

# SITE LOCATION MAP HIGHWAY 11 RE-ALIGNMENT NORTH BAY, ONTARIO

FIGURE 1



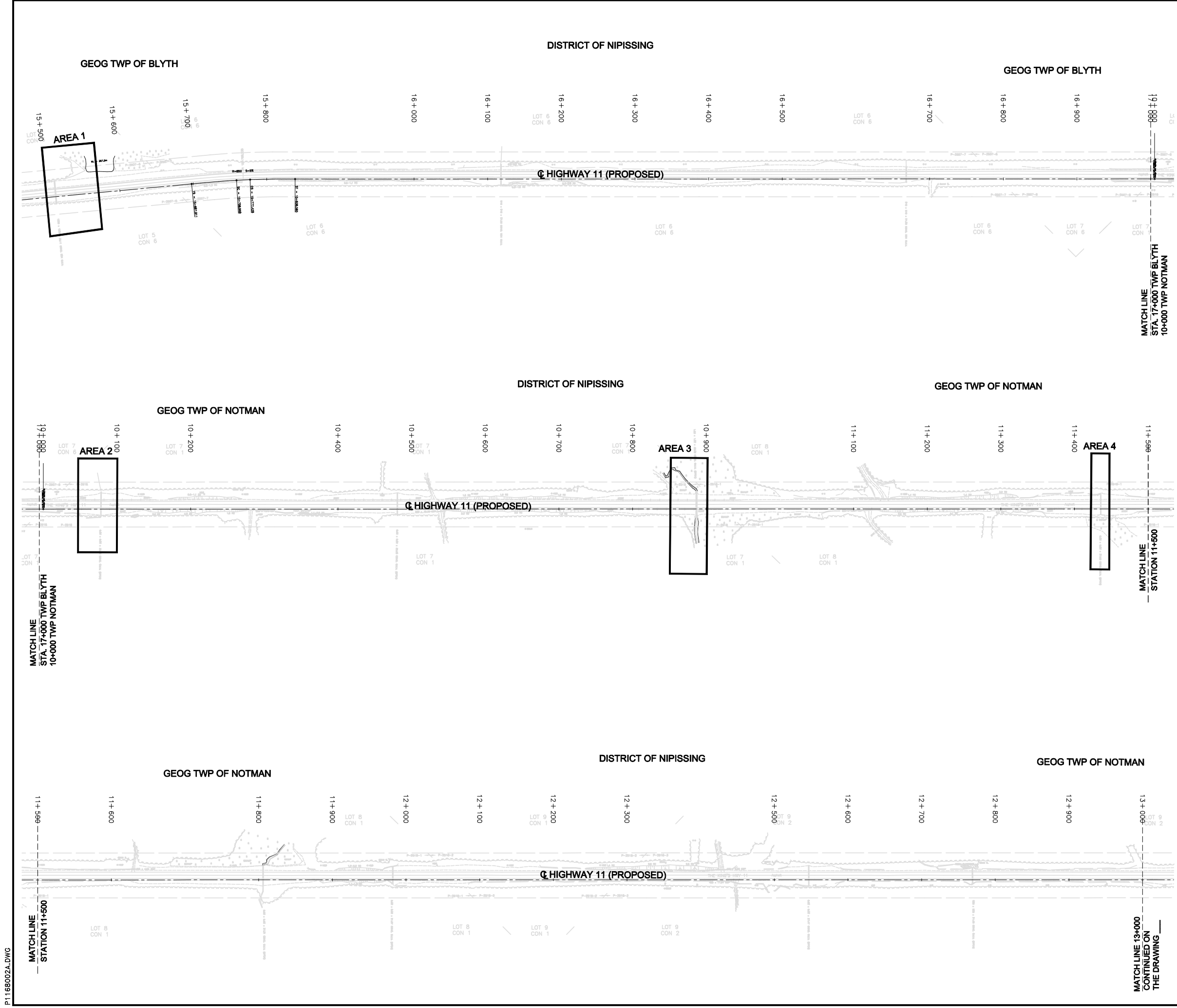
Date SEPT..2001.....

Project Q01..1.168..2

**Golder Associates**

Drawn..JFC.....

Chkd .....



DIST. 54  
CONT No.  
WP No. 711-92-00

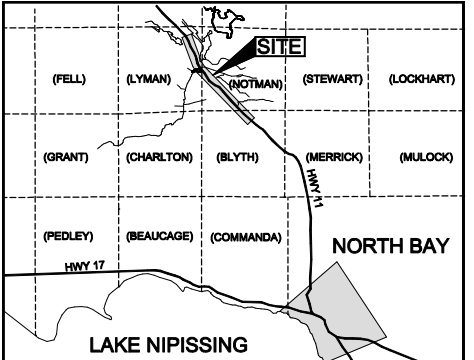


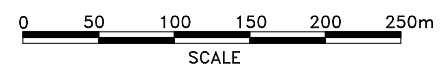
LOCATION OF HIGH FILL  
EMBANKMENT AREAS  
ALONG HIGHWAY 11

SHEET

**Golder Associates Ltd.**  
MISSISSAUGA, ONTARIO, CANADA

**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

**KEY PLAN**



NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11		PROJECT NO. 001-1168-2	DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 2A

P11168002A.DWG



P1168002B.DWG



DIST. 54    HWY. 11  
CONT No.  
WP No. 711-92-00

SHEET

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**METRIC**  
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AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

KEY PLAN

SCALE

NO.	DATE	BY	REVISION

Geocres No.    31L-81

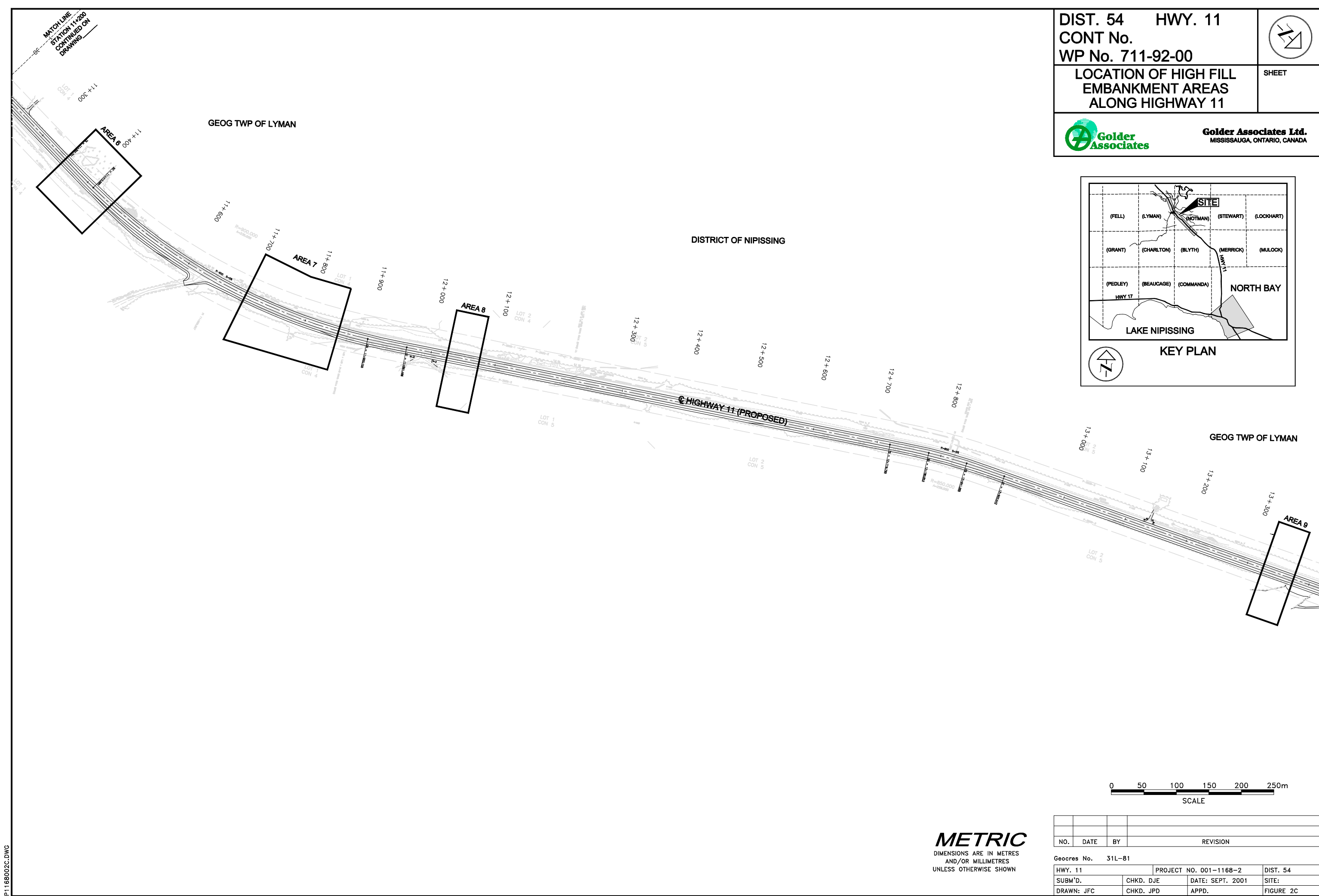
HWY. 11    PROJECT NO. 001-1168-2    DIST. 54

SUBM'D.    CHKD. DJE    DATE: SEPT. 2001    SITE:

DRAWN: JFC    CHKD. JPD    APPD.    FIGURE 2B

MATCH LINE  
STA 11+200  
CONTINUED ON  
DRAWING

P11168002C.DWG



DIST. 54

HWY. 11

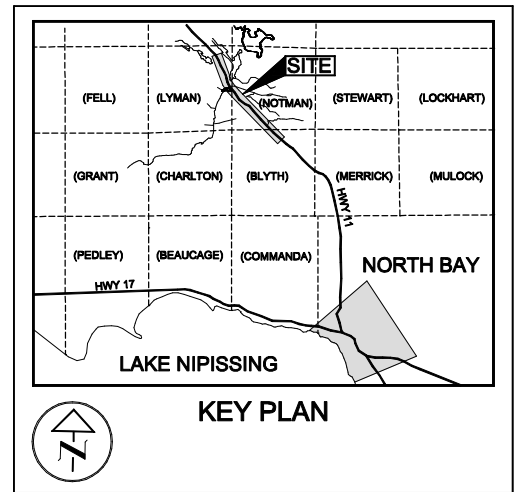
CONT No.

WP No. 711-92-00

SHEET

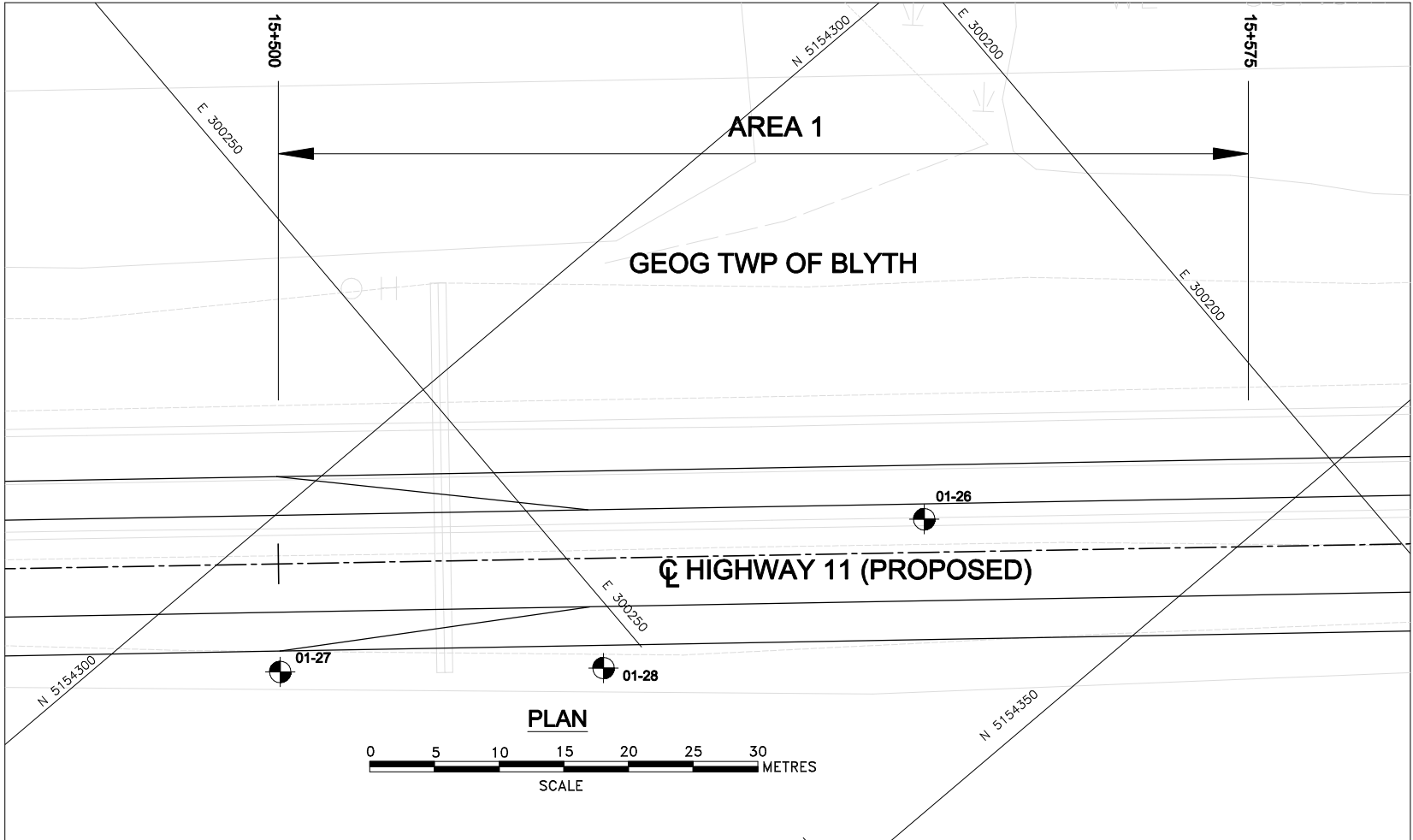
LOCATION OF HIGH FILL EMBANKMENT AREAS ALONG HIGHWAY 11

**Golder Associates Ltd.**  
MISSISSAUGA, ONTARIO, CANADA












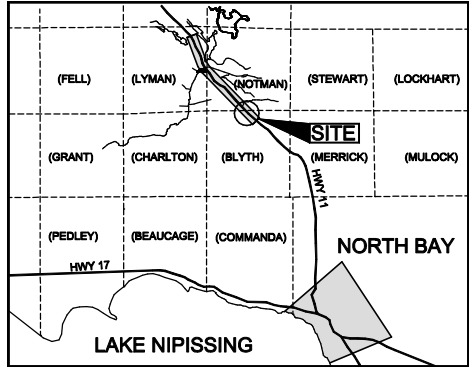
NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11		PROJECT NO. 001-1168-2	DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 2C

**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN








**STRATIGRAPHY LEGEND**

	FILL		SAND
	TOPSOIL, FIBROUS PEAT		SILTY SAND, SILT SAND AND GRAVEL
	ORGANIC SILT, SILT		COBBLES
	SAND AND GRAVEL, GRAVELLY SAND		BEDROCK
	SANDY SILT		



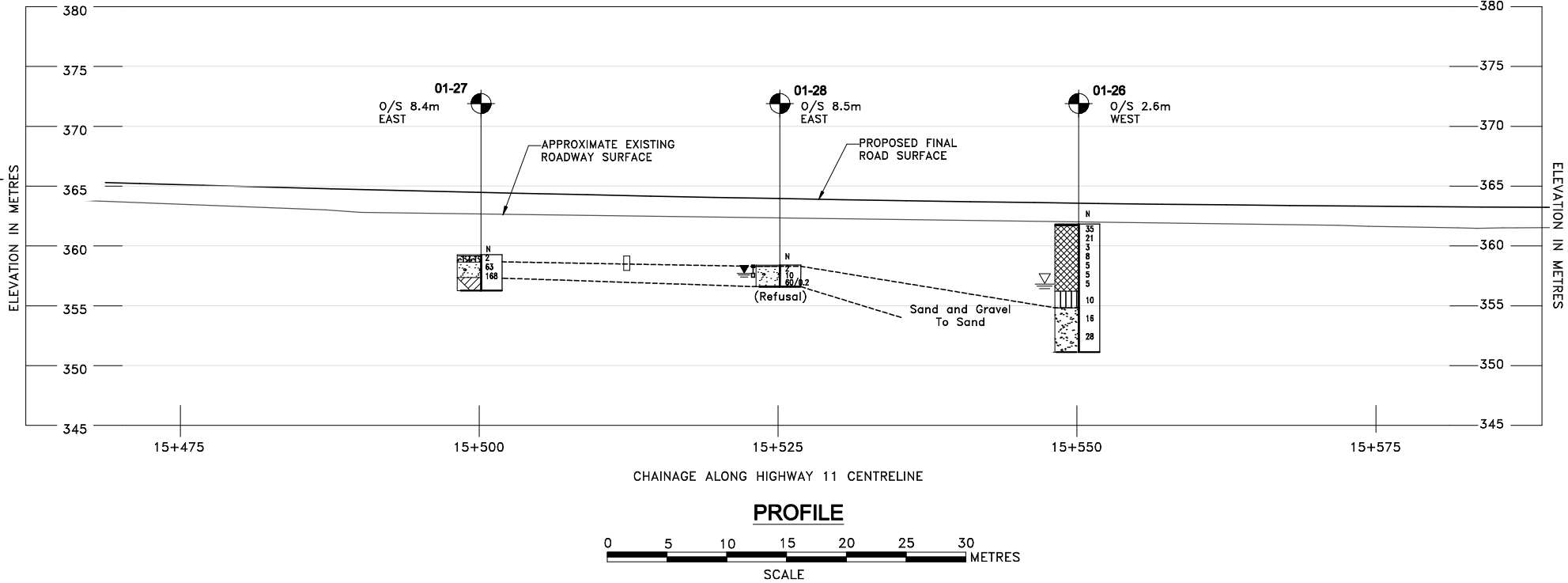
**LEGEND**

-  Borehole
-  Seal
-  Piezometer
- N Standard Penetration Test value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- 100% Rock Quality Designation (RQD)
-  WL in piezometer, June 11, 2001
-  WL upon completion of drilling

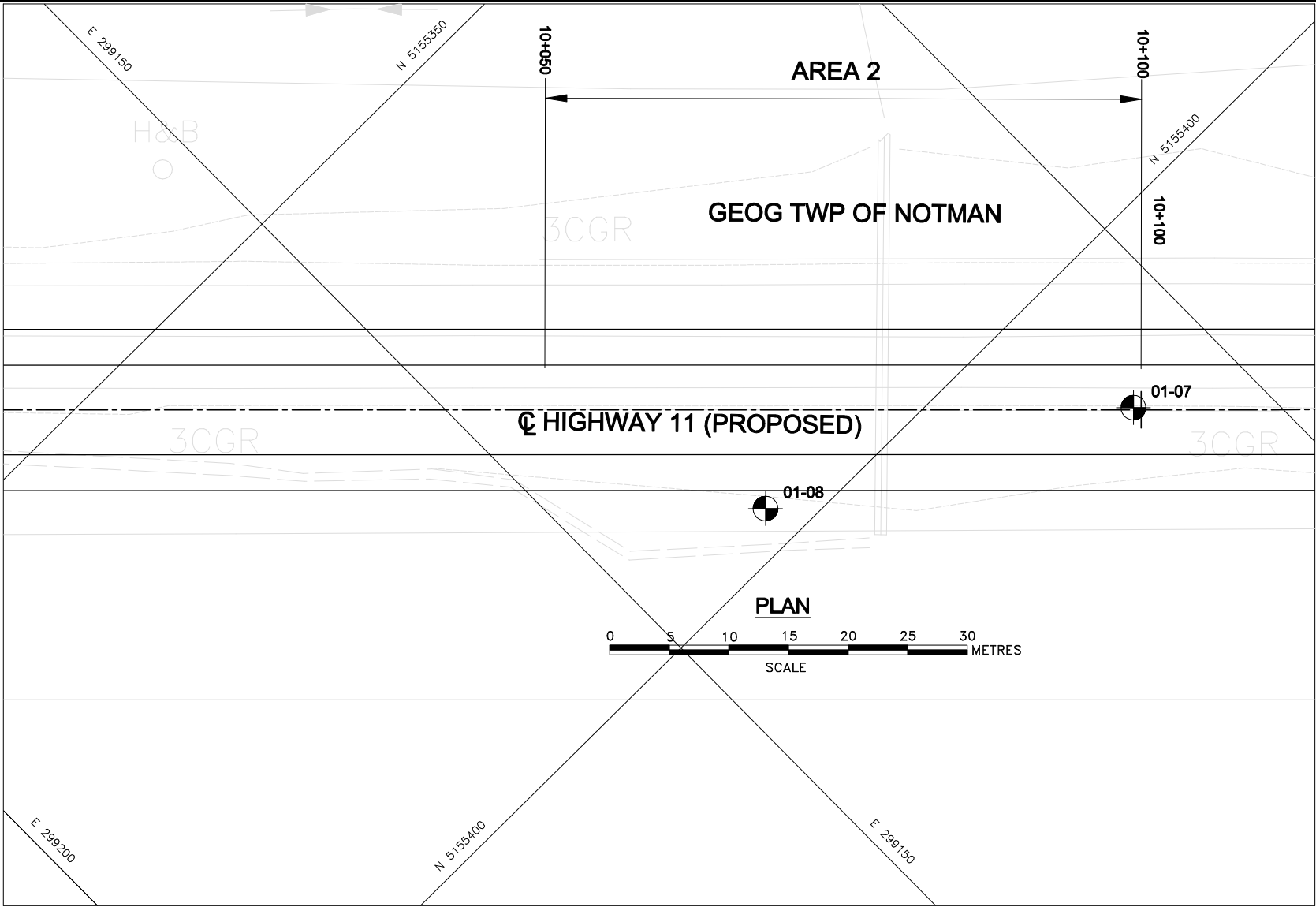
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-26	361.8	5154332.7	300226.9
01-27	359.3	5154309.5	300272.6
01-28	358.4	5154325.4	300253.3

**NOTES**

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

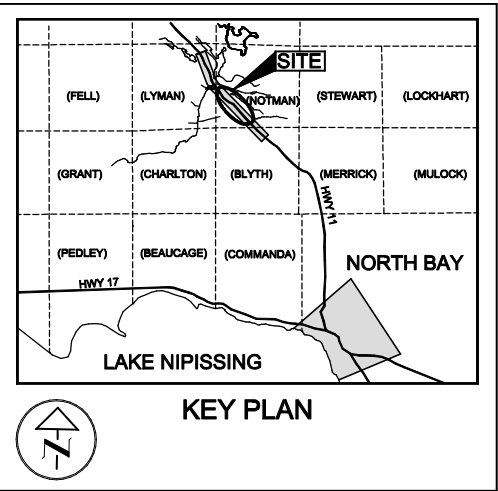


NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST.
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 3



STRATIGRAPHY LEGEND

- |  |                                |  |                                  |
|--|--------------------------------|--|----------------------------------|
|  | FILL                           |  | SAND                             |
|  | TOPSOIL, FIBROUS PEAT          |  | SILTY SAND, SILT SAND AND GRAVEL |
|  | ORGANIC SILT, SILT             |  | COBBLES                          |
|  | SAND AND GRAVEL, GRAVELLY SAND |  | BEDROCK                          |
|  | SANDY SILT                     |  |                                  |



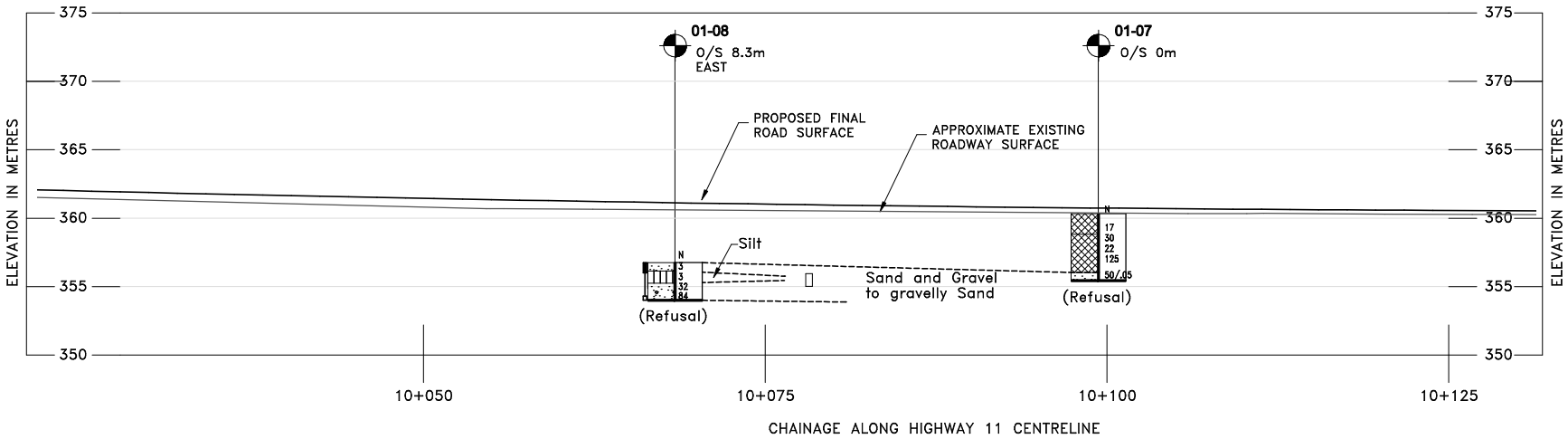
LEGEND

- Borehole
- Seal
- Piezometer
- N Standard Penetration Test value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- 100% Rock Quality Designation (RQD)
- WL in piezometer, June 11, 2001
- WL upon completion of drilling

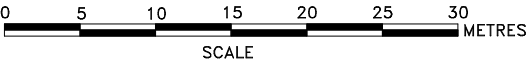
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-7	360.3	5155412.3	299108.8
01-8	356.7	5155396.7	299136.7

NOTES

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



PROFILE



DIST. 54

HWY. 11

CONT No.

WP No. 711-92-00

AREA 2 - STATION

10+050 to 10+100 (NOTMAN)

BOREHOLE LOCATIONS AND SOIL STRATA

Golder Associates Ltd.

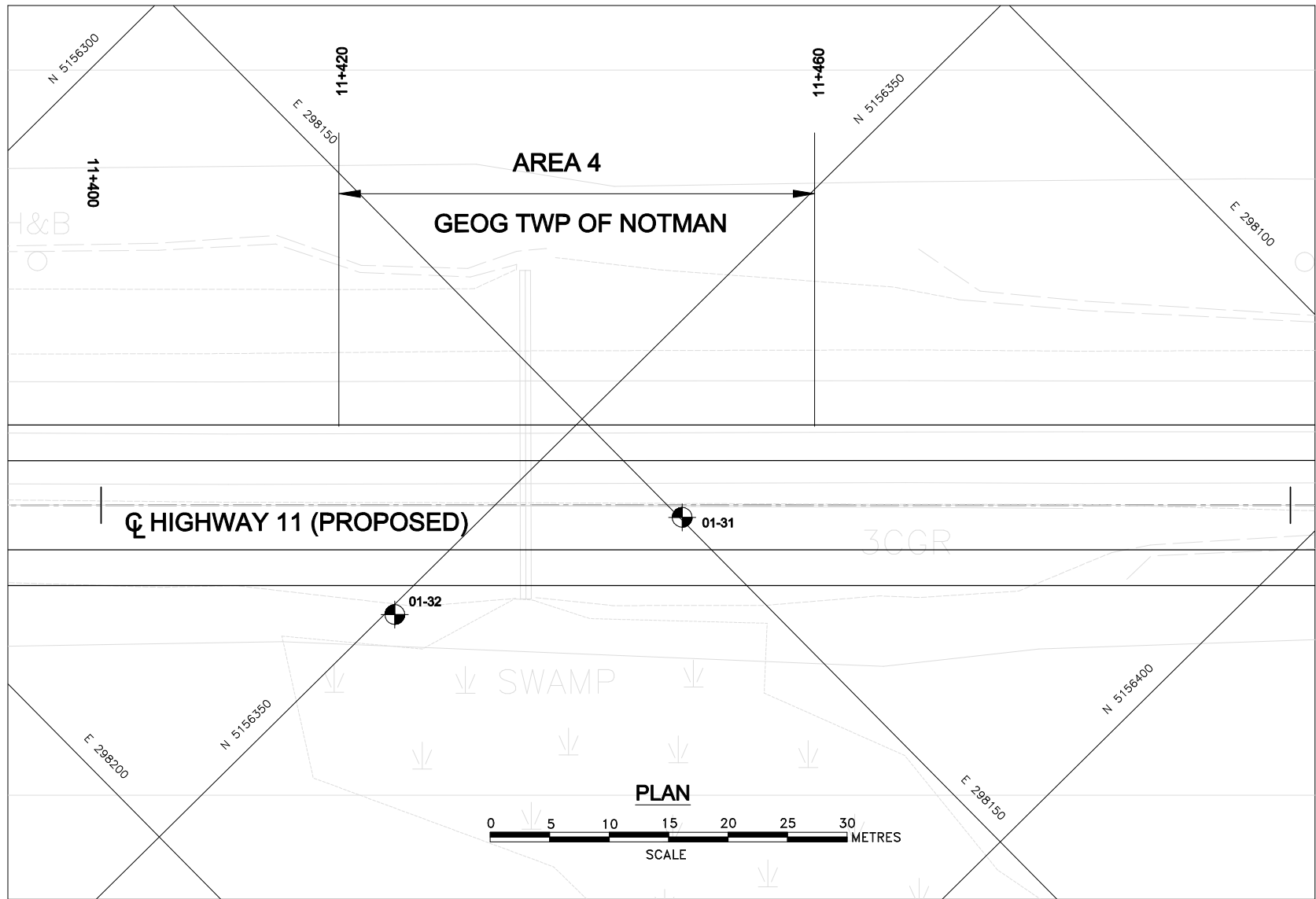
MISSISSAUGA, ONTARIO, CANADA

NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 4



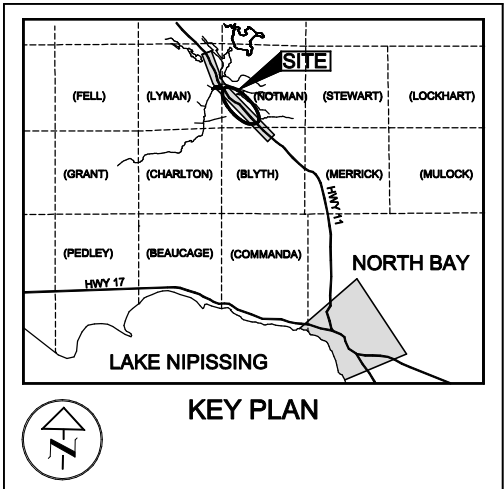


P1168006.DWG



STRATIGRAPHY LEGEND

	FILL		SAND
	TOPSOIL, FIBROUS PEAT		SILTY SAND, SILT SAND AND GRAVEL
	ORGANIC SILT, SILT		COBBLES
	SAND AND GRAVEL, GRAVELLY SAND		BEDROCK
	SANDY SILT		



LEGEND			
	Borehole		
	Seal		
	Piezometer		
N	Standard Penetration Test value		
16	Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)		
100%	Rock Quality Designation (RQD)		
	WL in piezometer, June 11, 2001		
	WL upon completion of drilling		
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-31	350.8	5156361.8	298149.8
01-32	348.1	5156350.6	298172.8

NOTES

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NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 6

METRIC

DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

DIST. 54 HWY. 11  
CONT No.  
WP No. 711-92-00

AREA 4 - STATION  
11+420 to 11+460 (NOTMAN)  
BOREHOLE LOCATIONS AND SOIL ATRATA



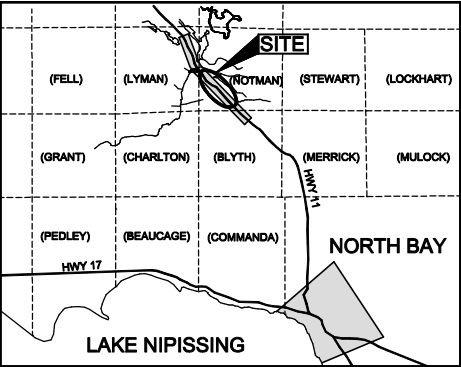
SHEET



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MISSISSAUGA, ONTARIO, CANADA



**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN



KEY PLAN

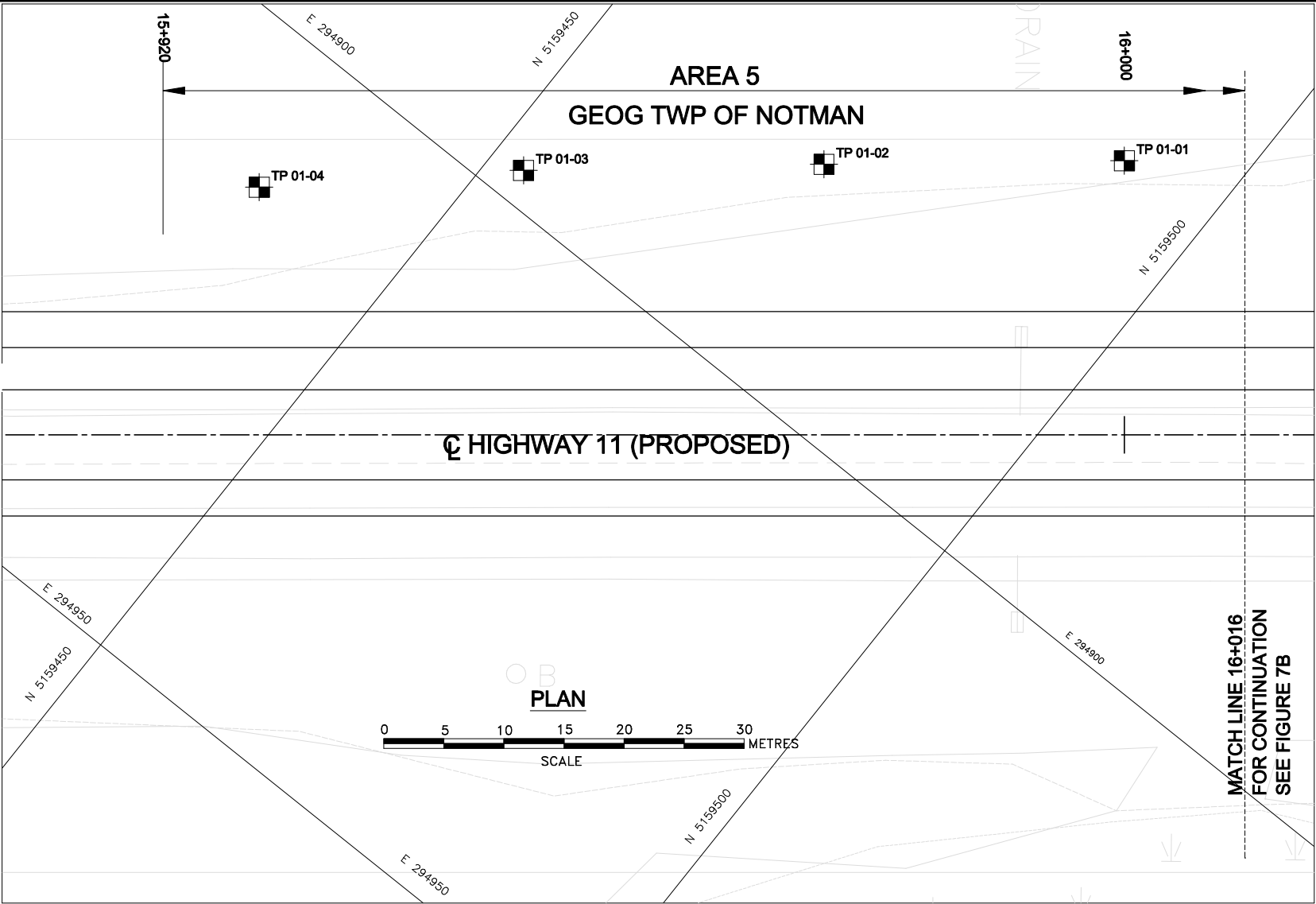
LEGEND

- Test Pit
- Borehole
- Seal
- Piezometer
- N Standard Penetration Test value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- 100% Rock Quality Designation (RQD)
- WL in piezometer, May 14 2001
- WL upon completion of drilling

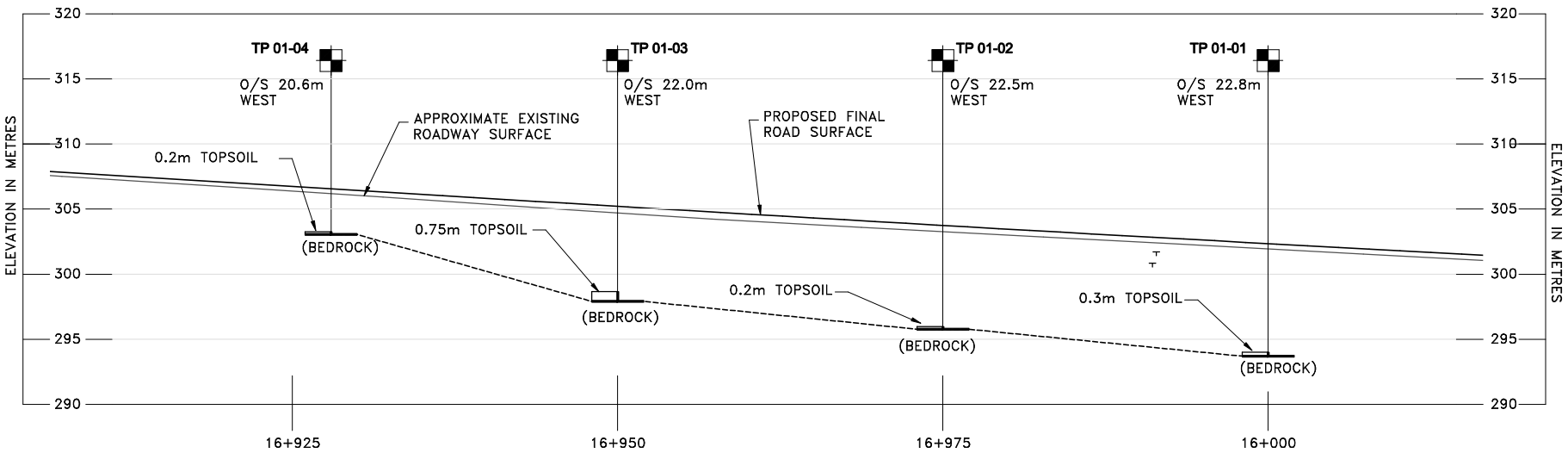
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
TP 01-01	294.0	5159491.4	294865.3
TP 01-02	296.0	5159472.1	294881.2
TP 01-03	298.7	5159452.9	294897.2
TP 01-04	303.2	5159436.6	294912.0

NOTES

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



PLAN




PROFILE

DIST. 54    HWY. 11  
CONT No.  
WP No. 711-92-00

AREA 5 - STATION  
15+920 to 16+300 (NOTMAN)

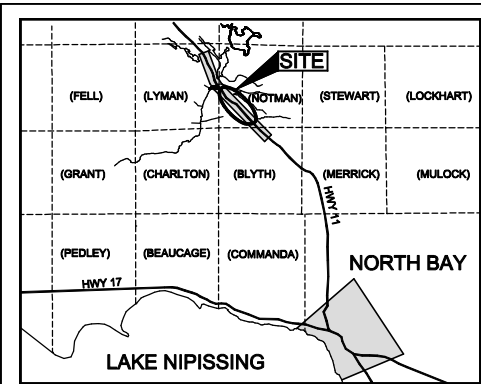
BOREHOLE LOCATIONS AND SOIL STRATA

Golder Associates







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METRIC  
DIMENSIONS ARE IN METRES  
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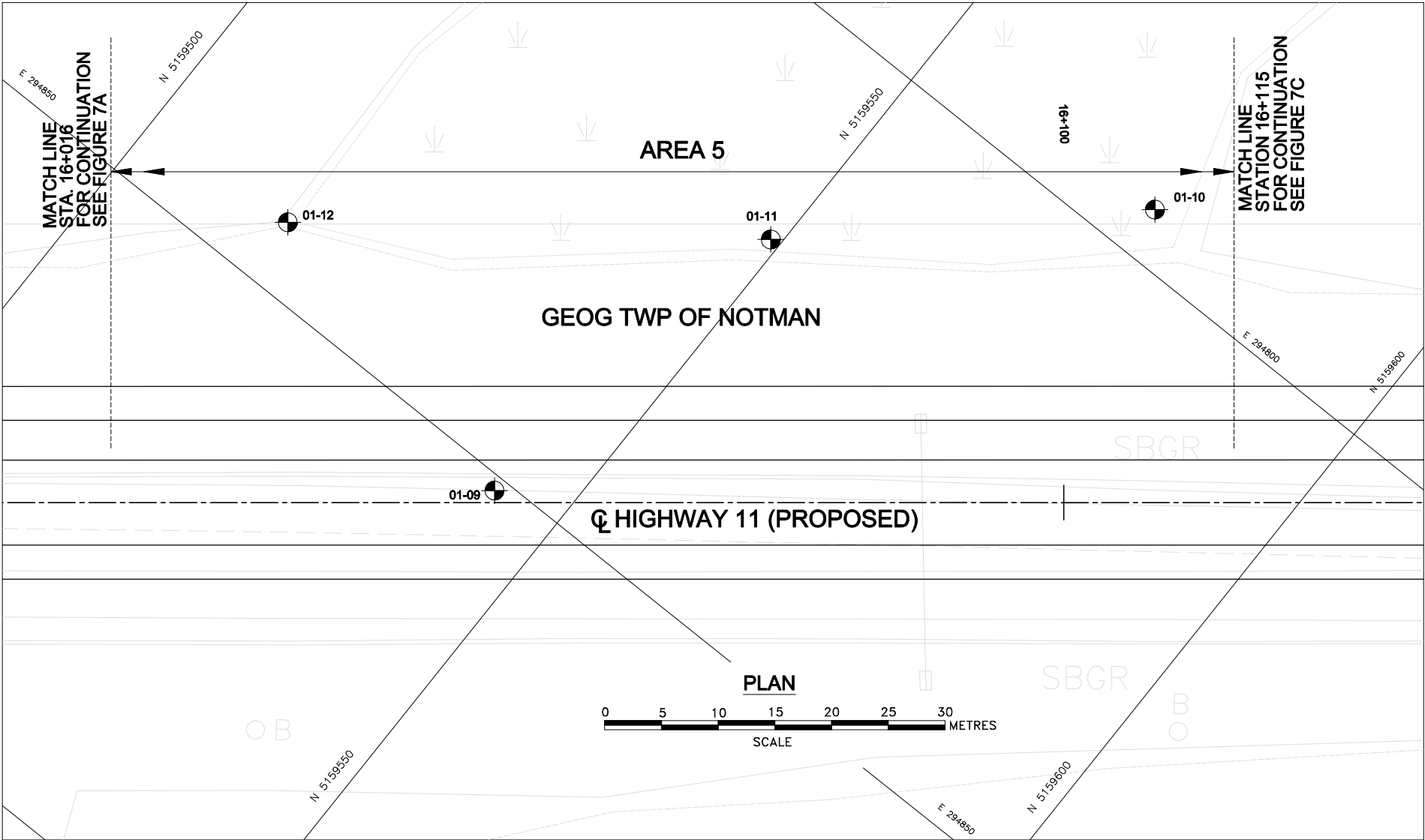
KEY PLAN

LEGEND			
	Borehole		
	Probehole		
	Seal		
	Piezometer		
N	Standard Penetration Test value		
16	Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)		
100%	Rock Quality Designation (RQD)		
	WL in piezometer, May 14 2001		
	WL upon completion of drilling		
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-09	299.3	5159543.9	294851.2
01-10	292.2	5159573.9	294795.5
01-11	289.4	5159549.1	294818.7
01-12	289.6	5159514.9	294844.1










NOTES

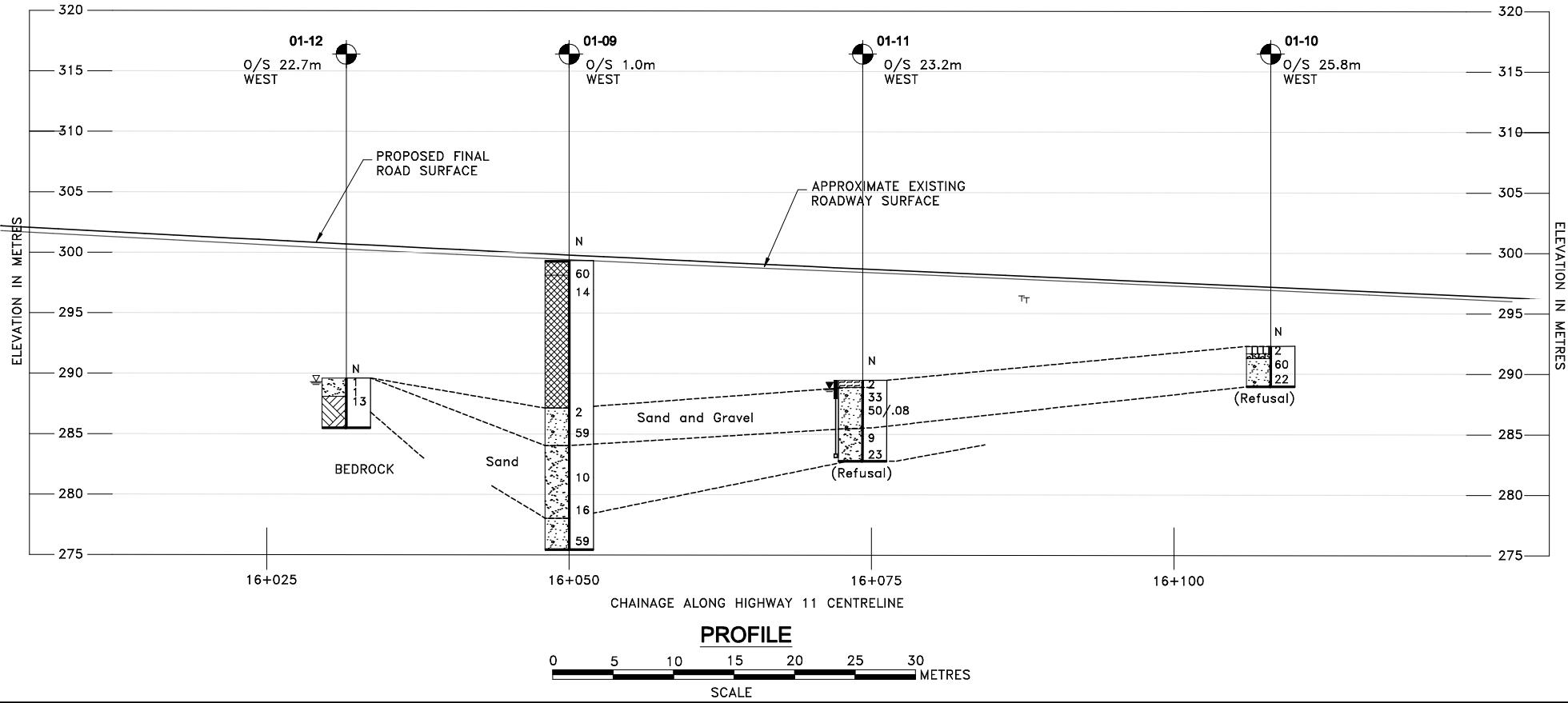
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NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 7B

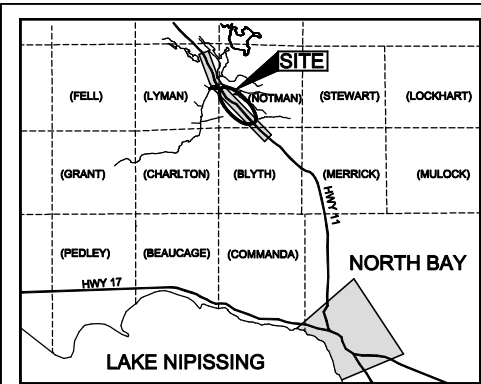


STRATIGRAPHY LEGEND

	FILL		SAND
	TOPSOIL, FIBROUS PEAT		SILTY SAND, SILT SAND AND GRAVEL
	ORGANIC SILT, SILT		COBBLES
	SAND AND GRAVEL, GRAVELLY SAND		BEDROCK
	SANDY SILT		












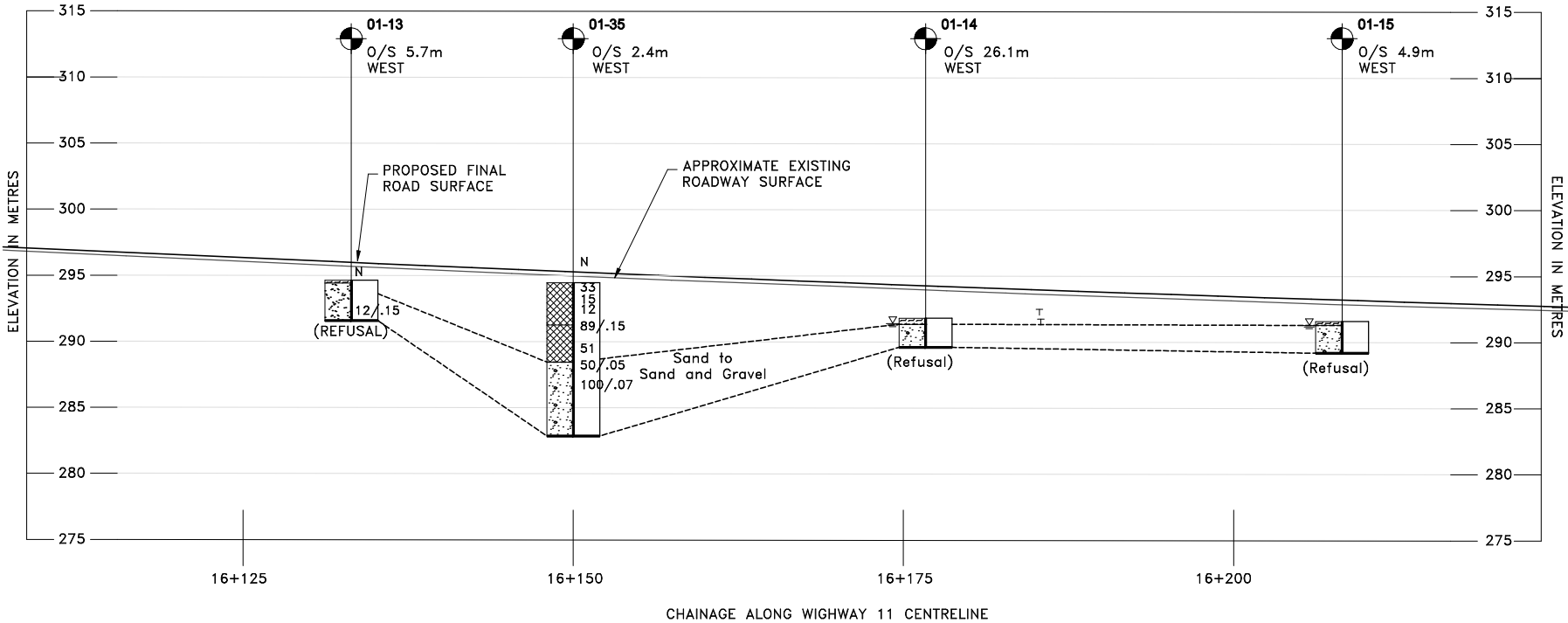
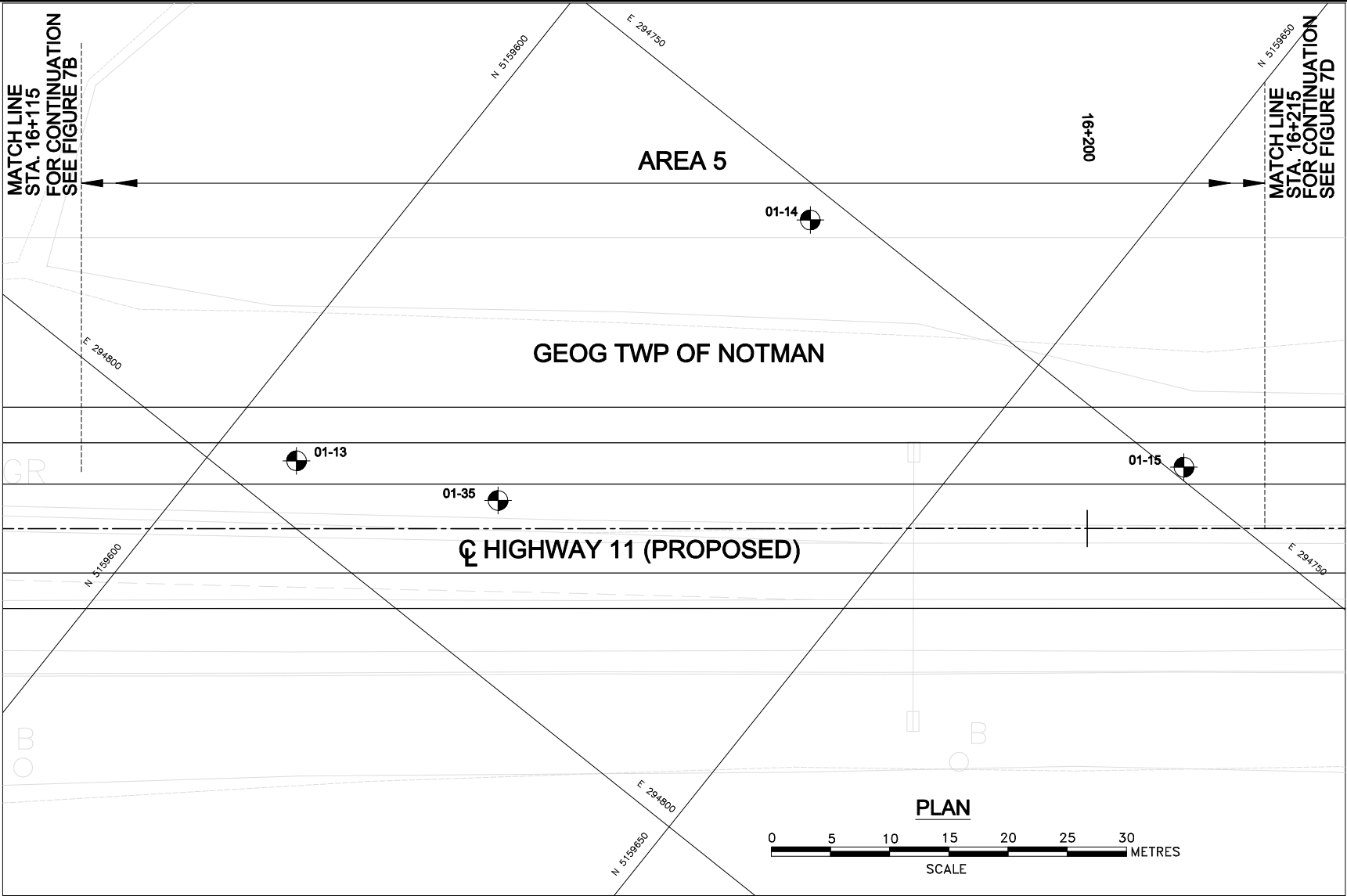
**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN








KEY PLAN

STRATIGRAPHY LEGEND

- |   |                                |   |                                  |
|---|--------------------------------|---|----------------------------------|
|  | FILL                           |  | SAND                             |
|  | TOPSOIL, FIBROUS PEAT          |  | SILTY SAND, SILT SAND AND GRAVEL |
|  | ORGANIC SILT, SILT             |  | COBBLES                          |
|  | SAND AND GRAVEL, GRAVELLY SAND |  | BEDROCK                          |
|  | SANDY SILT                     |   |                                  |



LEGEND

-  Borehole
-  Seal
-  Piezometer
- N Standard Penetration Test value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- 100% Rock Quality Designation (RQD)
-  WL in piezometer, May 14 2001
-  WL upon completion of drilling

No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-13	294.6	5159606.1	294795.5
01-35	294.5	5159621.5	294787.5
01-14	291.8	5159627.3	294752.5
01-15	291.6	5159665.0	294749.1

NOTES

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NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 7C

DIST. 54    HWY. 11  
CONT No.  
WP No. 711-92-00



AREA 5 - STATION  
15+920 to 16+300 (NOTMAN)  
BOREHOLE LOCATIONS AND SOIL STRATA

SHEET



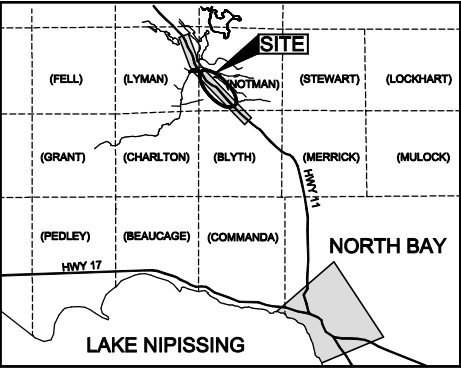
Golder Associates Ltd.  
MISSISSAUGA, ONTARIO, CANADA

METRIC

DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

STRATIGRAPHY LEGEND

	FILL		SAND
	TOPSOIL, FIBROUS PEAT		SILTY SAND, SILT SAND AND GRAVEL
	ORGANIC SILT, SILT		COBBLES
	SAND AND GRAVEL, GRAVELLY SAND		BEDROCK
	SANDY SILT		



KEY PLAN

LEGEND

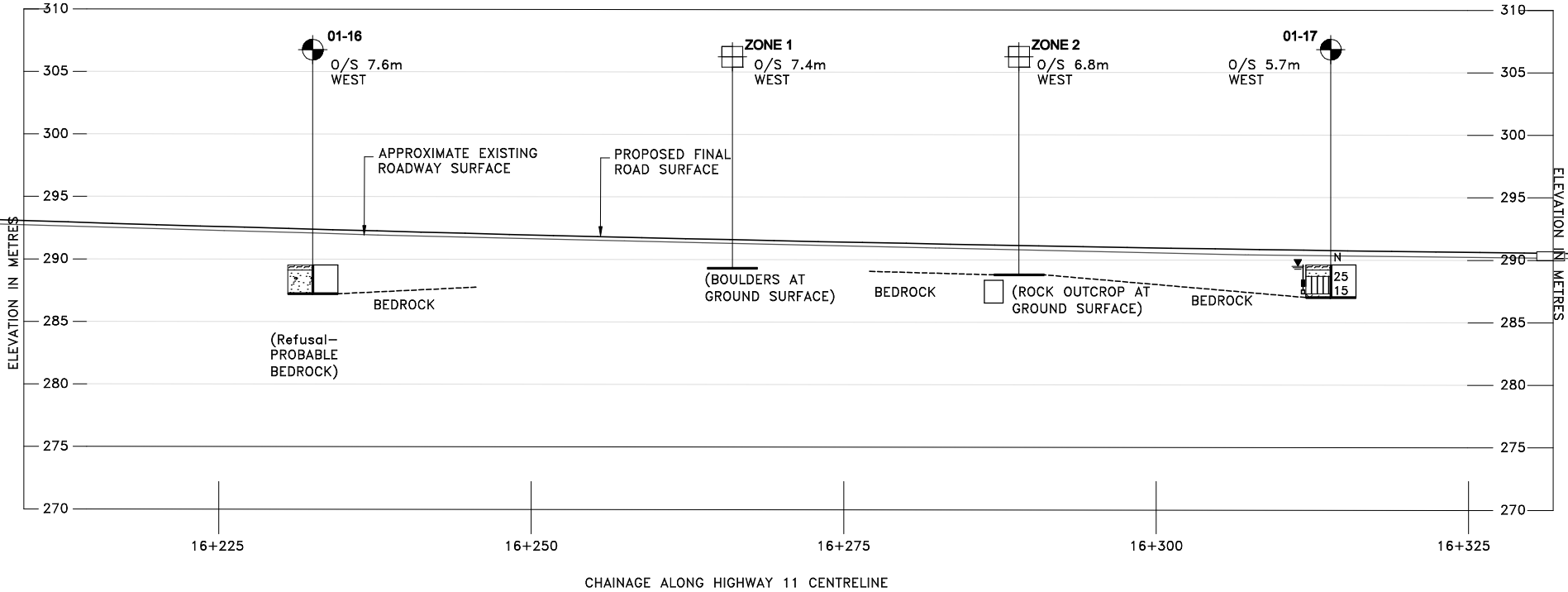
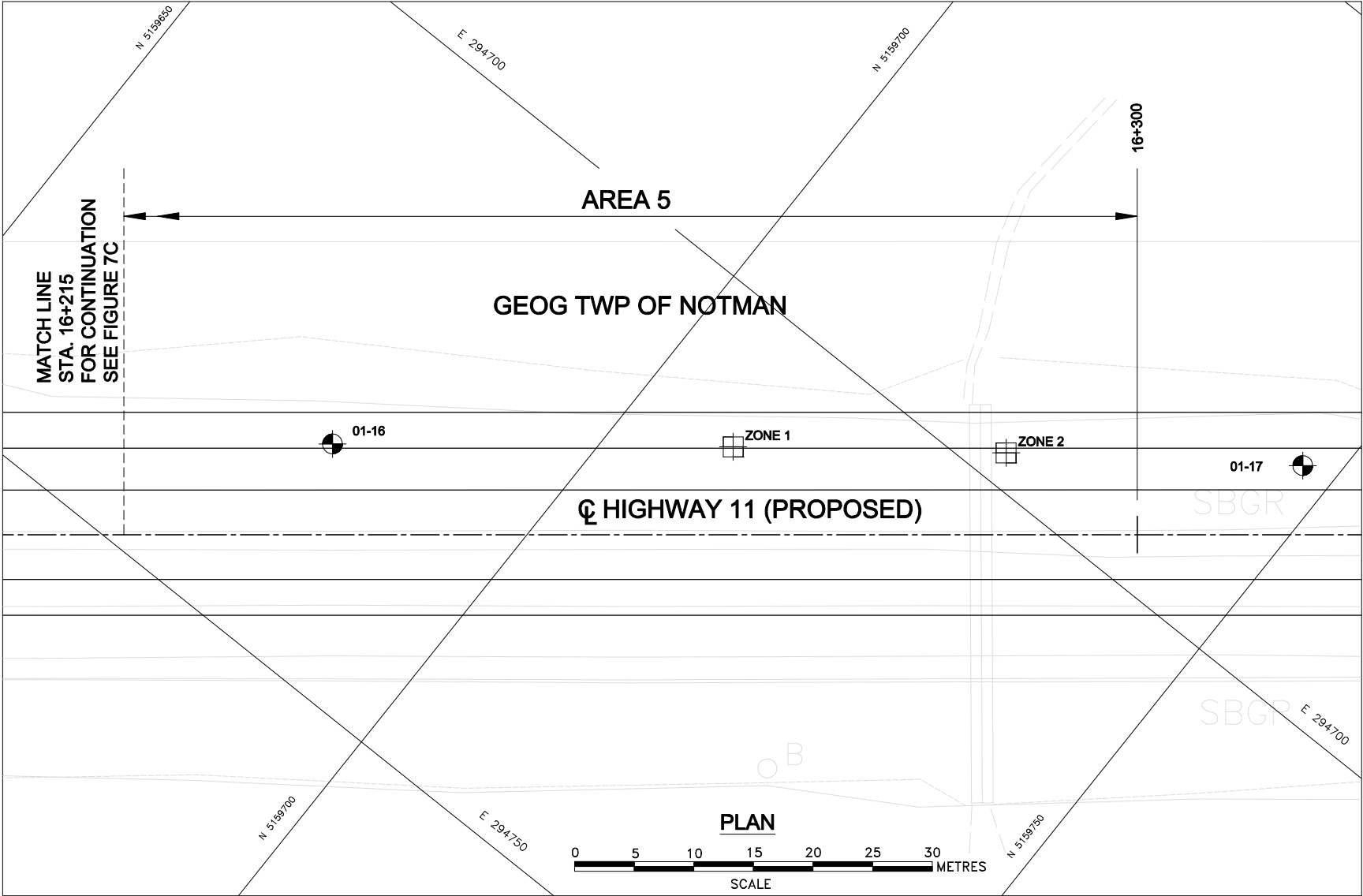
	Borehole
	Zone
	Seal
	Piezometer
N	Standard Penetration Test value
16	Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
100%	Rock Quality Designation (RQD)
	WL in piezometer, June 11, 2001
	WL upon completion of drilling

No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-16	290.2	5159682.5	294732.1
ZONE 1	289.3	5159708.9	294711.2
ZONE 2	288.8	5159727.1	294697.3
01-17	288.8	5159747.2	294682.6

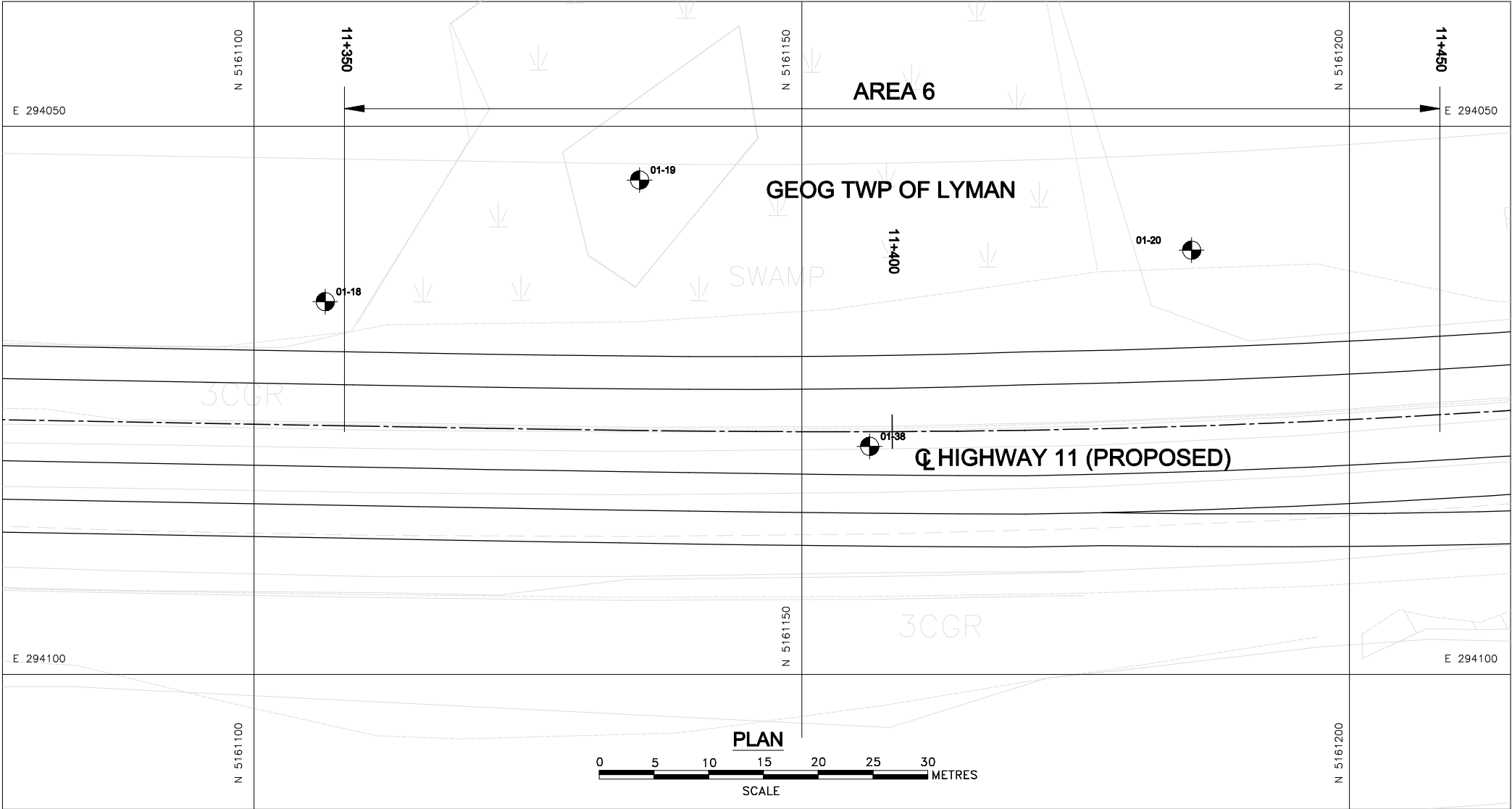
NOTES

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NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 7D







**METRIC**

DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

DIST. 54 HWY. 11  
CONT No.  
WP No. 711-92-00

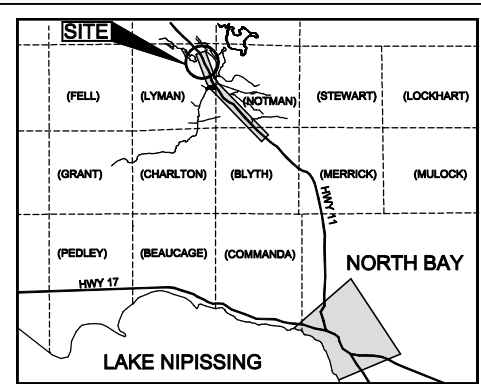
AREA 6 - STATION  
11+350 to 11+450 (LYMAN)  
BOREHOLE LOCATIONS AND SOIL STARTA



SHEET



**Golder Associates Ltd.**  
MISSISSAUGA, ONTARIO, CANADA



KEY PLAN

LEGEND



Borehole



Seal



Piezometer

N

Standard Penetration Test value

16

Blows/0.3m unless otherwise stated  
(Std. Pen. Test, 475 j/blow)

100%

Rock Quality Designation (RQD)



WL in piezometer, June 11, 2001



WL upon completion of drilling

No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-18	289.0	5161106.5	294066.0
01-19	289.7	5161135.2	294054.9
01-38	295.2	5161156.2	294079.2
01-20	289.1	5161185.6	294061.3

NOTES

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

STRATIGRAPHY LEGEND



FILL



TOPSOIL, FIBROUS PEAT



ORGANIC SILT, SILT



SAND AND GRAVEL,  
GRAVELLY SAND



SANDY SILT



SAND



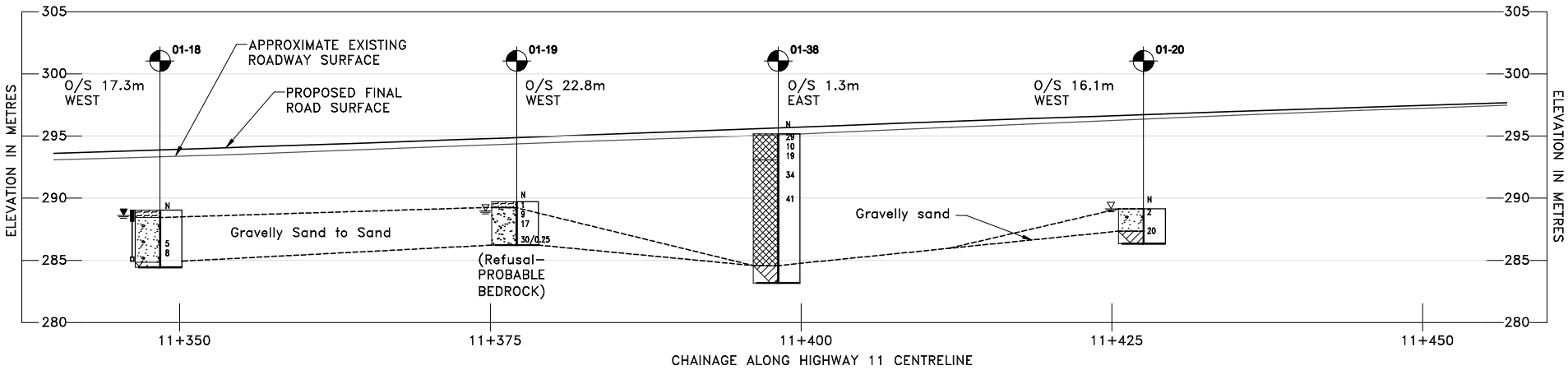
SILTY SAND,  
SILT SAND AND GRAVEL



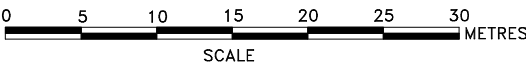
COBBLES



BEDROCK



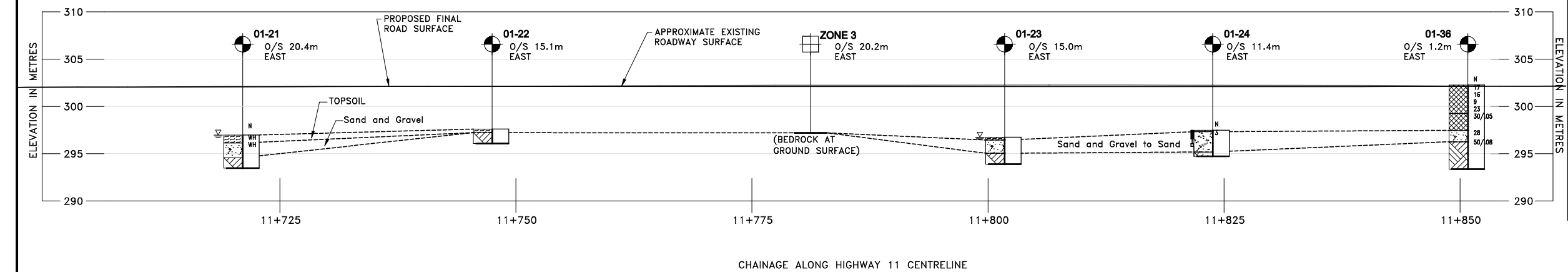
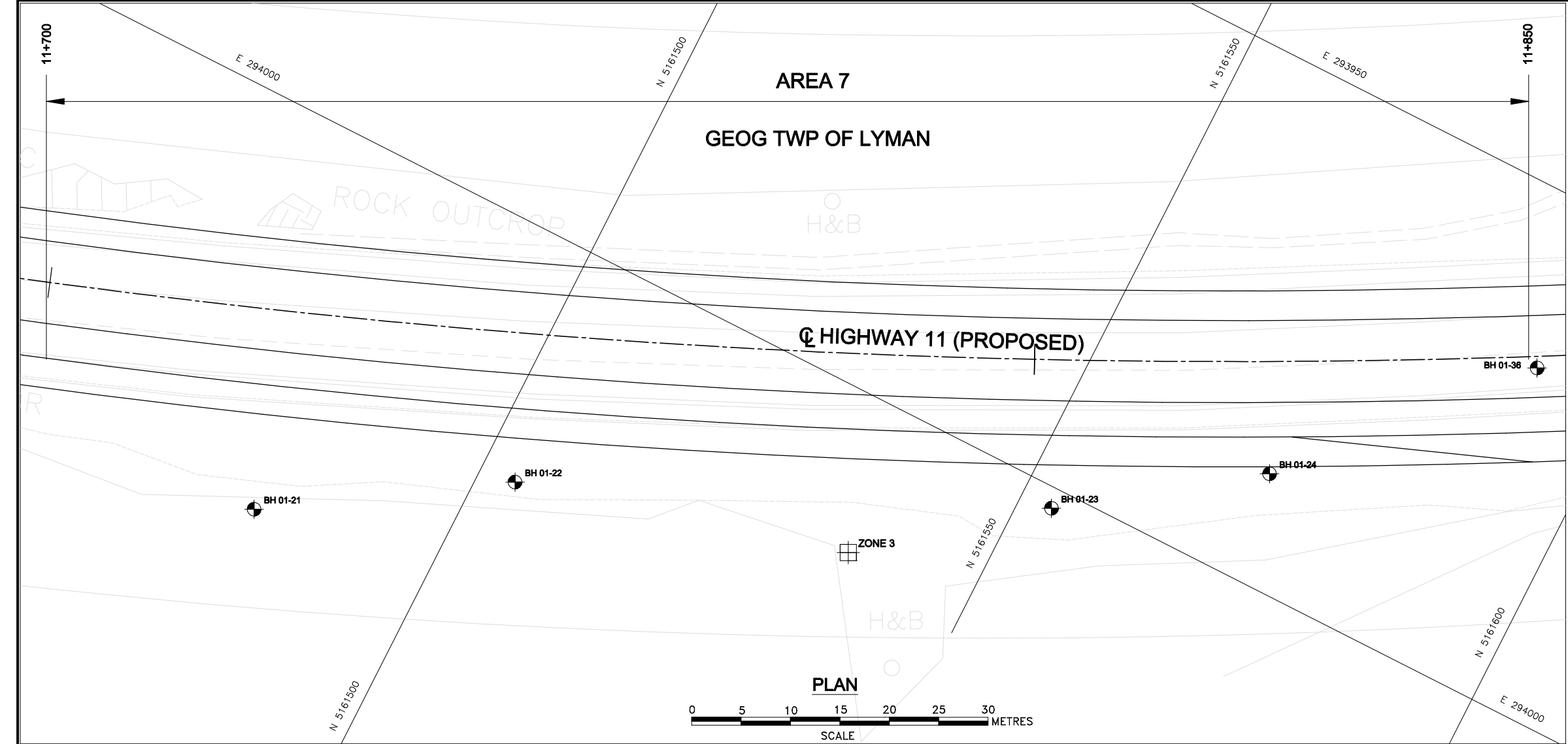
PROFILE



NO.	DATE	BY	REVISION

Geocres No. 31L-81	PROJECT NO. 001-1168-2	DIST. 54
HWY. 11	CHKD. DJE	DATE: SEPT. 2001
SUBM'D.	CHKD. JPD	APPD.
DRAWN: JFC	CHKD. JPD	FIGURE 8

P11168009.DWG



STRATIGRAPHY LEGEND

	FILL		SAND
	TOPSOIL, FIBROUS PEAT		SILTY SAND, SILT SAND AND GRAVEL
	ORGANIC SILT, SILT		COBBLES
	SAND AND GRAVEL, GRAVELLY SAND		BEDROCK
	SANDY SILT		

LEGEND			
	Borehole		
	Zone		
	Seal		
	Piezometer		
N	Standard Penetration Test value		
16	Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)		
100%	Rock Quality Designation (RQD)		
	WL in piezometer, June 11, 2001		
	WL upon completion of drilling		
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-21	297.0	5161481.4	294038.6
01-22	297.6	5161503.7	294024.2
ZONE 3	297.2	5161537.0	294015.3
01-23	296.7	5161553.3	294002.0
01-24	297.5	5161571.4	293988.9
01-36	302.3	5161590.7	293967.1

NOTES

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

DIST. 54  
CONT No.  
WP No. 711-92-00

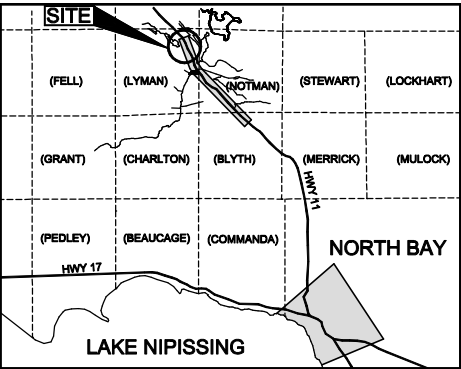
AREA 7 - STATION  
11+700 to 11+850 (LYMAN)  
BOREHOLE LOCATIONS AND SOIL STRATA

SHEET

Golder Associates Ltd.  
MISSISSAUGA, ONTARIO, CANADA


METRIC

DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN




NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2	DIST. 54	
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 9

DIST. 54    HWY. 11  
CONT No.  
WP No. 711-92-00



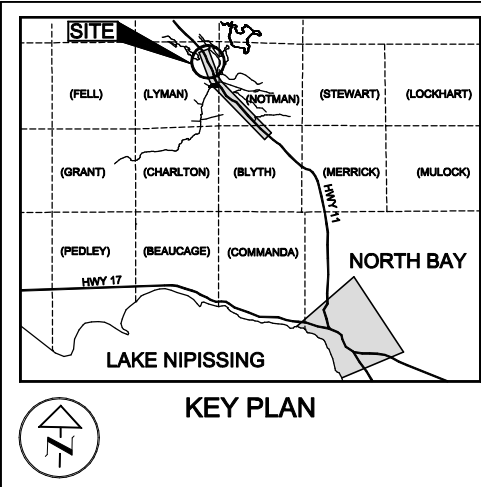
AREA 8 - STATION  
12+020 to 12+070 (LYMAN)  
BOREHOLE LOCATIONS AND SOIL STRATA






SHEET

 **Golder Associates**

**Golder Associates Ltd.**  
MISSISSAUGA, ONTARIO, CANADA

**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN












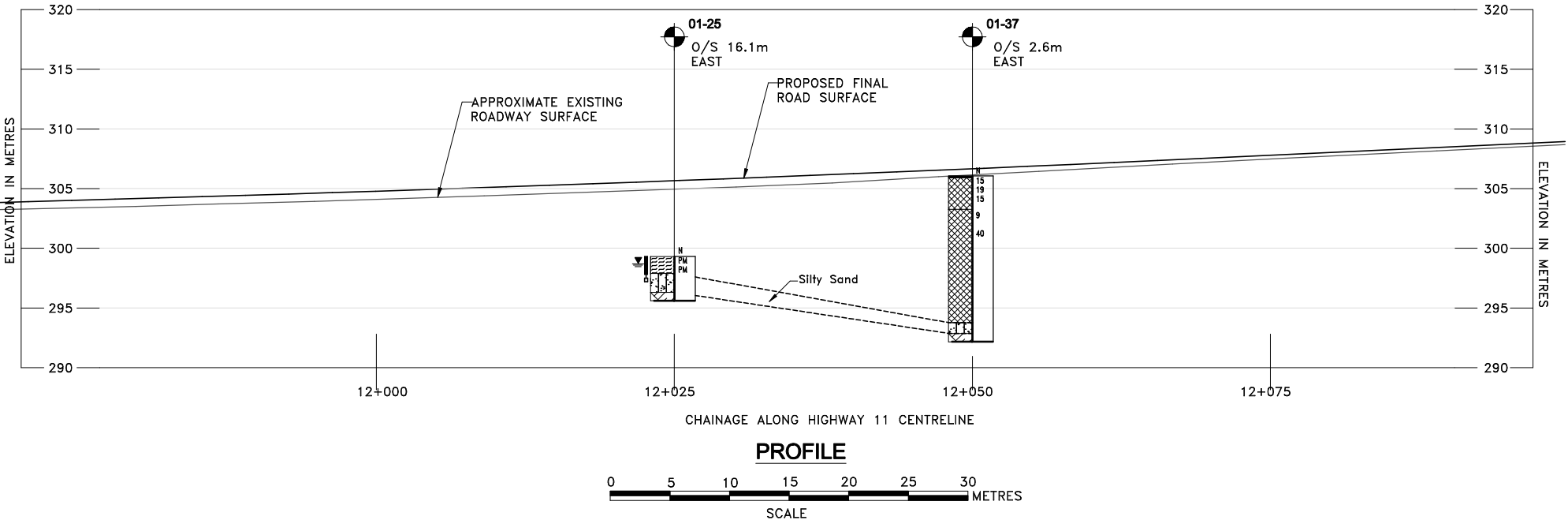
LEGEND			
	Borehole		
	Seal		
	Piezometer		
N	Standard Penetration Test value		
16	Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)		
100%	Rock Quality Designation (RQD)		
	WL in piezometer, June 11, 2001		
	WL upon completion of drilling		
No.	ELEVATION	LOCATION	
		NORTHING	EASTING
01-25	299.3	5161746.2	293885.0
01-37	306.1	5161759.0	293860.0

NOTES

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

STRATIGRAPHY LEGEND

-  FILL
-  TOPSOIL, FIBROUS PEAT
-  ORGANIC SILT, SILT
-  SAND AND GRAVEL, GRAVELLY SAND
-  SANDY SILT
-  SAND
-  SILTY SAND, SILT SAND AND GRAVEL
-  COBBLES
-  BEDROCK



NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 10

METRIC  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES  
UNLESS OTHERWISE SHOWN

DIST. 54 HWY. 11  
CONT No.  
WP No. 711-92-00



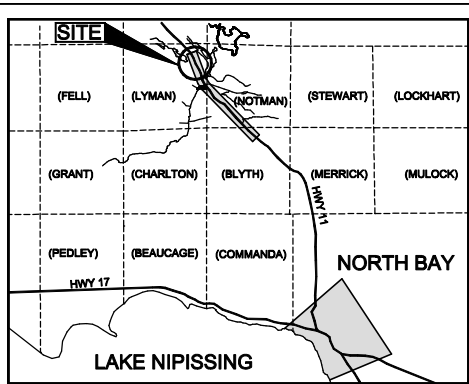
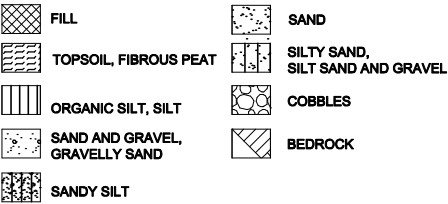
AREA 9 - STATION  
13+325 to 13+375 (LYMAN)  
BOREHOLE LOCATIONS AND SOIL STRATA

SHEET



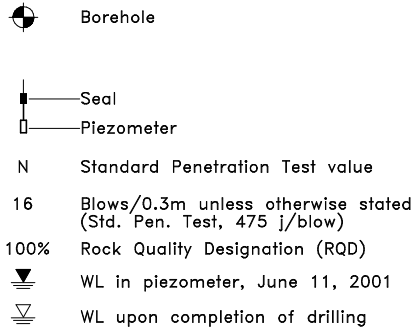
Golder Associates Ltd.  
MISSISSAUGA, ONTARIO, CANADA

STRATIGRAPHY LEGEND



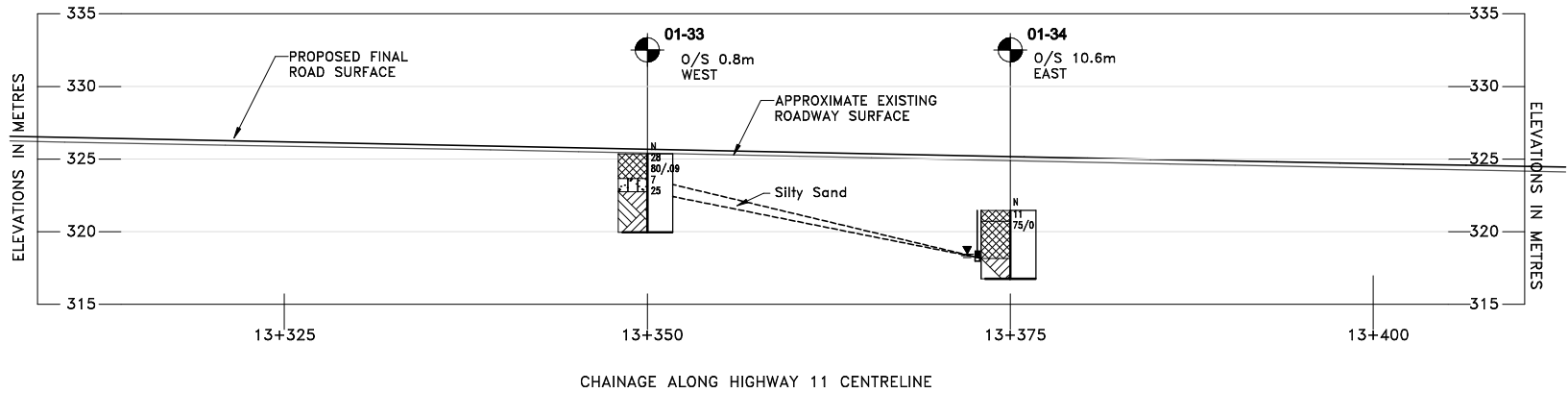
KEY PLAN

LEGEND

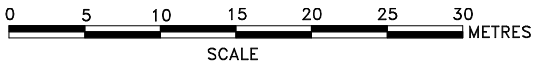


NOTES

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



PROFILE



NO.	DATE	BY	REVISION
Geocres No. 31L-81			
HWY. 11	PROJECT NO. 001-1168-2		DIST. 54
SUBM'D.	CHKD. DJE	DATE: SEPT. 2001	SITE:
DRAWN: JFC	CHKD. JPD	APPD.	FIGURE 11