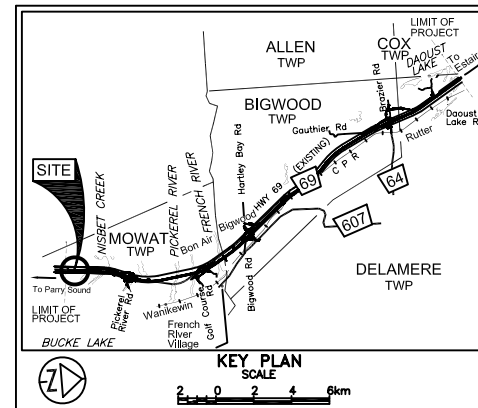
HIGHWAY 69

HIGHWAY 69 FOUR-LANING
SWAMP 308, STA. 13+970 TO 14+030 MOWAT TWP









BOREHOLE LOCATIONS AND SOIL STRATA



Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- | | |
|---|--|
|  | Borehole |
|  | Dynamic Cone Penetration Test (Cone) |
|  | Borehole & Cone |
| N | Blows/0.3m (Std. Pen Test, 475 J/blow) |
| CONE | Blows/0.3m (6 σ Cone, 475 J/blow) |
| WH | Penetration due to weight of hammer and rods |
| PH | Thinwall Sample – Advanced Hydraulically |
|  | W L at time of investigation Oct 2006 and Mar 2007 |
|  | Head |
|  | ARTESIAN WATER |
|  | Encountered |
|  | PIEZOMETER |

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
308-1	196.5	13+970	58.5m Lt.
308-2	196.5	13+970	20.5m Lt.
308-3	196.5	13+970	0.5m Rt.
308-4	197.3	14+970	38.5m Rt.
308-5	196.5	13+975	38.8m Lt.
308-6	198.0	13+975	13.0m Rt.
308-7	196.5	13+987.5	58.5m Lt.
308-8	196.5	13+987.5	20.5m Lt.
308-9	196.5	13+987.5	0.5m Rt.
308-10	196.5	13+987.5	38.5m Rt.
308-11	196.5	14+000	38.8m Lt.
308-12	198.0	14+000	24.5m Rt.
308-13	196.5	14+012.5	58.5m Lt.
308-14	196.5	14+012.5	20.5m Lt.
308-15	196.5	14+012.5	0.5m Rt.

(Legend Continues)

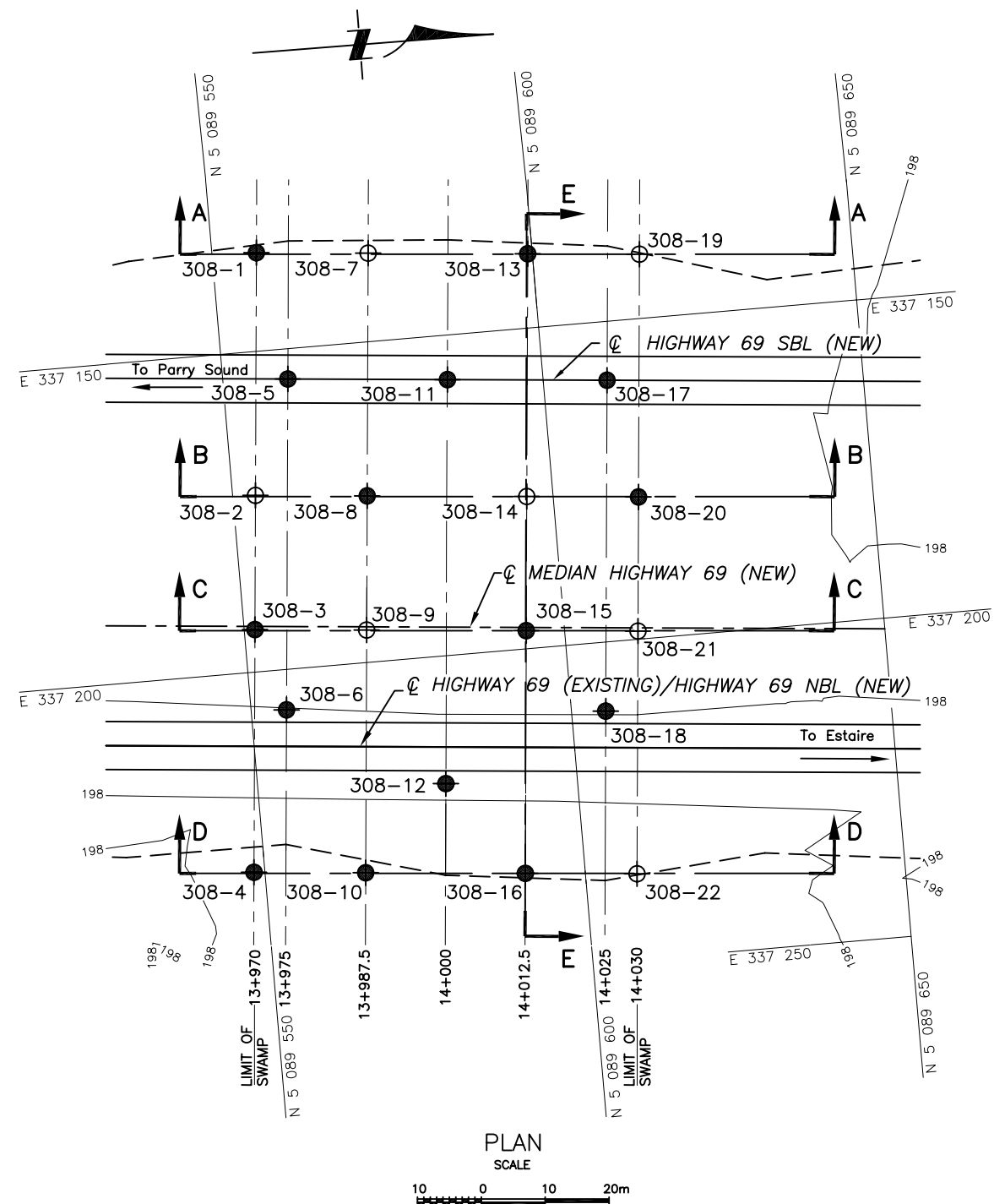
– NOTE –

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS			
	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DATE	JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	308-1

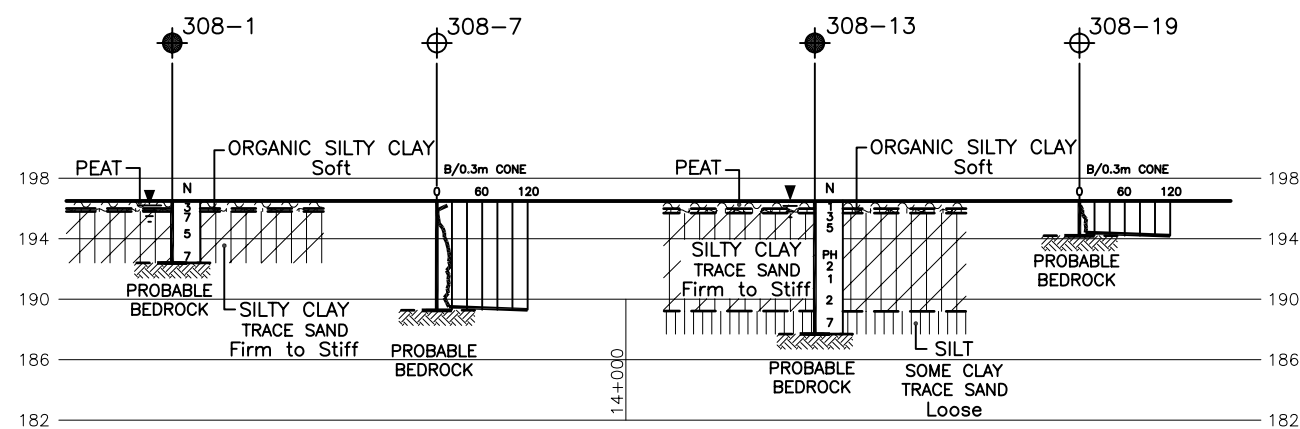


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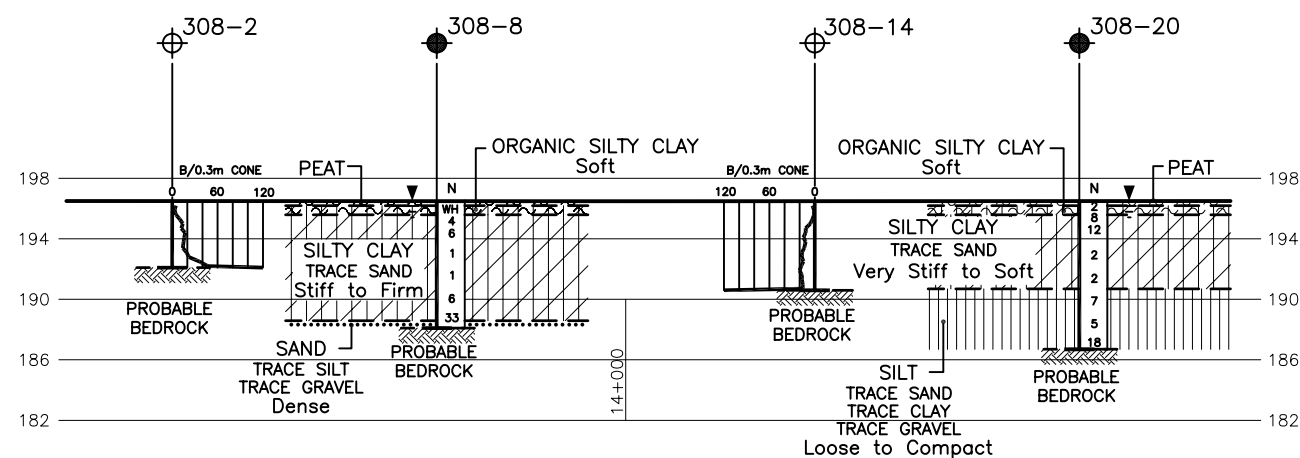
BH No	ELEVATION	STA	o/s	CL	MED
		MOWAT TWP			
308-16	196.0	14+012.5	38.5m		Rt.
308-17	196.5	14+025	38.5m		Lt.
308-18	198.0	14+025	13.3m		Rt.
308-19	196.5	14+030	58.5m		Lt.
308-20	196.5	14+030	20.5m		Lt.
308-21	196.5	14+030	0.5m		Rt.
308-22	196.3	14+030	38.5m		Rt.

NOTES:

1. REFER TO DRAWING 308-2 FOR SECTIONS C-C, D-D AND E-E.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



PROFILE A-A

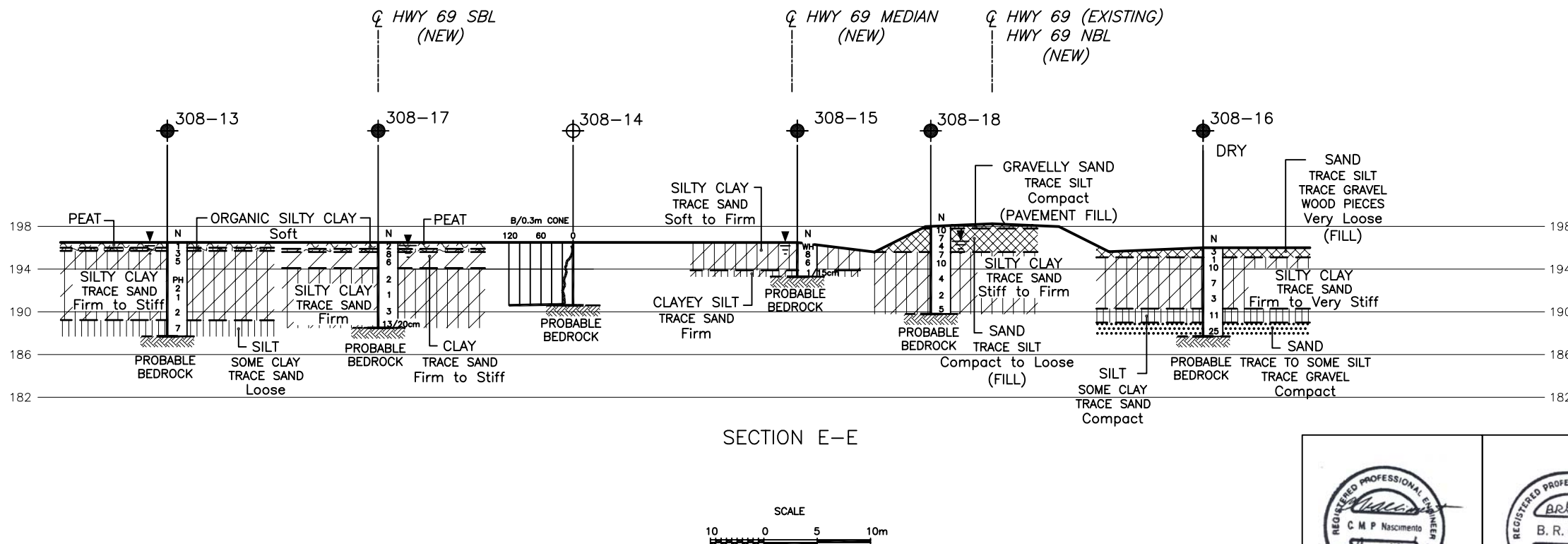
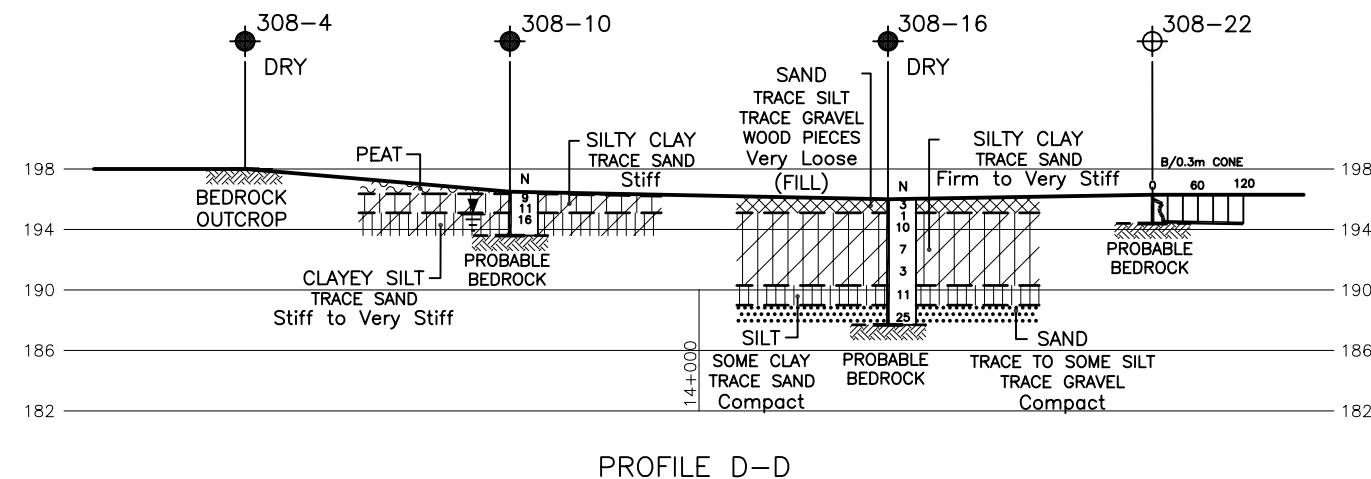
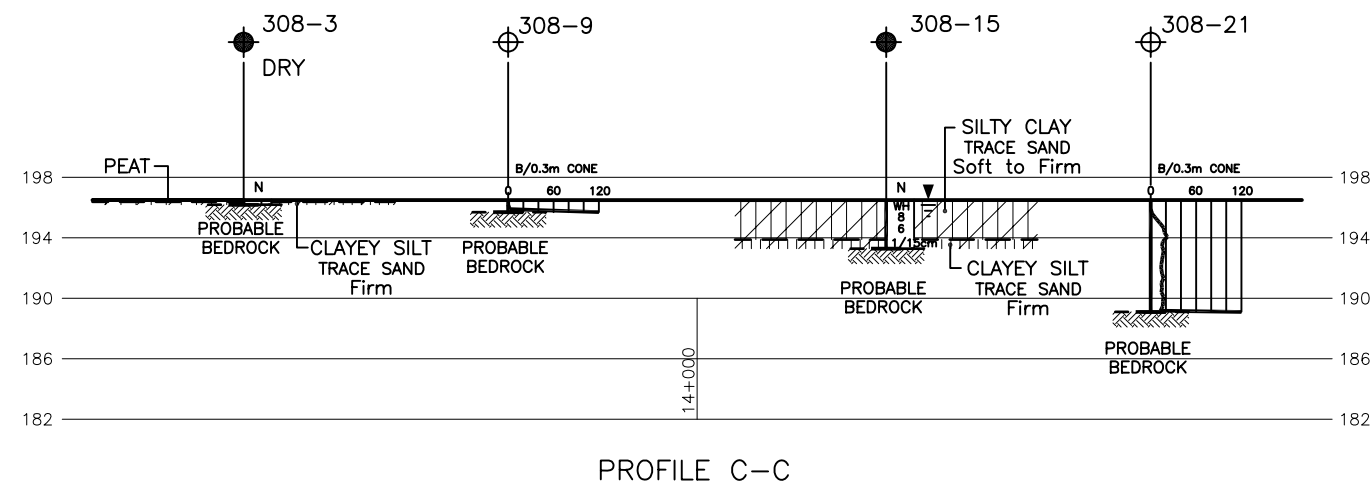
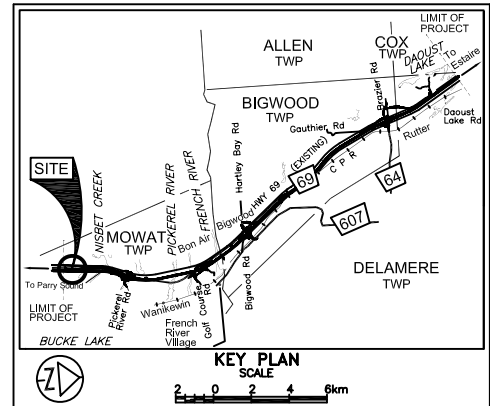


PROFILE B-B

SCALE



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
PH	Thinwall Sample - Advanced Hydraulically		
W L	W L at time of investigation Oct 2006 and Mar 2007		
Head	Head		
ARTESIAN WATER	ARTESIAN WATER		
Encountered	Encountered		
PIEZOMETER	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 308-1 FOR DETAILS			

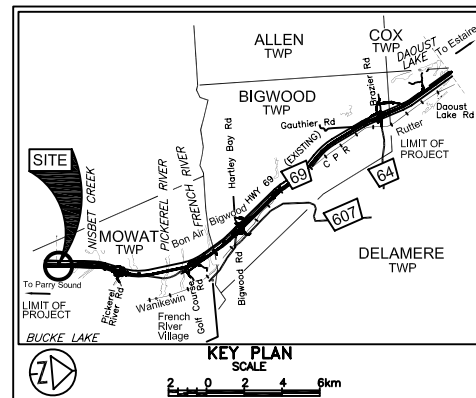
NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

- NOTES:
- REFER TO DRAWING 308-1 FOR BOREHOLE LOCATIONS PLAN AND SECTIONS A-A AND B-B.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

DATE	BY	DESCRIPTION
REVISIONS		
Geocres No. 41H-67		
HWY No	69	DIST 54
SUBM'D	NSB	CHECKED GD
DRAWN	NA	CHECKED CN
DATE	JAN. 16, 2009	SITE
APPROVED	BRG	DWG 308-2



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- W L at time of investigation Oct 2006 and Mar 2007
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
309-1	195.0	13+700	38.8m Lt.
309-2	195.0	13+712.5	58.5m Lt.
309-3	195.0	13+712.5	22.5m Lt.
309-4	195.0	13+712.5	2.5m Rt.
309-5	197.0	13+712.5	13.8m Rt.
309-6	196.0	13+712.5	38.5m Rt.
309-7	195.0	13+725	38.8m Lt.
309-8	195.0	13+737.5	56.5m Lt.
309-9	195.2	13+737.5	22.5m Lt.
309-10	195.5	13+737.5	2.5m Rt.
309-11	197.5	13+737.5	13.7m Rt.
309-12	196.5	13+737.5	36.5m Rt.
309-13	195.0	13+750	38.8m Lt.
309-14	195.1	13+760	56.5m Lt.

(Legend Continues)

— NOTE —

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

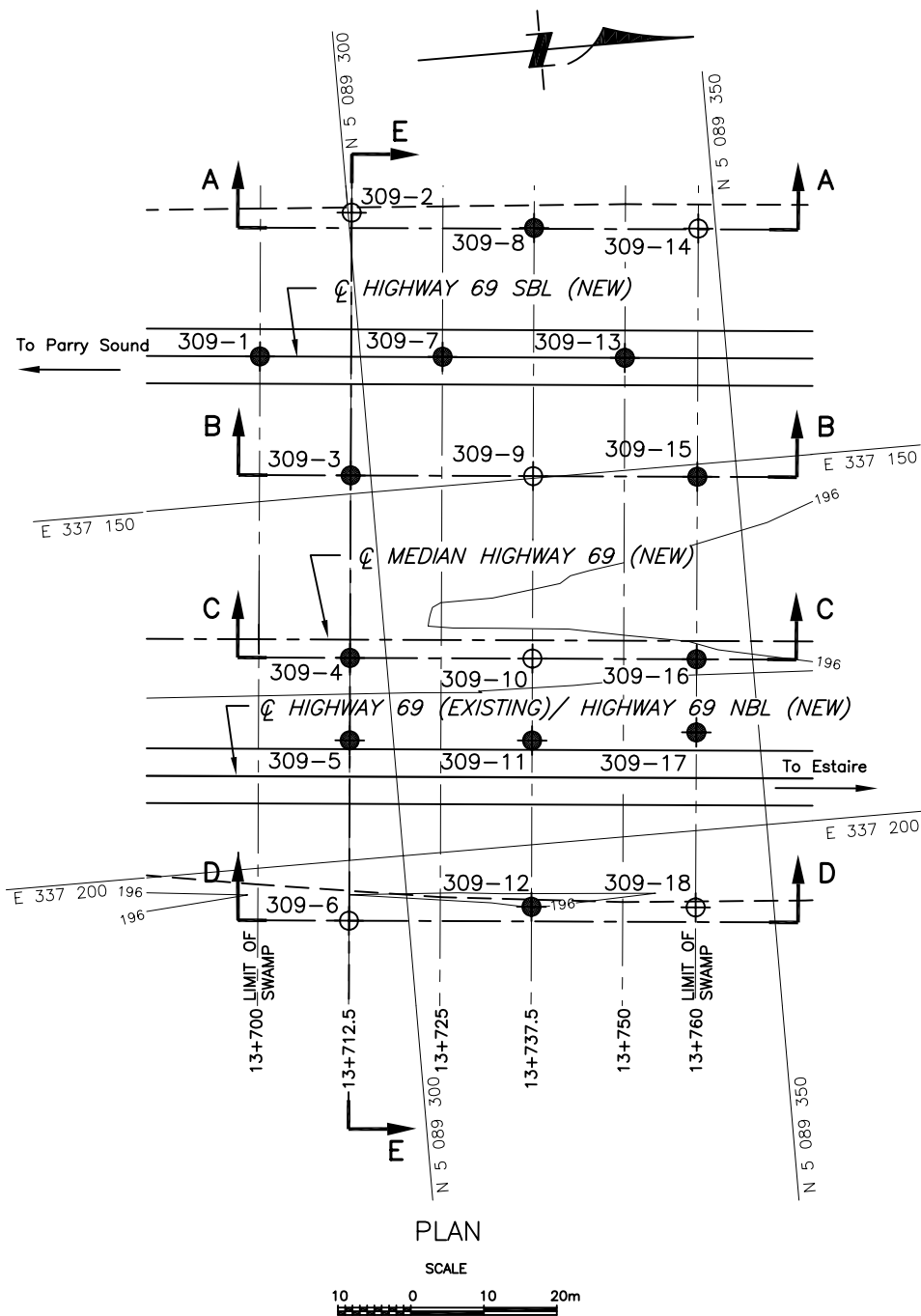
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBMD	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE			
DWG	309-1		



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;



PLAN

SCALE



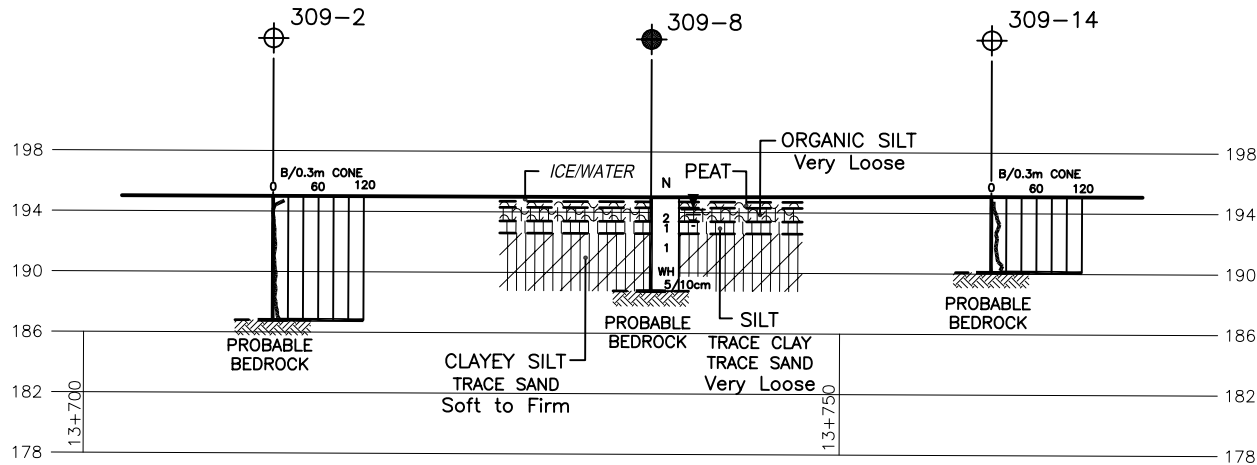
(Legend Continued)

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
309-15	195.5	13+760	22.5m Lt.
309-16	196.0	13+760	2.5m Rt.
309-17	197.5	13+760	12.5m Rt.
309-18	196.5	13+760	36.5m Rt.

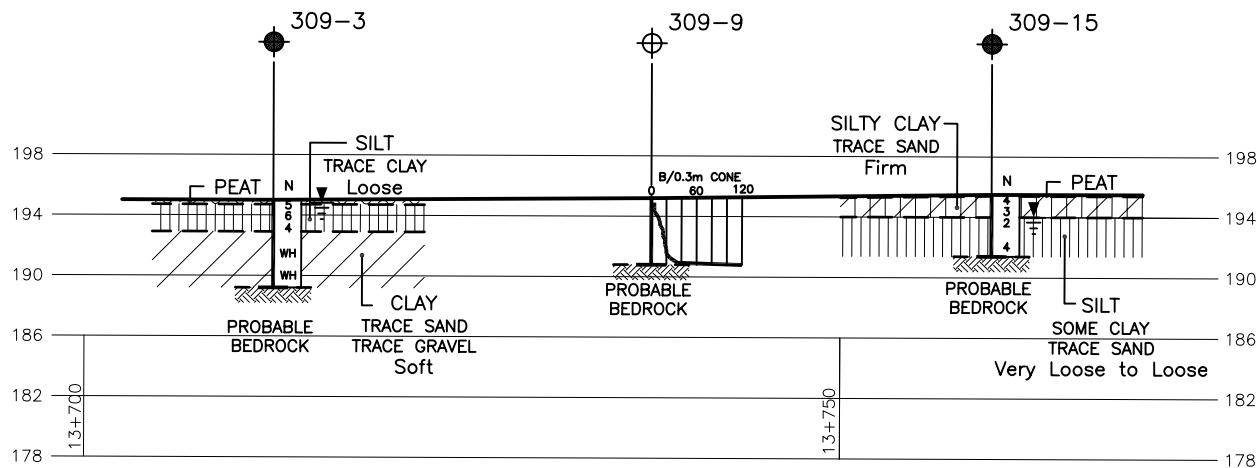
NOTES:

1. REFER TO DRAWING 309-2 FOR SECTIONS C-C, D-D AND E-E.

2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



PROFILE A-A











PROFILE B-B

SCALE



DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

<p align="center"><u>HIGHWAY 69</u></p> <p align="center">HIGHWAY 69 FOUR-LANING</p> <p align="center">SWAMP 309, STA. 13+700 TO 13+760 MOWAT TWP</p> <p align="center">SOIL STRATA</p>	<p align="center">SHEET</p>
---	------------------------------------

	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
	W L at time of investigation Oct 2006 and Mar 2007
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

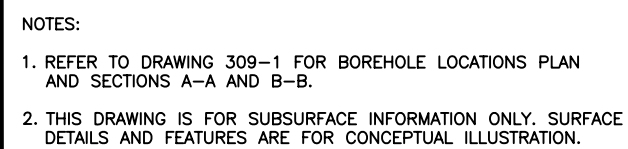
- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.


Geocres No. 41H-67

HWY No	69				DIST	54	
SUBM'D	NSB	CHECKED	GD	DATE	JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED	CN	APPROVED	BRG	DWG	309-2

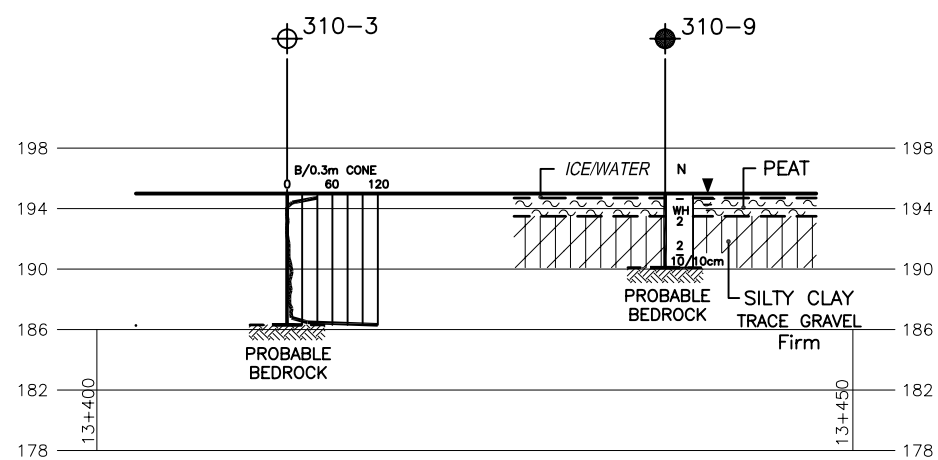
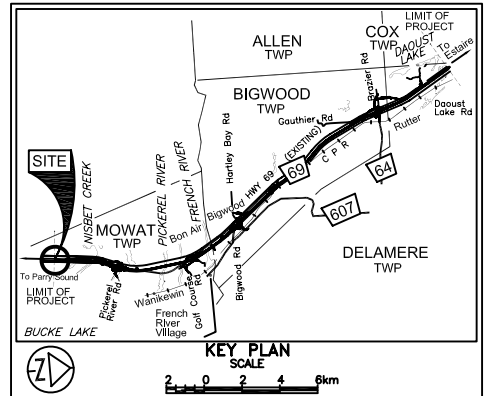


REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES



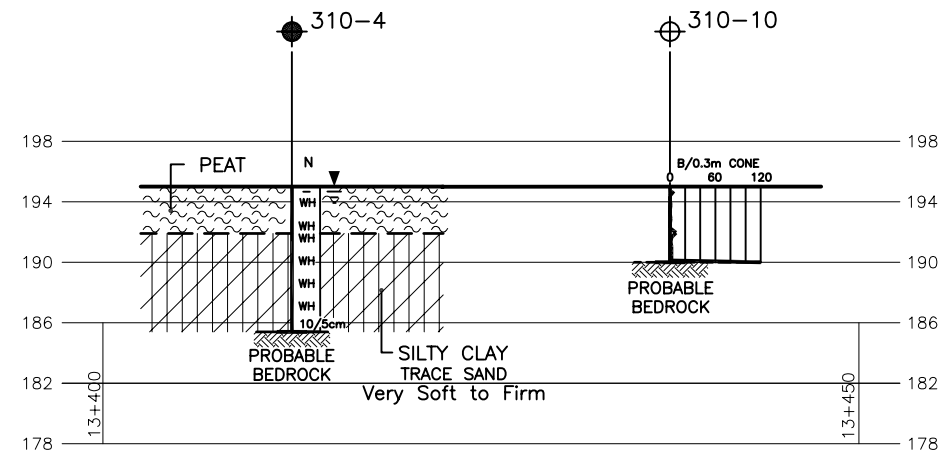
Peto MacCallum Ltd.
CONSULTING ENGINEERS



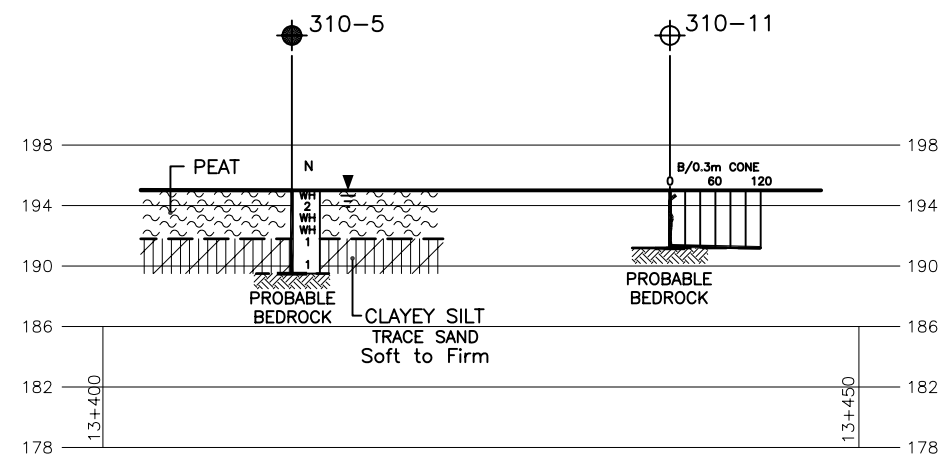
PROFILE A-A



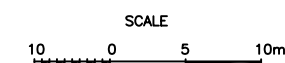
3. SWAMP EXTENDS SOUTHERLY BEYOND PROJECT LIMITS.











PROFILE B-B



PROFILE C-C



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
	W L at time of investigation Oct 2006 and Mar 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
310-1	195.0	13+400	38.8m Lt.
310-2	196.1	13+400	13.3m Rt.
310-3	195.0	13+412.5	52.5m Lt.
310-4	195.0	13+412.5	26.5m Lt.
310-5	194.9	13+412.5	6.5m Rt.
310-6	195.5	13+412.5	32.5m Rt.
310-7	195.0	13+425	38.8m Lt.
310-8	196.3	13+425	24.5m Rt.
310-9	195.0	13+437.5	52.5m Lt.
310-10	195.0	13+437.5	26.5m Lt.
310-11	195.0	13+437.5	6.5m Rt.
310-12	195.8	13+437.5	32.5m Rt.
310-13	195.2	13+450	38.8m Lt.
310-14	196.4	13+450	12.9m Rt.

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

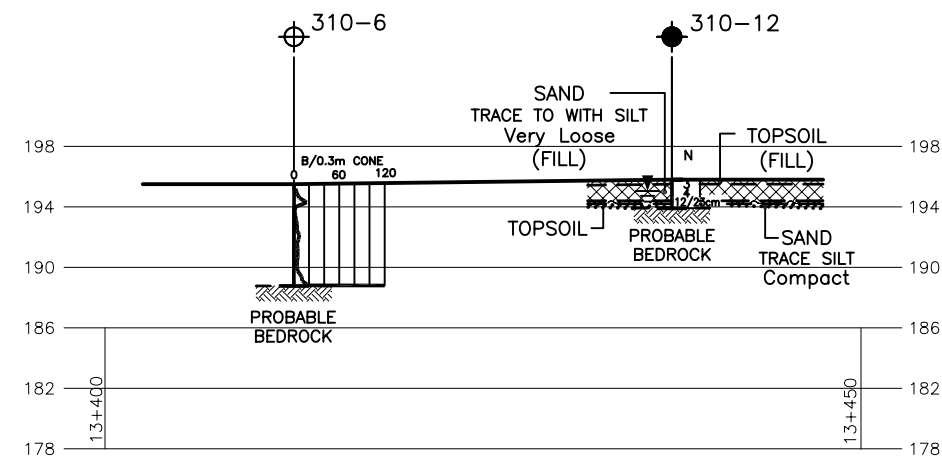
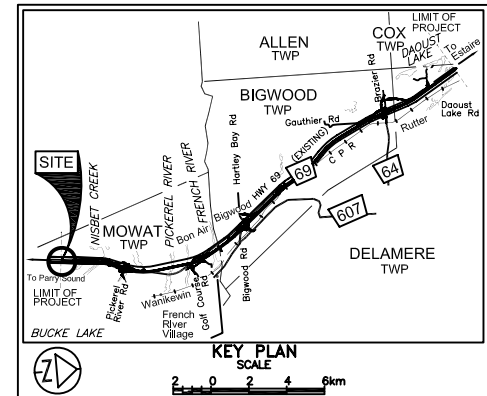
REVISIONS			
DATE	BY	DESCRIPTION	

Geocres No. 41H-67

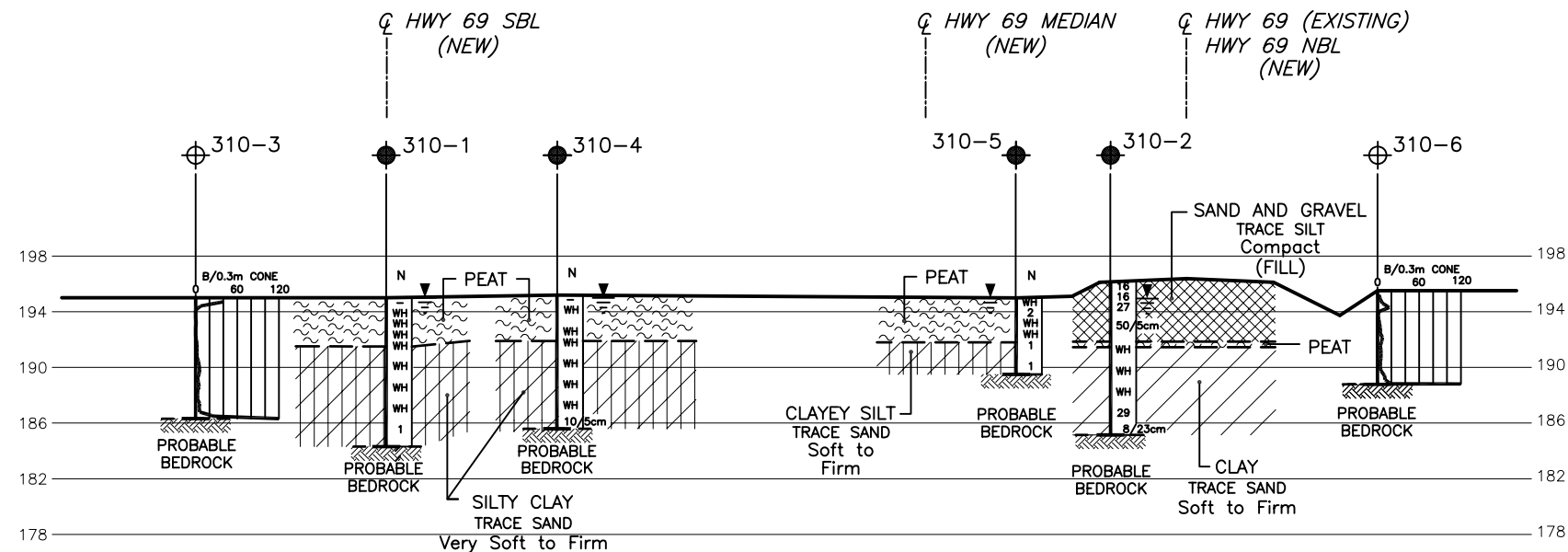
HWY No	69	DIST	54
SUBM'D	NSB	CHECKED GD	DATE JAN. 16, 2009
DRAWN	NA	CHECKED CN	APPROVED BRG
			DWG 310-1

REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454XB02 contours zone 12.dwg;

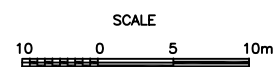




PROFILE D-D



SECTION E-E



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60' Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
W L	at time of investigation Oct 2006 and Mar 2007		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA MOWAT TWP	o/s CL MED
SEE DRAWING 310-1 FOR DETAILS			

— NOTE —
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

NOTES:

- REFER TO DRAWING 310-1 FOR BOREHOLE LOCATIONS PLAN AND SECTIONS A-A, B-B, C-C.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;



REVISIONS							
	DATE	BY	DESCRIPTION				
Geocres No. 41H-67							
HWY No	69					DIST	54
SUBM'D	NSB	CHECKED	GD	DATE	JAN. 16, 2009	SITE	---
DRAWN	NA	CHECKED	CN	APPROVED	BRG	DWG	310-2

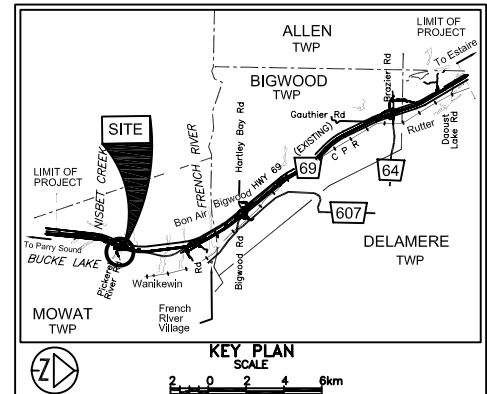
CONT No
GWP No 5203-06-00

HIGHWAY 69
SERVICE ROAD TO PICKEREL RIVER ROAD
SWAMP 311, STA. 10+312.5 TO 10+462.5 MOWAT TWP
BOREHOLE LOCATIONS AND SOIL STRATA



SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
	W L at time of investigation Mar. 2008
	D4 Series Mar 2004
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA SERVICE ROAD	o/s CL
311-1	188.8	10+312.5	7.5m Lt.
311-2	188.7	10+312.5	10.5m Rt.
311-3	188.7	10+325	CL
311-4	188.7	10+337.5	7.5m Lt.
311-5	188.6	10+337.5	10.5m Rt.
311-6	188.8	10+350	CL
311-7	188.4	10+362.5	7.5m Lt.
311-8	188.2	10+362.5	10.5m Rt.
311-9	188.0	10+375	CL
311-10	188.4	10+387.5	7.5m Lt.
311-11	187.6	10+387.5	10.5m Rt.
311-12	187.5	10+400	3.0m Rt.
311-13	189.2	10+412.5	3.0m Lt.
311-14	187.1	10+412.5	10.5m Rt.
311-15	188.0	10+425	5.0m Rt.

(Legend Continues)

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

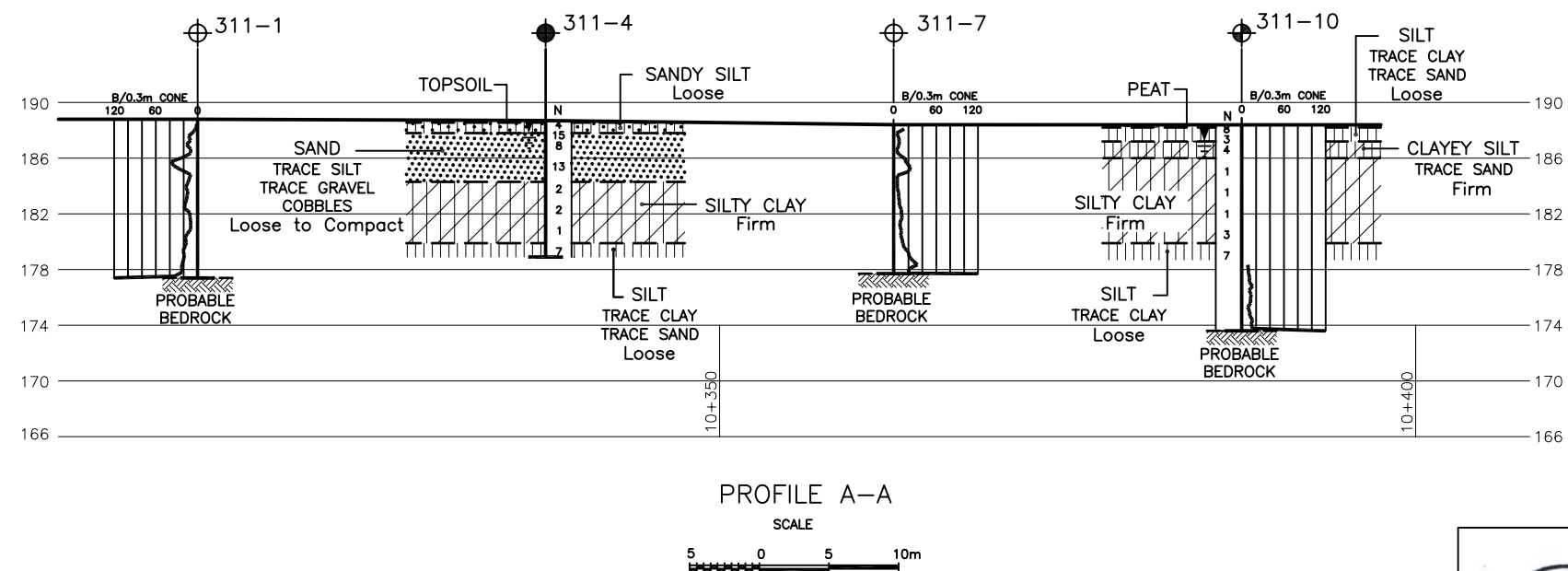
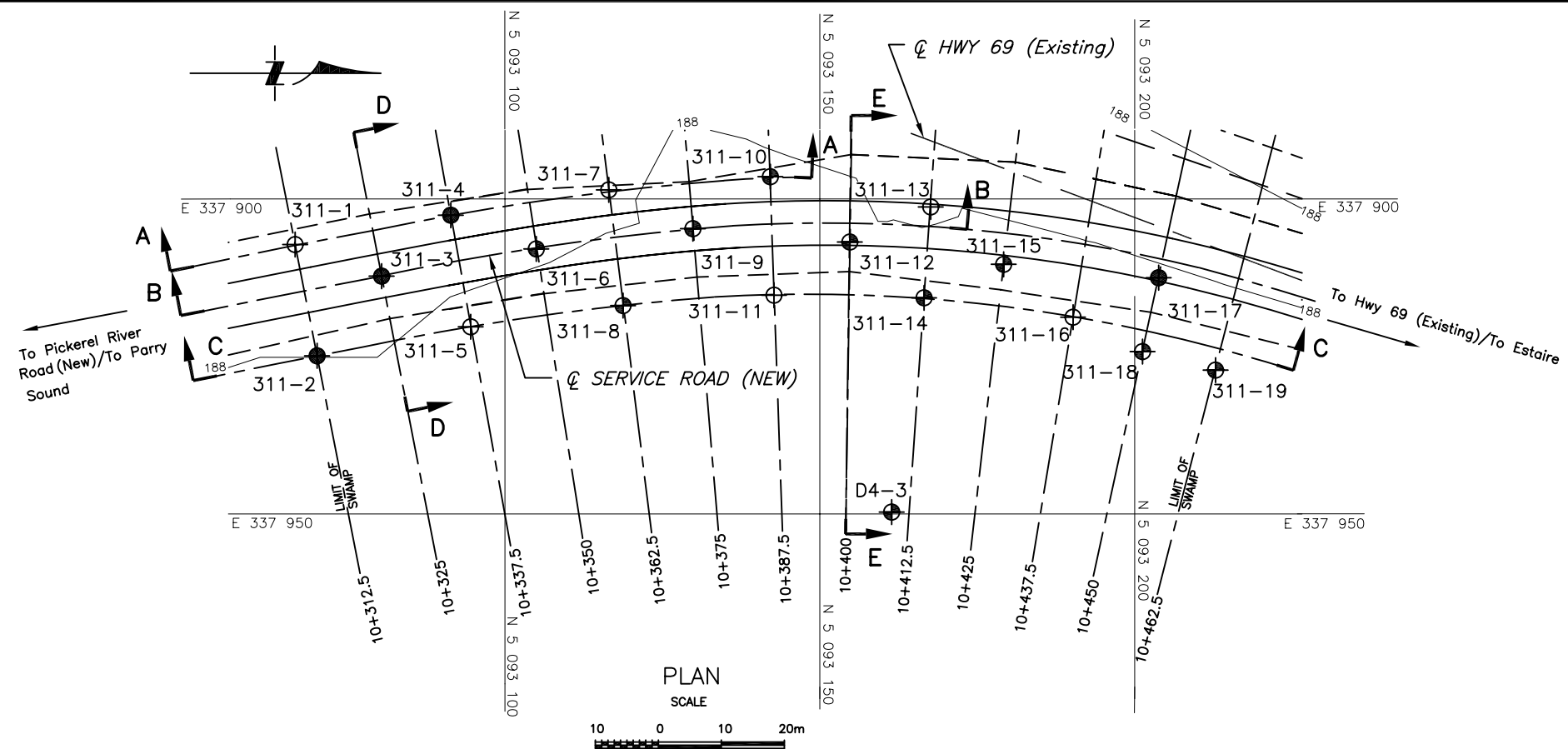
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	NSB
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
DATE	JAN 16, 2009	DATE	JAN. 16, 2009
DATE	JAN. 16, 2009	DATE	JAN. 16, 2009

(Legend Continued)

BH No	ELEVATION	STA SERVICE ROAD	o/s CL
311-16	186.8	10+437.5	10.5m Rt.
311-17	188.3	10+450	3.0m Rt.
311-18	186.7	10+450	15.0m Rt.
311-19	186.6	10+462.5	15.0m Rt.
BH No	ELEVATION	STA SERVICE ROAD	o/s CL
D4-3	186.5	10+409	45.9m Rt.



NOTES:

- REFER TO DRAWINGS 311-2 AND 311-3 FOR FOR SECTIONS B-B, C-C, D-D AND E-E.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- D4-3 BOREHOLE STATION AND OFFSET ARE ADJUSTED TO THE NEW SERVICE ROAD CL STATION.
- D4-3 BOREHOLE DATA WAS TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REFERENCE: 04TF008 - MID) GEOCRE NO. 411-171, DATED MAY 31, 2004.











REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

HIGHWAY 69
SERVICE ROAD TO PICKEREL RIVER ROAD
SWAMP 311, STA. 10+312.5 TO 10+462.5 MOWAT TWP
SOIL STRATA

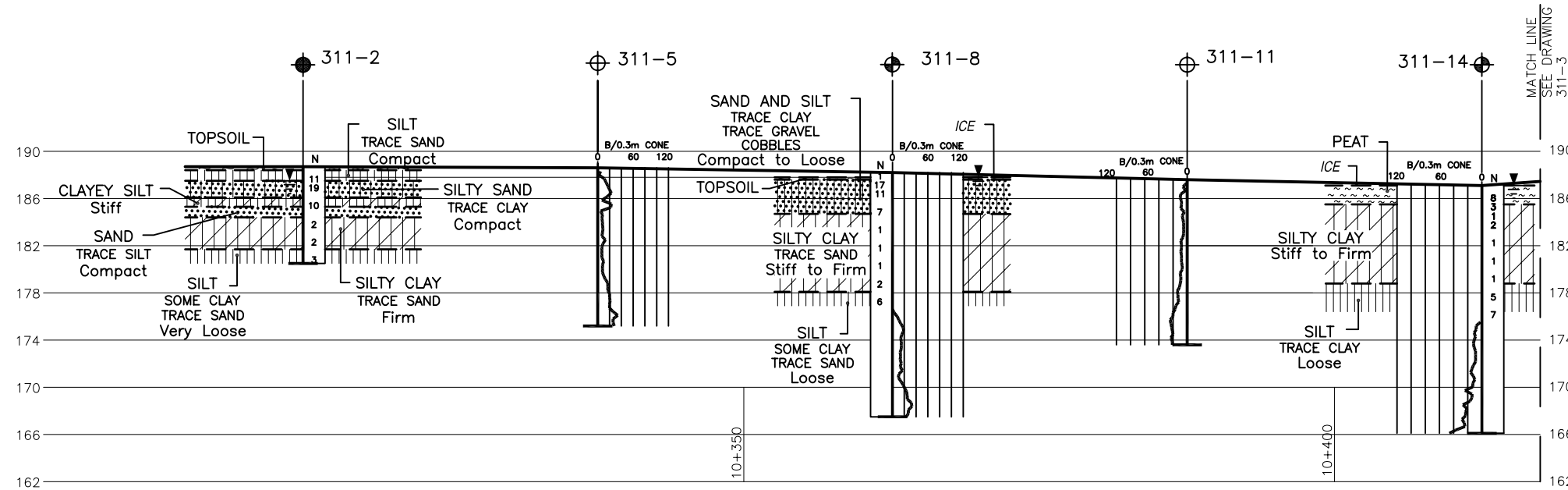
The map shows the project area bounded by Allen Twp to the north, Bigwood Twp to the east, and Delamere Twp to the south. Nisbet Creek flows from the northwest towards the project site. The French River flows from the southwest towards the project site. Highway 69 runs north-south through the center of the map. Highway 64 runs east-west to the east of Highway 69. Highway 607 runs east-west to the south of Highway 69. The project site is located on the north side of Highway 69, between Nisbet Creek and French River. The map includes a scale bar from 0 to 6 km and a north arrow.

	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
WR	Penetration due to weight of rods only
	W L at time of investigation Mar. 2008
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

Geocres No. 41H-67				
HWY No 69			DIST 54	
SUBM'D NSB	CHECKED GD	DATE JAN. 16, 2009		SITE --
DRAWN NA	CHECKED CN	APPROVED BRG		DWG 311-2



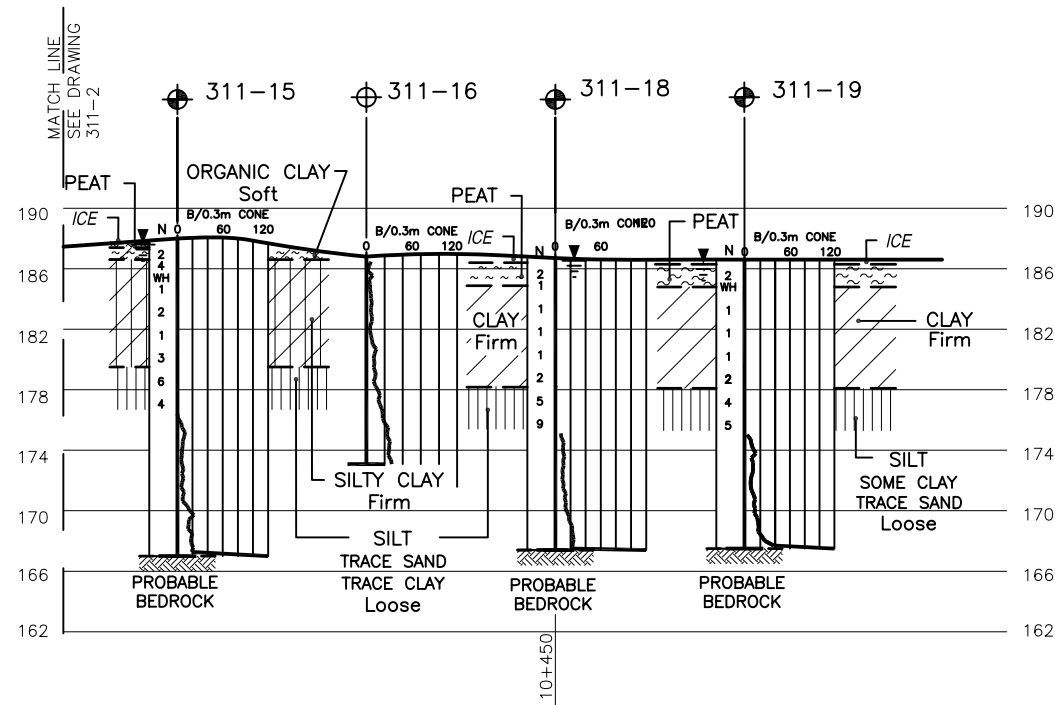
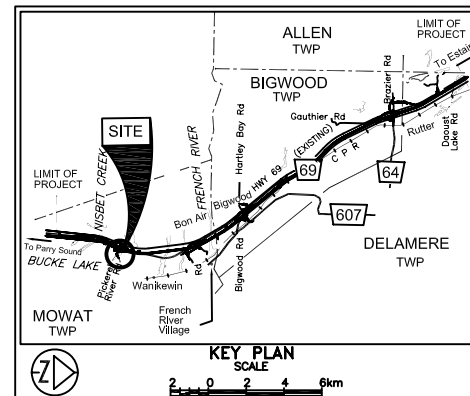
SCALE



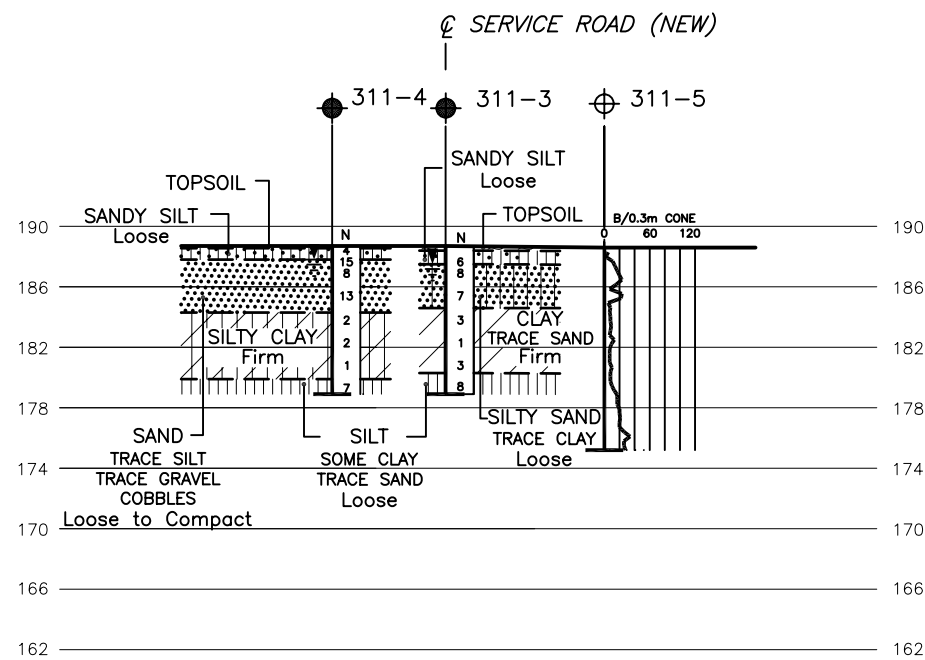
1. REFER TO DRAWING 311-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A AND DRAWING 311-3 FOR SECTIONS C-C (Continued), D-D AND E-E.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



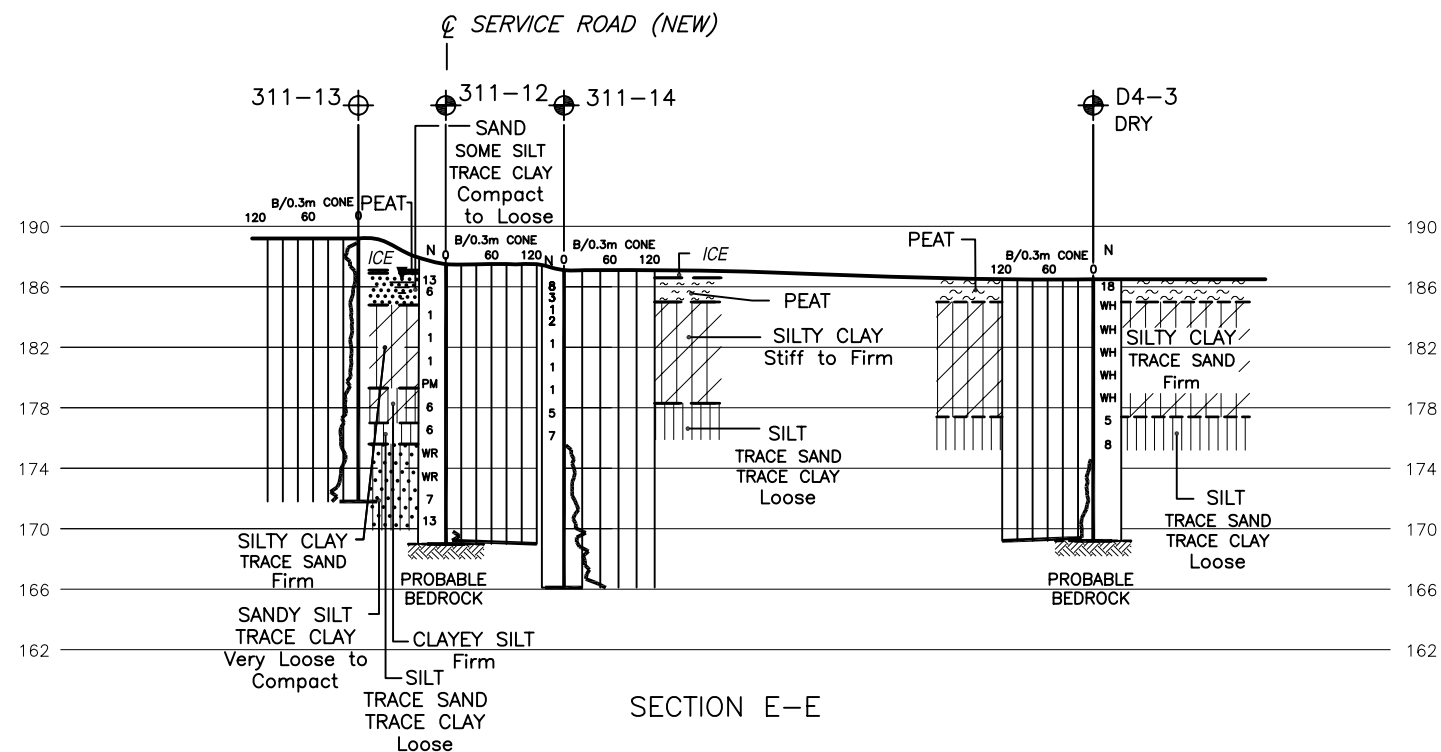
REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;












PROFILE C-C (Continued)



SECTION D-D



SECTION E-E

LEGEND				
	Borehole			
	Dynamic Cone Penetration Test (Cone)			
	Borehole & Cone			
N	Blows/0.3m (Std. Pen Test, 475 J/blow)			
CONE	Blows/0.3m (60' Cone, 475 J/blow)			
WH	Penetration due to weight of hammer and rods			
WR	Penetration due to weight of rods only			
PM	Thinwall Sample – Advanced Manually			
	W L at time of investigation Mar 2008			
	D4 Series Mar 2004			
	Head			
	ARTESIAN WATER			
	Encountered			
	PIEZOMETER			
BH No	ELEVATION	STA MOWAT TWP	o/s CL MED	
SEE DRAWINGS 311-1 FOR DETAILS.				

NOTE
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

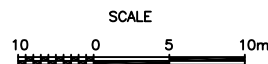
Geocres No. 41H-67				
HWY No	69	CHECKED	GD	DIST 54
SUBM'D	NSB	CHECKED	CN	SITE
DRAWN	NA	CHECKED	CN	DWG 311-3

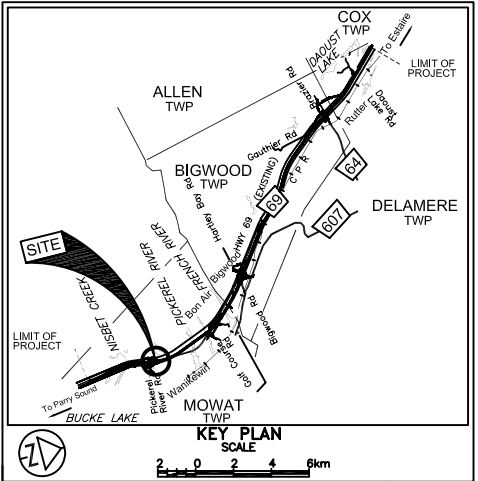


REF No. 471_Preferred_Plan_PDR_FINAL1.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

NOTES:

- REFER TO DRAWING 311-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A AND DRAWING 311-2 FOR SECTIONS B-B AND C-C.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.





LEGEND

	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J/blow)
CONE	Blows/0.3m (60° Cone, 475 J/blow)
WH	Penetration due to weight of hammer and rods
W L	at time of investigation Mar 2007 and Mar 2008, D4 Series Mar 2004
Head	Head
ARTESIAN WATER	ARTESIAN WATER
Encountered	Encountered
PIEZOMETER	PIEZOMETER

BH No	ELEVATION	STA N-E/W RAMP	o/s Lt. EP
312-1	189.0	17+650	2.5m Rt.
312-2	189.0	17+662.5	10.5m Lt.
312-3	188.9	17+662.5	12.1m Rt.
312-4	189.0	17+675	2.5m Rt.
312-5	189.0	17+687.5	11.5m Lt.
312-6	188.8	17+687.5	17.8m Rt.
312-7	189.0	17+700	2.5m Rt.
312-8	189.0	17+712.5	11.5m Lt.
312-9	188.8	17+712.5	17.8m Rt.
312-10	189.0	17+725	2.5m Rt.
312-11	189.0	17+737.5	11.5m Lt.
312-12	188.7	17+737.5	17.8m Rt.
312-13	189.0	17+750	2.5m Rt.

(Legend Continues)

NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

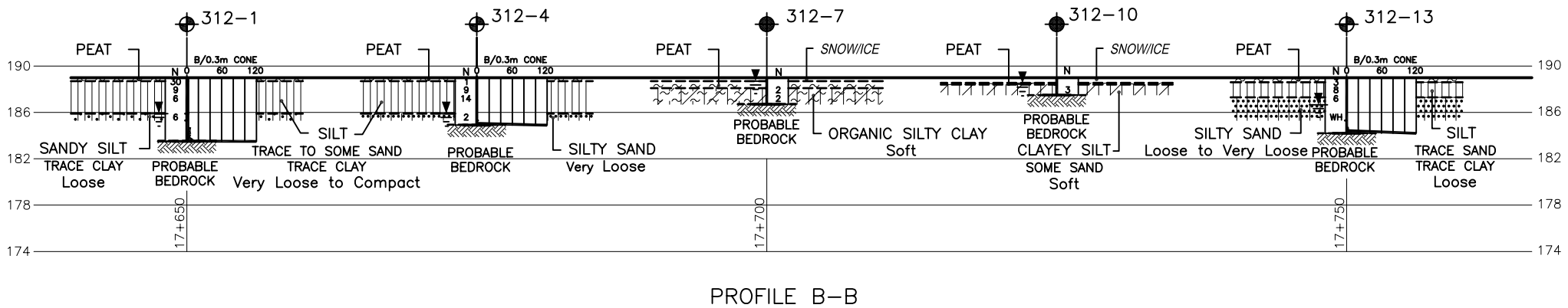
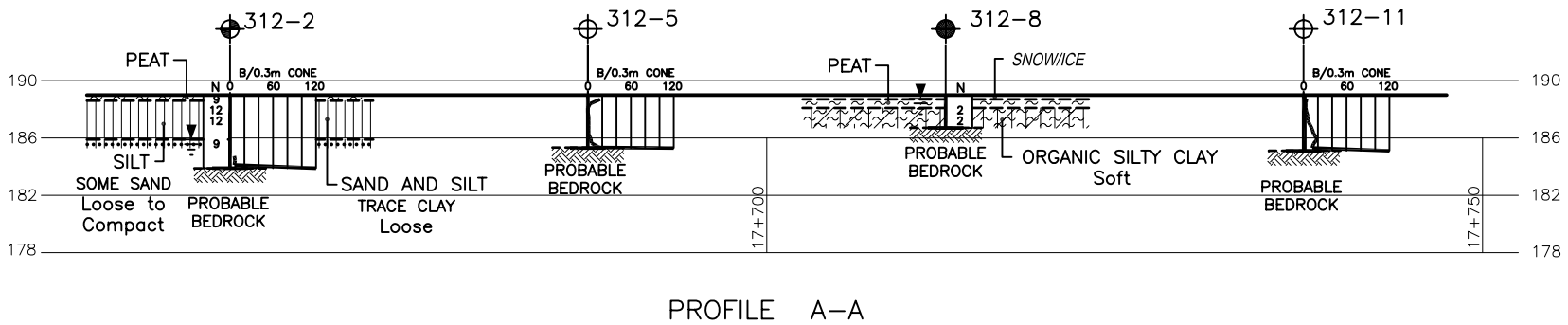
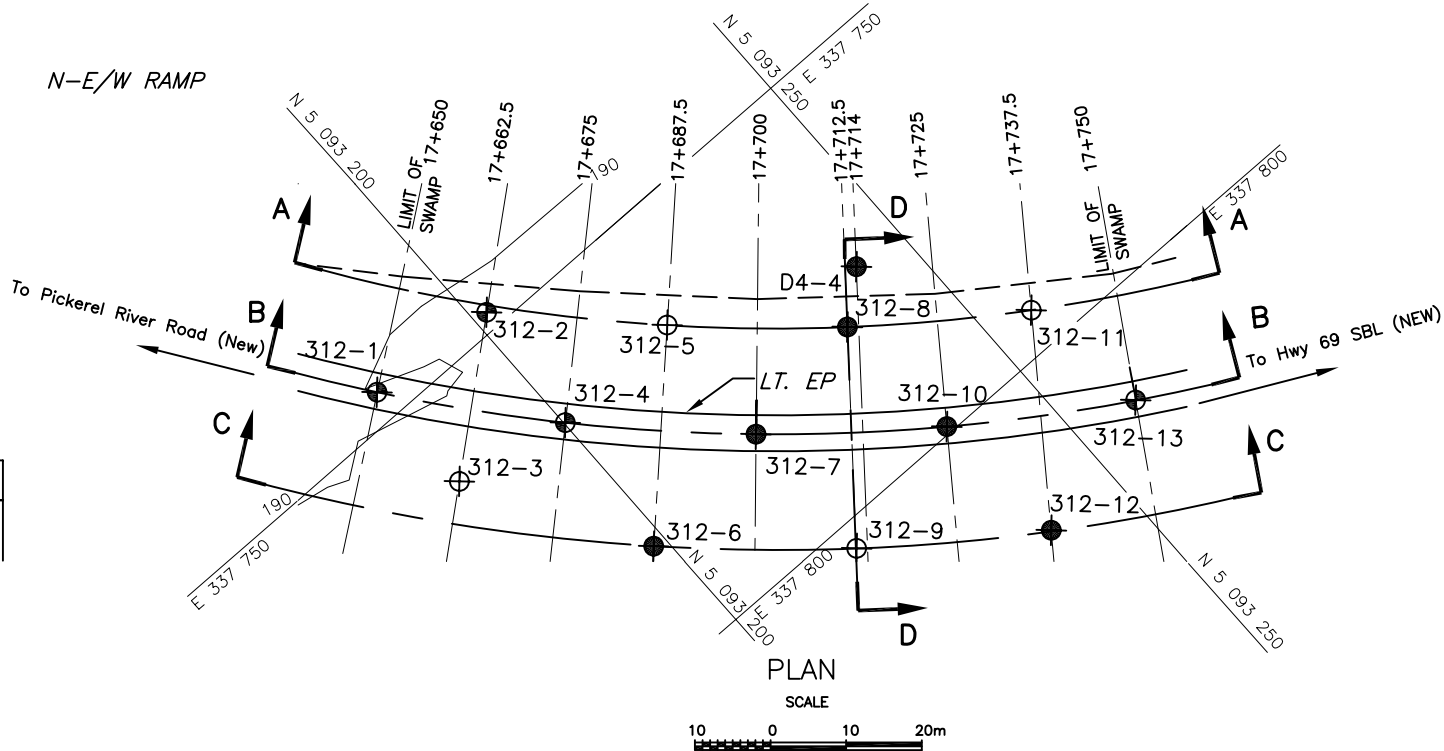
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	SITE	--
APPROVED	BRG	DWG	312-1

(Legend Continued)

BH No	ELEVATION	STA N-E/W RAMP	o/s Lt. EP
D4-4	188.6	17+714	19.5m Lt.

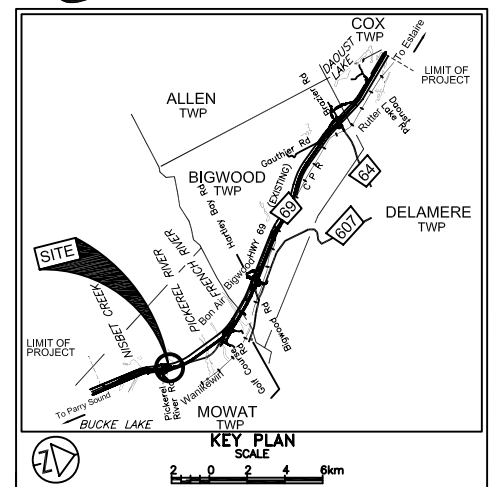


NOTES:

- REFER TO DRAWING 312-2 FOR SECTIONS C-C AND D-D.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- D4 SERIES BOREHOLE STATION AND OFFSET ARE ADJUSTED TO N-E/W RAMP STATION.
- D4 SERIES BOREHOLE DATA WAS TAKEN FROM PRELIMINARY FOUNDATION INVESTIGATION AND DESIGN REPORT PREPARED BY PML (PML REF: 04TF008 - MID) GEOCRE NO. 41I-171, DATED MAY 31, 2004.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;

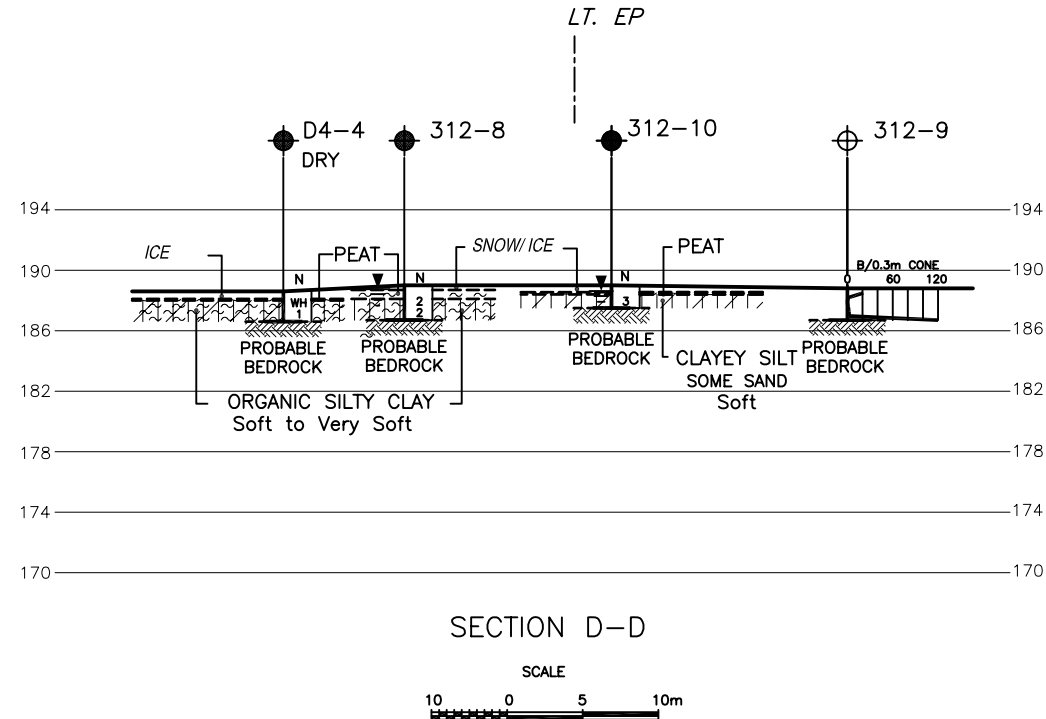
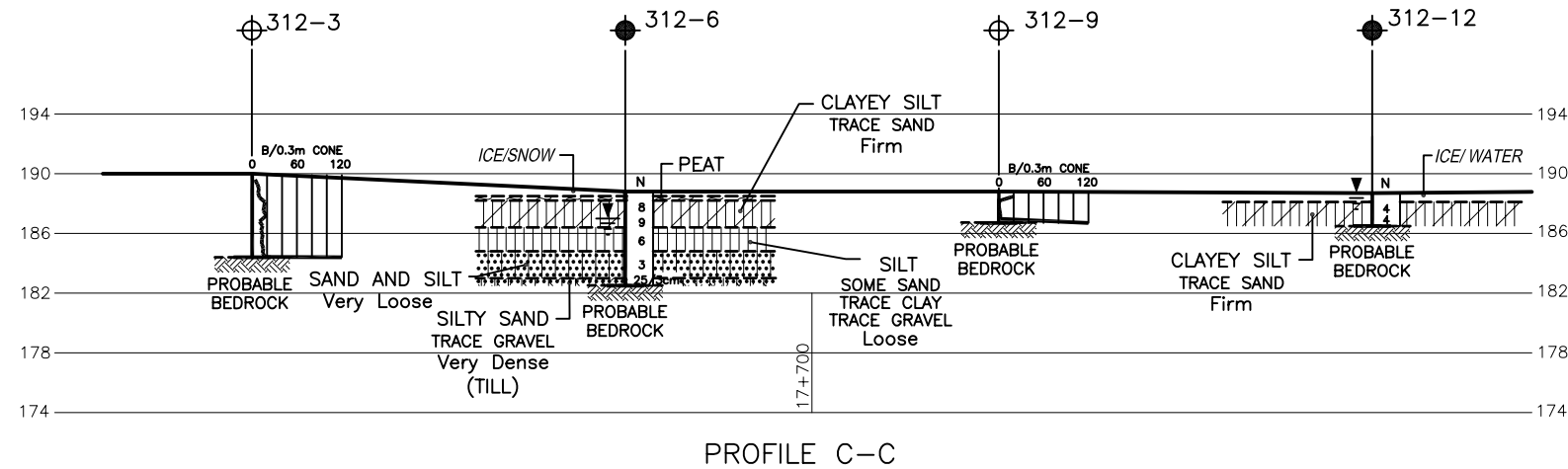


LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
	W L at time of investigation Mar 2007 and Mar 2008, D4 Series Mar 2004		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA N-E/W RAMP	o/s Lt. EP
SEE DRAWING 312-1 FOR DETAILS			

- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS				
	DATE	BY	DESCRIPTION	
Geocres No. 41H-67				
HWY No	69			DIST
SUBM'D	NSB	CHECKED	GD	SITE
				--
DRAWN	NA	CHECKED	CN	DWG
				312-2



- NOTES:
- REFER TO DRAWING 312-1 FOR BOREHOLE LOCATIONS PLAN AND SECTIONS A-A AND B-B.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No.471_Preferred_Plan_PDR_FINAL1.dwg;
highway69 basemapping sept 14_2007\
H6454xb02 contours zone 12.dwg;

FOREST ACCESS ROAD

METRIC

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

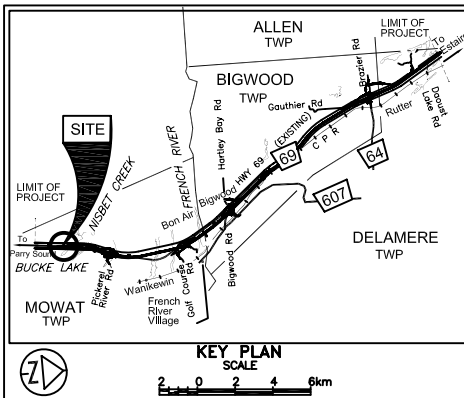
CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
FOREST ACCESS ROAD
SWAMP 313, STA. 10+400 TO 10+500 MOWAT TWP
BOREHOLE LOCATIONS AND SOIL STRATA



SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Mar. 2008
- Head
- ARTESIAN WATER
- Encountered
- PIEZOMETER

BH No	ELEVATION	FOREST ACCESS ROAD	o/s CL
313-1	193.5	10+400	CL
313-2	193.5	10+412.5	13.5m Lt.
313-3	192.8	10+412.5	13.5m Rt.
313-4	192.8	10+425	CL
313-5	192.7	10+437.5	12.0m Lt.
313-6	192.7	10+437.5	12.0m Rt.
313-7	192.7	10+450	CL
313-8	192.5	10+462.5	13.5m Lt.
313-9	192.6	10+462.5	13.5m Rt.
313-10	192.7	10+475	CL
313-11	192.9	10+487.5	15.0m Lt.
313-12	193.7	10+487.5	15.0m Rt.
313-13	194.5	10+500	CL

(Legend Continues)

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

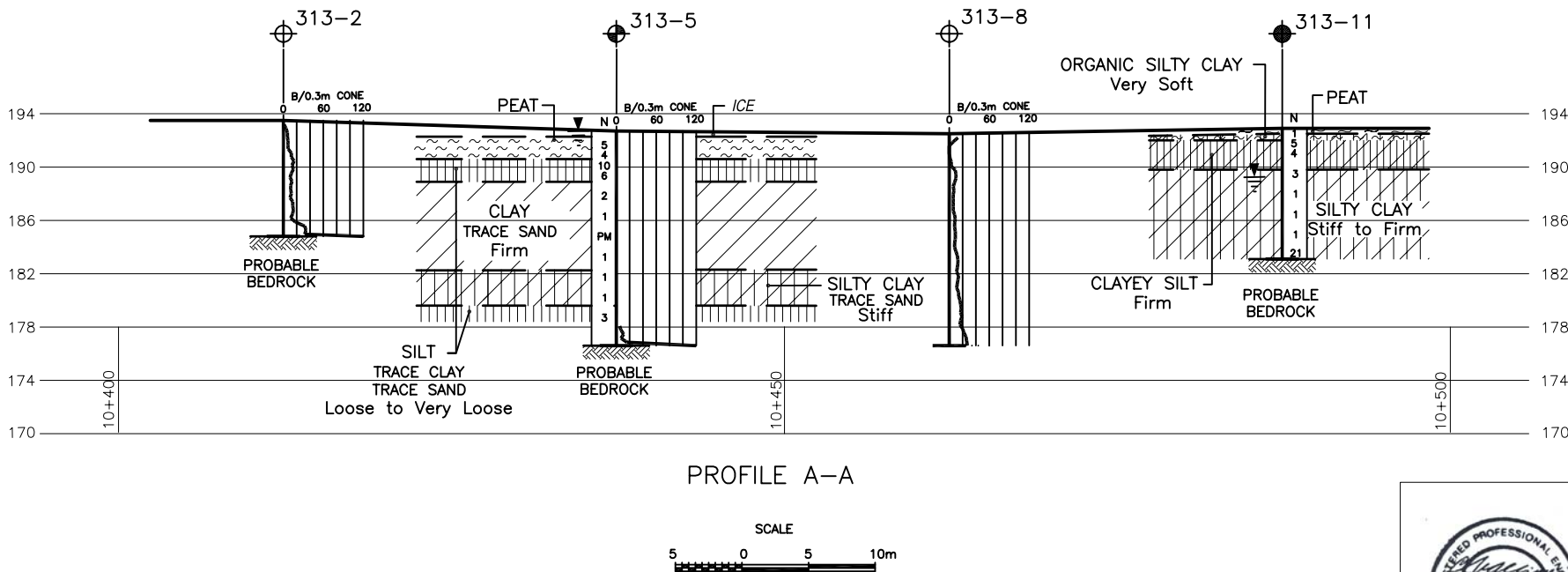
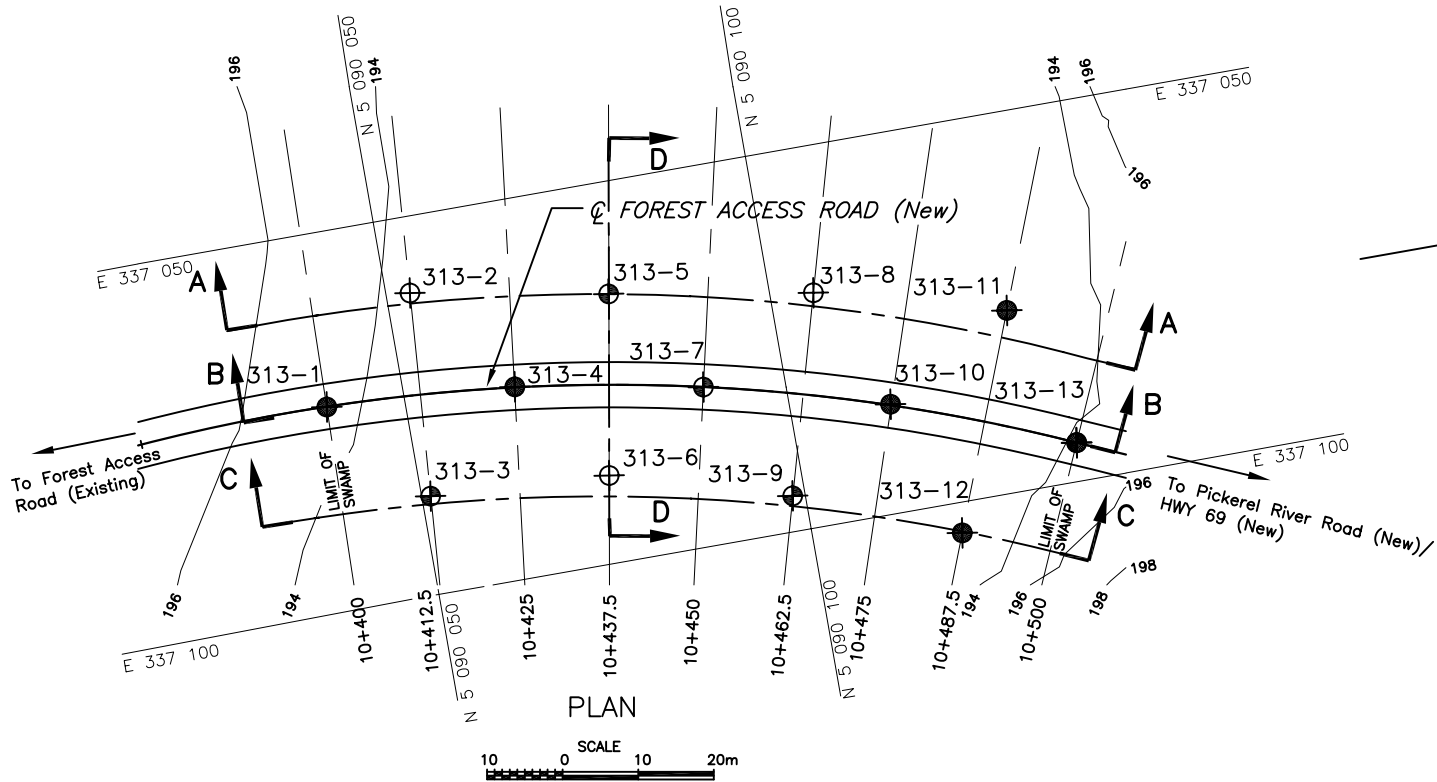
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67



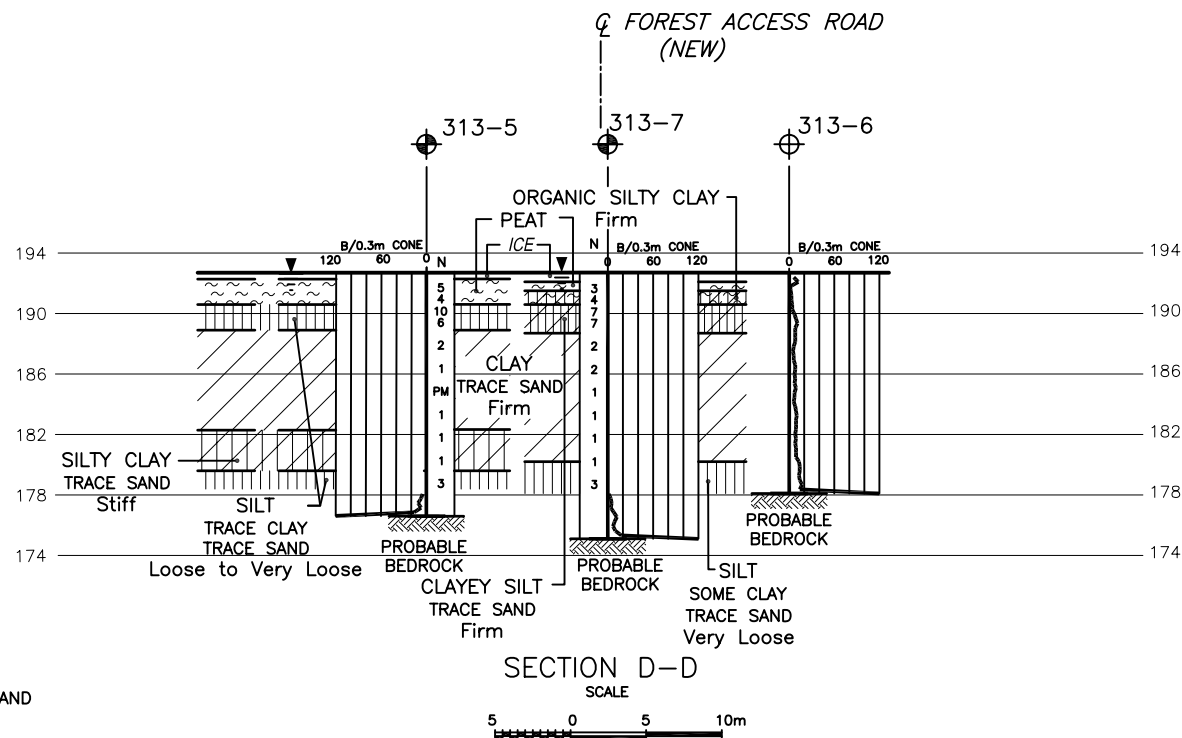
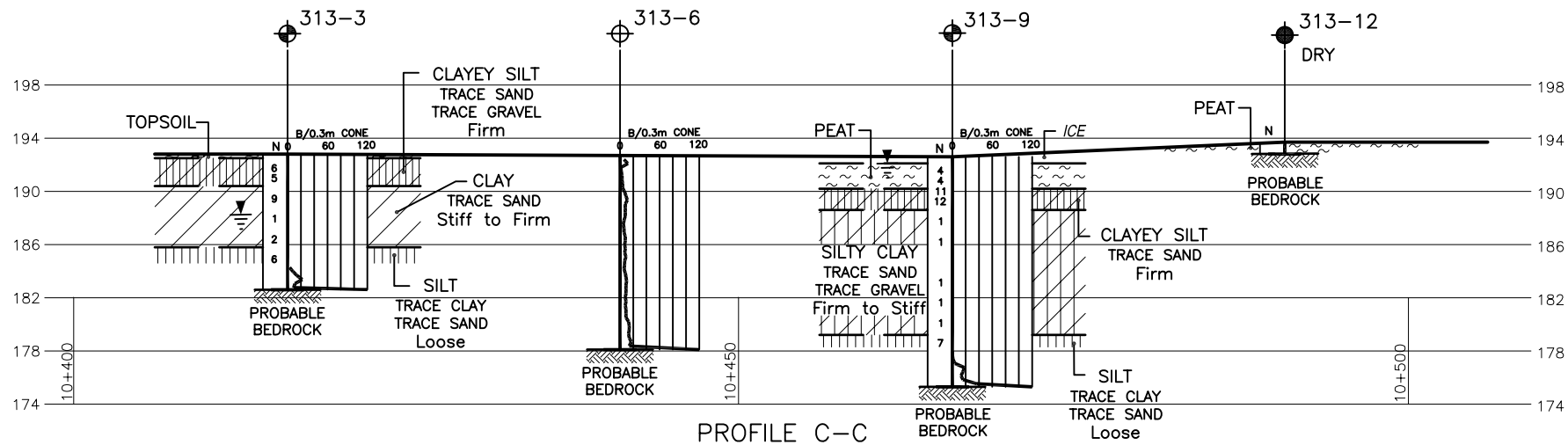
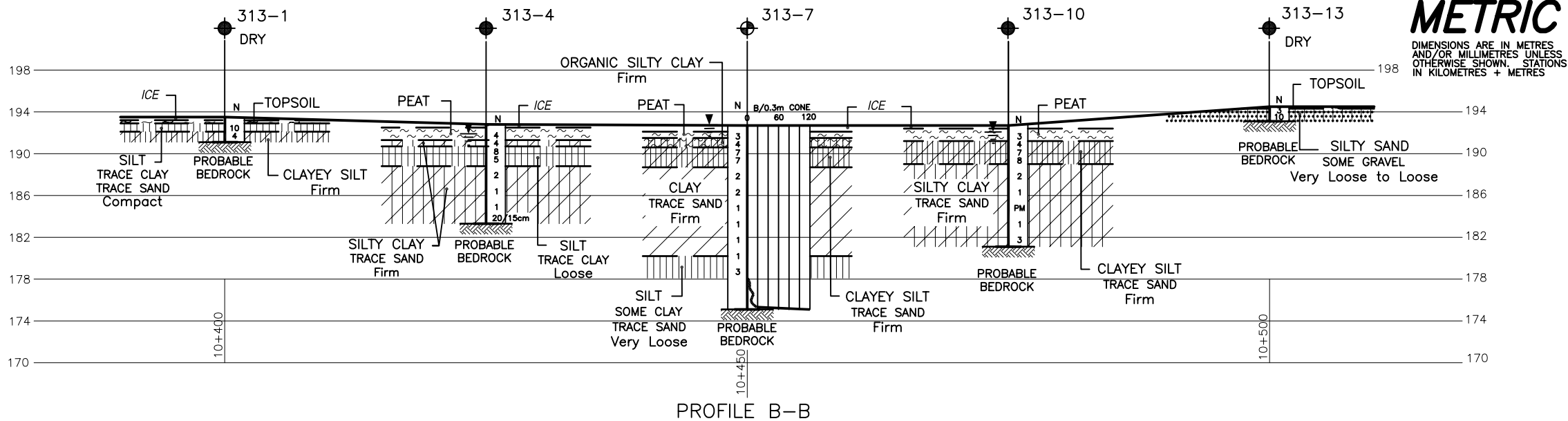
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highway 69 basemapping\sept14_2009\
H6454xb02 contours zone 12.dwg;

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	--	DWG	313-1



NOTES:

- REFER TO DRAWING 313-2 FOR FOR SECTIONS B-B, C-C AND D-D.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

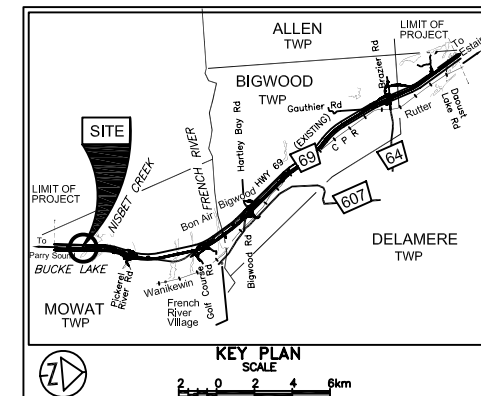


CONT No
GWP No 5203-06-00

HIGHWAY 69
HIGHWAY 69 FOUR-LANING
FOREST ACCESS ROAD
SWAMP 313, STA. 10+400 TO 10+500 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60° Cone, 475 J/blow)
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Mar. 2008
- Head
- ARTESIAN WATER
- Encountered
- PIEZOMETER

BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
SEE DRAWING 313-1 FOR DETAILS			

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

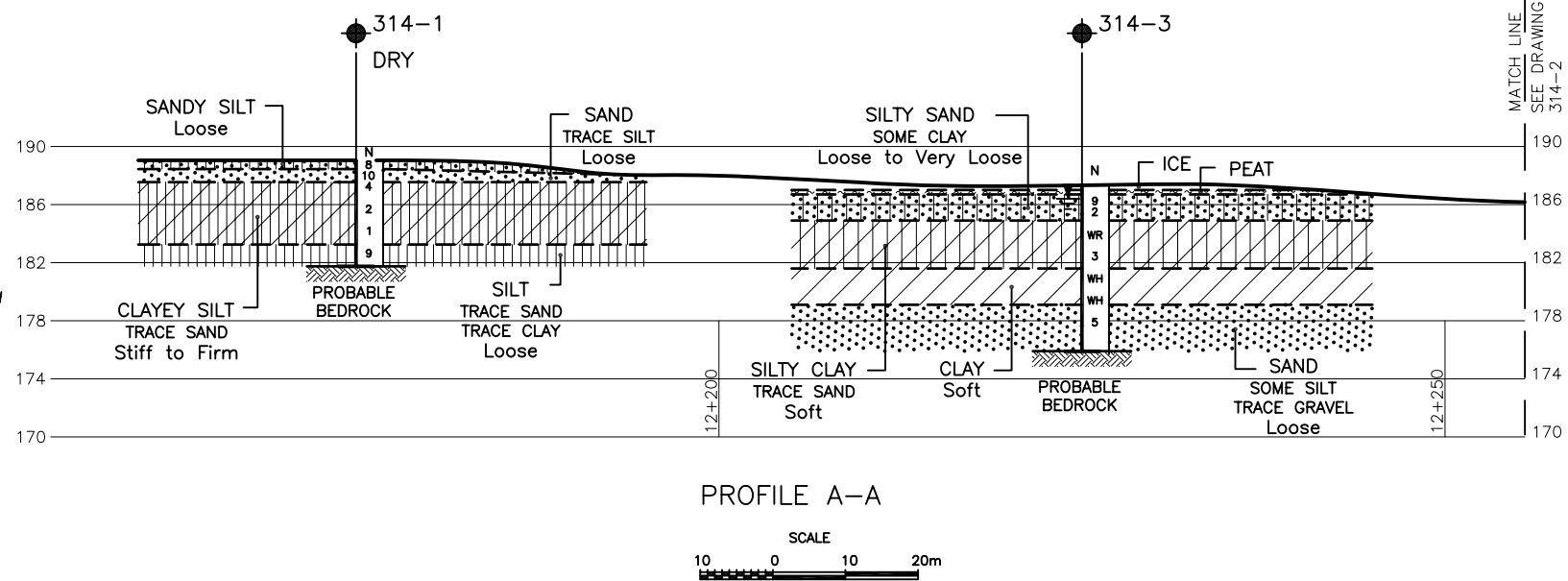
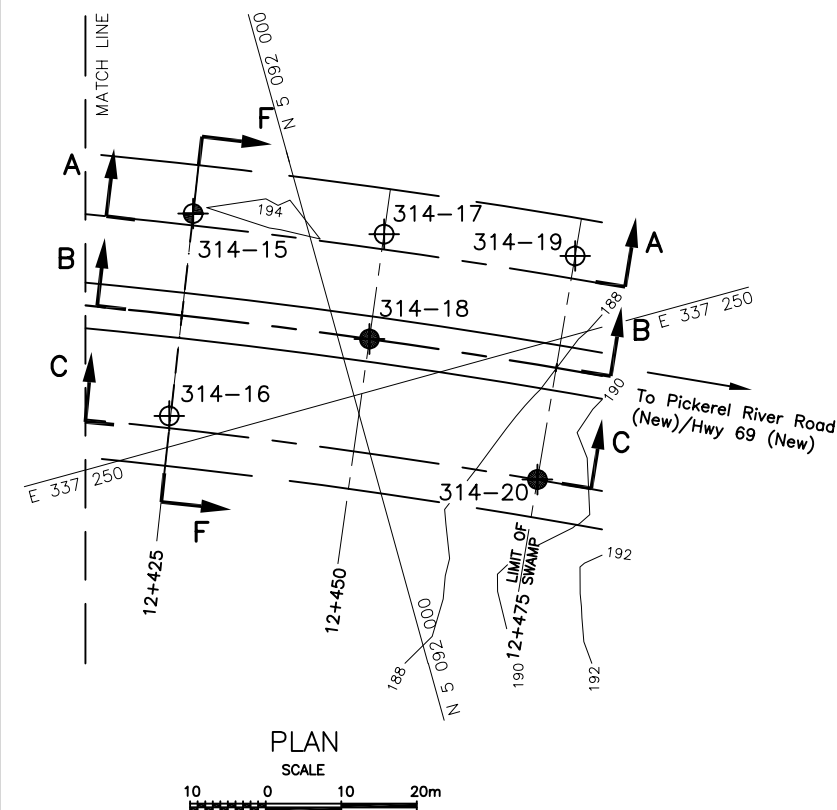
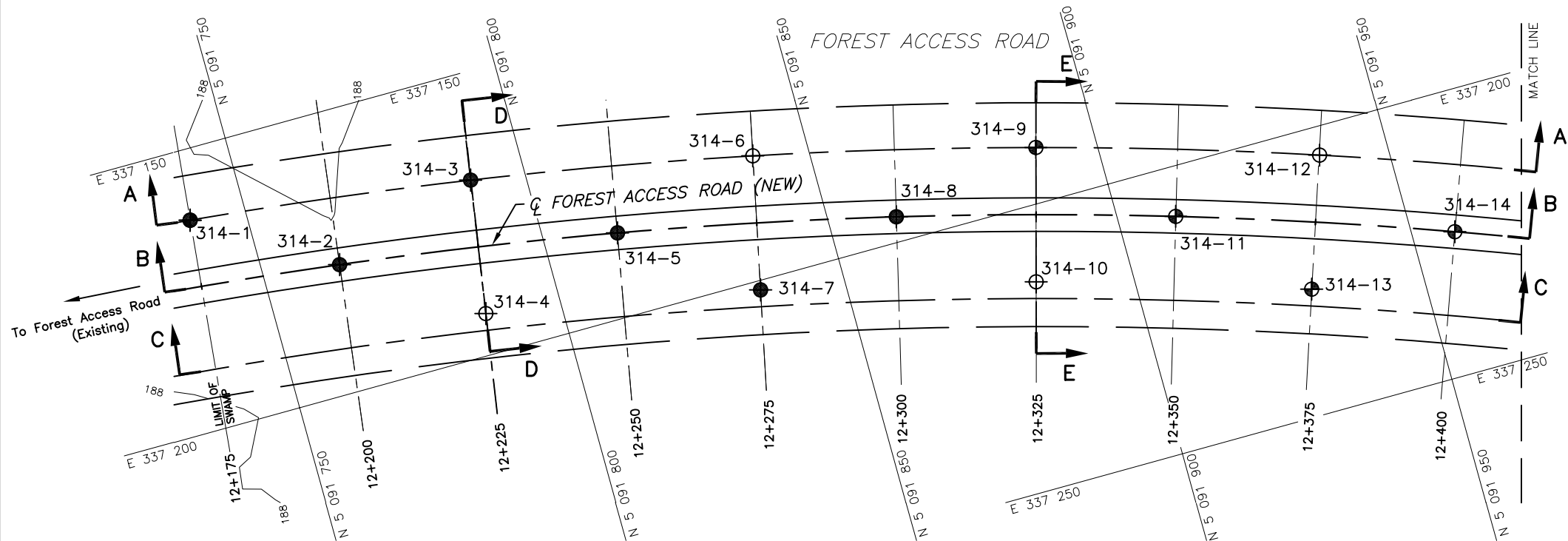


REF No. 6554_HE_Far ALT8_Ali & Profile_Dec.10_07.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

HWY No	69	CHECKED	GD	DATE	JAN. 16, 2009	DIST	54
SUBM'D	NSB	CHECKED	CN	APPROVED	BRG	SITE	--
DRAWN	NA	CHECKED	CN	APPROVED	BRG	DWG	313-2

NOTES:

- REFER TO DRAWING 313-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



(Legend Continued)

BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
314-15	186.0	12+425	13.5m Lt.
314-16	185.9	12+425	13.5m Rt.
314-17	186.0	12+450	14.0m Lt.
314-18	186.3	12+450	CL
314-19	187.4	12+475	15.0m Lt.
311-20	189.8	12+475	15.0m Rt.

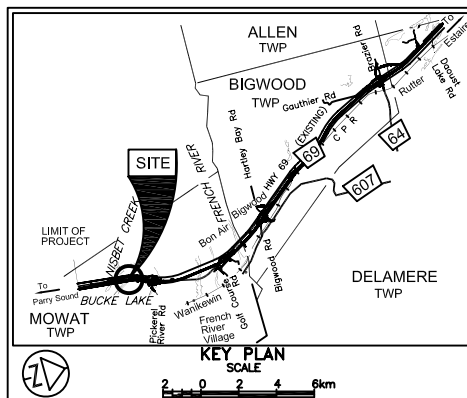
- NOTES:
- REFER TO DRAWING 314-2 FOR SECTION A-A (Continued) AND DRAWINGS 314-3 TO 314-5 FOR SECTIONS B-B, C-C, D-D, E-E AND F-F.
 - THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.

METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
FOREST ACCESS ROAD
SWAMP 314, STA. 12+175 TO 12+475 MOWAT TWP
BOREHOLE LOCATIONS AND SOIL STRATA

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60 Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- WR Penetration due to weight of rods only
- W L at time of investigation Mar 2008
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
314-1	188.4	12+175	12.0m Lt.
314-2	188.2	12+200	CL
314-3	187.3	12+225	12.0m Lt.
314-4	186.1	12+225	12.0m Rt.
314-5	185.9	12+250	CL
314-6	186.1	12+275	12.0m Lt.
314-7	186.1	12+275	12.0m Rt.
314-8	185.6	12+300	CL
314-9	186.0	12+325	12.0m Lt.
314-10	186.1	12+325	12.0m Rt.
314-11	186.1	12+350	CL
314-12	186.2	12+375	12.0m Lt.
314-13	186.4	12+375	12.0m Rt.
314-14	185.9	12+400	CL

(Legend Continues)

— NOTE —

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67



REF No. 6554_HE_Far ALT8_Ali & Profile_Dec.10_07.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DATE	JAN. 16, 2009	SITE	--
DRAWN	NA	CHECKED	CN
APPROVED	BRG	DWG	314-1

METRIC

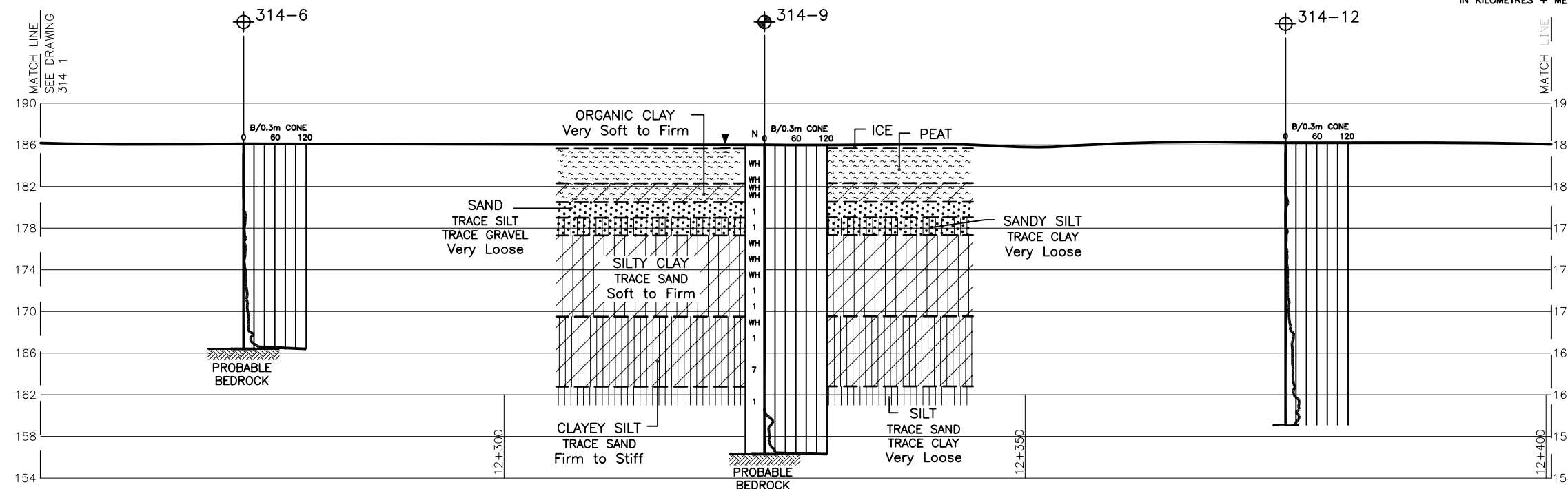
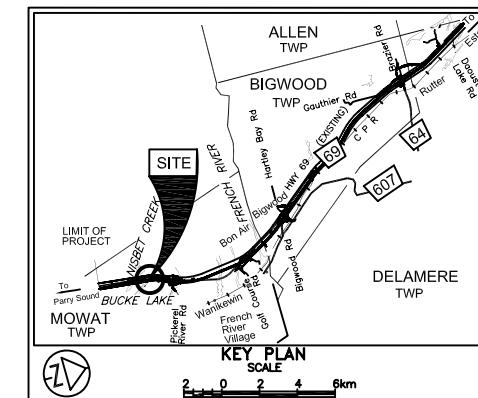
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

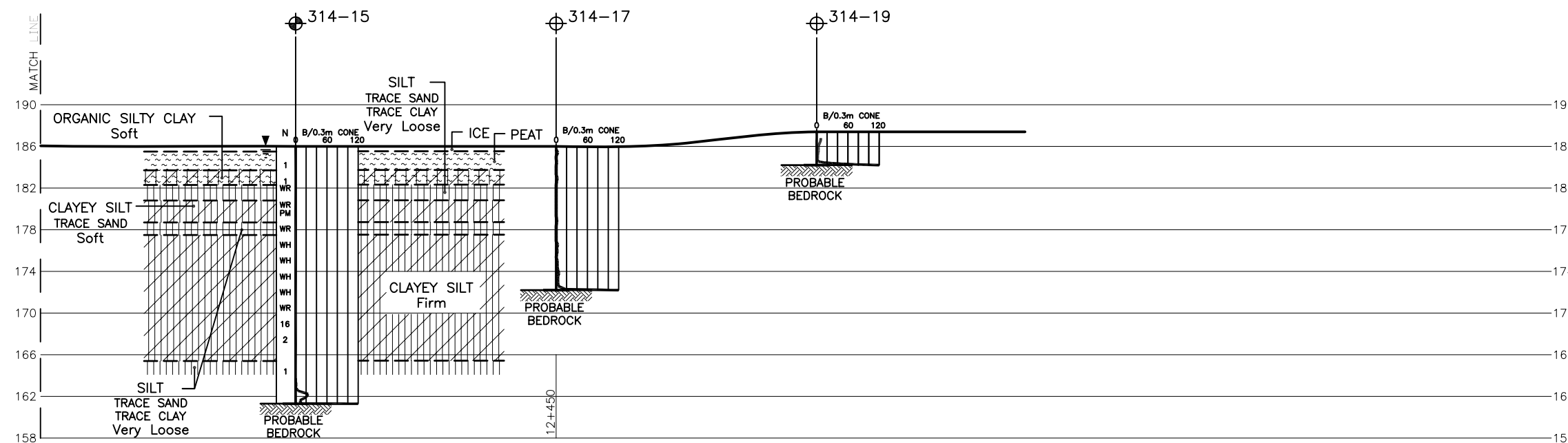
HIGHWAY 69
FOREST ACCESS ROAD
SWAMP 314, STA. 12+175 TO 12+475 MOWAT TWP
SOIL STRATA

SHEET

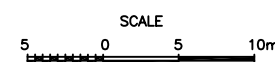
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



PROFILE A-A (Continued)



PROFILE A-A (Continued)



NOTES:

- REFER TO DRAWING 314-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A (Continued) AND DRAWINGS 314-3 TO 314-5 FOR SECTIONS B-B, C-C, D-D, E-E AND F-F.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 6554_HE_Far ALT8_Ali & Profile_Dec.10_07.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60' Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
PM	Thinwall Sample - Advanced Manually		
	W L at time of investigation Mar 2008		
	Head		
	ARTESIAN WATER Encountered		
	PIEZOMETER		

BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
SEE DRAWING 314-1 FOR DETAILS			

NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	--	DWG	314-2

METRIC

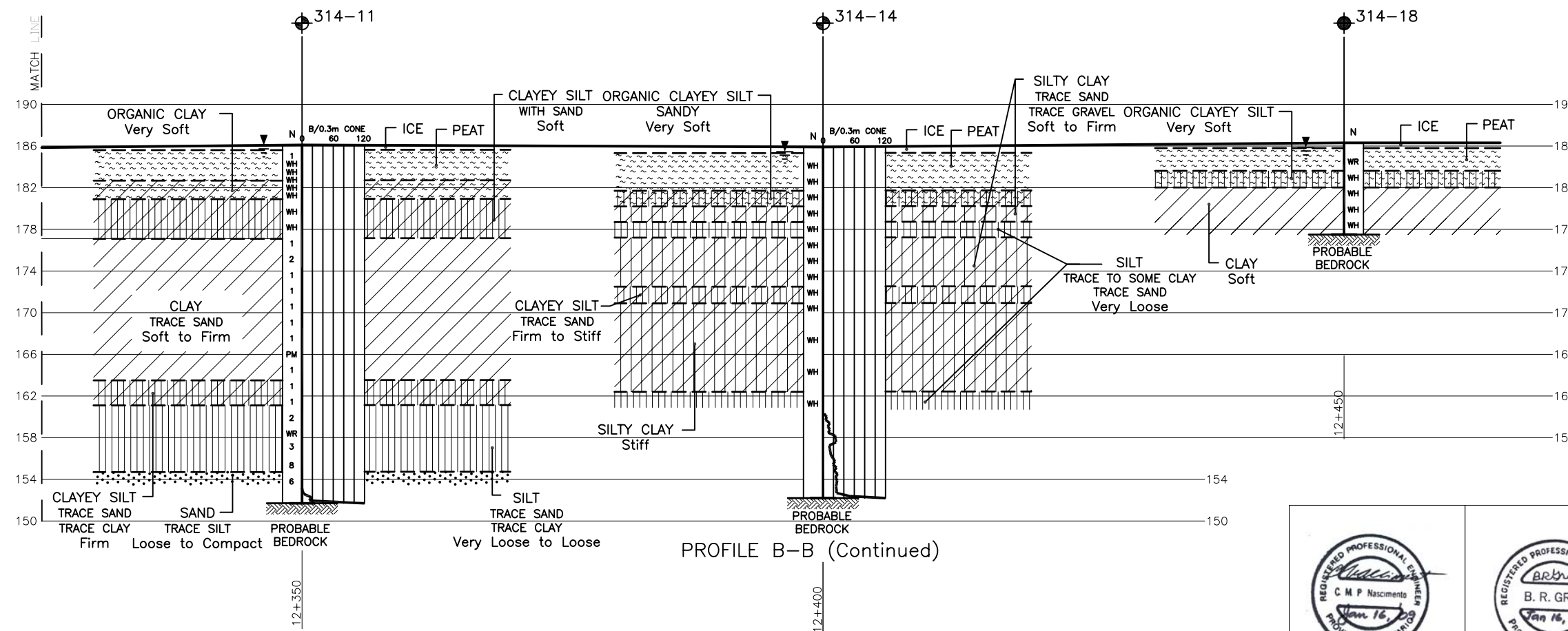
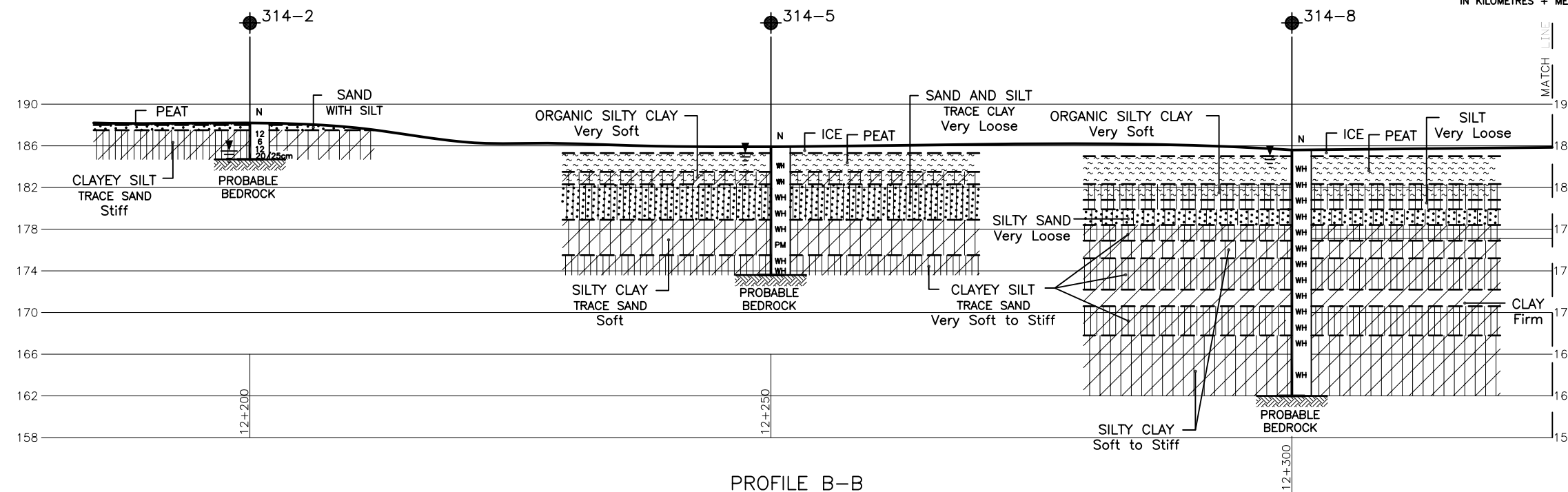
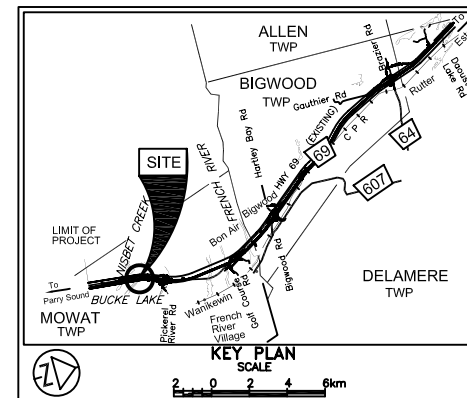
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
FOREST ACCESS ROAD
SWAMP 314, STA. 12+175 TO 12+475 MOWAT TWP
SOIL STRATA

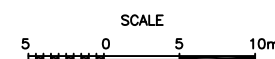
SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



NOTES:

- REFER TO DRAWING 314-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A (Continued), DRAWING 314-2 FOR SECTION A-A (Continued) AND DRAWINGS 314-4 AND 314-5 FOR SECTIONS C-C, D-D, E-E AND F-F.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 6554_HE_Far ALT8_Ali & Profile_Dec.10_07.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60° Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
PM	Thinwall Sample - Advanced Manually		
	W L at time of investigation Mar 2008		
	Head Artesian Water Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
SEE DRAWING 314-1 FOR DETAILS			

NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	314-3

METRIC

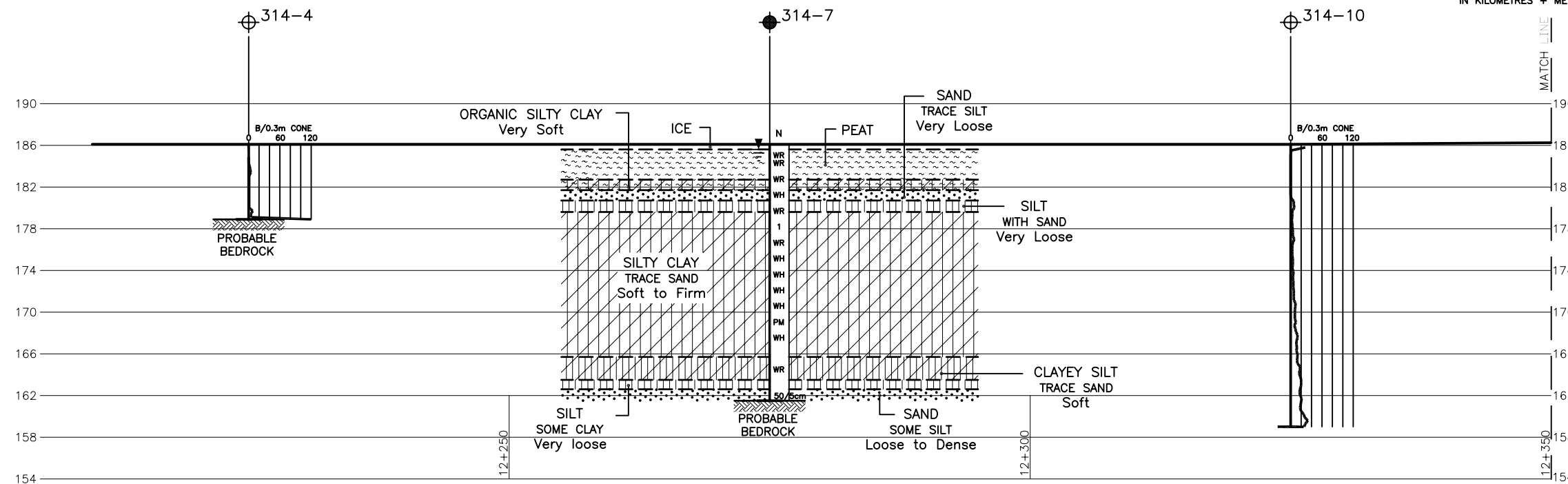
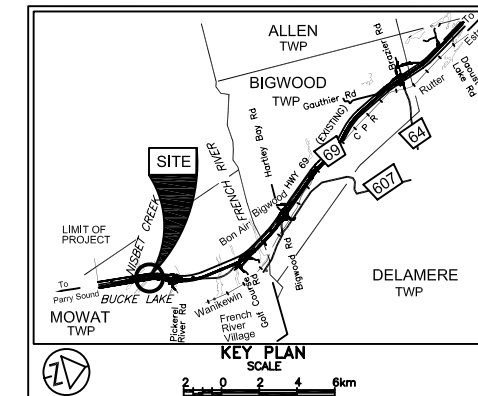
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

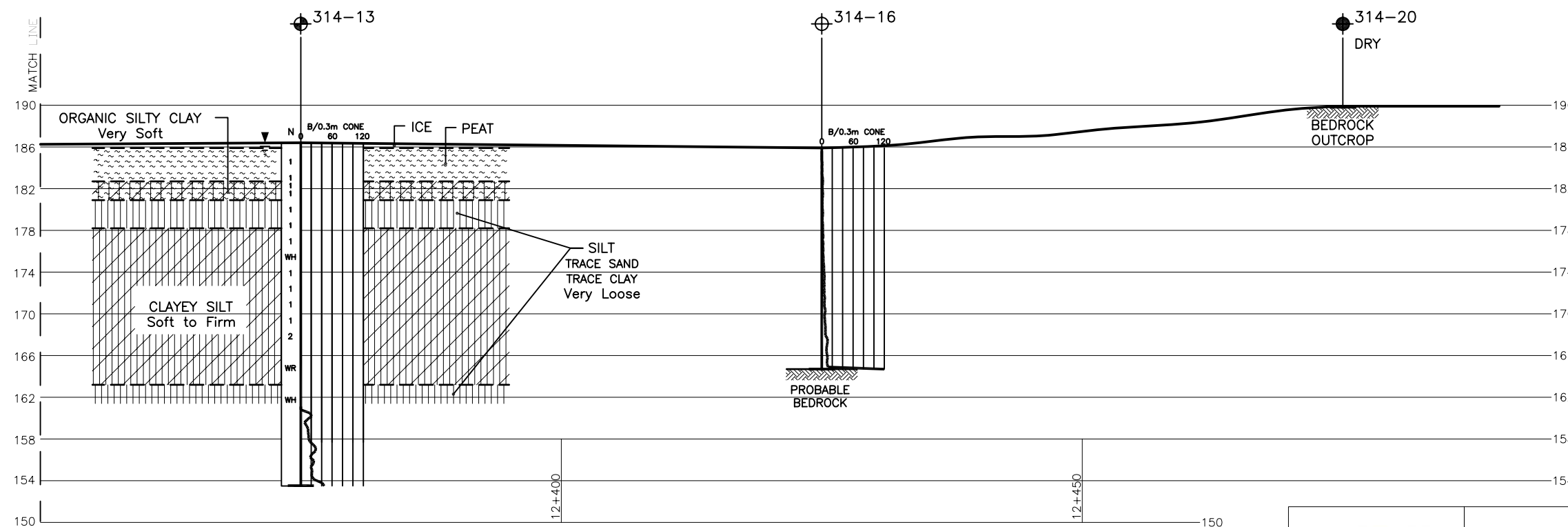
HIGHWAY 69
FOREST ACCESS ROAD
SWAMP 314, STA. 12+175 TO 12+475 MOWAT TWP
SOIL STRATA

SHEET

PMI Peto MacCallum Ltd.
CONSULTING ENGINEERS



PROFILE C-C

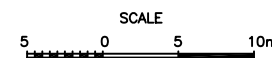


PROFILE C-C (Continued)

NOTES:

1. REFER TO DRAWING 314-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A (Continued), DRAWINGS 314-2 AND 314-3 FOR SECTIONS A-A (Continued), B-B AND DRAWING 314-5 FOR SECTION D-D, E-E AND F-F.

2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 6554_HE_Far ALT8_Ali & Profile_Dec.10_07.dwg;
highway 69 basemapping\sept14_2007\
H6454xb02 contours zone 12.dwg;

LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J/blow)		
CONE	Blows/0.3m (60 Cone, 475 J/blow)		
WH	Penetration due to weight of hammer and rods		
WR	Penetration due to weight of rods only		
PM	Thinwall Sample - Advanced Manually		
W L	W L at time of investigation Mar 2008		
	Head		
	ARTESIAN WATER Encountered		
	PIEZOMETER		

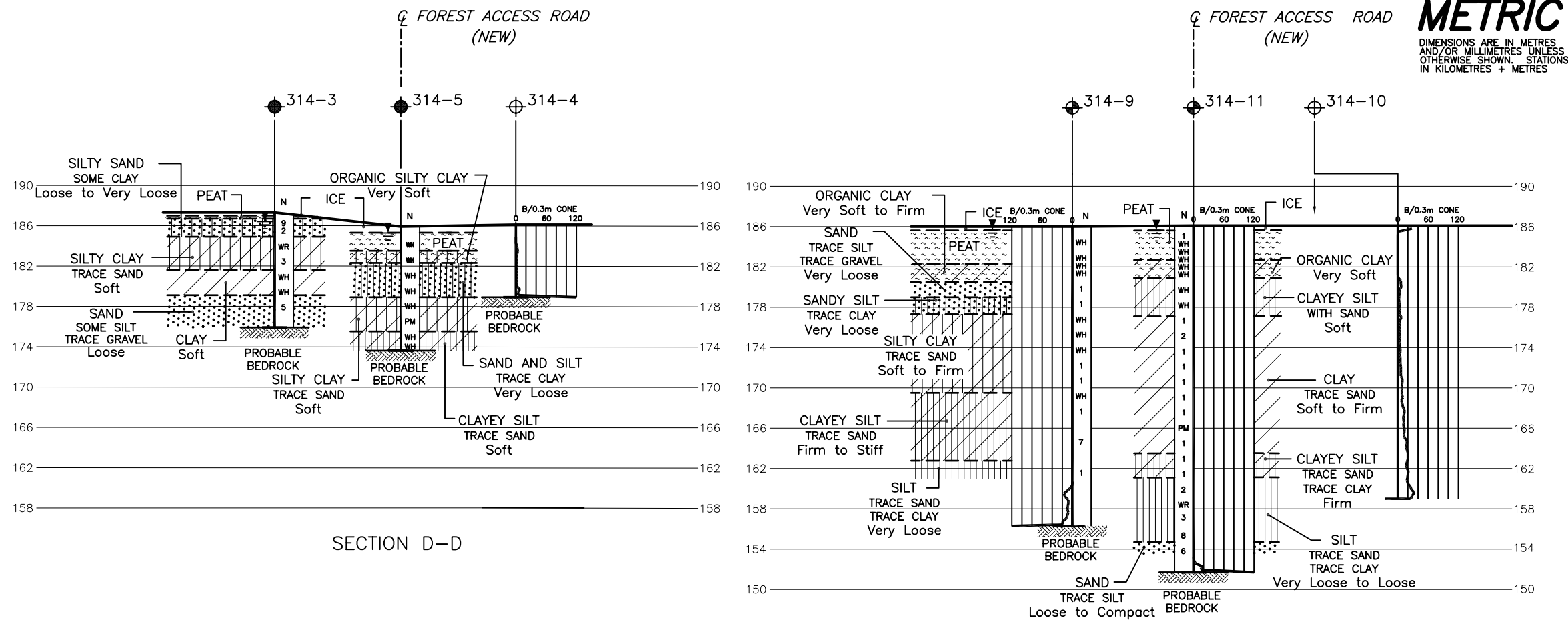
BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
SEE DRAWING 314-1 FOR DETAILS			

NOTE -
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	APPROVED	BRG
SITE	---	DWG	314-4



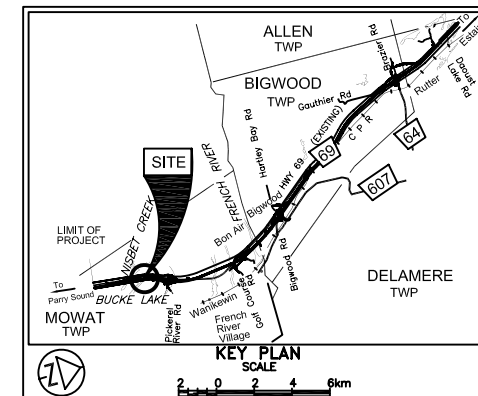
METRIC
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES UNLESS
OTHERWISE SHOWN. STATIONS
IN KILOMETRES + METRES

CONT No
GWP No 5203-06-00

HIGHWAY 69
FOREST ACCESS ROAD
SWAMP 314, STA. 12+175 TO 12+475 MOWAT TWP
SOIL STRATA

SHEET

PML Peto MacCallum Ltd.
CONSULTING ENGINEERS



LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J/blow)
- CONE Blows/0.3m (60' Cone, 475 J/blow)
- WH Penetration due to weight of hammer and rods
- WR Penetration due to weight of rods only
- PM Thinwall Sample - Advanced Manually
- W L at time of investigation Mar 2008
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA FOREST ACCESS ROAD	o/s CL
SEE DRAWING 314-1 FOR DETAILS			

NOTE

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

DATE	BY	DESCRIPTION

Geocres No. 41H-67

HWY No	69	DIST	54
SUBM'D	NSB	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JAN. 16, 2009	SITE	---
APPROVED	BRG	DWG	314-5

NOTES:

- REFER TO DRAWING 314-1 FOR BOREHOLE LOCATIONS PLAN AND SECTION A-A (Continued) AND DRAWINGS 314-2 TO 314-4 FOR SECTIONS A-A (Continued), B-B AND C-C.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



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H6454xb02 contours zone 12.dwg;