CONTRACT DRAWINGS
CONTRACT NO. XXXX–XXXX
BOOK 2 OF 3

CENTRAL REGION

(90% COMPLETION RE–SUBMISSION)

OCTOBER 1, 2010

Ministry of Transportation

Ontario

INDEX

W.P. No. 2005-07-00
Contract No.

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DRAWING NAME: CREATED: DWGNAME CREATED MODIFIED: MODDATE MODTIME

METRIC

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES
UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-01
AECOM	

A. K-S. LAW
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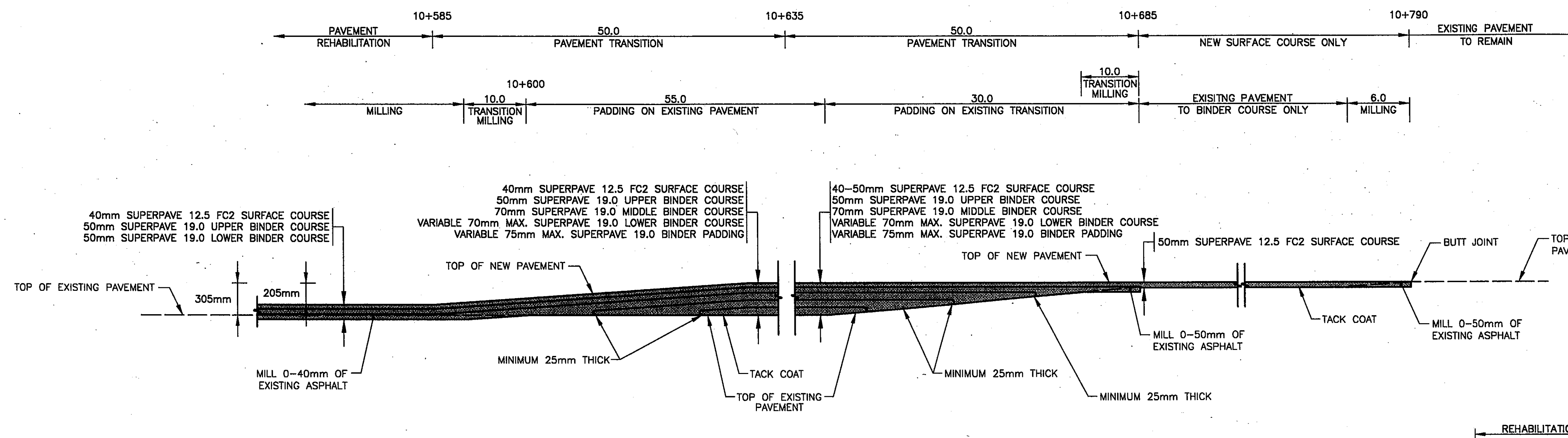
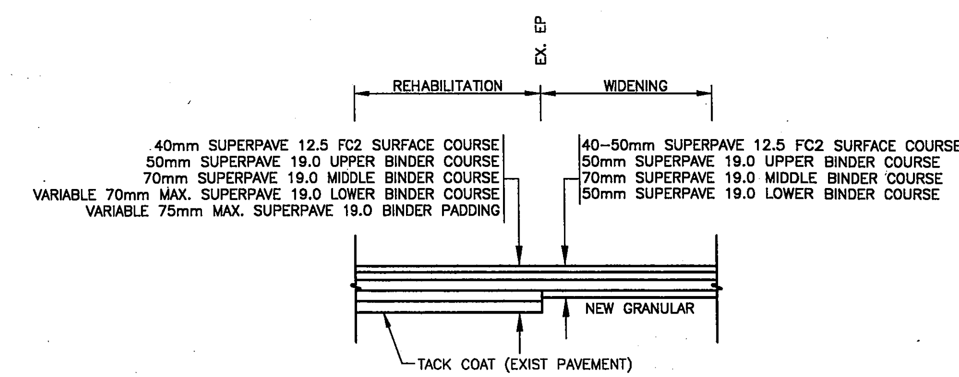
PROVINCE OF ONTARIO



TRANSITION DETAIL AT NORTH CONSTRUCTION LIMIT
FOR EXISTING WOODBINE AVENUE



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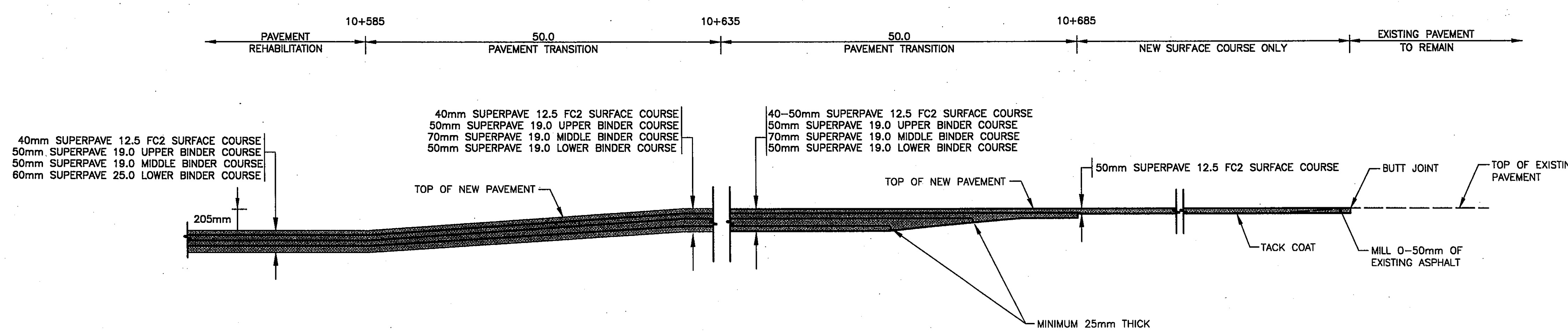

TRANSITION DETAIL AT NORTH CONSTRUCTION LIMIT
FOR WOODBINE AVENUE WIDENING

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05
DRAWING NAME: 2538-199-00_CT-MISC-01.dwg
SAVED BY: mazzaferrom SAVE DATE: 9/20/2010 3:39 PM PLOT DATE: 9/28/2010 3:24 PM

METRIC

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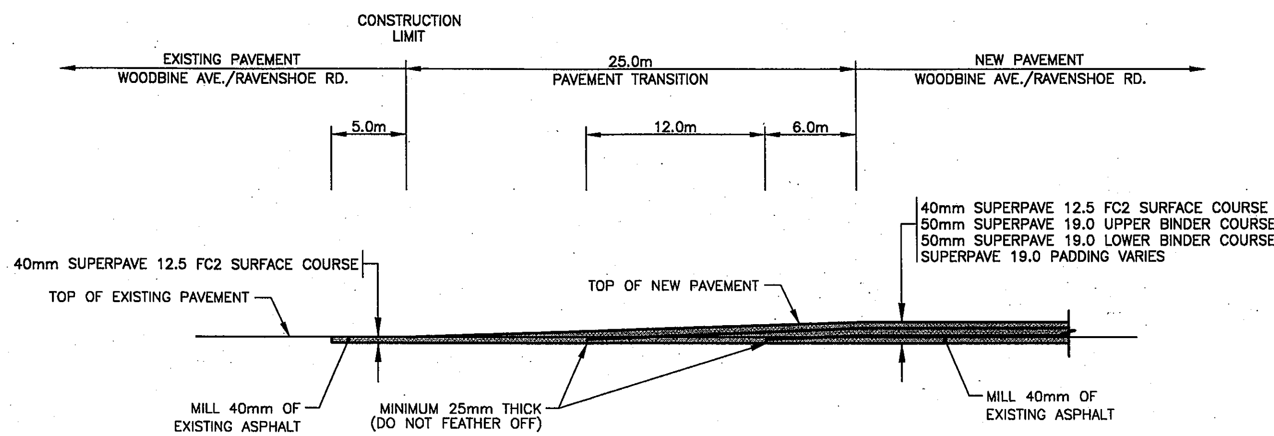
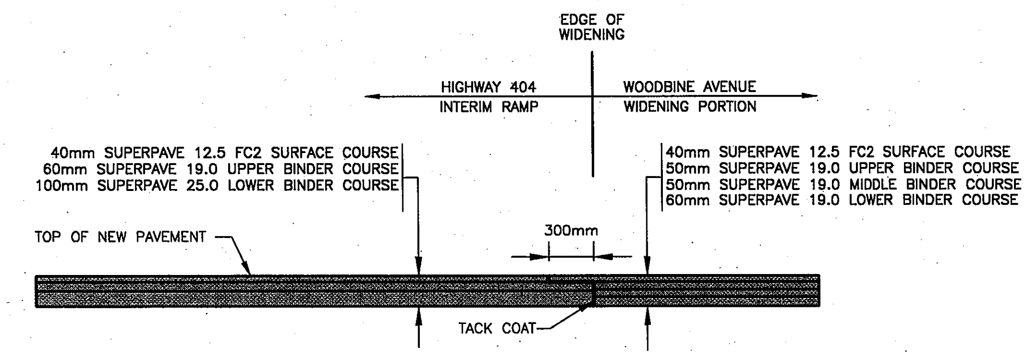
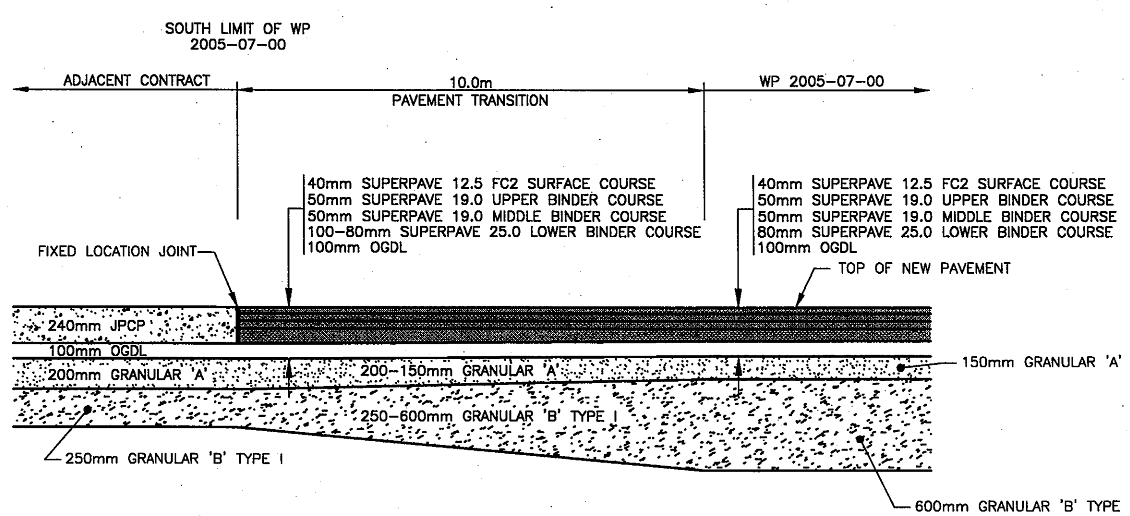


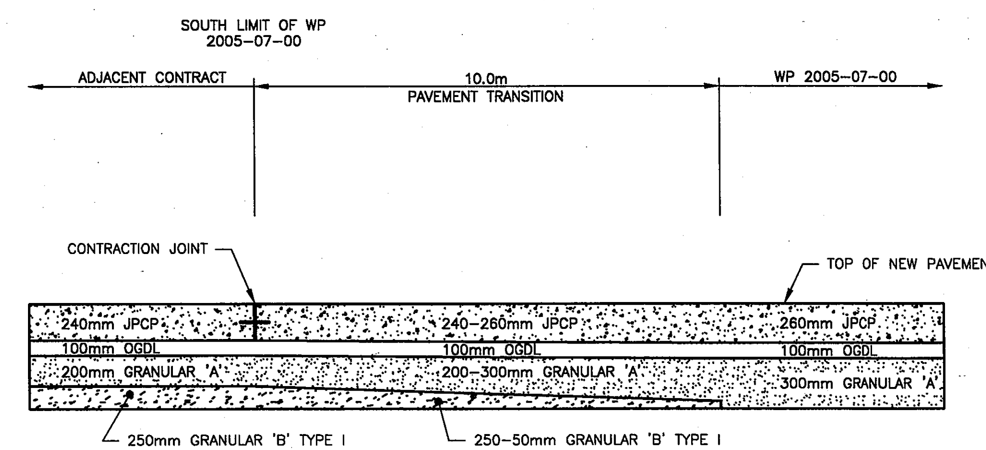
TRANSITION DETAIL AT CONSTRUCTION LIMITS
WOODBINE AVENUE (SOUTH LIMIT)
AND RAVENSHOE ROAD (WEST AND EAST LIMITS)



TRANSITION
BETWEEN RAMPS AND WOODBINE AVENUE



TRANSITION FROM RIGID TO FLEXIBLE
AT SOUTH CONTRACT LIMIT OF HIGHWAY 404



TRANSITION FROM RIGID TO RIGID
AT SOUTH CONTRACT LIMIT OF HIGHWAY 404

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05
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SAVED BY: mozzaferrom SAVE DATE: 9/9/2010 11:01 AM

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DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

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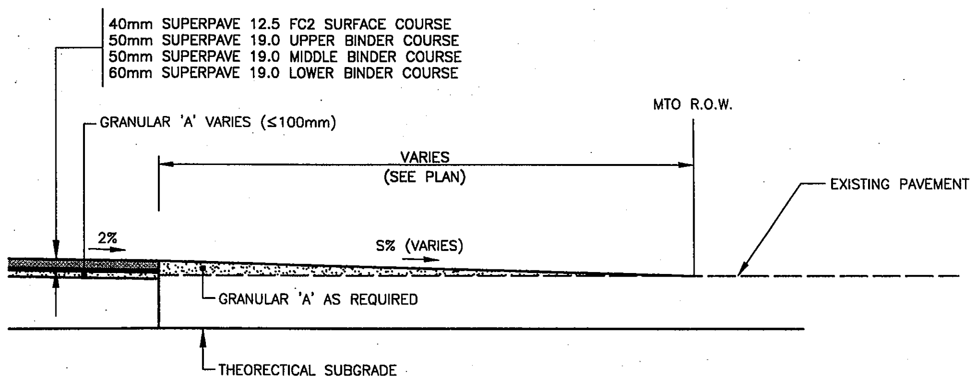
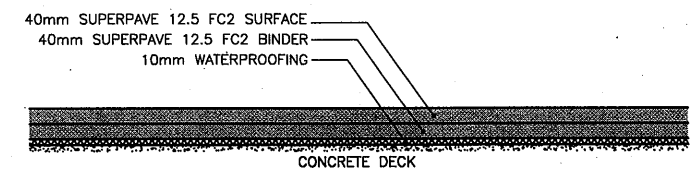
AECOM		

LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO

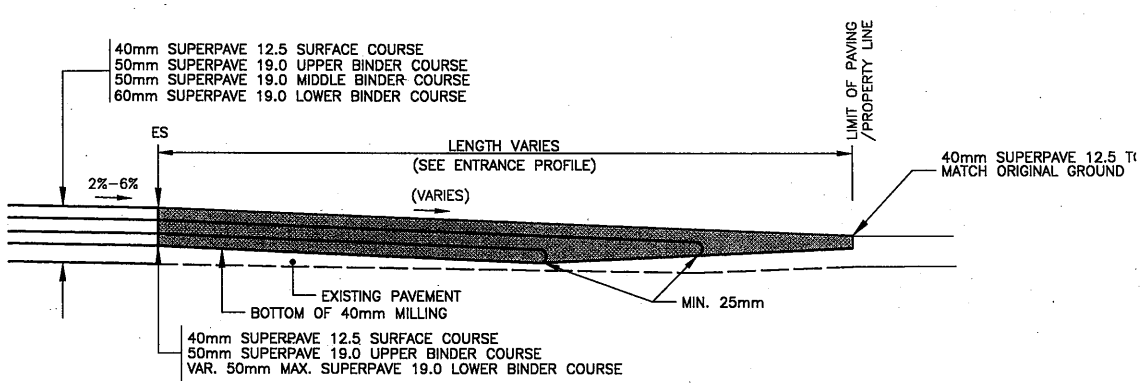


GRANULAR ENTRANCES

STA. 9+454 LT (WOODBINE AVE.)
STA. 9+517 LT (WOODBINE AVE.)
STA. 9+870 RT (RAVENSHOE RD.)
STA. 10+038 RT (RAVENSHOE RD.)
STA. 10+043 LT (RAVENSHOE RD.)
STA. 10+056 LT (RAVENSHOE RD.)

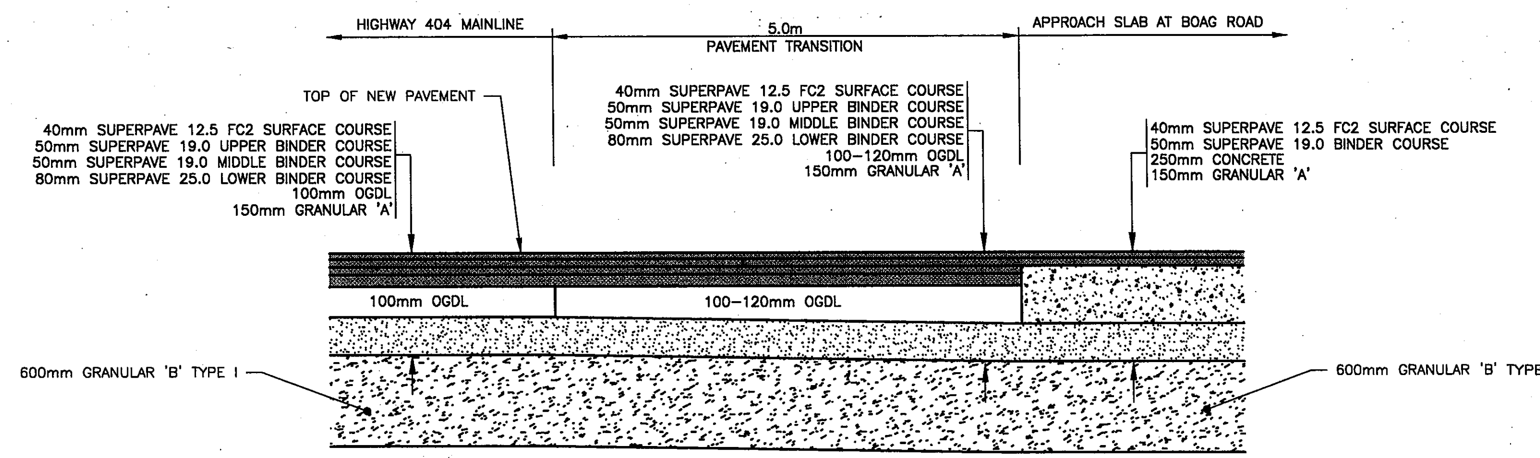


PAVEMENT STRUCTURE ON DECK

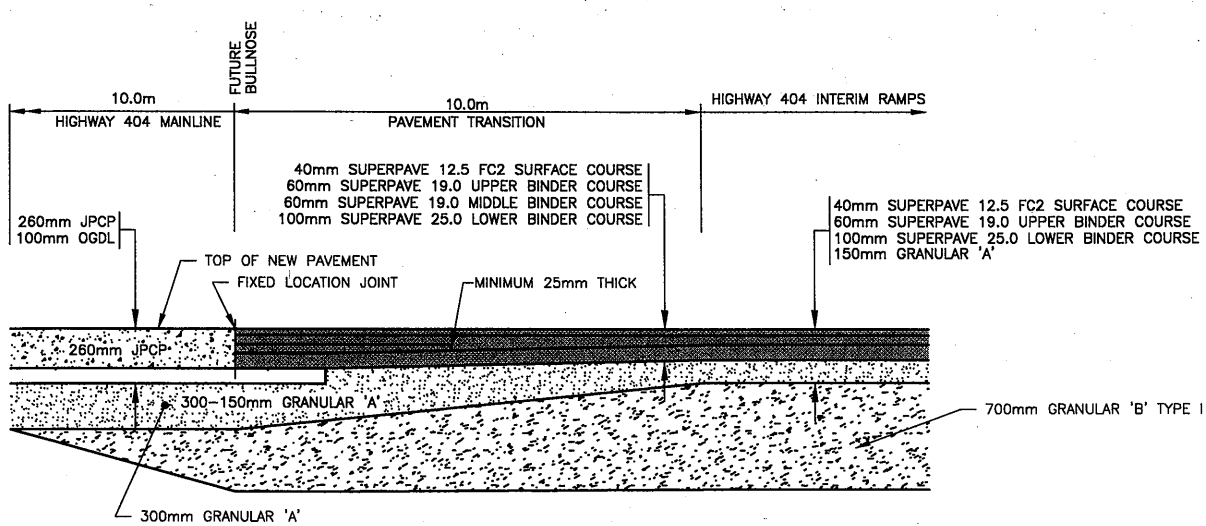


TYPICAL PAVED ENTRANCES

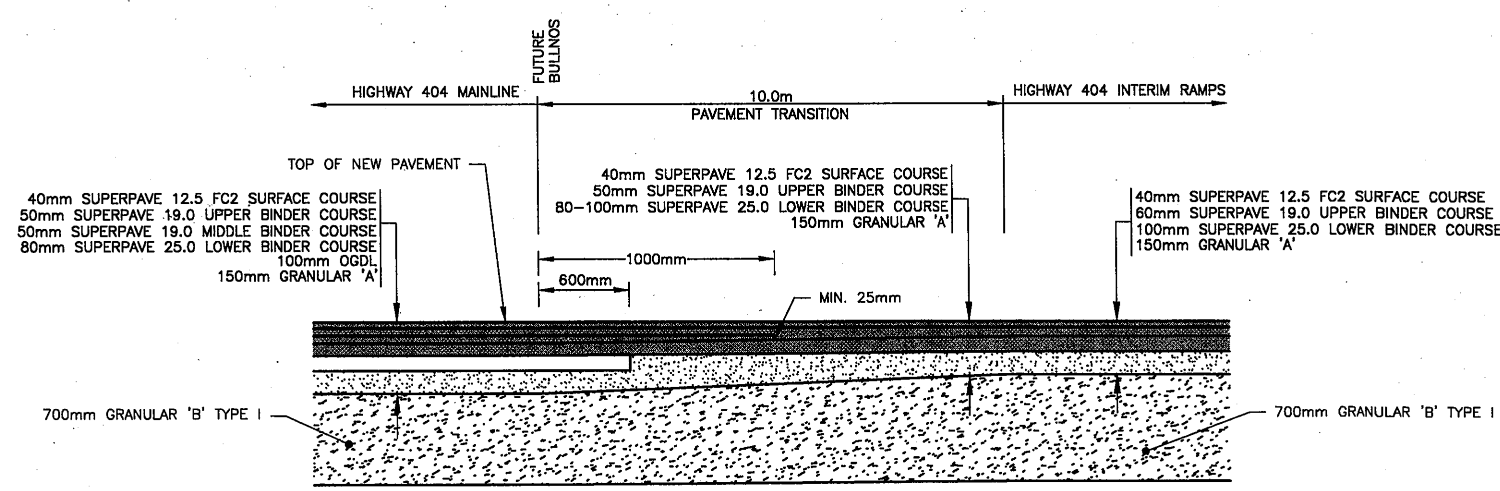
STA. 10+600 LT (WOODBIE AVE.)
STA. 10+638 LT (WOODBINE AVE.)
STA. 10+652 RT (WOODBINE AVE.)
STA. 9+586 LT (RAVENSHOE RD.)
STA. 9+596 LT (RAVENSHOE RD.)



TRANSITION FROM HIGHWAY 404 FLEXIBLE PAVEMENT TO BOAG ROAD STRUCTURES



TRANSITION FROM RIGID TO FLEXIBLE PAVEMENT BETWEEN HIGHWAY 404 MAINLINE AND RAMPS



TRANSITION FROM FLEXIBLE TO FLEXIBLE PAVEMENT BETWEEN HIGHWAY 404 MAINLINE AND RAMPS

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-MISC-03.dwg SAVE DATE: 9/10/2010 10:18 AM PLOT DATE: 9/29/2010 12:46 PM
SAVED BY: lawa1

NOTES

1. IF PADDING 0–20mm IN THICKNESS IS REQUIRED, THE SP 19.0 LOWER BINDER COURSE SHALL BE INCREASED FROM 50mm TO 50–70mm (70mm MAX) IN ONE LIFT.

IF PADDING 20–40mm IN THICKNESS IS REQUIRED, BOTH THE SP 19.0 UPPER AND LOWER BINDER COURSES SHALL BE INCREASED FROM 50mm TO 50–70mm (70mm MAX).

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005–07–00		
MISCELLANEOUS DETAILS	SHEET MISC–04	
AECOM		

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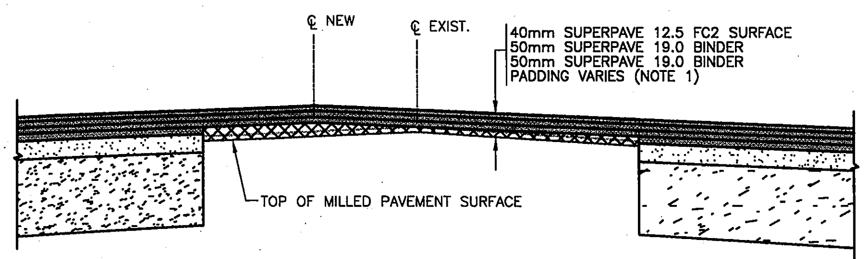
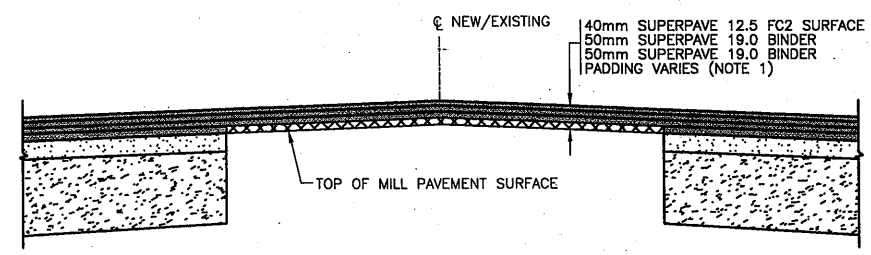
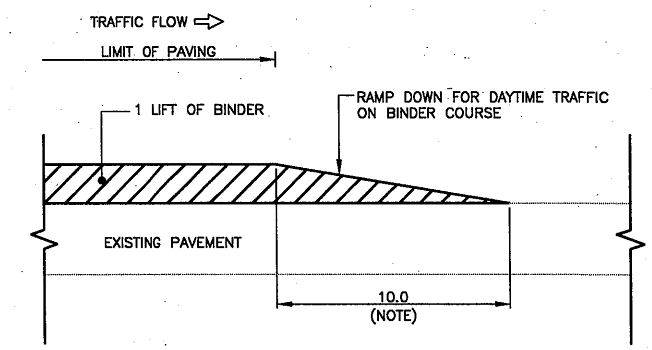


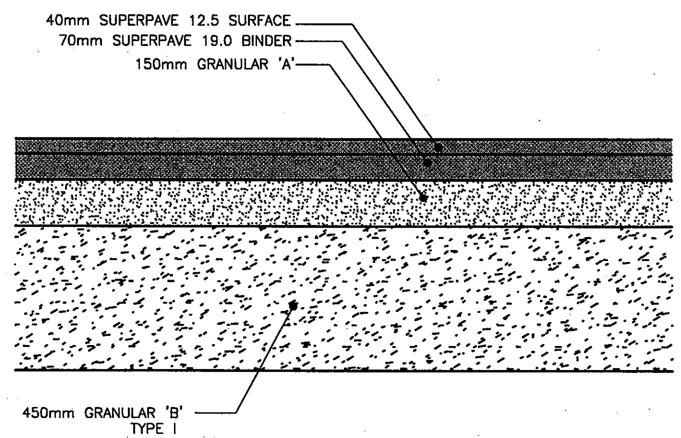
PADDING FOR CROWN SHIFT
WOODBINE AVE. AND RAVENSHOE RD.



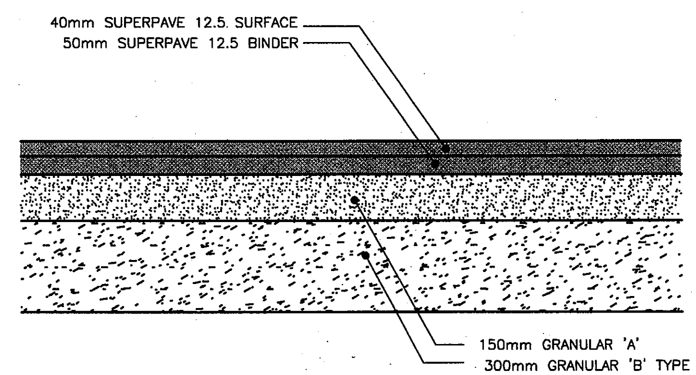
PADDING FOR RAISED PROFILE
WOODBINE AVE. AND RAVENSHOE RD.



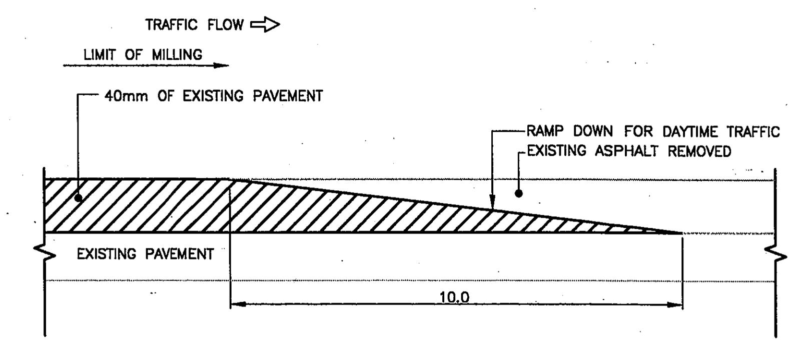
TEMPORARY RAMP DOWN OF BINDER COURSE PAVING
LONGITUDINAL SECTION
(NOTE: 1.0m FOR TRANSVERSE SECTION)



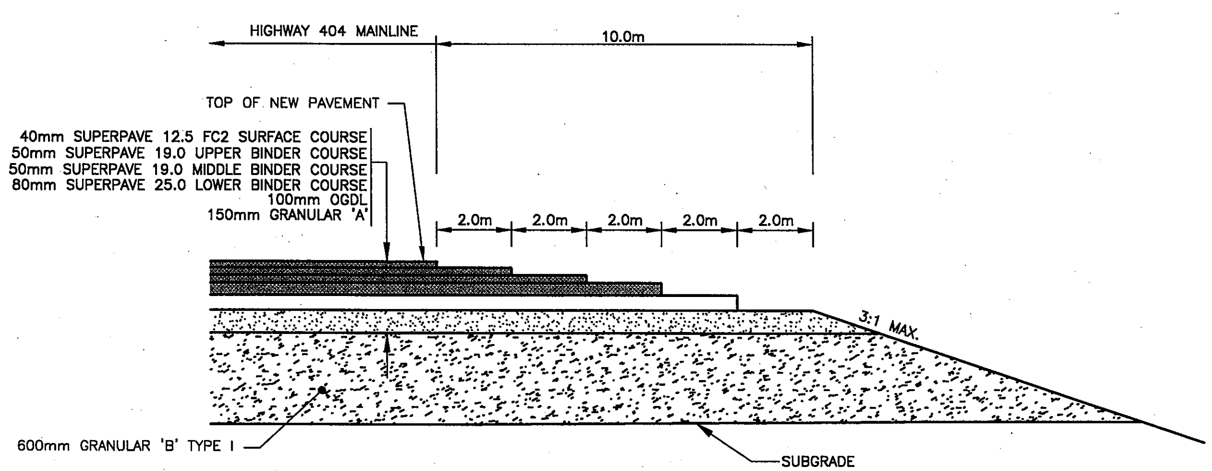
PAVEMENT STRUCTURE FOR
COMMUTER PARKING LOT ENTRANCE



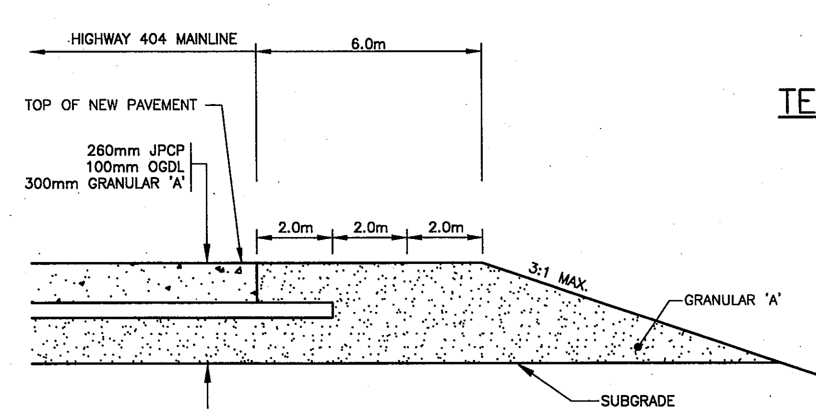
PAVEMENT STRUCTURE FOR
COMMUTER PARKING LOT



TEMPORARY RAMP DOWN OF ASPHALT REMOVAL
LONGITUDINAL SECTION



PAVEMENT TERMINATION
AT NORTH END OF HIGHWAY 404 MAINLINE
FLEXIBLE PAVEMENT



PAVEMENT TERMINATION
AT NORTH END OF HIGHWAY 404 MAINLINE
RIGID PAVEMENT

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

DRAWING NAME: 2538-199-00_CT-MISC-04.dwg PLOT DATE: 9/28/2010 3:25 PM
SAVED BY: mozzaferom SAVE DATE: 9/10/2010 9:29 AM

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

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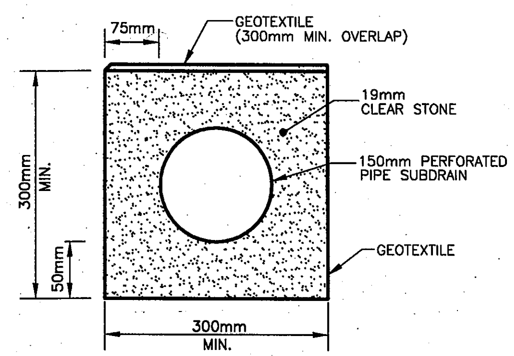
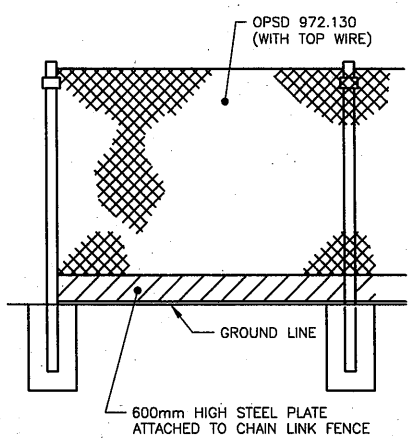
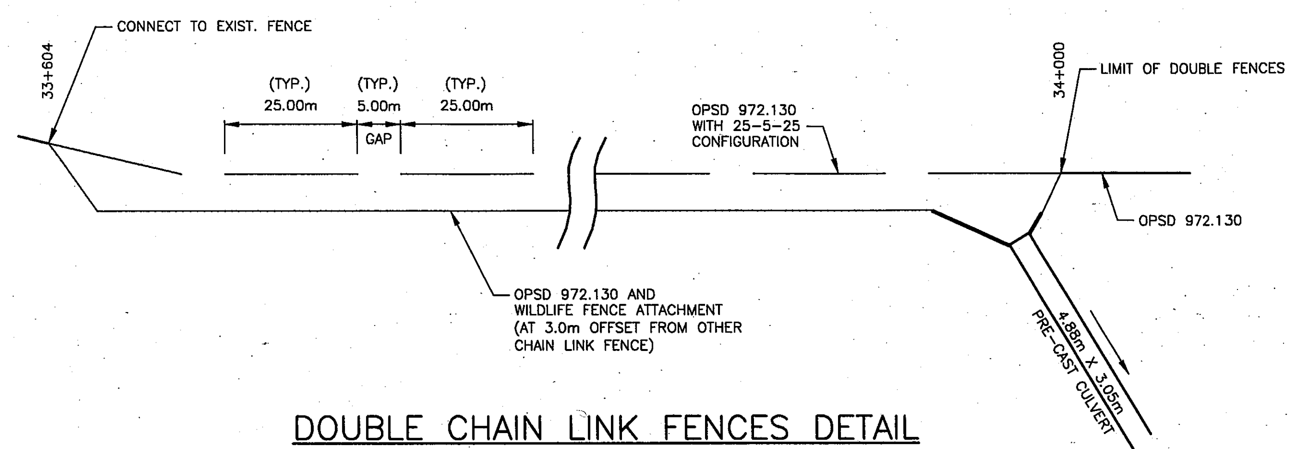
WP	2005-07-00	
MISCELLANEOUS DETAILS		SHEET MISC-05
AECOM		



SUBDRAIN DETAIL

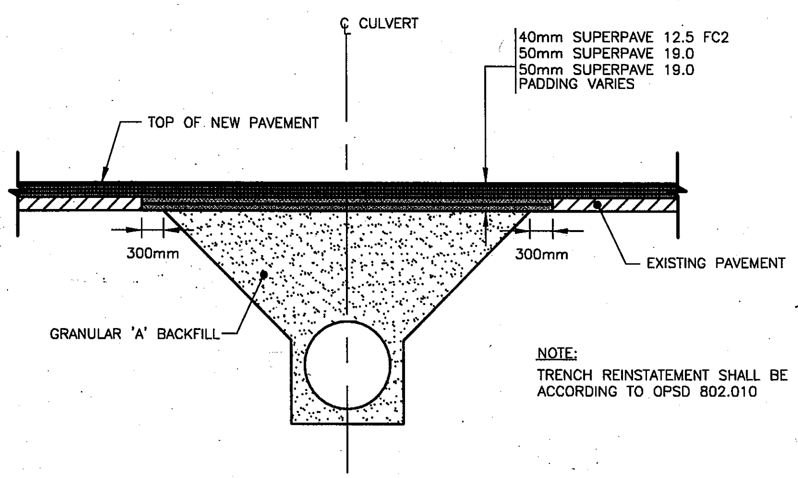


CHAIN LINK FENCE AND WILDLIFE FENCE ATTACHMENT

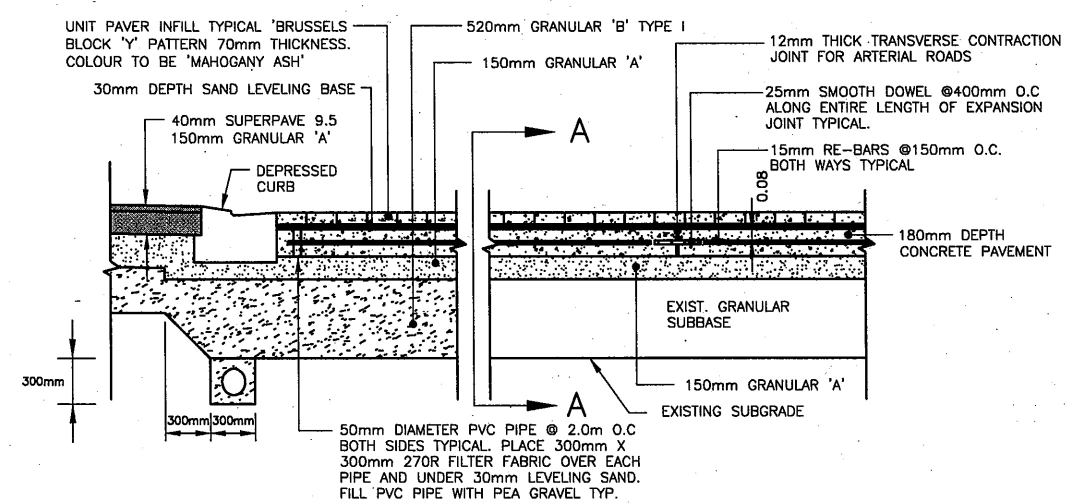


DOUBLE CHAIN LINK FENCES DETAIL

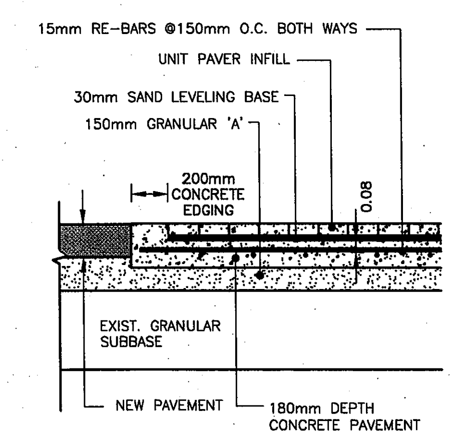
STA. 33+604 – STA. 34+002 LT



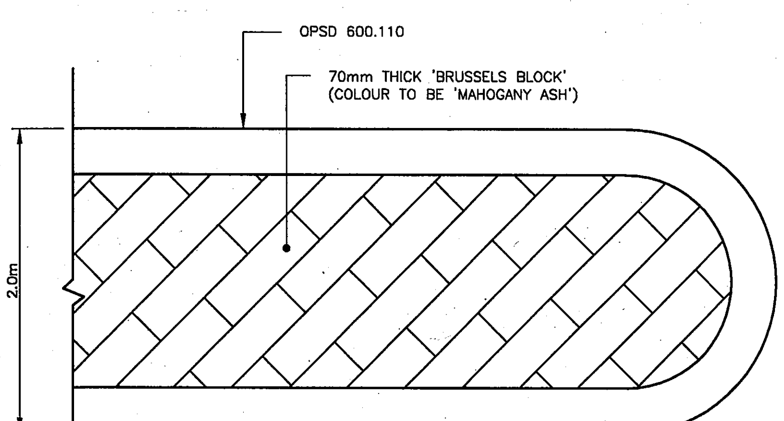
CULVERT INSTALLATIONS BY OPEN CUT TRENCH REINSTATEMENT DETAIL



INTERLOCKING CONCRETE UNIT PAVER CROSSWALK SECTION

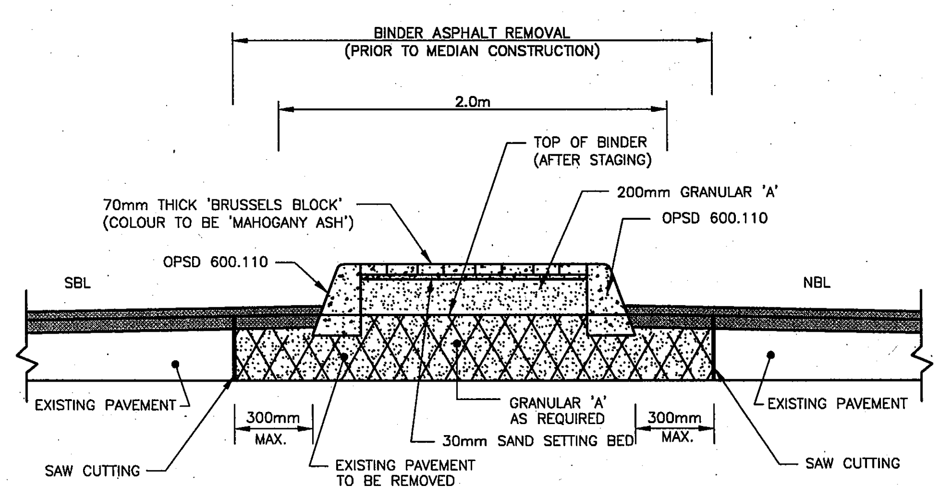


SECTION A–A



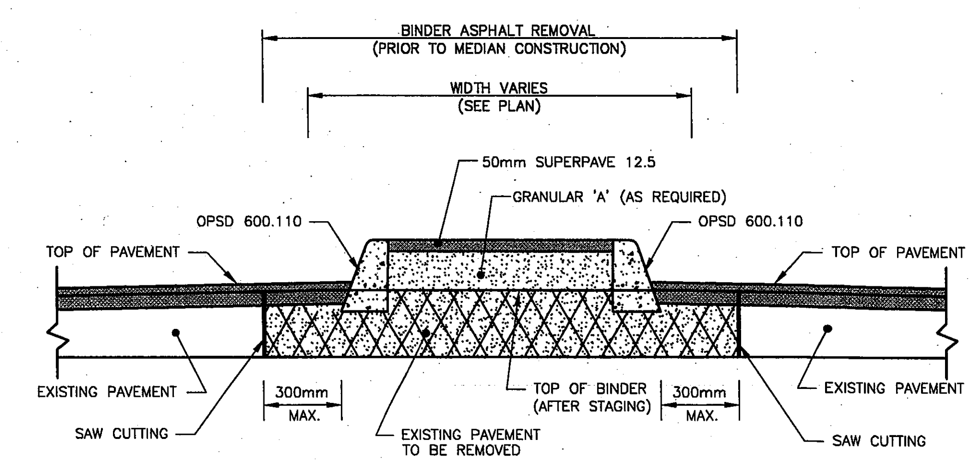
INTERLOCKING CONCRETE UNIT PAVER MEDIAN

WOODBINE AVE – NORTH OF RAVENSHOE ROAD



INTERLOCKING CONCRETE UNIT PAVER MEDIAN SECTION

WOODBINE AVE – NORTH OF RAVENSHOE ROAD



RAISED MEDIAN SECTION

AT WOODBINE AVENUE/PARKING LOT INTERSECTION

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05
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SAVED BY: lowo1

METRIC

DIMENSIONS ARE IN METRES
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UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-06
AECOM	

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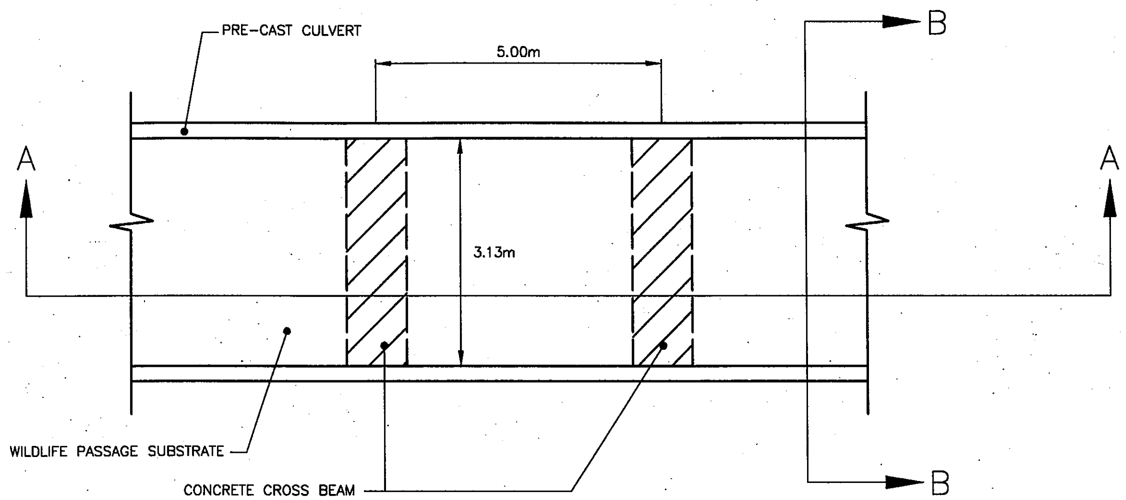
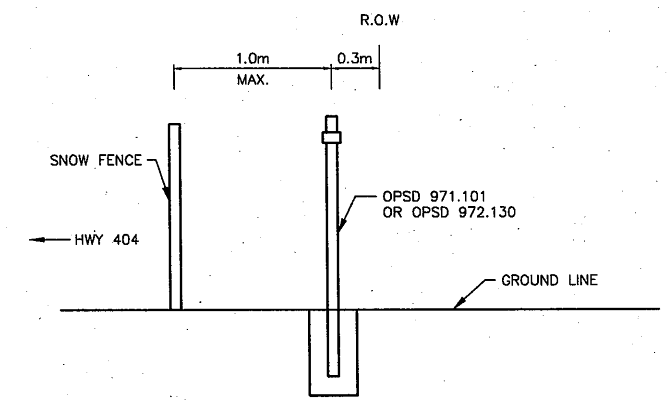
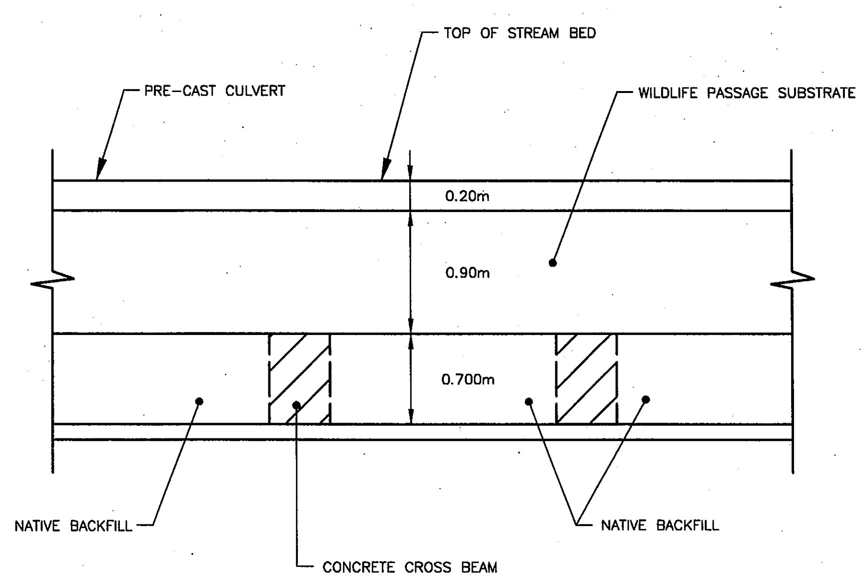


WILDLIFE PASSAGE SUBSTRATE INSIDE PRE-CAST CULVERT

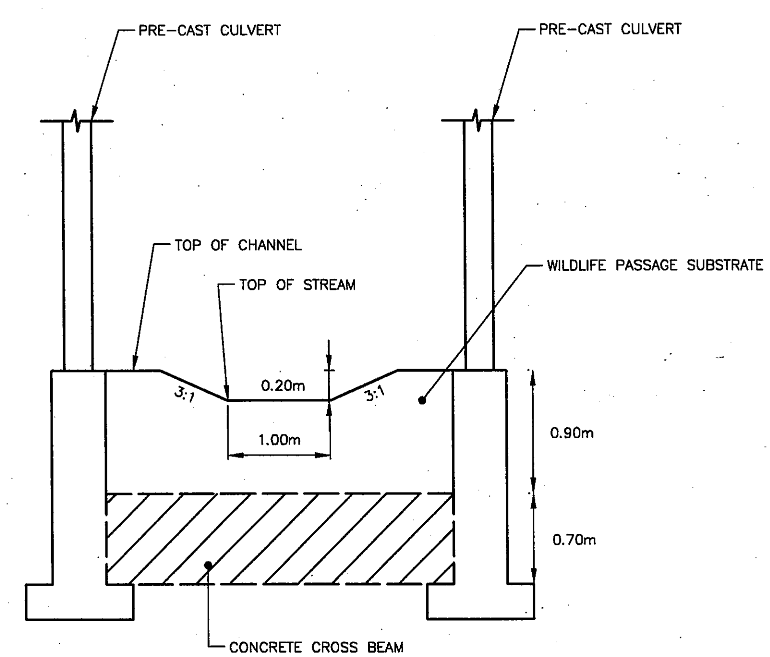


SNOW FENCE INSTALLATION (TYPICAL) ALONG HIGHWAY 404

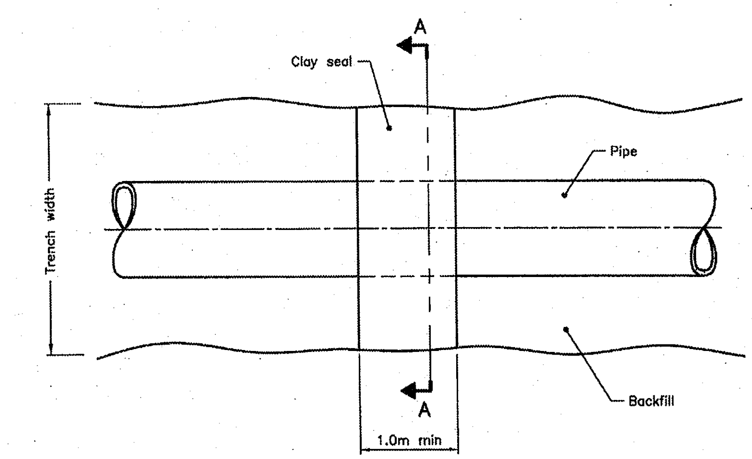
STA. 35+159 TO 35+842
STA. 37+259 TO 37+500



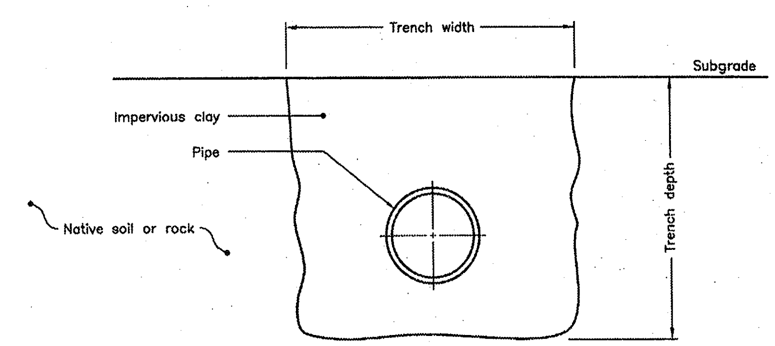
SECTION A–A



SECTION B–B



PLAN



SECTION A–A

CLAY SEAL FOR PIPE TRENCHES

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

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SAVED BY: lawa1 SAVE DATE: 9/21/2010 4:19 PM

METRIC

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES
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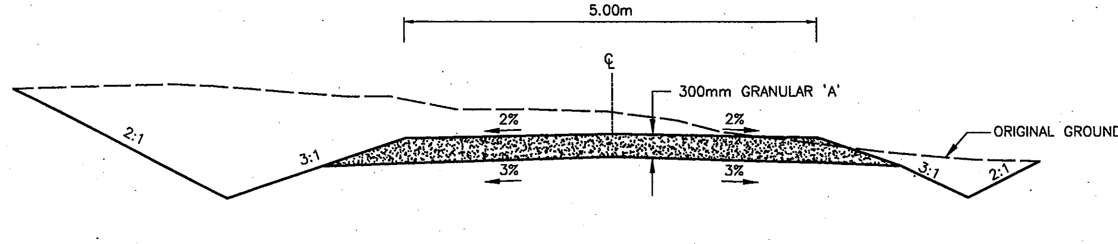
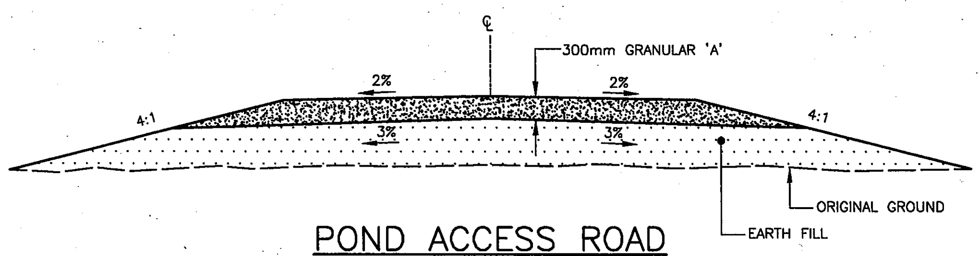
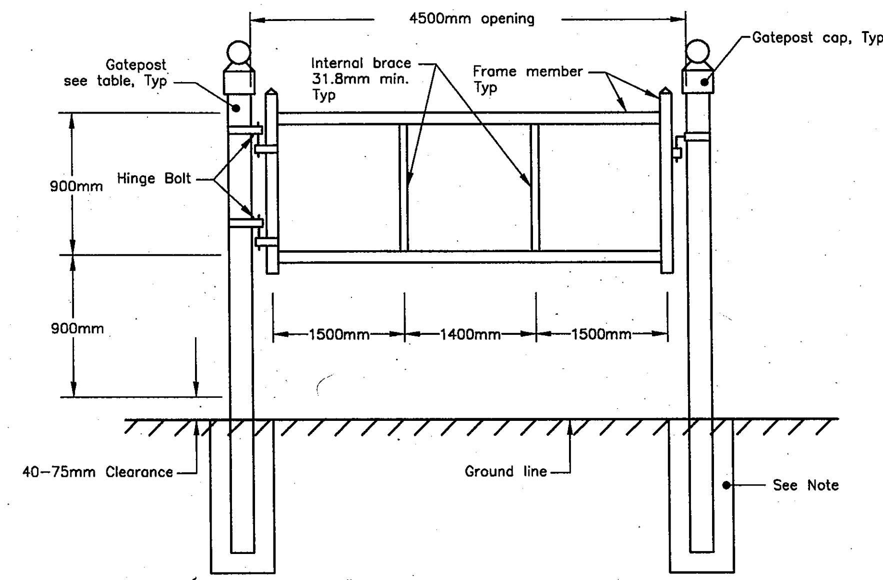
CONT WP 2005-07-00		
MISCELLANEOUS DETAILS	SHEET MISC-07	
AECOM		
	LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	



POND ACCESS ROAD
CUT SECTION



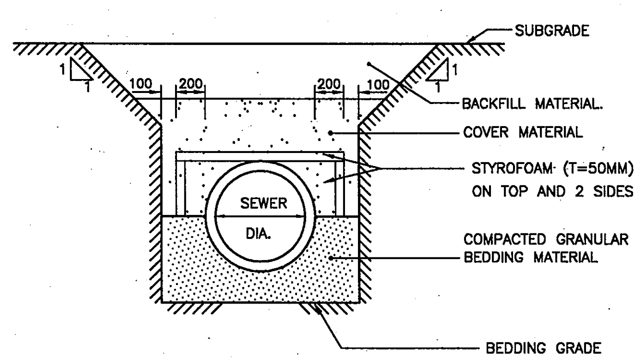
POND ACCESS ROAD
FILL SECTION



SINGLE SWING GATE FOR POND ACCESS

GATE AND GATEPOST DETAILS TABLE			
Gate Type and Max Opening m	Frame Member Min OD	PostDia Min OD	Post Length Standard m
Single swing 4.5	48.3	114.3	2.9

NOTE:
For footing details refer to OPSD–972.130.



PIPE SEWER INSULATION DETAILS (LESS THAN 1.5m COVER)

N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-07.dwg SAVED BY: mazzaferrom SAVE DATE: 9/21/2010 4:18 PM PLOT DATE: 9/28/2010 3:25 PM

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METRIC

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CONT WP 2005-07-00	
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AECOM	

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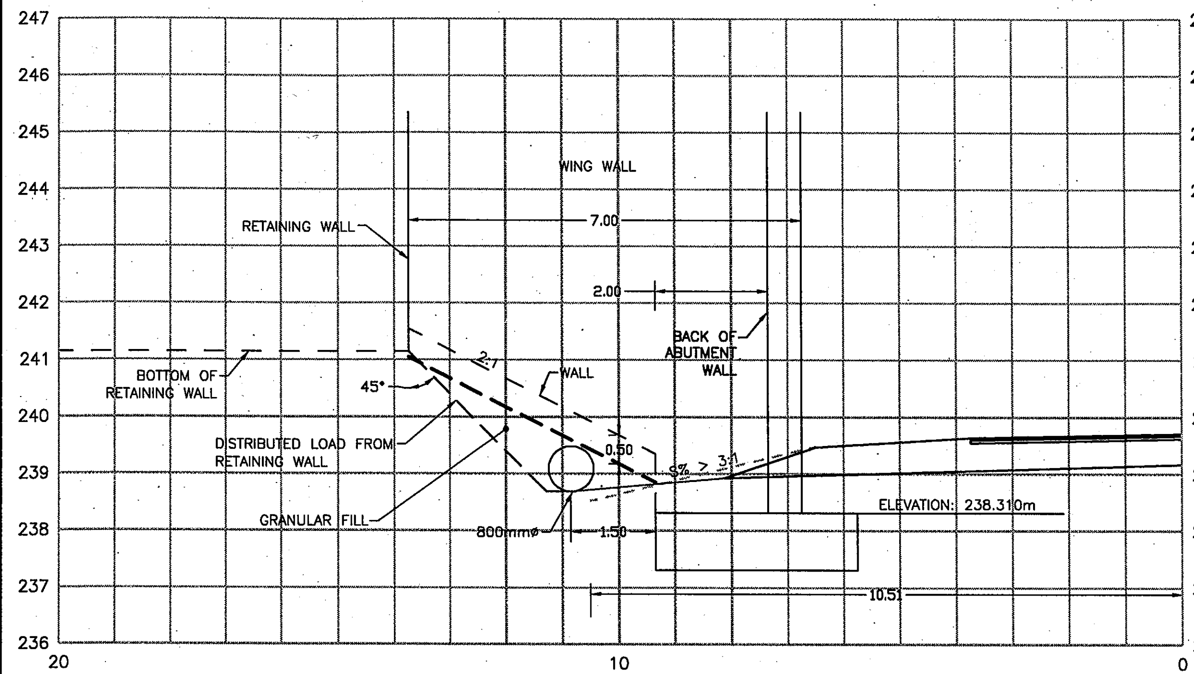
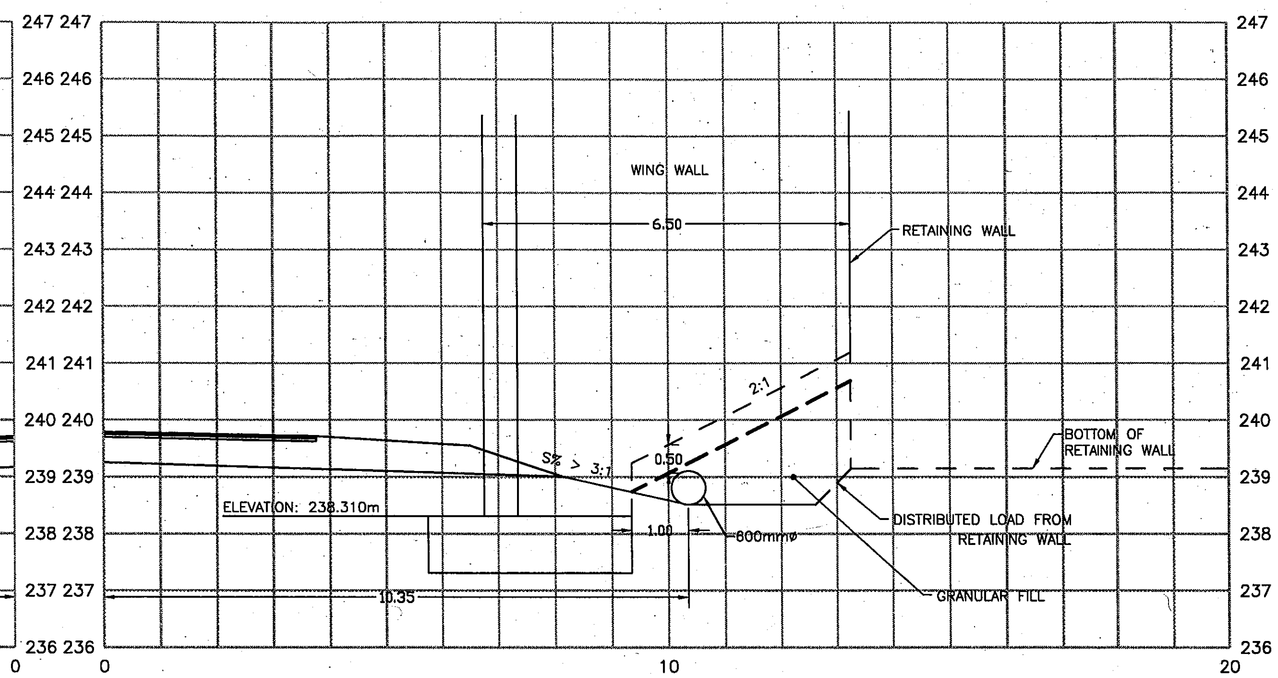


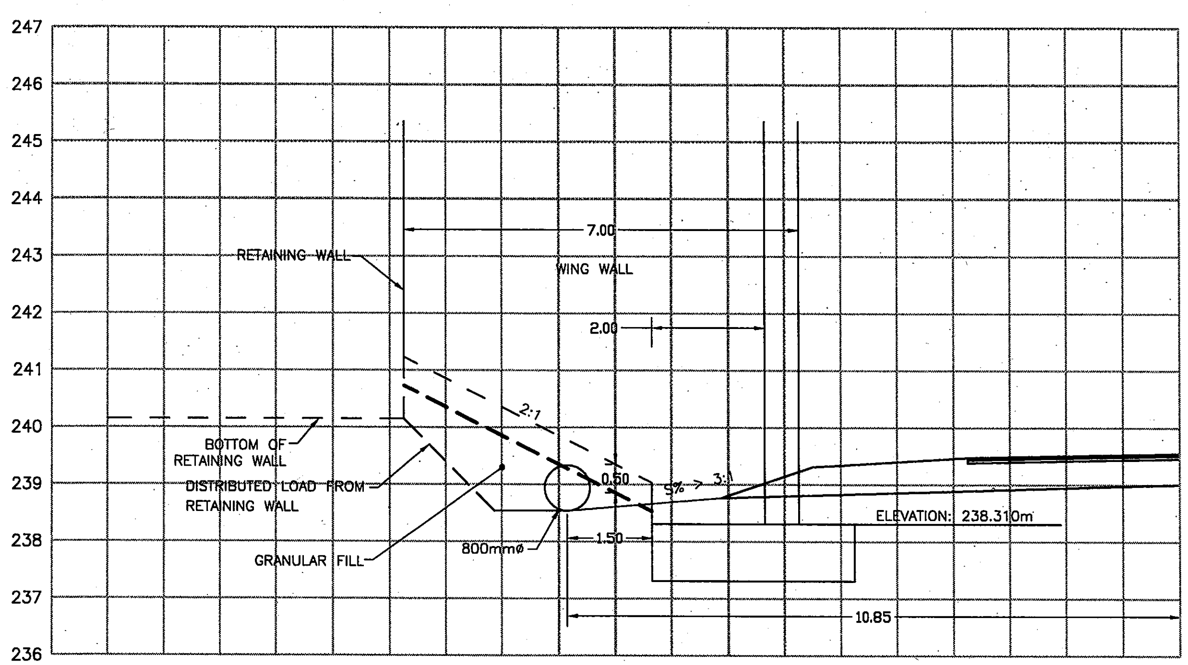
STA. 9+974.027 LT

CULVERT SECTION AT N/W QUADRANT OF SBL, BOAG ROAD STRUCTURES (BEHIND NORTH ABUTMENT)



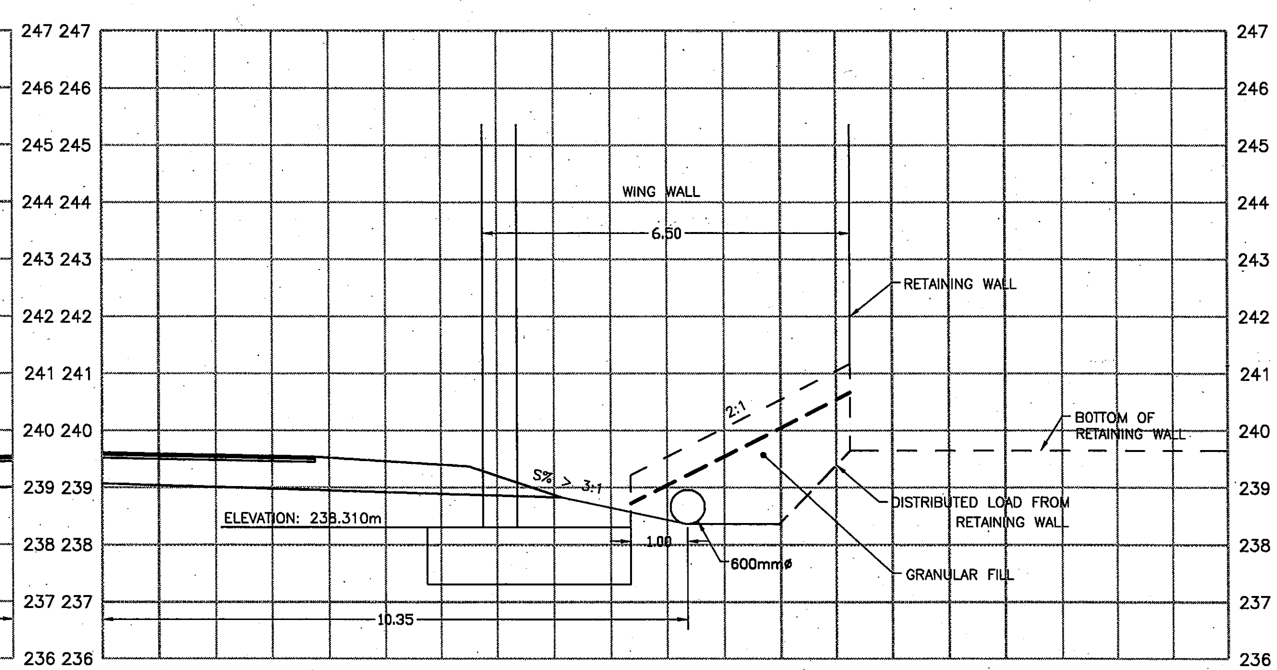
STA. 9+967.518 LT

CULVERT SECTION AT S/W QUADRANT OF SBL, BOAG ROAD STRUCTURES (BEHIND SOUTH ABUTMENT)



STA. 9+988.752 RT

CULVERT SECTION AT N/E QUADRANT OF SBL, BOAG ROAD STRUCTURES (BEHIND NORTH ABUTMENT)



STA. 9+982.197 RT

CULVERT SECTION AT S/E QUADRANT OF SBL, BOAG ROAD STRUCTURES (BEHIND SOUTH ABUTMENT)

SCALE
0.5 0 1.0
Horizontal & Vertical

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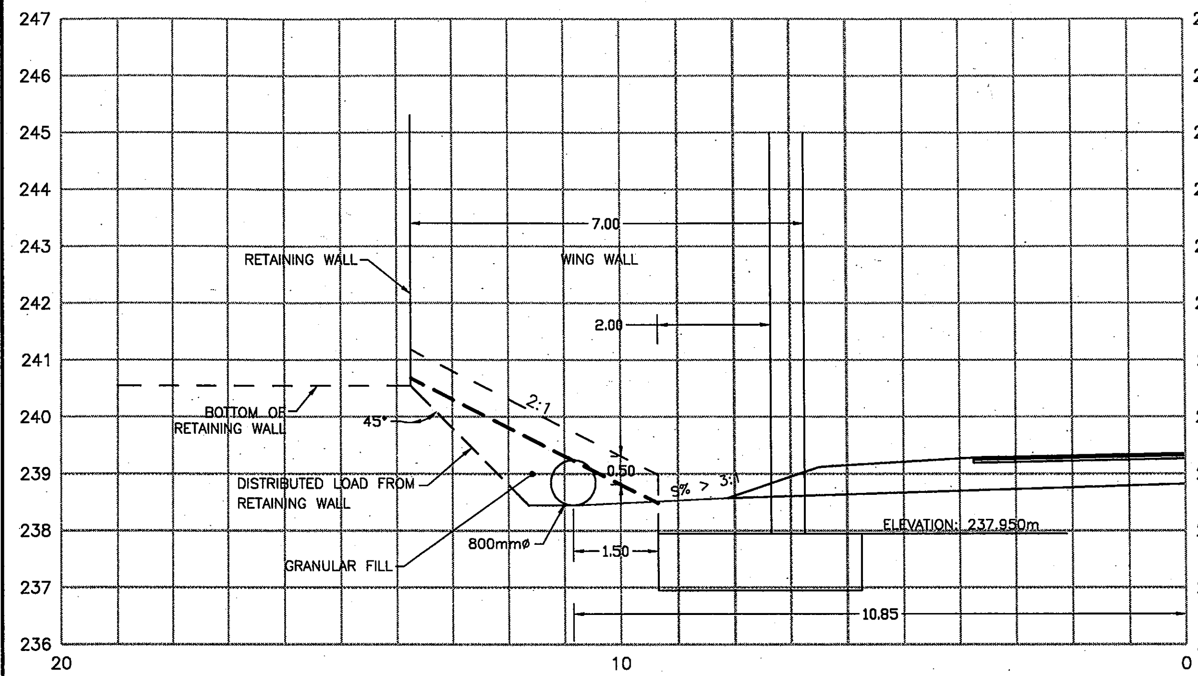
DRAWING NAME: 2538-199-00_CT-MISC-08.dwg
SAVED BY: mazzaferrom
SAVE DATE: 5/27/2010 6:27 PM
PLOT DATE: 9/28/2010 3:25 PM

METRIC

DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES
UNLESS OTHERWISE SHOWN

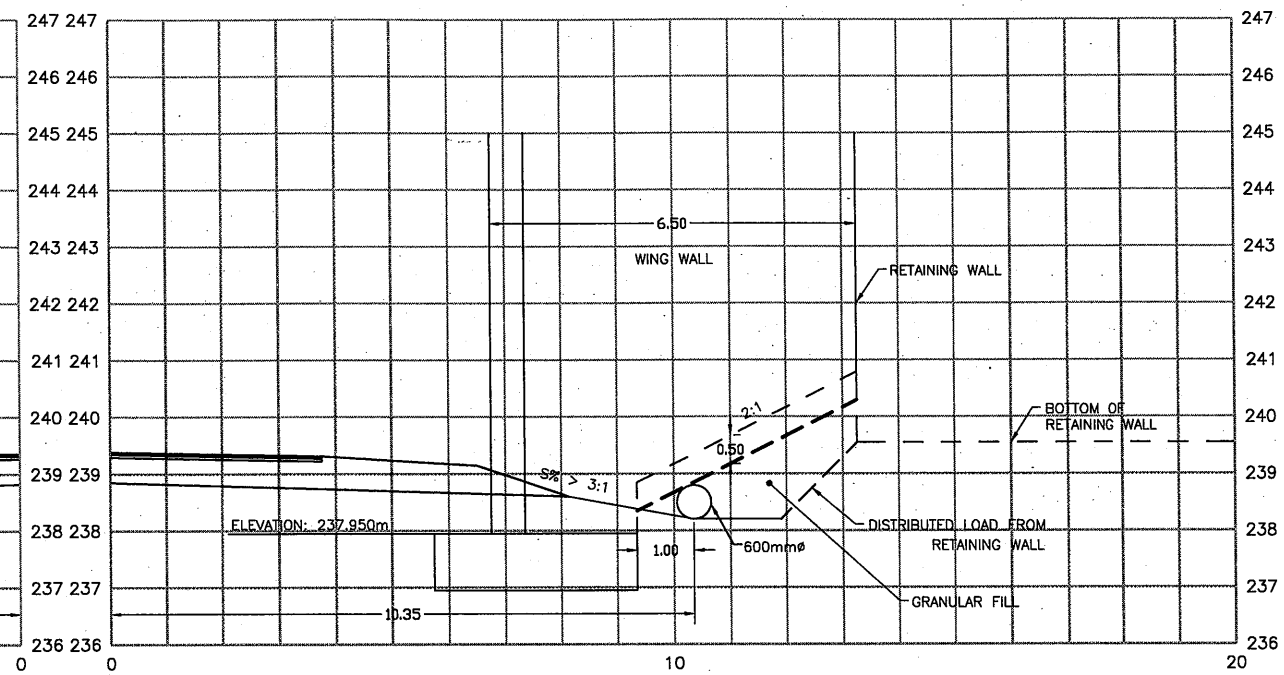
CONT	
WP	2005-07-00
MISCELLANEOUS DETAILS	SHEET MISC-09
AECOM	

LICENSED PROFESSIONAL ENGINEER
A K-S. LAW
PROVINCE OF ONTARIO



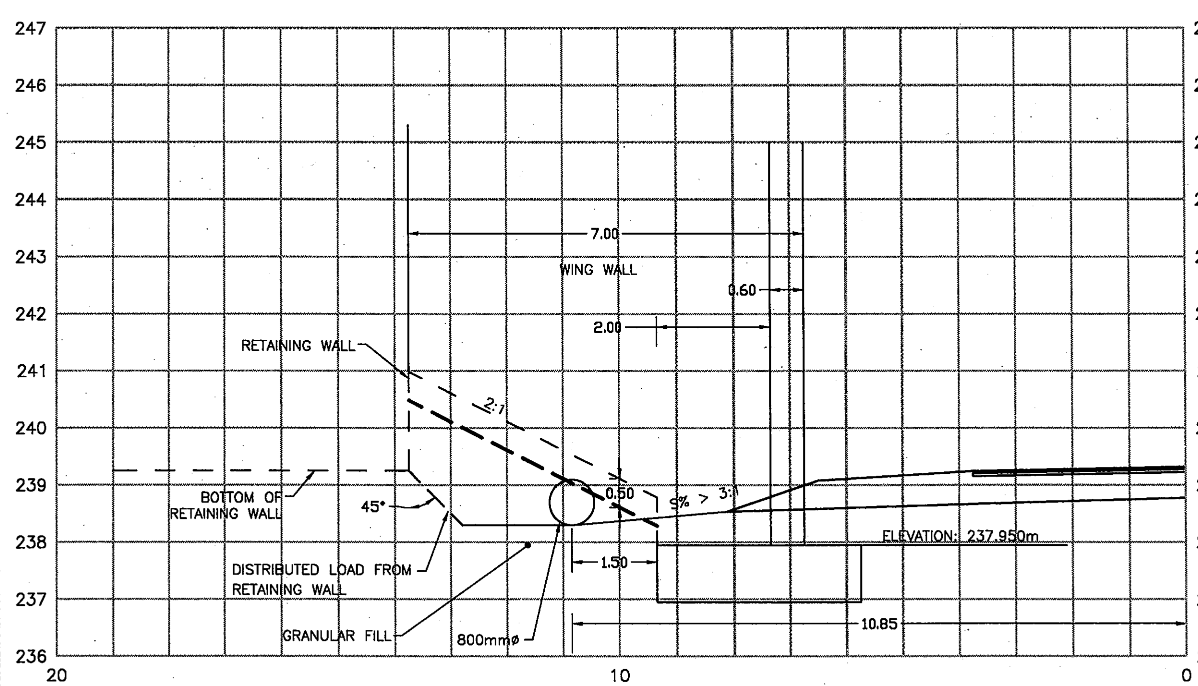
STA. 10+018.071 LT

CULVERT SECTION AT N/W QUADRANT OF NBL,
BOAG ROAD STRUCTURES
(BEHIND NORTH ABUTMENT)



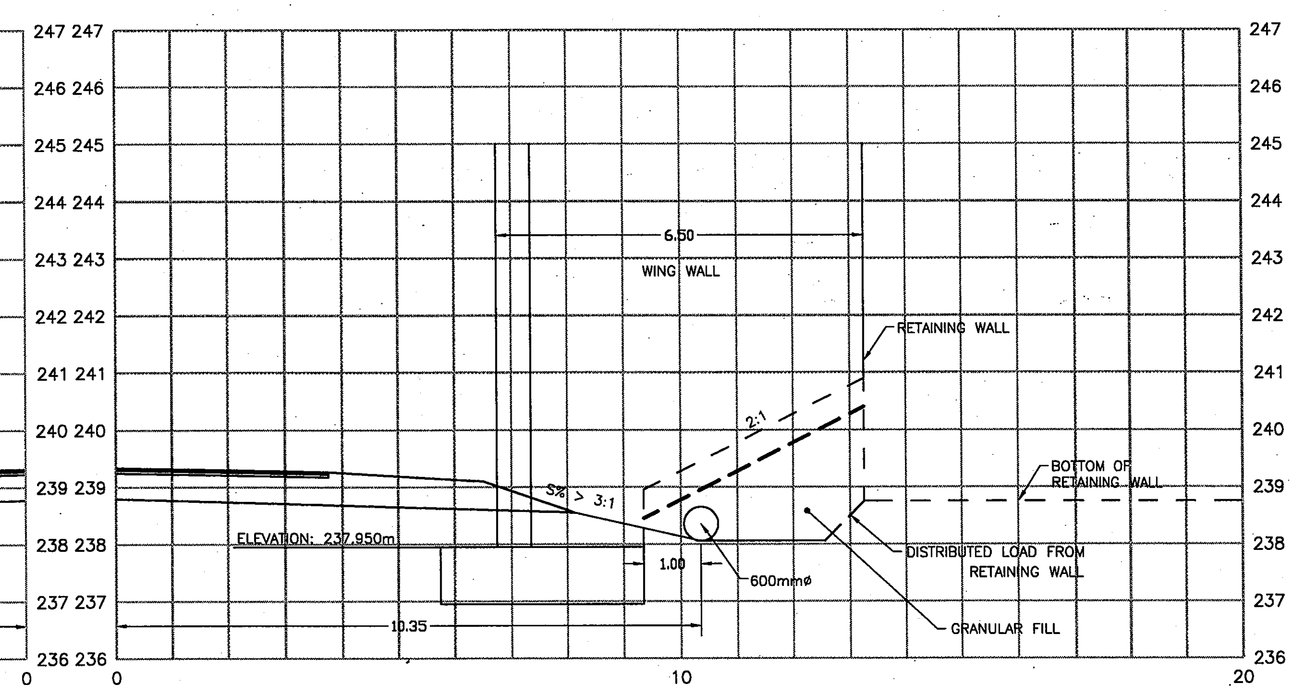
STA. 10+011.424 RT

CULVERT SECTION AT S/W QUADRANT OF NBL,
BOAG ROAD STRUCTURES
(BEHIND SOUTH ABUTMENT)



STA. 10+032.824 LT

CULVERT SECTION AT N/E QUADRANT OF NBL,
BOAG ROAD STRUCTURES
(BEHIND NORTH ABUTMENT)



STA. 10+026.130 RT

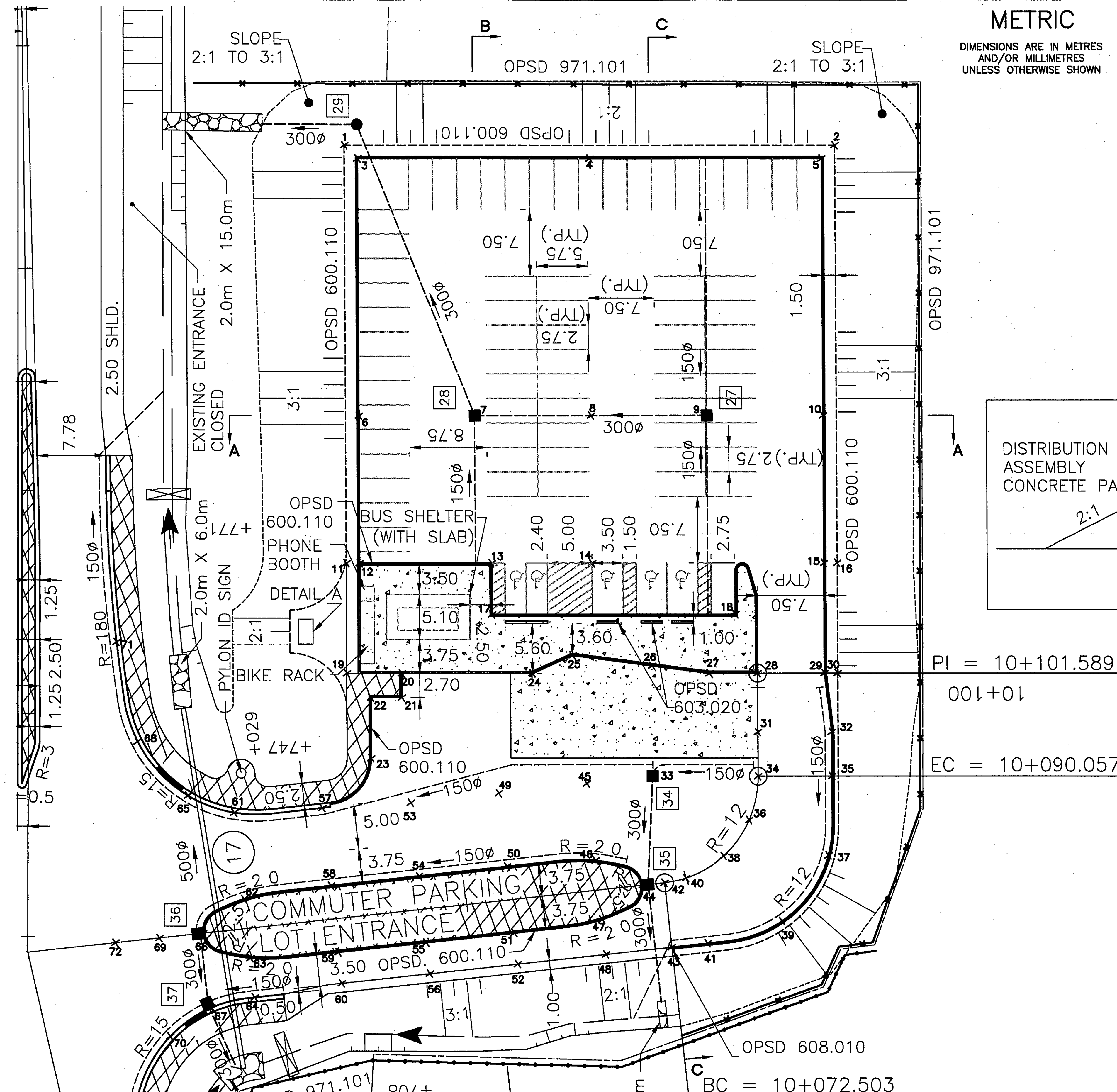
CULVERT SECTION AT S/E QUADRANT OF NBL,
BOAG ROAD STRUCTURES
(BEHIND SOUTH ABUTMENT)

SCALE
0.5 0 1.0
Horizontal & Vertical

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-MISC-09.dwg PLOT DATE: 9/28/2010 3:26 PM
SAVED BY: mazzaferrom SAVE DATE: 5/27/2010 6:27 PM

POINT	NORTHING	EASTING	ELEVATION
1	4894697.425	309788.381	231.670
2	4894707.465	309842.965	231.670
3	4894696.222	309790.128	231.500
4	4894700.970	309815.945	231.500
5	4894705.719	309841.761	231.500
6	4894667.774	309795.360	231.343
7	4894670.148	309808.269	231.041
8	4894672.522	309821.177	231.343
9	4894674.897	309834.085	231.041
10	4894677.271	309846.994	231.343
11	4894651.201	309796.883	231.423
12	4894651.472	309798.358	231.253
13	4894654.177	309813.062	231.253
14	4894656.221	309824.175	231.253
15	4894660.969	309849.992	231.253
16	4894661.241	309851.468	231.423
17	4894648.521	309814.102	231.368
18	4894653.505	309841.197	231.368
19	4894639.055	309799.117	231.670
20	4894640.176	309805.215	231.500
21	4894637.521	309805.703	231.303
22	4894636.888	309802.261	231.282
23	4894630.191	309803.493	230.670
24	4894642.853	309819.771	231.500
25	4894645.635	309823.835	231.555
26	4894646.120	309832.896	231.515
27	4894646.471	309839.441	231.500
28	4894647.466	309844.850	231.500
29	4894648.823	309852.226	231.500
30	4894649.094	309853.702	231.670
31	4894640.986	309846.042	231.368
32	4894642.487	309854.205	231.202
33	4894633.953	309835.134	231.268
34	4894636.124	309846.936	231.268
35	4894637.625	309855.099	231.104
36	4894631.107	309846.792	231.168
37	4894628.794	309856.263	230.973
38	4894626.632	309844.643	231.068
39	4894620.624	309852.447	230.871
40	4894623.411	309840.866	230.968
41	4894616.668	309844.532	230.814
42	4894622.454	309838.565	230.918
43	4894615.506	309840.637	230.773
44	4894621.738	309836.166	230.868
45	4894631.808	309827.944	231.169
46	4894623.502	309830.422	230.916
47	4894617.116	309832.327	230.702
48	4894613.362	309833.447	230.623
49	4894628.950	309818.362	230.950
50	4894620.890	309820.766	230.709
51	4894614.011	309822.818	230.463
52	4894610.503	309823.865	230.393
53	4894626.091	309808.779	230.441
54	4894618.185	309811.137	230.200
55	4894610.998	309813.281	230.016
56	4894607.644	309814.282	229.945
57	4894623.712	309799.053	229.918
58	4894615.327	309801.555	229.663
59	4894608.140	309803.699	229.478
60	4894604.786	309804.699	229.408
61	4894621.375	309789.315	229.634
62	4894612.060	309792.094	229.350
63	4894605.689	309793.994	229.187
64	4894601.448	309795.259	229.098
65	4894622.303	309783.821	229.549
66	4894607.445	309788.253	229.197
67	4894599.407	309790.651	229.029
68	4894627.222	309777.135	229.422
69	4894606.016	309783.461	229.203
70	4894595.390	309786.631	229.110
71	4894637.759	309772.814	229.249
72	4894604.587	309778.670	229.272
73	4894585.801	309784.274	229.252



METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00

MISCELLANEOUS DETAILS

SHEET MISC-10

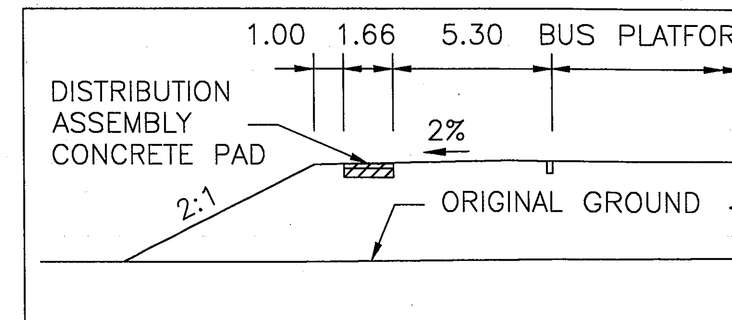
AECOM

LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO

LEGEND

MISCELLANEOUS PAVING

CONCRETE



DETAIL A

HOT 9+723.271 WOODBINE AVE.
=HOT 10+715.795 RAMP S-N/S
=HOT 10+000 COMMUTER PARKING LOT ENTRANCE

N.T.S.

GENERAL NOTES

A. TYPICAL SECTIONS TO BE READ IN CONJUNCTION WITH NEW CONSTRUCTION DRAWINGS, REMOVAL DRAWINGS, AND DESIGN TEMPLATES.

B. TACK COAT SHALL BE APPLIED TO ALL EXISTING PAVEMENT SURFACES, ALL MILLED SURFACES, AND THE SURFACE OF ALL BINDER COURSES.

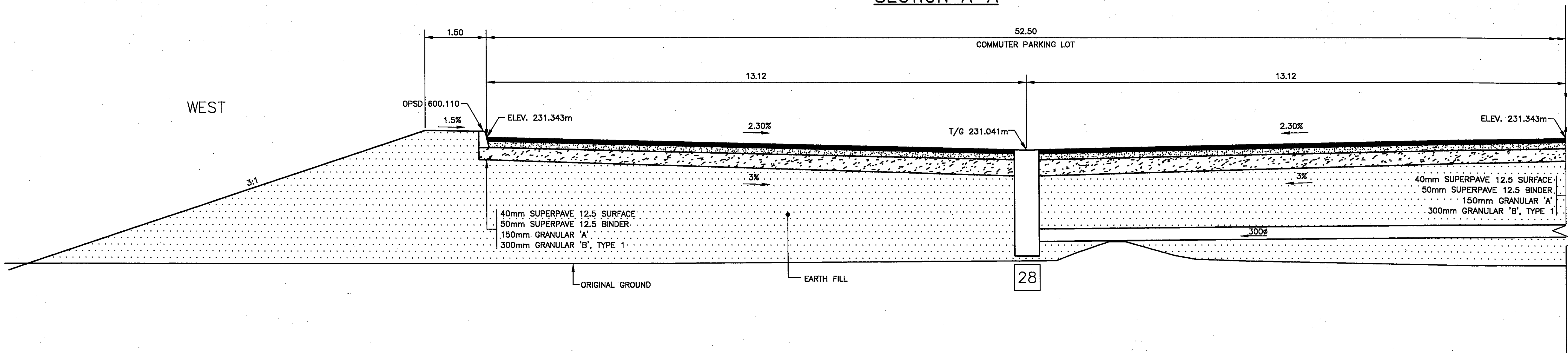
C. SEEDING AND BFM SHALL BE APPLIED OVER 50mm TOPSOIL FROM BOTTOM OF GRANULAR TO LIMIT OF EARTH GRADING.

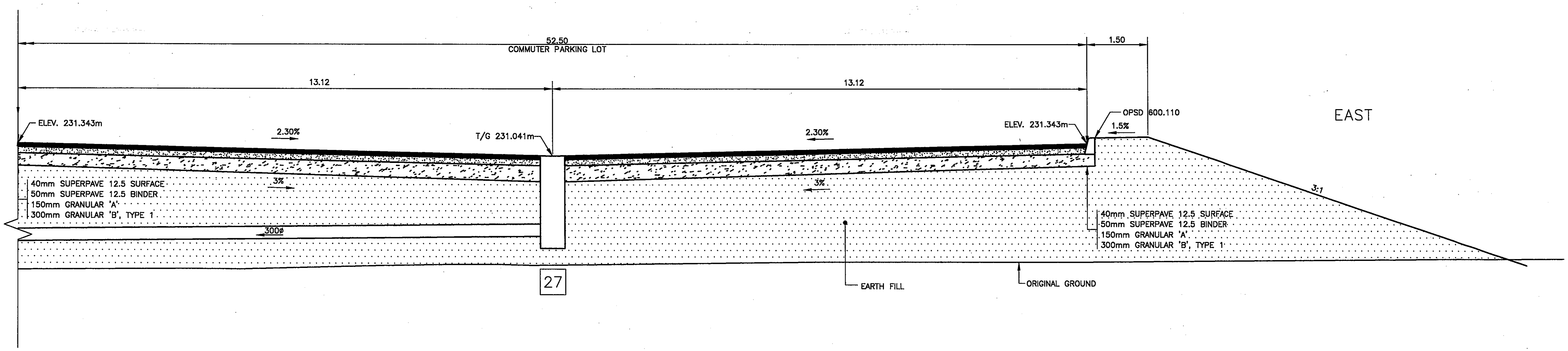
METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-11
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	

COMMUTER PARKING LOT
SECTION A-A





N.T.S.

GENERAL NOTES

A. TYPICAL SECTIONS TO BE READ IN CONJUNCTION WITH NEW CONSTRUCTION DRAWINGS, REMOVAL DRAWINGS, AND DESIGN TEMPLATES.

B. TACK COAT SHALL BE APPLIED TO ALL EXISTING PAVEMENT SURFACES, ALL MILLED SURFACES, AND THE SURFACE OF ALL BINDER COURSES.

C. SEEDING AND BFM SHALL BE APPLIED OVER 50mm TOPSOIL FROM BOTTOM OF GRANULAR TO LIMIT OF EARTH GRADING.

COMMUTER PARKING LOT/ENTRANCE
SECTION B–B

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

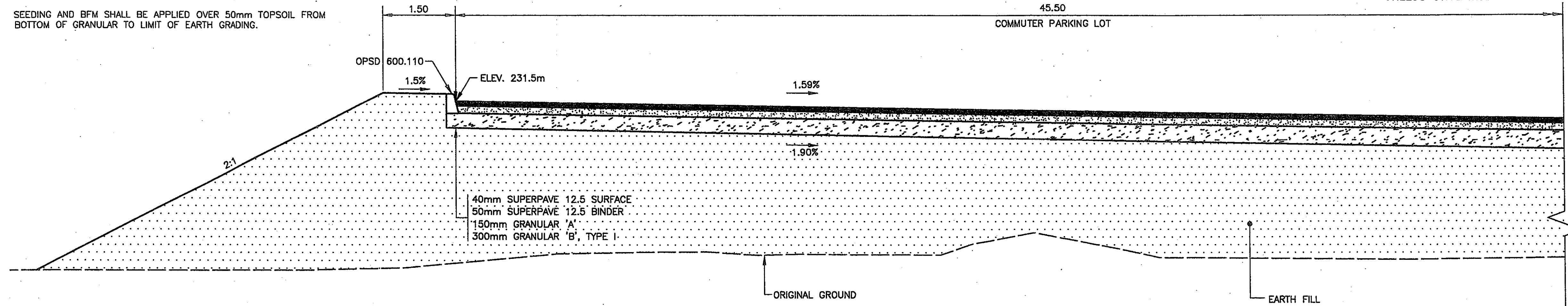
CONT
WP 2005–07–00

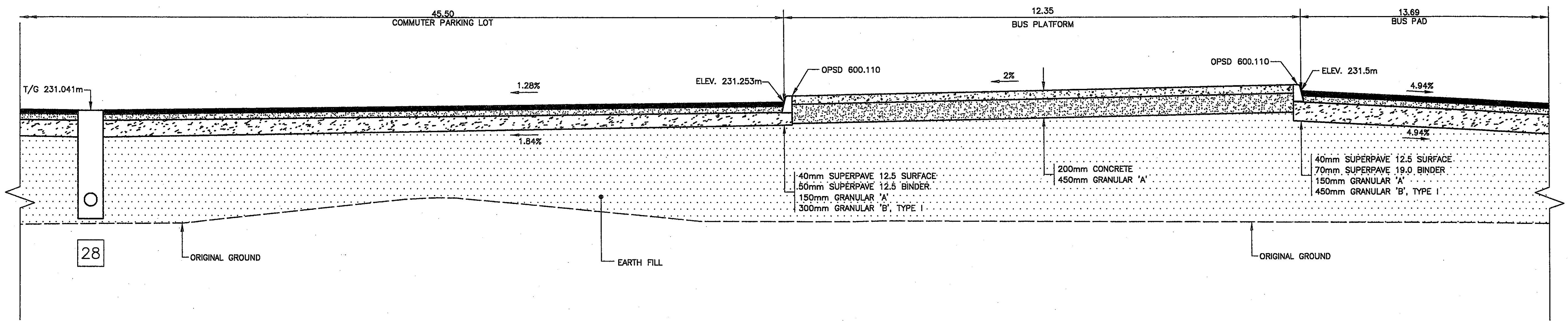
MISCELLANEOUS DETAILS

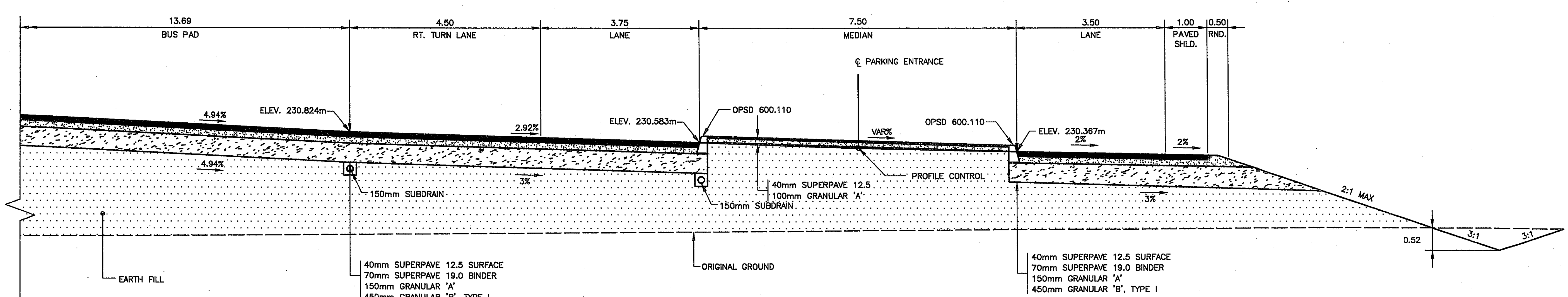
SHEET MISC–12

AECOM

LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO







N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-12.dwg PLOT DATE: 9/30/2010 2:03 PM
SAVED BY: dl-khudarys SAVE DATE: 9/30/2010 2:02 PM

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05

GENERAL NOTES

A. TYPICAL SECTIONS TO BE READ IN CONJUNCTION WITH NEW CONSTRUCTION DRAWINGS, REMOVAL DRAWINGS, AND DESIGN TEMPLATES.

B. TACK COAT SHALL BE APPLIED TO ALL EXISTING PAVEMENT SURFACES, ALL MILLED SURFACES, AND THE SURFACE OF ALL BINDER COURSES.

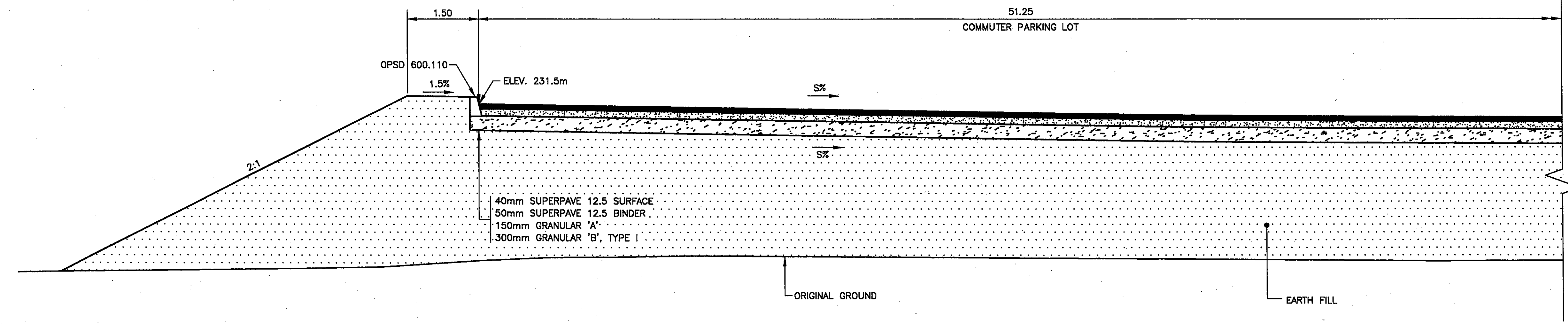
C. SEEDING AND BFM SHALL BE APPLIED OVER 50mm TOPSOIL FROM BOTTOM OF GRANULAR TO LIMIT OF EARTH GRADING.

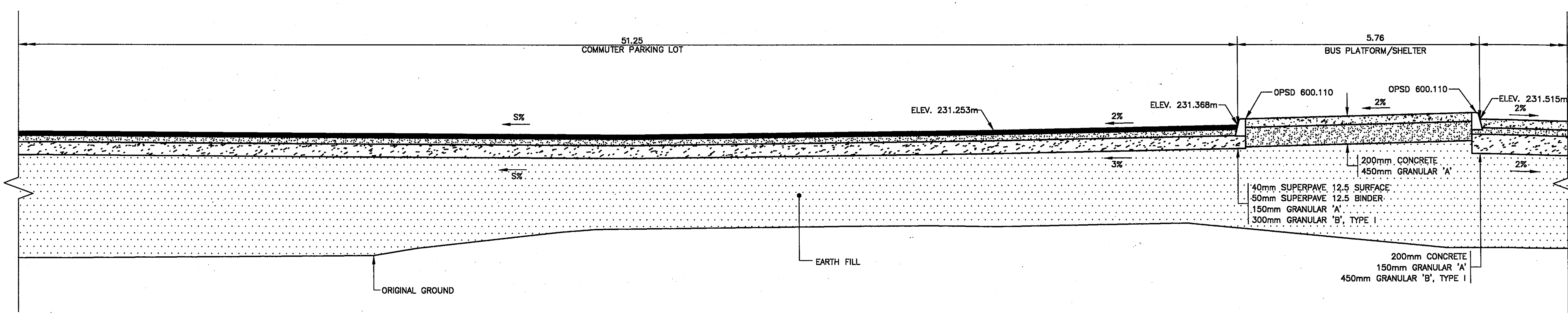
COMMUTER PARKING LOT/ENTRANCE
SECTION C–C

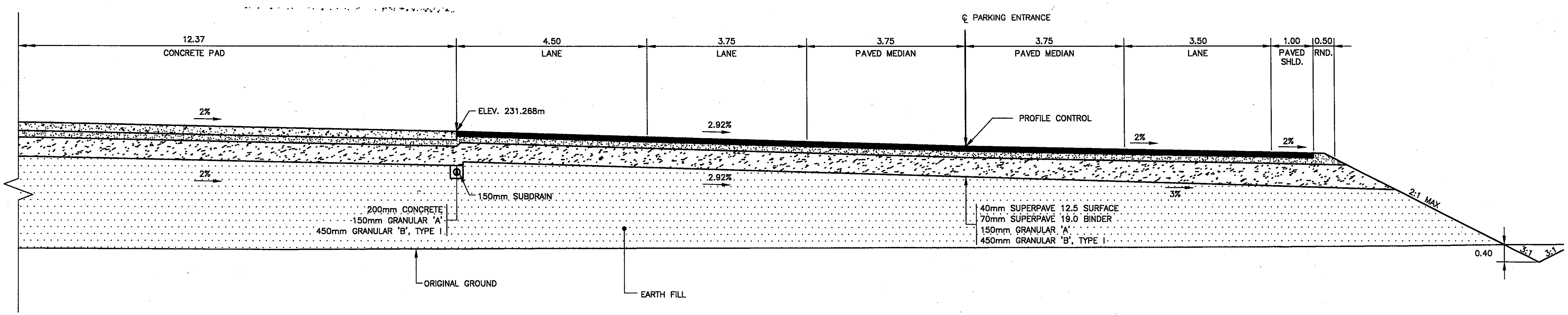
METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005–07–00		
MISCELLANEOUS DETAILS	SHEET MISC–13	
AECOM		
A. K-S. LAW LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO		







N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

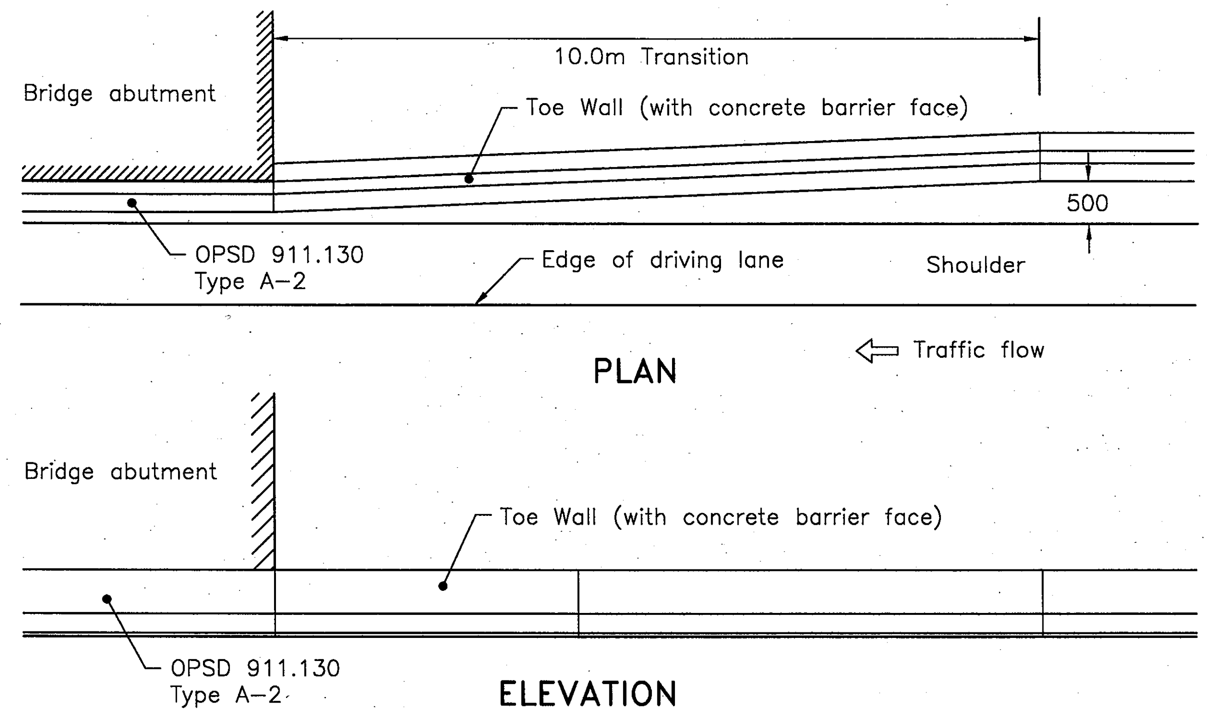
DRAWING NAME: 2538-199-00_CT-MISC-13.dwg PLOT DATE: 9/30/2010 3:13 PM

SAVED BY: al-khudarya SAVE DATE: 9/30/2010 3:13 PM

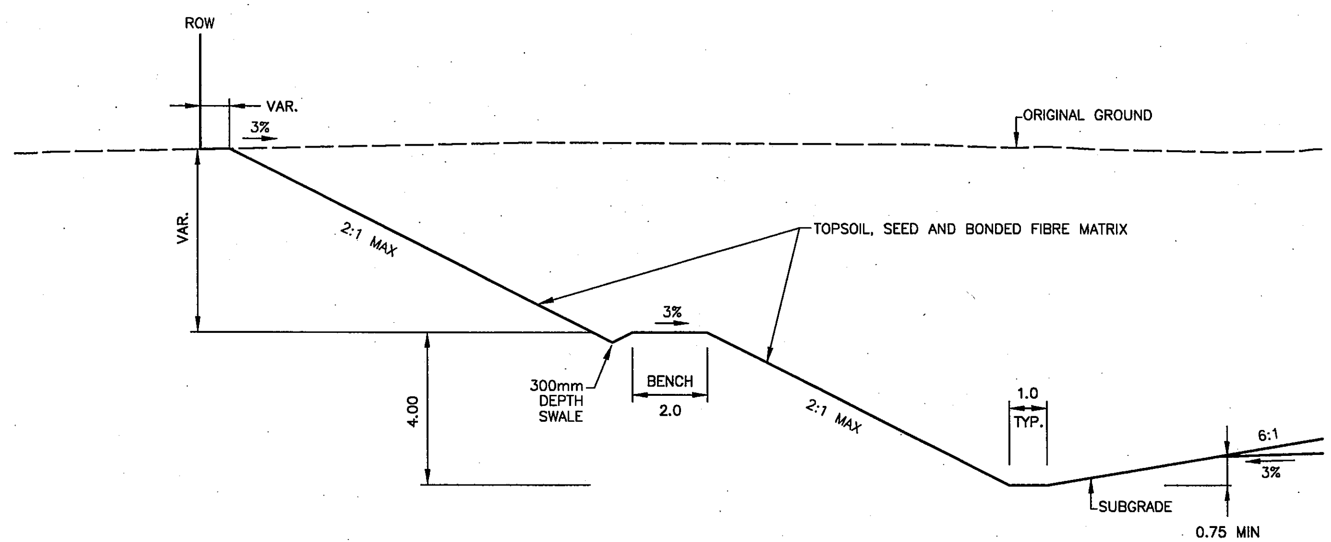
METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005–07–00	
MISCELLANEOUS DETAILS	SHEET MISC–14
AECOM	
A. K-S. LAW — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO	



BOAG ROAD RECONSTRUCTION
OUTSIDE TRANSITION – TOE WALL TO CONCRETE BARRIER



2m WIDE BENCH AT DEEP CUT AREA
SBL STA. 34+450 TO STA. 34+500 LT

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

DRAWING NAME: 2538-199-00_CT-MISC-14.dwg SAVE DATE: 9/28/2010 3:27 PM PLOT DATE: 9/28/2010 12:28 PM
SAVED BY: lawa1

METRIC

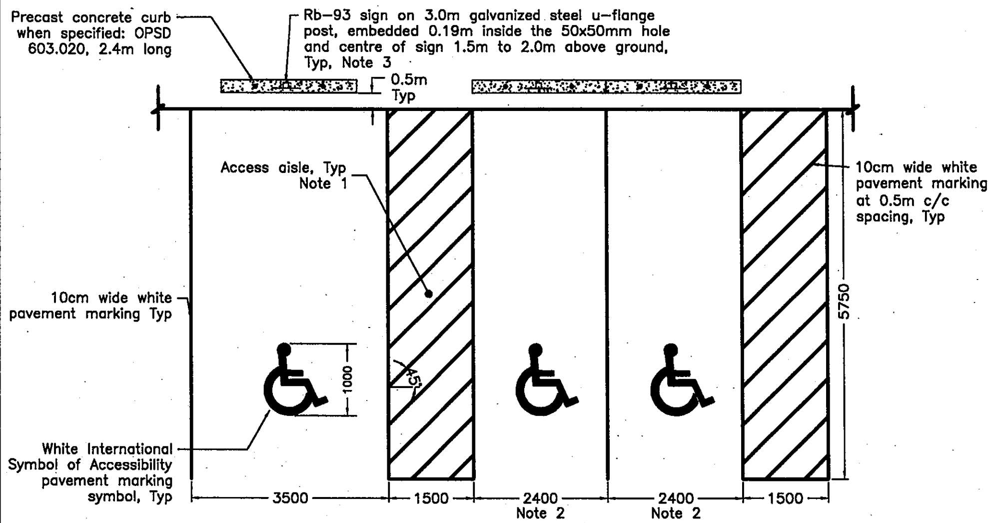
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00

MISCELLANEOUS DETAILS

SHEET MISC-15

AECOM



NOTES:
1 Access aisle shall be provided on one side of a parking space or shared between two adjacent spaces.
2 When more than one van parking space is specified, additional van parking spaces shall be increased to 3500mm width.
3 "Van Accessible" tab signs required for van parking spaces.

A Surface of parking spaces shall not slope more than 2.0% in any direction.
B All dimensions in millimetres unless otherwise specified.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | April 2007 | Rev 0

CARPOOL PARKING FACILITIES
BARRIER-FREE PARKING SPACES

MTOD – 505.010M

PIPE DIA mm	AREA m^2	TRENCH WIDTH m	MAXIMUM HEIGHT OF FILL			
			RSC 160		RSC 250	
			≤ Trench Width	> Trench Width	≤ Trench Width	> Trench Width
840	0.55	1.50	10.4	10.4	13.0	13.0
900	0.64	1.59	8.7	8.7	11.0	11.0
1020	0.82	1.74	7.9	7.9	9.7	9.7
1070	0.90	1.81	7.9	7.9	9.1	9.1
1220	1.17	2.01	7.9	7.9	9.1	9.1
1370	1.47	2.22	7.9	7.9	9.1	9.1
1520	1.81	2.44	7.9	7.9	8.8	8.8
1680	2.22	2.65	7.3	7.3	8.8	8.8
1830	2.63	2.86	7.3	7.3	8.8	8.8
1980	3.08	3.05	7.3	7.3	8.2	8.2
2130	3.56	3.26	7.0	7.0	8.2	8.2
2290	4.12	3.50	6.5	6.5	7.7	7.7
2440	4.68	3.71	6.3	6.3	7.7	7.7

NOTES:
A The table applies to Closed Profile Wall Polyethylene Pipe manufactured according to ASTM F894.
B The table presumes groundwater is below the pipe.
C Installation is according to OPSD-802.010 requirements.
D For depths of cover and pipe sizes greater than shown or for other design conditions shall be calculated from first principles.
E Minimum depth of cover over the pipe shall be 800mm or one pipe diameter, whichever is greater.
F Depth of burial may increase with improved embedment materials.
G Design assumptions:
E=28,200psi, E'=2,000psi,
dry soil specific gravity=120lb/cuft and H25 live loads.
H Trench width is based on the higher pipe stiffness and is according to ASTM D2321.
I All dimensions are in meters unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | Date August 2006 | Rev 0

HEIGHT OF FILL TABLE
CLOSED PROFILE WALL POLYETHYLENE PIPE
RSC 160 AND RSC 250

MTOD – 806.021

1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,20cm
11	333 BROKEN WHITE,20cm
12	333 BROKEN WHITE,30cm
13	SOLID WHITE,30cm
14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

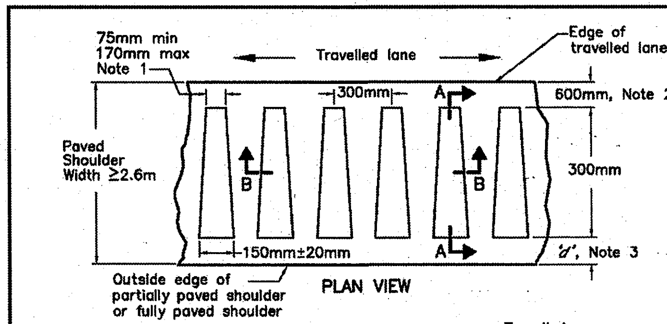
NOTES:
1. 333, 363, 393, Denotes Pavement Marking Spacing (ie., 3 m line, 3 m gap, 3 m line)
2. Use (1) to Denote PAVEMENT MARKING
3. Use [1] to Denote PAVEMENT MARKING, TEMPORARY
4. Use △1 to Denote PAVEMENT MARKING, TEMPORARY-REMOVABLE
5. Use ⬡1 to Denote PAVEMENT MARKING, DURABLE

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | Date 1994 04 01 | Rev

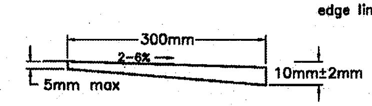
LEGEND PAVEMENT MARKINGS

Issue Date
WP
Issued By

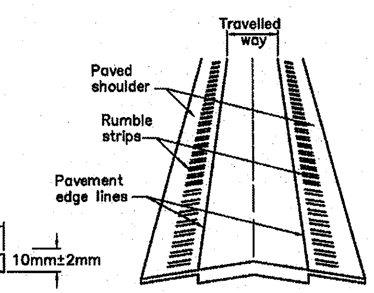
MTOD – 101.070



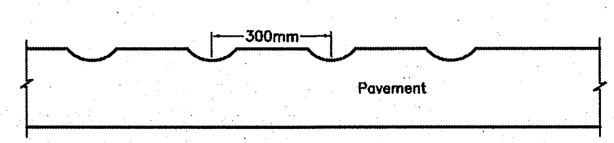
PLAN VIEW



SECTION A-A



GENERAL VIEW



SECTION B-B

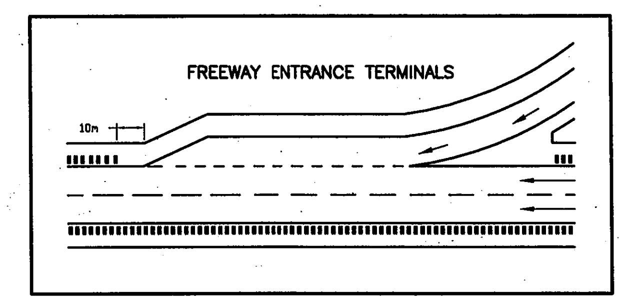
NOTES:
1 The inner width shall not exceed the outer width of the rumble strips.
2 This distance is not to be varied.
3 Distance 'd' to the edge of the paved shoulder shall not be less than 1700mm.
A All dimensions are in millimetres unless otherwise shown.

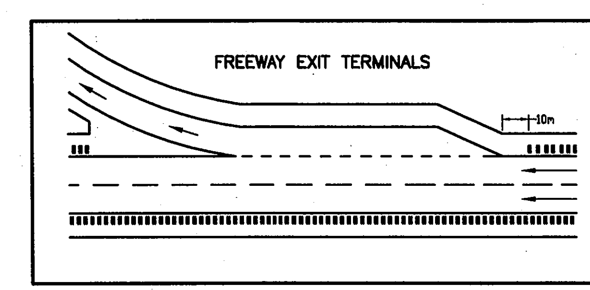
MINISTRY OF TRANSPORTATION ONTARIO DRAWING | Date 2000 01 27 | Rev 1

SHOULDER RUMBLE STRIPS
PAVED SHOULDERS ≥ 2.6m

WP 2005-07-00
Highway 404 – August 2010

MTOD – 503.020M





NOTES:
A All dimensions are in millimetres unless otherwise shown.

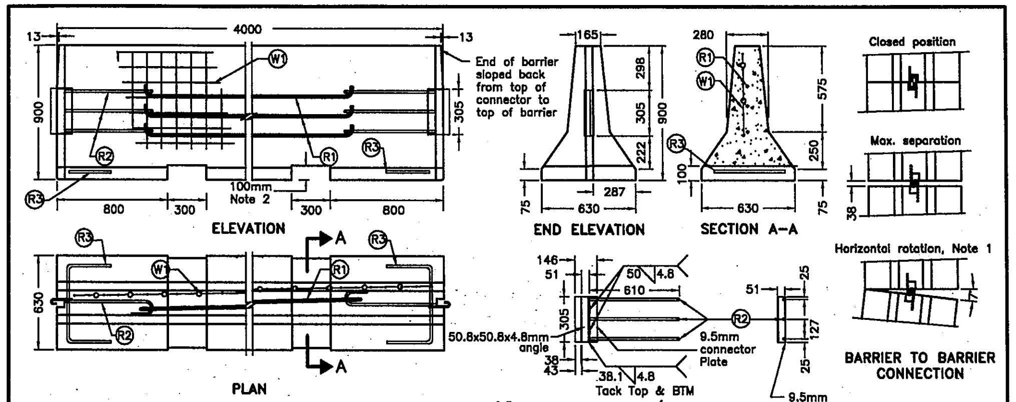
MINISTRY OF TRANSPORTATION ONTARIO DRAWING | Date 1999 09 01 | Rev

SHOULDER RUMBLE STRIPS
AT SPEED CHANGE LANES

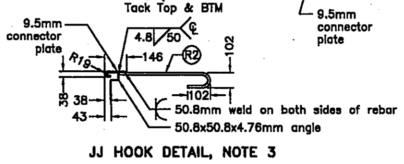
MTOD – 503.021

N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-15.dwg SAVE DATE: 8/18/2010 8:53 AM PLOT DATE: 9/28/2010 3:28 PM
SAVED BY: mazzaferrom



	REINFORCING STEEL BARS					
BAR	SIZE	GRADE	TYPE	LENGTH mm	SHAPE	NO REQ'D
R1	15M	400 W	Deformed	3200	3000, 100	3
R2	15M	400 W	Deformed	814	610, 102, 102	6
R3	10M	400 W	Deformed	1080	480, 300	2
W1	152X152 MW18.7XMW18.7 (456X3810)					

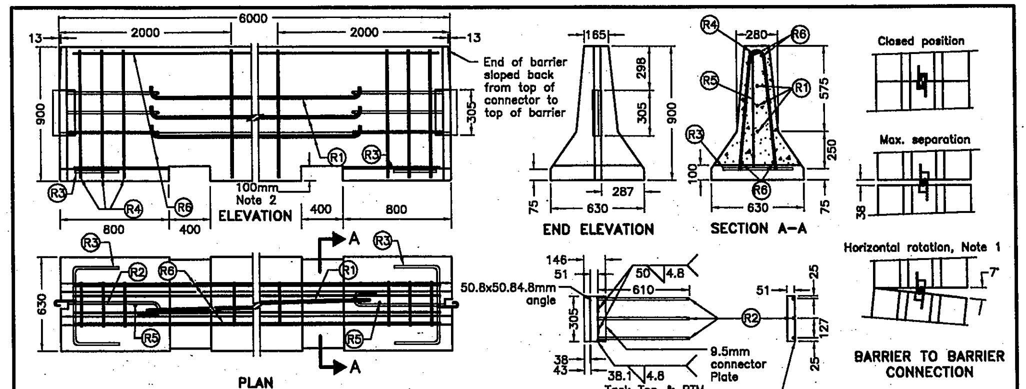


NOTES:
1 Minimum horizontal radius is 31m.
2 Drainage openings. TCB manufactured prior to September 2009 with one 600mm long x100mm high drainage opening are acceptable.
3 JJ Hook Connection is proprietary to Easi-Set Industries Inc.
A System configuration meets NCHRP Report 350, TL-3.
B Concrete cover 50mm minimum.
C All concrete edges to have 15x45° chamfer.
D Welds shall be according to CSA W59.
E All dimensions are in millimetres unless otherwise shown.

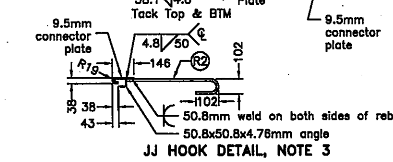
MINISTRY OF TRANSPORTATION ONTARIO DRAWING | July 2009 | Rev 2

GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE J CONNECTION, 4m LENGTH INSTALLATION-TEMPORARY

MTOD 911.150



	REINFORCING STEEL BARS					
BAR	SIZE	GRADE	TYPE	LENGTH mm	SHAPE	NO REQ'D
R1	15M	400 W	Deformed	5045	4845, 100	3
R2	15M	400 W	Deformed	814	610, 102, 102	6
R3	10M	400 W	Deformed	1080	480, 300	2
R4	10M	400 W	Deformed	1650	253, 786, R42	8
R5	10M	400 W	Deformed	750	750	2
R6	20M	400 W	Deformed	5825	5825	4

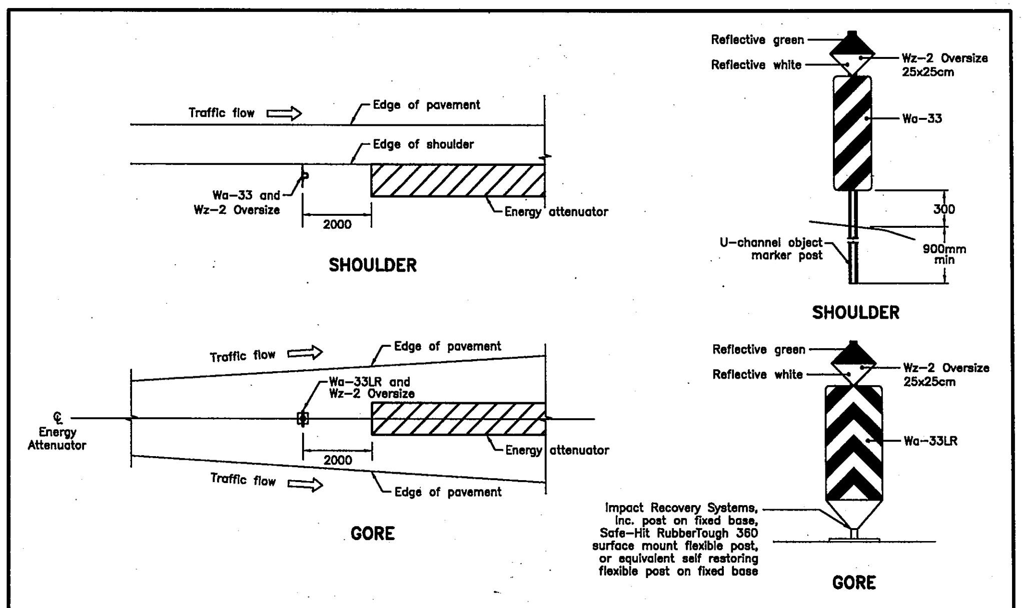


NOTES:
1 Minimum horizontal radius is 47m.
2 Drainage openings.
3 JJ Hook Connection is proprietary to Easi-Set Industries Inc.
A System configuration meets NCHRP Report 350, TL-3.
B Concrete cover 50mm minimum.
C All concrete edges to have 15x45° chamfer.
D Welds shall be according to CSA W59.
E All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | July 2009 | Rev 2

GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE J CONNECTION, 6m LENGTH INSTALLATION-TEMPORARY

MTOD 911.151



NOTES:
A All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | November 2009 | Rev 0

ENERGY ATTENUATOR, CRASH CUSHION DELINEATION INSTALLATION - PERMANENT

MTOD 984.203

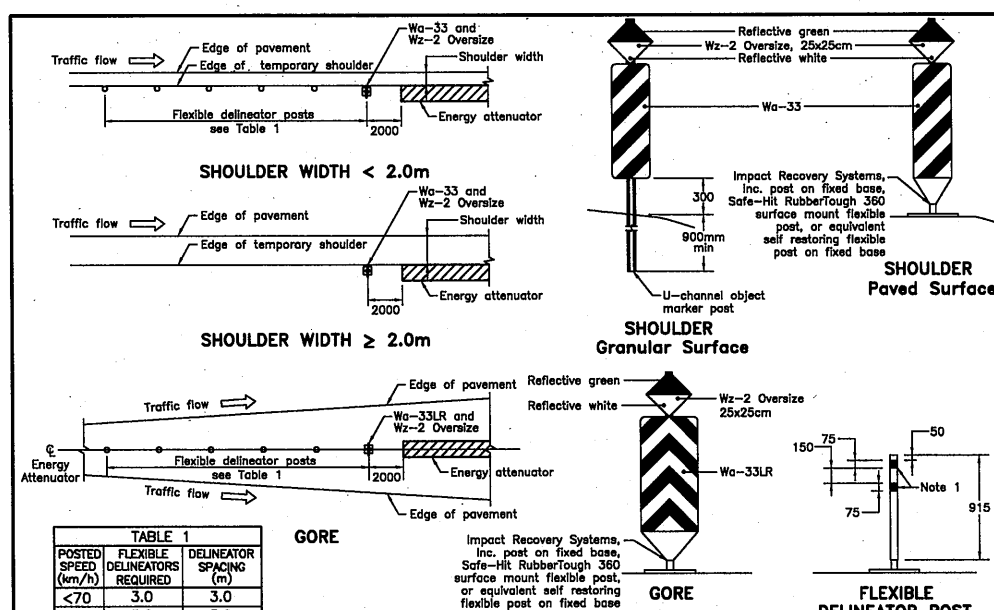


TABLE 1

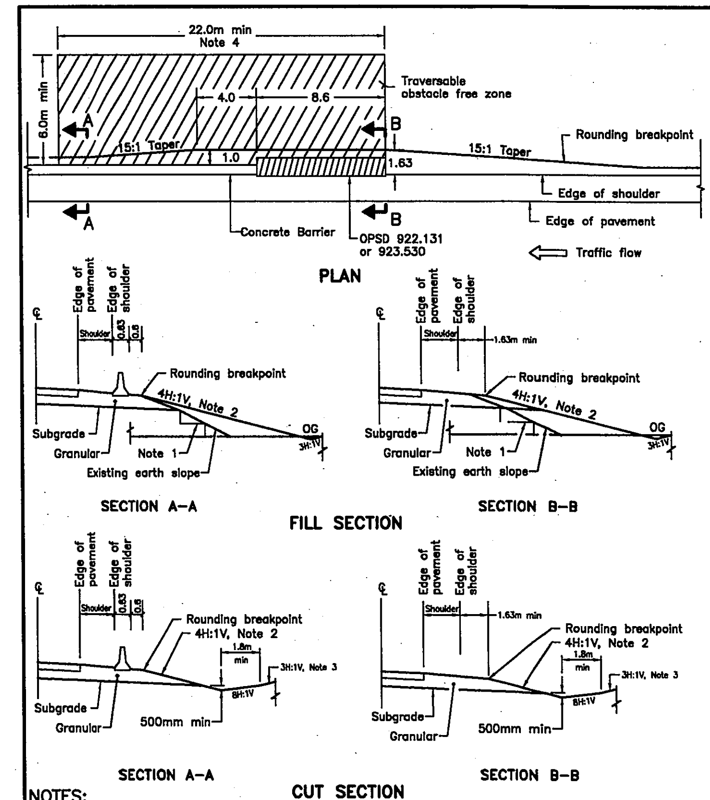
POSTED SPEED (km/h)	FLEXIBLE DELINEATORS REQUIRED	DELINEATOR SPACING (m)
<70	3.0	3.0
≥70	5.0	3.0

NOTES:
1 Type IV reflective sheeting or higher to be wrapped around post.
A All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | November 2009 | Rev 0

ENERGY ATTENUATOR, CRASH CUSHION DELINEATION INSTALLATION - TEMPORARY

MTOD 984.204



NOTES:
1 Existing earth slope to be benched according to OPSD 208.010
2 Slope shall be flatter when specified.
3 Slope shall be steeper when specified.
4 Measured from impact head or nose assembly of terminal.
A All dimensions are in meters unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | November 2009 | Rev 0

ROADWAY WIDENING SINGLE SIDED ENERGY ATTENUATING TERMINALS GRADING

MTOD - 202.033

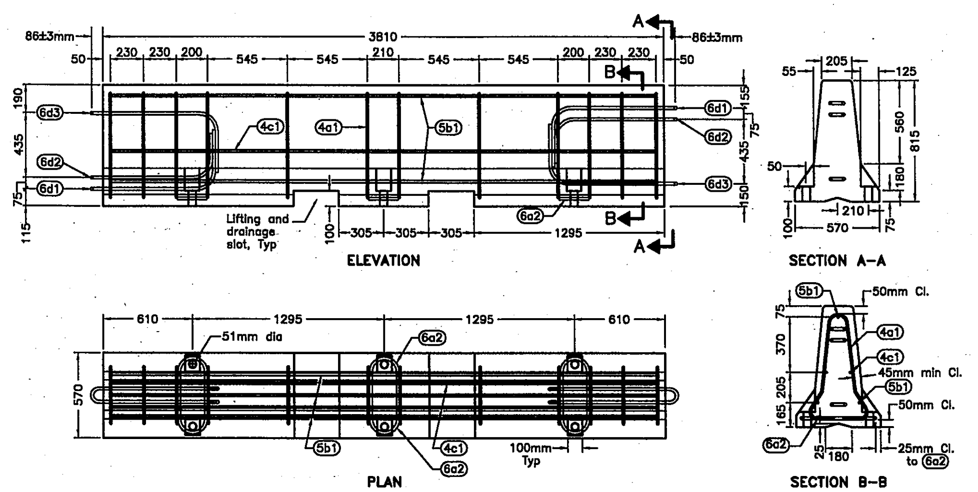
N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-16.dwg PLOT DATE: 9/28/2010 3:28 PM
SAVED BY: mazzaferom SAVE DATE: 8/18/2010 1:32 PM
MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05

METRIC

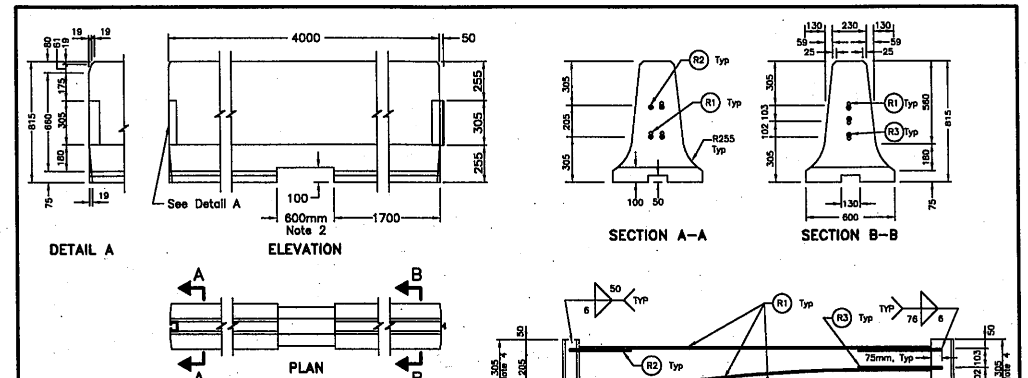
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES
UNLESS OTHERWISE SHOWN

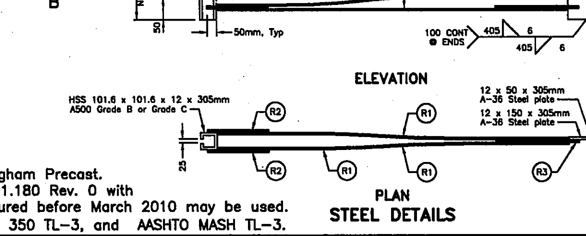
CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-17
AECOM	



NOTES:
A This MTOD shall be read in conjunction with MTOD-911.161.
B System configuration meets NCHRP Report 350, TL-3.
C Concrete cover 50mm minimum.
D Welds shall be according to CSA W59.
E All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	July 2009	Rev 2
GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE M CONNECTION INSTALLATION-TEMPORARY	MTOD – 911.160	

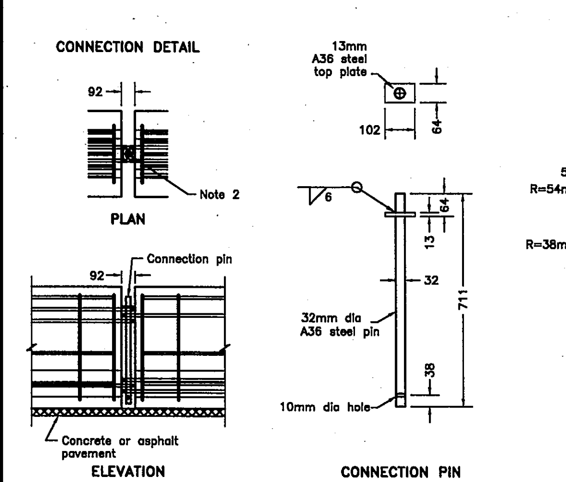


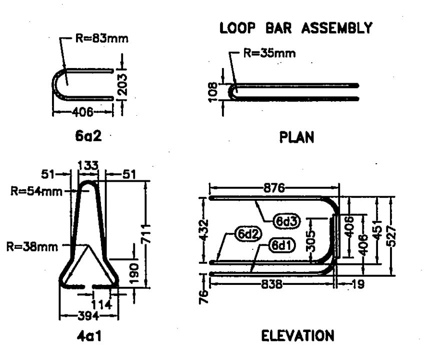


REINFORCING STEEL BARS					
BAR	SIZE	GRADE	TYPE	LENGTH mm	NO REQ'D
R1	15M	400	Deformed	3898	3
R2	20M	400 W	Deformed	610	4
R3	20M	400 W	Deformed	915	3

NOTES:
1 Minimum horizontal radius is 26m.
2 Drainage opening.
3 T-Lok Connection is proprietary to Rockingham Precast.
4 Type T Connections according to MTOD 911.180 Rev. 0 with 610mm long T-Lok connections manufactured before March 2010 may be used.
A System configuration meets NCHRP Report 350 TL-3, and AASHTO MASH TL-3.
B Concrete cover 50mm minimum.
C All concrete edges shall have 15x45° chamfers.
D Welds shall be according to CSA W59.
E All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	Date	March 2010	Rev 1
GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE T CONNECTION, 4.0m LENGTH INSTALLATION-TEMPORARY	MTOD 911.180		

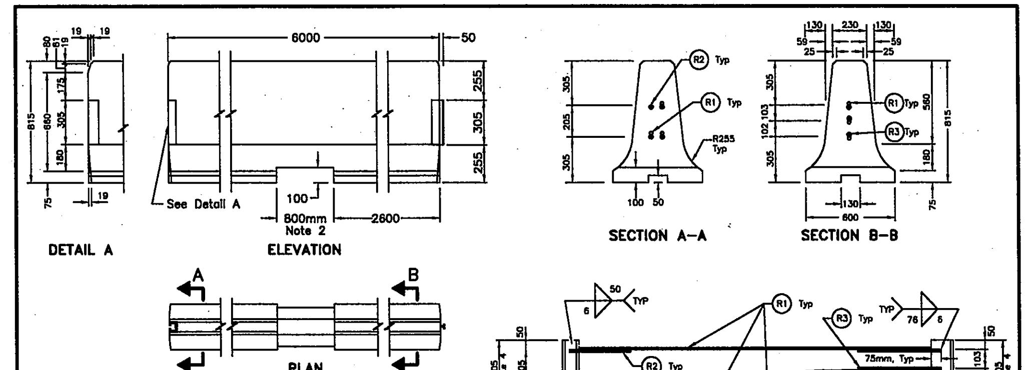


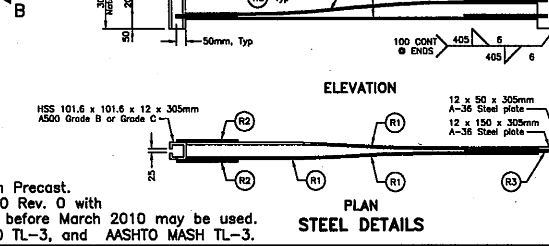


REINFORCING STEEL BARS						
BAR	SIZE	GRADE	TYPE	LENGTH mm	SHAPE	NO REQ'D
4a1	15M	400	Deformed	1829		12
6a2	15M	400	Deformed	889	203 406	6
5b1	15M	400	Deformed	3708	3708	3
4c1	15M	400	Deformed	3708	3708	2
6d1	20M Note 1	400W Note 1	Smooth	2565	406 838	2
6d2	20M Note 1	400W Note 1	Smooth	2311	305 819	2
6d3	20M Note 1	400W Note 1	Smooth	2591	406 876	2

NOTES:
1 Imperial size #6 Grade 60 ASTM A706 reinforcing steel bars are acceptable.
2 Slack shall be removed from joint after pin installation.
A Concrete cover 50mm minimum.
B All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	December 2008	Rev 2
GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE M CONNECTION INSTALLATION-TEMPORARY	MTOD – 911.161	





REINFORCING STEEL BARS					
BAR	SIZE	GRADE	TYPE	LENGTH mm	NO REQ'D
R1	15M	400	Deformed	5898	3
R2	20M	400 W	Deformed	610	4
R3	20M	400 W	Deformed	915	3

NOTES:
1 Minimum horizontal radius is 39m.
2 Drainage opening.
3 T-Lok Connection is proprietary to Rockingham Precast.
4 Type T Connections according to MTOD 911.180 Rev. 0 with 610mm long T-Lok connections manufactured before March 2010 may be used.
A System configuration meets NCHRP Report 350 TL-3, and AASHTO MASH TL-3.
B Concrete cover 50mm minimum.
C All concrete edges shall have 15x45° chamfers.
D Welds shall be according to CSA W59.
E All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	Date	March 2010	Rev 1
GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE T CONNECTION, 6.0m LENGTH INSTALLATION-TEMPORARY	MTOD 911.181		

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05
DRAWING NAME: 2538-199-00_CT-MISC-17.dwg PLOT DATE: 9/28/2010 3:28 PM
SAVED BY: mazzaferrom SAVE DATE: 5/27/2010 3:19 PM

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00		
MISCELLANEOUS DETAILS		SHEET MISC-18
AECOM		

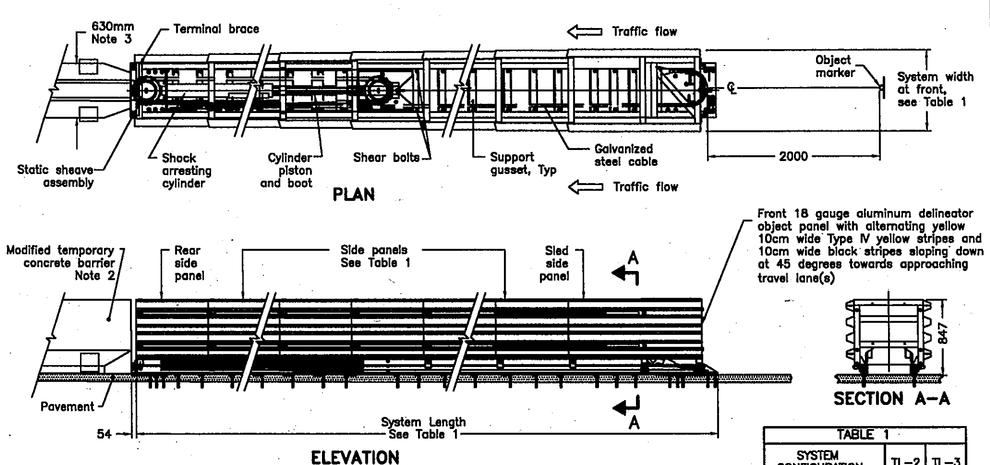
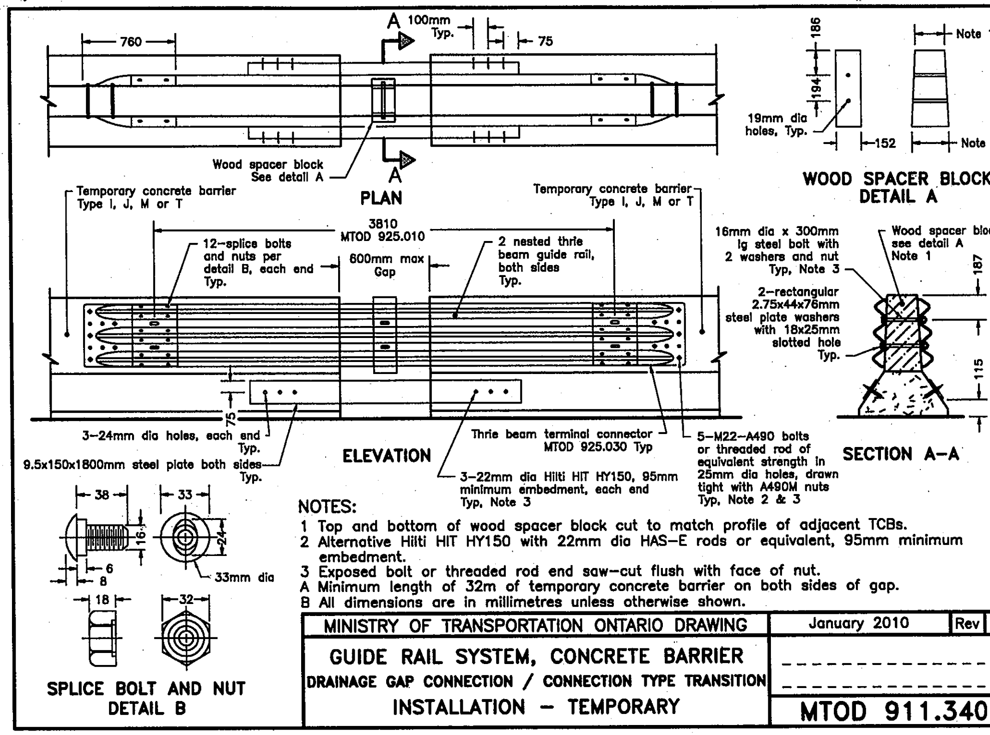


TABLE 1		
SYSTEM CONFIGURATION	TL-2	TL-3
SYSTEM LENGTH	4118	6556
SIDE PANELS PER SIDE	2	5
SYSTEM WIDTH	879	951

NOTES:
1 When system is placed on a concrete pad, the pad shall be according to OPSD-923.001.
2 Adjacent temporary concrete barrier shall be modified and anchored according to OPSD-923.002.
3 Maximum width at toe of safety shape barrier.

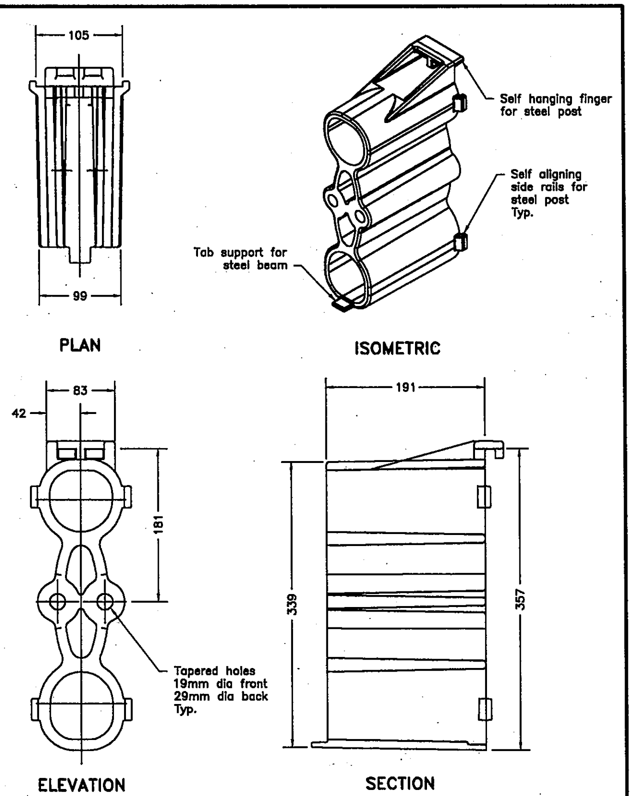
A The system depicted is proprietary to SCI Products Inc.
B System configuration based on NCHRP Report 350 test level.
C All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	February 2007	Rev 0
ENERGY ATTENUATOR, CRASH CUSHION SMART SYSTEM INSTALLATION–TEMPORARY UNIDIRECTIONAL	MTOD – 923.480	



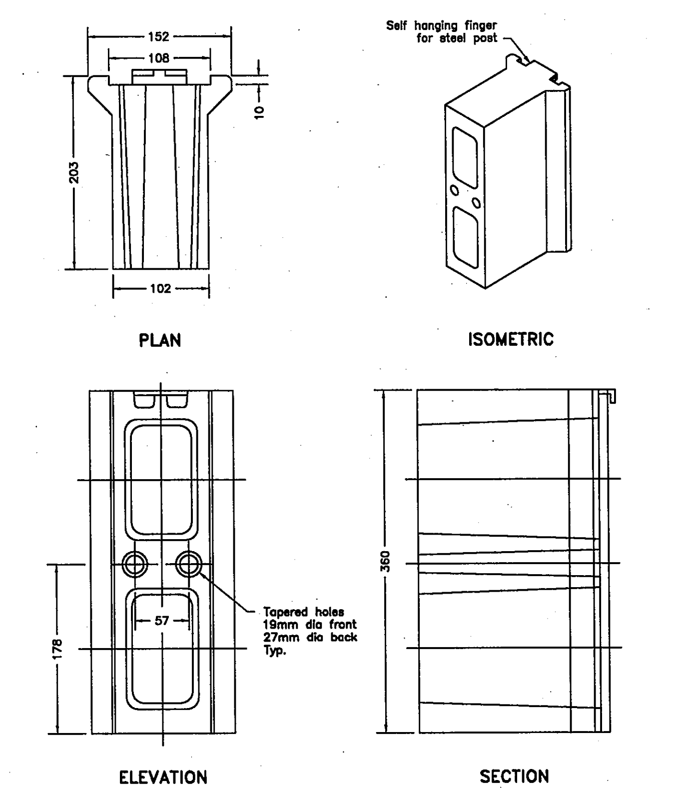
NOTES:
1 Top and bottom of wood spacer block cut to match profile of adjacent TCBs.
2 Alternative Hilti HIT HY150 with 22mm dia HAS-E rods or equivalent, 95mm minimum embedment.
3 Exposed bolt or threaded rod end saw-cut flush with face of nut.
A Minimum length of 32m of temporary concrete barrier on both sides of gap.
B All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	January 2010	Rev 1
GUIDE RAIL SYSTEM, CONCRETE BARRIER DRAINAGE GAP CONNECTION / CONNECTION TYPE TRANSITION INSTALLATION – TEMPORARY	MTOD 911.340	



NOTES:
A The component depicted is proprietary to Trinity Industries, Inc.
B All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	December 2007	Rev 0
GUIDE RAIL SYSTEM, STEEL BEAM POLYETHYLENE OFFSET BLOCK – KING BLOCK COMPONENT	MTOD – 912.106	

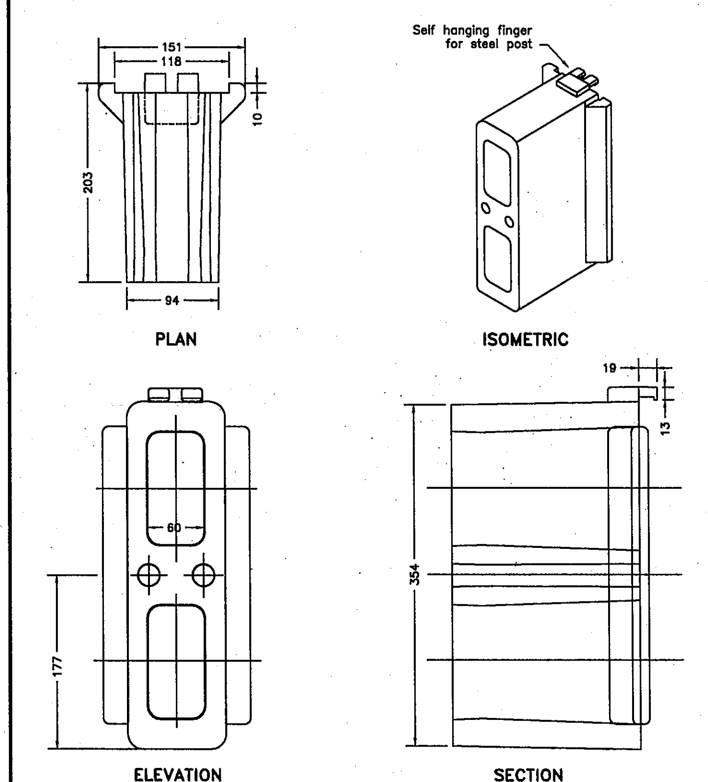


NOTES:
A The component depicted is proprietary to Mondo Polymer Technologies.
B All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	December 2007	Rev 0
GUIDE RAIL SYSTEM, STEEL BEAM POLYMER OFFSET BLOCK – MONDO COMPONENT	MTOD – 912.107	

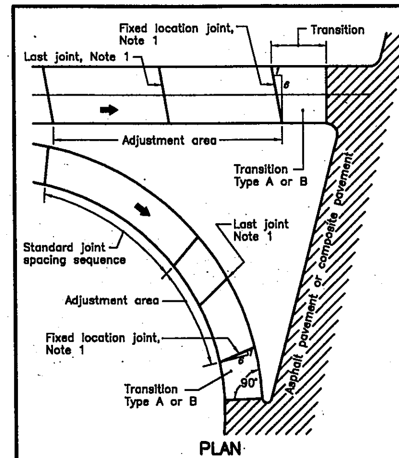
N.T.S.

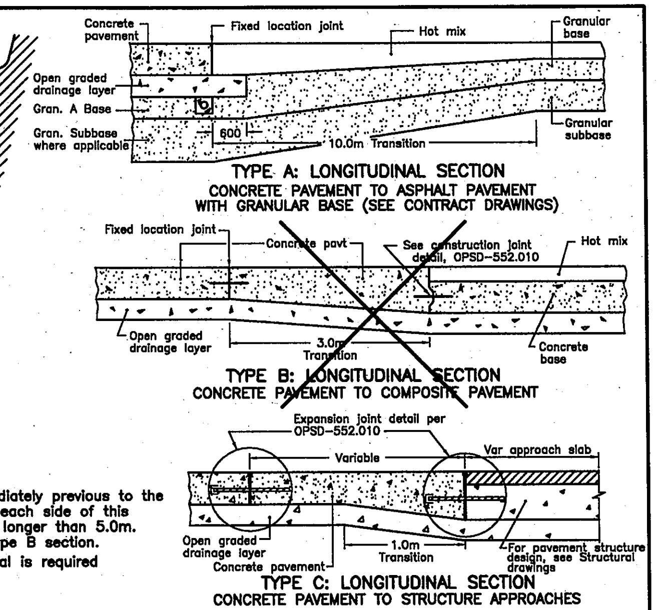
DRAWING NAME: 2538-199-00_CT-MISC-18.dwg SAVE DATE: 5/27/2010 3:59 PM PLOT DATE: 9/28/2010 3:28 PM
SAVED BY: mazzaferrom
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05



NOTES:
A The component depicted is proprietary to R.G. Steel Corp.
B All dimensions are in millimetres unless otherwise shown.

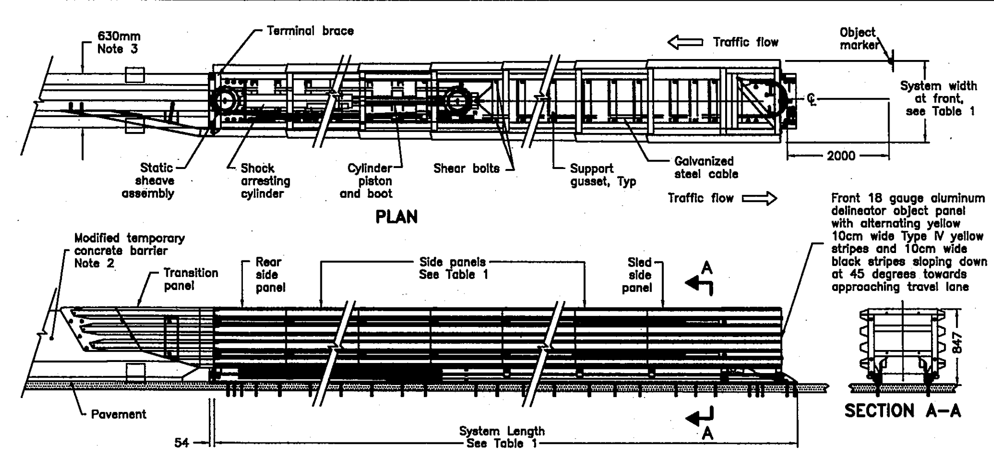
MINISTRY OF TRANSPORTATION ONTARIO DRAWING	November 2008	Rev 0
GUIDE RAIL SYSTEM, STEEL BEAM **POLYMER OFFSET BLOCK - P-BLOCK** COMPONENT	MTOD - 912.108	





NOTES:
1 Adjust the position of the last joint immediately previous to the fixed location joint, so that the slabs on each side of this last joint are not shorter than 3.0m, nor longer than 5.0m. Last joint to be an expansion joint for Type B section.
A A minimum of 100mm granular 'A' material is required beneath the open graded drainage layer.
B For details of approach slab see bridge drawing.
C All reinforcing bars to have 75mm cover.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	April 1999	Rev
CONCRETE PAVEMENT APPROACH TREATMENT TO ASPHALT, COMPOSITE PAVEMENTS AND STRUCTURE APPROACHES	OPSD - 555.010M	



NOTES:
1 When system is placed on a concrete pad, the pad shall be according to OPSD-923.001.
2 Adjacent temporary concrete barrier shall be modified and anchored according to OPSD-923.002.
3 Maximum width at toe of safety shape barrier.
A The system depicted is proprietary to SCI Products Inc.
B System configuration based on NCHRP Report 350 test level.
C All dimensions are in millimetres unless otherwise shown.

TABLE 1

SYSTEM CONFIGURATION	TL-2	TL-3
SYSTEM LENGTH	4118	6556
SIDE PANELS PER SIDE	2	5
SYSTEM WIDTH	879	951

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	February 2007	Rev 0
ENERGY ATTENUATOR, CRASH CUSHION SMART SYSTEM INSTALLATION-TEMPORARY BIDIRECTIONAL	MTOD - 923.481	

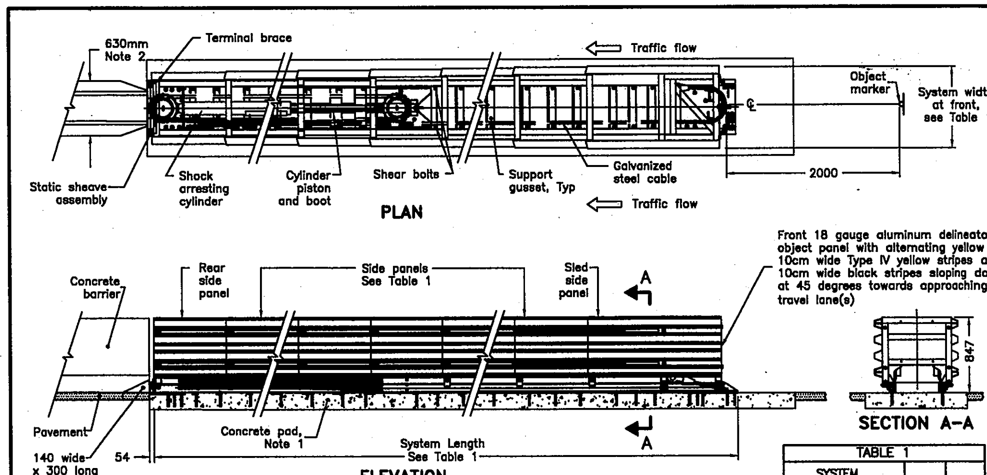


TABLE 1

SYSTEM CONFIGURATION	TL-2	TL-3
SYSTEM LENGTH	4118	6556
SIDE PANELS PER SIDE	2	5
SYSTEM WIDTH	879	951

NOTES:
1 When system is placed on a concrete pad, the pad shall be according to OPSD-923.001.
2 Maximum width at toe of safety shape barrier.
A The system depicted is proprietary to SCI Products Inc.
B System configuration based on NCHRP Report 350 test level.
C All dimensions are in millimetres unless otherwise shown.

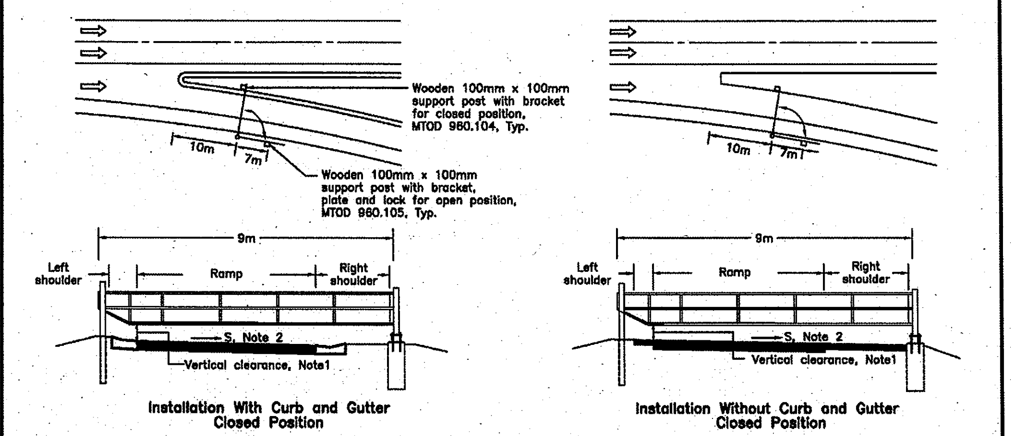
MINISTRY OF TRANSPORTATION ONTARIO DRAWING	February 2007	Rev 0
ENERGY ATTENUATOR, CRASH CUSHION SMART SYSTEM INSTALLATION-PERMANENT UNIDIRECTIONAL	MTOD - 923.482	

N.T.S.

METRIC

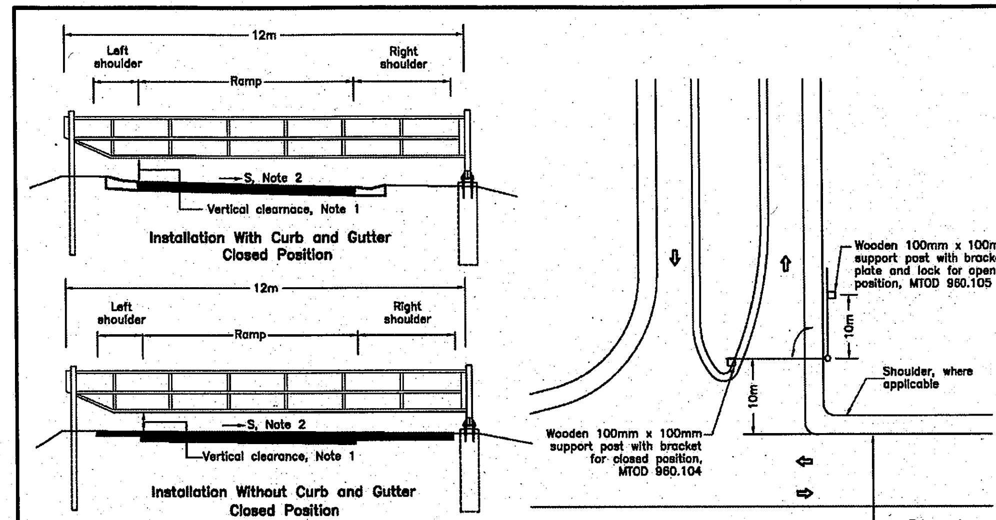
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-20
AECOM	



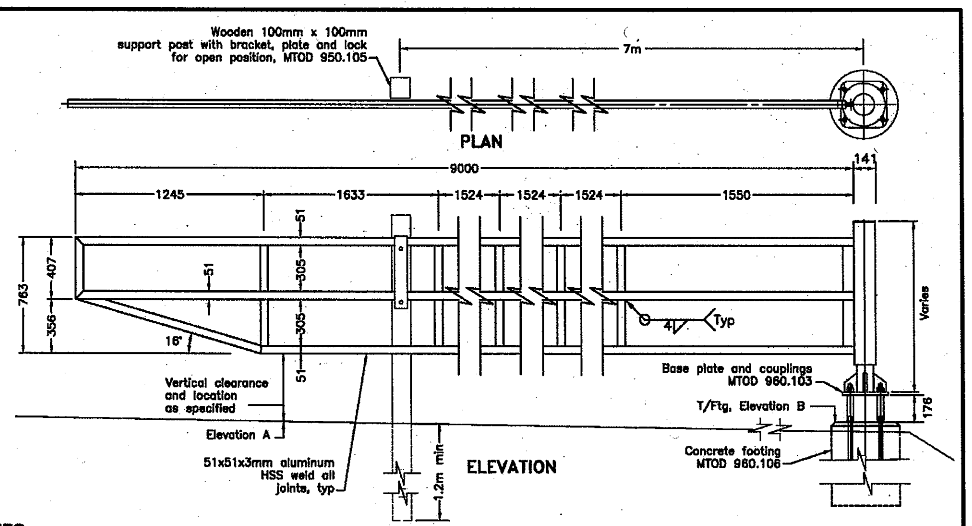
NOTES:
1 Vertical clearance at left edge of driving lane shall be 0.2m to 0.3m.
2 Superelevation rate 2.0% to 6.0% as specified.
A This drawing shall be read in conjunction with MTOD 960.101.
B Gate may be installed in front of guide rail when specified.
C All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	January 2010	Rev 1
RAMP CLOSURE GATE ENTRANCE RAMP TO FREEWAY 9m GATE – INSTALLATION	WP 2005-07-00 Highway 404 – August 2010	
	MTOD – 960.010	



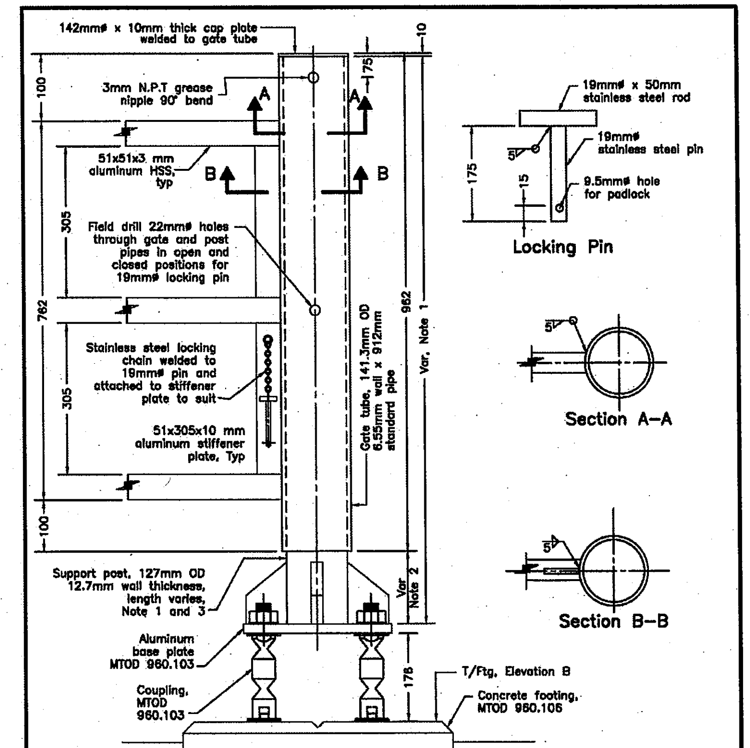
NOTES:
1 Vertical clearance at left edge of driving lane shall be 0.2m to 0.3m.
2 Pavement crossfall 2.0% or greater as specified.
A This drawing shall be read in conjunction with MTOD 960.107.
B Gate may be installed in front of guide rail when specified.
C All dimensions are in millimetres or metres unless otherwise specified.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	January 2010	Rev 0
RAMP CLOSURE GATE ENTRANCE RAMP TO FREEWAY 12m – INSTALLATION	WP 2005-07-00 Highway 404 – August 2010	
	MTOD – 960.012	



NOTES:
A Gate materials shall be constructed from extruded aluminum, grade 6061–T6, tempered grade T6511, with radii corners for tubing materials.
B All joints shall be electrically mig welded.
C System configuration is equivalent to South Dakota gate which meets NCHRP Report 350 TL–3 in open position.
D Gate shown in open position.
E This drawing shall be read in conjunction with MTOD 960.102.
F All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	March 2010	Rev 2
RAMP CLOSURE GATE 9.0m GATE GENERAL ASSEMBLY	WP 2005-07-00 Highway 404 – August 2010	
	MTOD – 960.101	



NOTES:
1 Length varies to provide vertical clearance in accordance with applicable MTOD. Top of support post shall be machine cut square.
2 Length varies, mininum 100mm.
3 Machine support post to fit inside gate tube and allow free rotation.
A All joints shall be electrically mig welded.
B Gate shown in closed position.
C All measurements in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	January 2010	Rev 2
RAMP CLOSURE GATE BREAKAWAY POST AND CONNECTION COMPONENTS	WP 2005-07-00 Highway 404 – August 2010	
	MTOD – 960.102	

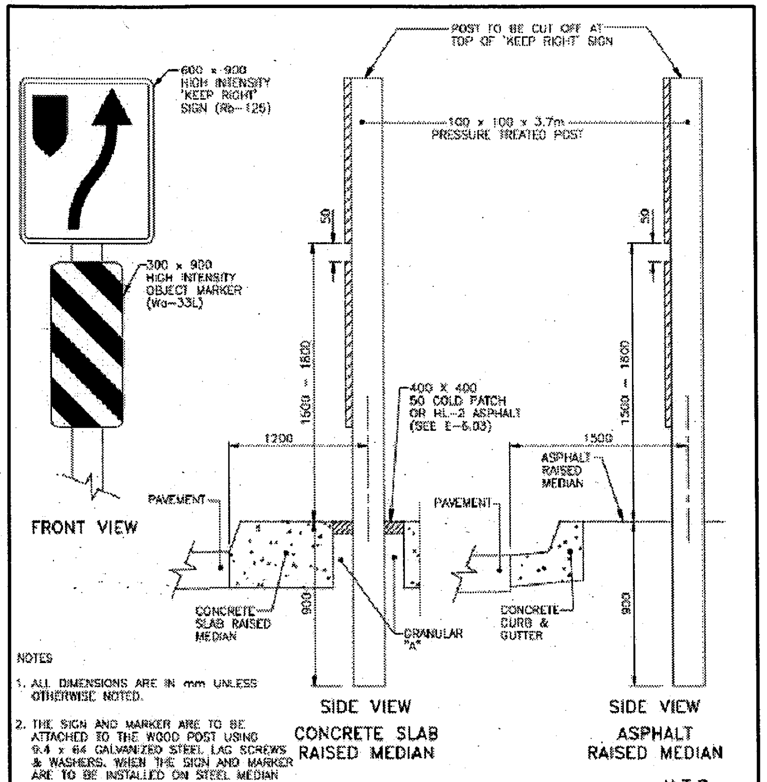
N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-20.dwg SAVE DATE: 8/9/2010 10:12 AM PLOT DATE: 9/28/2010 3:29 PM
SAVED BY: mazzaferrom

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP	2005–07–00
MISCELLANEOUS DETAILS	SHEET MISC–21
AECOM	



NOTES

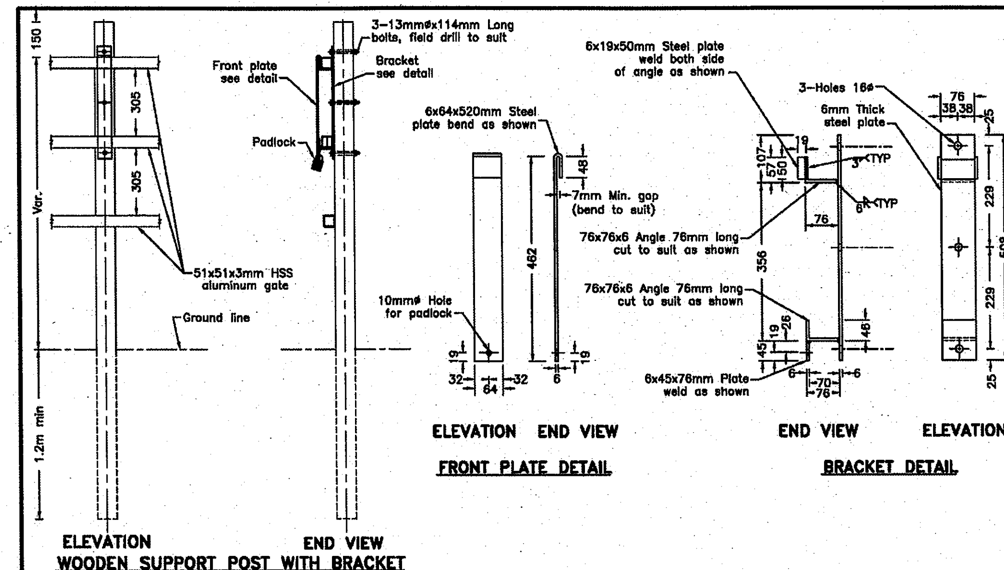
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. THE SIGN AND MARKER ARE TO BE ATTACHED TO THE WOOD POST USING 9.4 x 64 GALVANIZED STEEL LAG SCREWS & WASHERS. WHEN THE SIGN AND MARKER ARE TO BE INSTALLED ON STEEL MEDIAN ISLAND POLES, 16 STAINLESS STEEL STRAPPING, 4.5kN ULTIMATE STRENGTH, IS TO BE USED TOP & BOTTOM, IN LIEU OF LAG SCREWS. WASHERS ARE TO BE USED FOR BOTH METHODS OF MOUNTING THE SIGNS. TWO WASHERS ARE TO BE USED FOR EACH LAG SCREW OR BOLT; ONE FLAT 9.4 x 19 ø NYLON WASHER PLACED AGAINST THE SIGN SURFACE AND ONE FLAT 9.4 x 19 ø GALVANIZED STEEL (WITH LAG SCREWS) OR STAINLESS STEEL (WITH LAG SCREWS OR STRAPPING) ON TOP OF THE NYLON WASHER.
3. FOR THE INSTALLATION OF "KEEP RIGHT" SIGN AND OBJECT MARKER IN A CONCRETE SLAB RAISED MEDIAN ISLAND, SEE STANDARD DWG. NO. E–6.03, DETAIL "B".

York Region Transportation and Works

TYPICAL "KEEP RIGHT" SIGN AND OBJECT MARKER INSTALLATION IN MEDIAN ISLANDS

MAY 2005 DATE

E–7.01



NOTES:

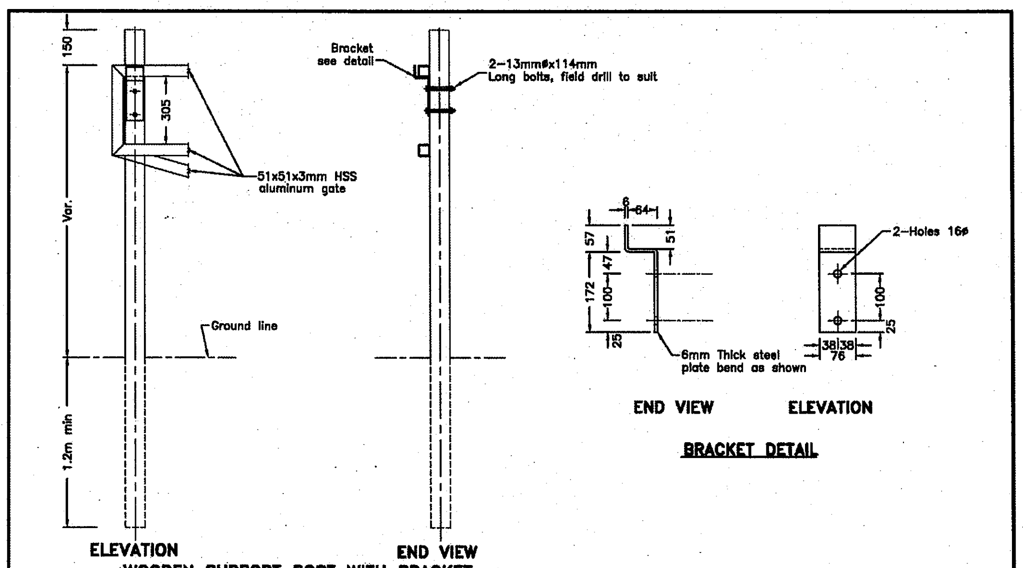
A All steel shall be hot dip galvanized after fabrication in conformance with CSA G–164.
B Steel shall conform to CSA Standard G40.21, Grade 300W.
C Welding shall conform to the latest issue of CSA SPE. W 59.
D All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | January 2010 | Rev 1

RAMP CLOSURE GATE
WOODEN SUPPORT POST WITH BRACKET
OPEN POSITION COMPONENTS

WP 2005–07–00
Highway 404 – August 2010

MTOD – 960.105



NOTES:

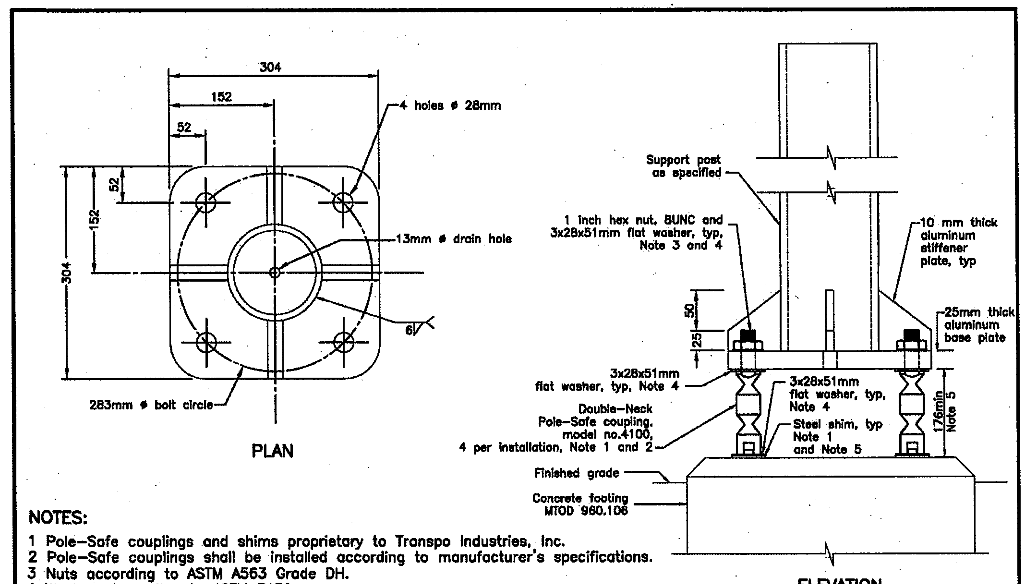
A All steel shall be hot dip galvanized after fabrication in conformance with CSA G–164.
B Steel shall conform to CSA Standard G40.21, Grade 300W.
C Welding shall conform to the latest issue of CSA SPE. W 59.
D All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | January 2010 | Rev 1

RAMP CLOSURE GATE
WOODEN SUPPORT POST WITH BRACKET
CLOSED POSITION COMPONENTS

WP 2005–07–00
Highway 404 – August 2010

MTOD – 960.104



NOTES:

1 Pole–Safe couplings and shims proprietary to Transpo Industries, Inc.
2 Pole–Safe couplings shall be installed according to manufacturer's specifications.
3 Nuts according to ASTM A563 Grade DH.
4 Washers according to ASTM F436.
5 Minimum dimensions based on one washer above and below coupling. Galvanized steel shims is required for leveling base plate will increase dimensions accordingly.
A All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING | January 2010 | Rev 1

RAMP CLOSURE GATE
BASE PLATE AND COUPLINGS
COMPONENT

WP 2005–07–00
Highway 404 – August 2010

MTOD – 960.103

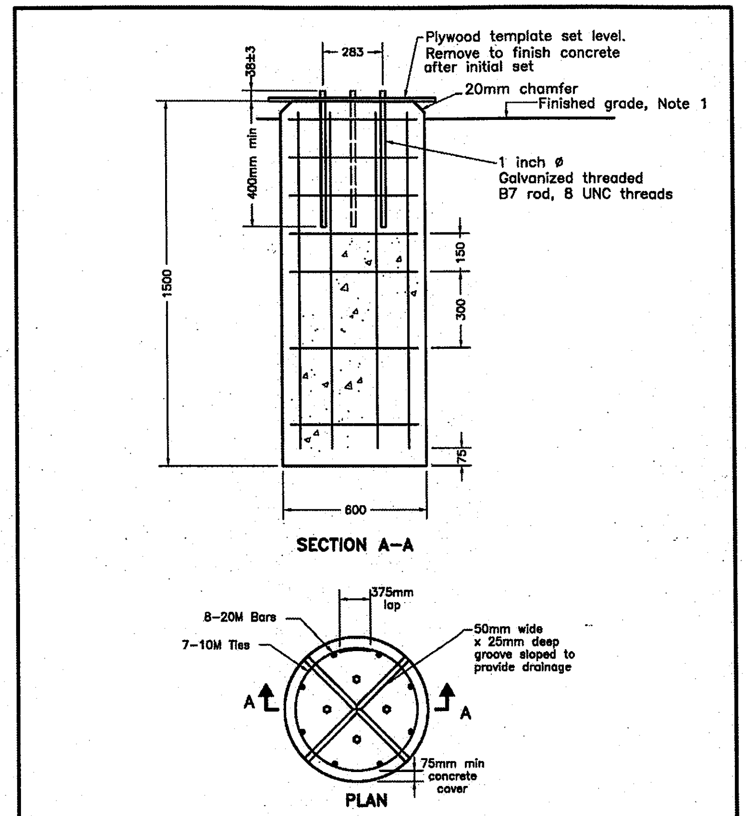
N.T.S.

DRAWING NAME: 2538–199–00_CT–MISC–21.dwg
SAVED BY: mazzaferrom SAVE DATE: 8/27/2010 1:10 PM PLOT DATE: 9/28/2010 3:29 PM

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

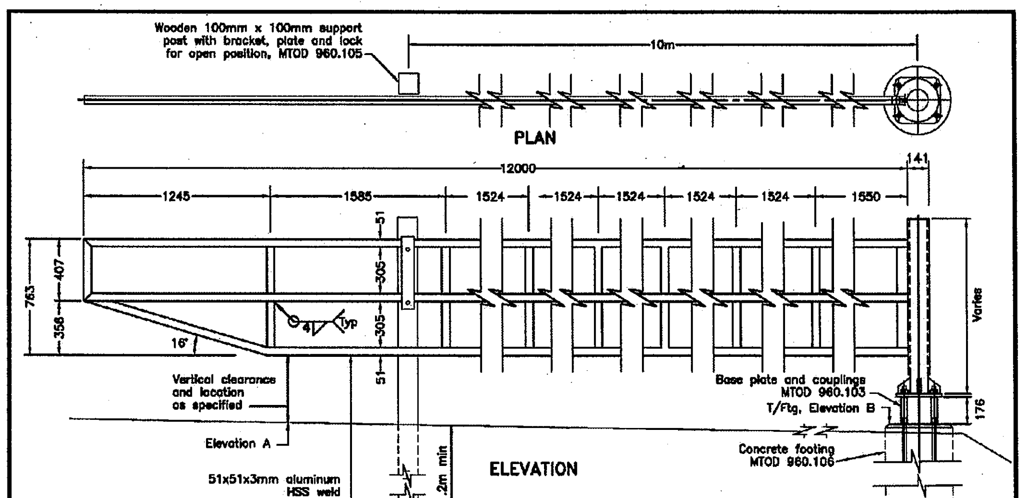
CONT WP	2005–07–00	
MISCELLANEOUS DETAILS		SHEET MISC–22
AECOM		



NOTES:

1 Top of footing shall be installed at 40mm ±15mm above finished grade.
A All dimensions are in millimetres unless otherwise shown.

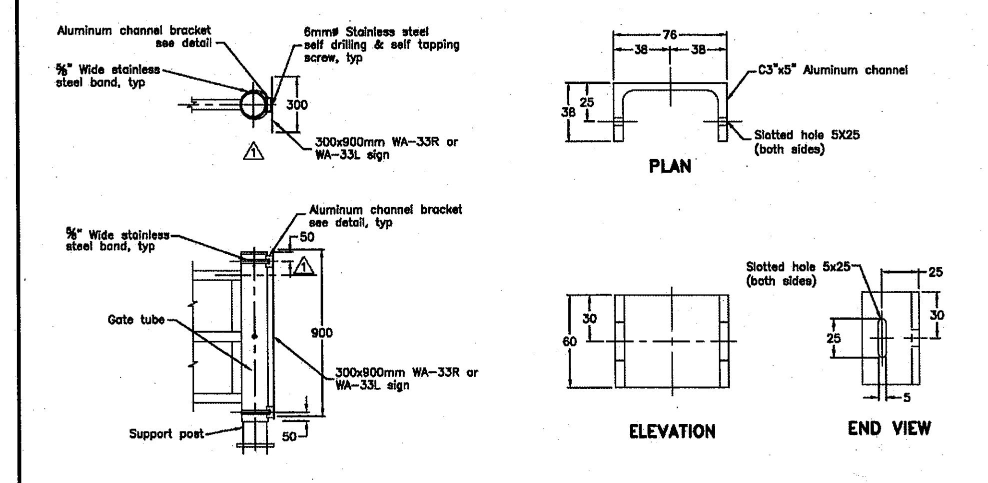
MINISTRY OF TRANSPORTATION ONTARIO DRAWING	March 2010 Rev 2
RAMP CLOSURE GATE **REINFORCED CONCRETE FOOTING** COMPONENT	WP 2005–07–00 Highway 404 – August 2010
	MTOD – 960.106



NOTES:

A Gate materials shall be constructed from extruded aluminum, grade 6061–T6, tempered grade T6511, with radii corners for tubing materials.
B All joints shall be electrically mig welded.
C System configuration is equivalent to South Dakota gate which meets NCHRP Report 350 TL–3 in open position.
D Gate shown in open position.
E This drawing shall be read in conjunction with MTOD 960.102.
F All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	March 2010 Rev 1
RAMP CLOSURE GATE **12.0m GATE** GENERAL ASSEMBLY	WP 2005–07–00 Highway 404 – August 2010
	MTOD – 960.107



ELEVATION OF POST

ALUMINUM CHANNEL BRACKET DETAIL

NOTE:

A All dimensions are in millimetres unless otherwise shown.

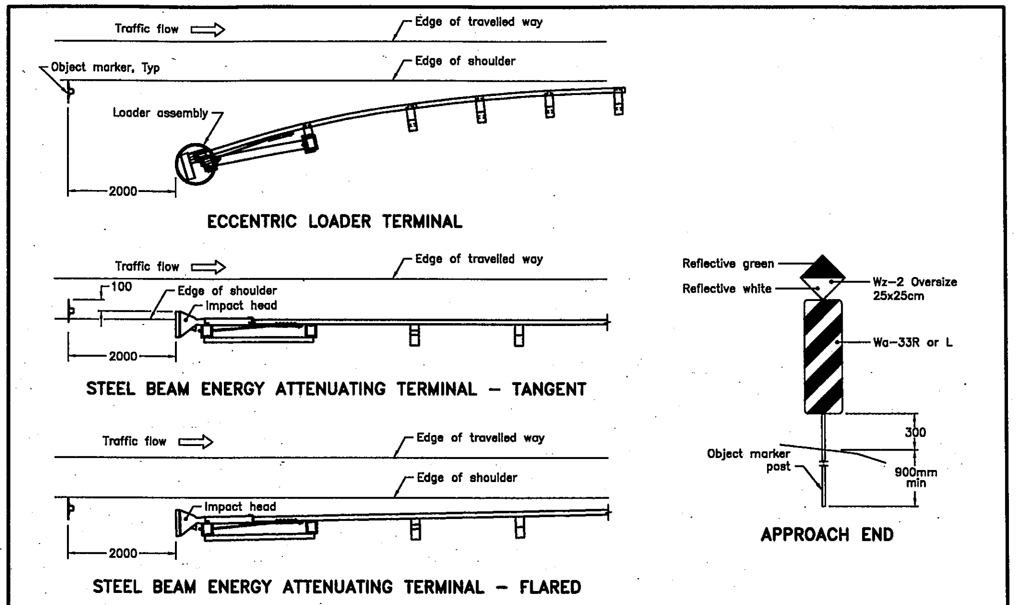
MINISTRY OF TRANSPORTATION ONTARIO DRAWING	January 2010 Rev 0
RAMP CLOSURE GATE **OBJECT MARKER SIGN BRACKET** COMPONENT	WP 2005–07–00 Highway 404 – August 2010
	MTOD – 960.108

N.T.S.

METRIC

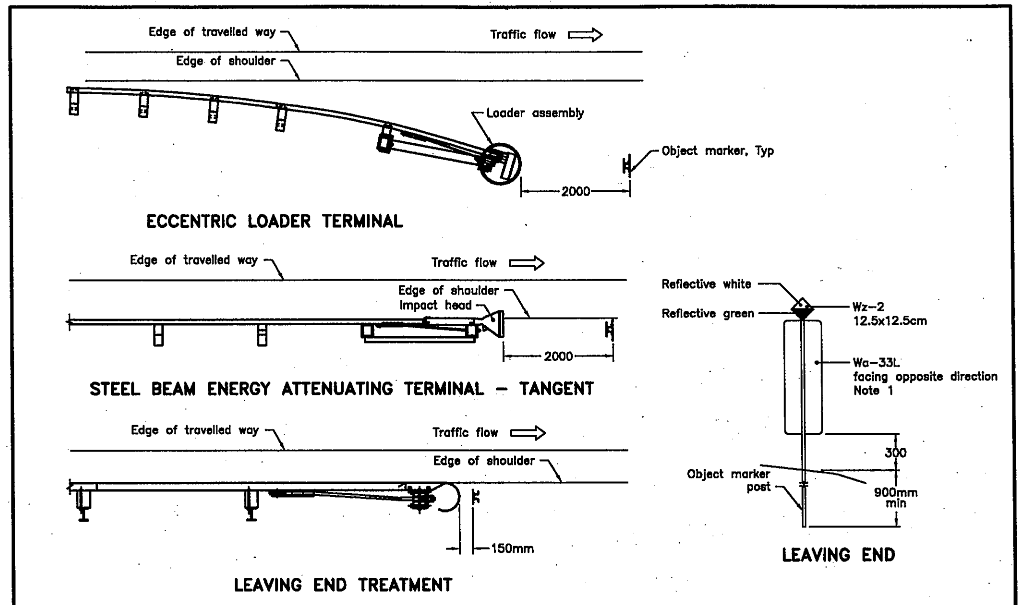
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
MISCELLANEOUS DETAILS	SHEET MISC-23
AECOM	



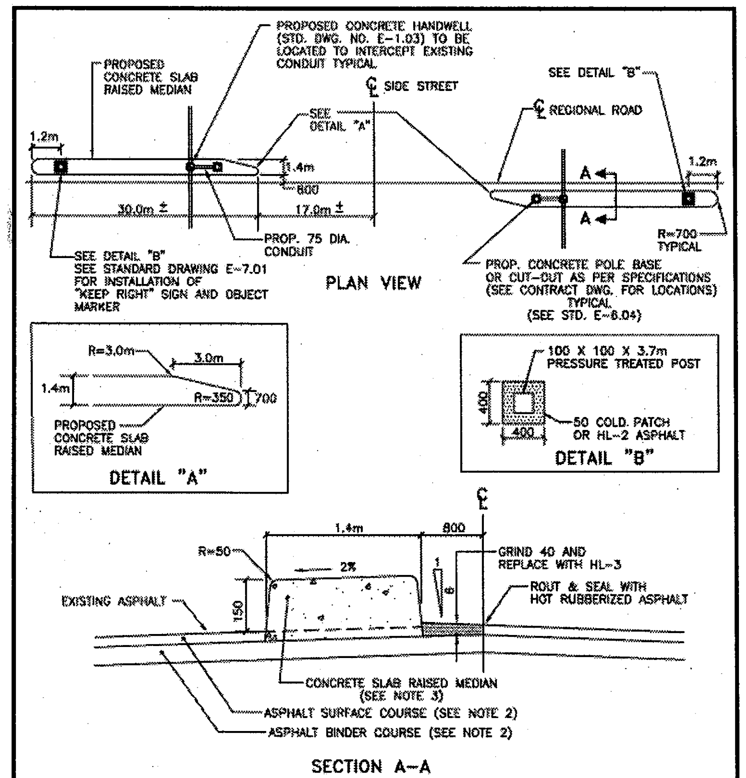
NOTES:
A All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	Date	May 2009	Rev	1
GUIDE RAIL SYSTEM, STEEL BEAM OBJECT MARKER AND SNOW PLOW MARKER INSTALLATION – APPROACH END	MTOD 984.201			



NOTES:
1 The Wa-33 is not required for the Leaving End Treatment.
A All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	Date	May 2009	Rev	0
GUIDE RAIL SYSTEM, STEEL BEAM OBJECT MARKER AND SNOW PLOW MARKER INSTALLATION – LEAVING END	MTOD 984.202			



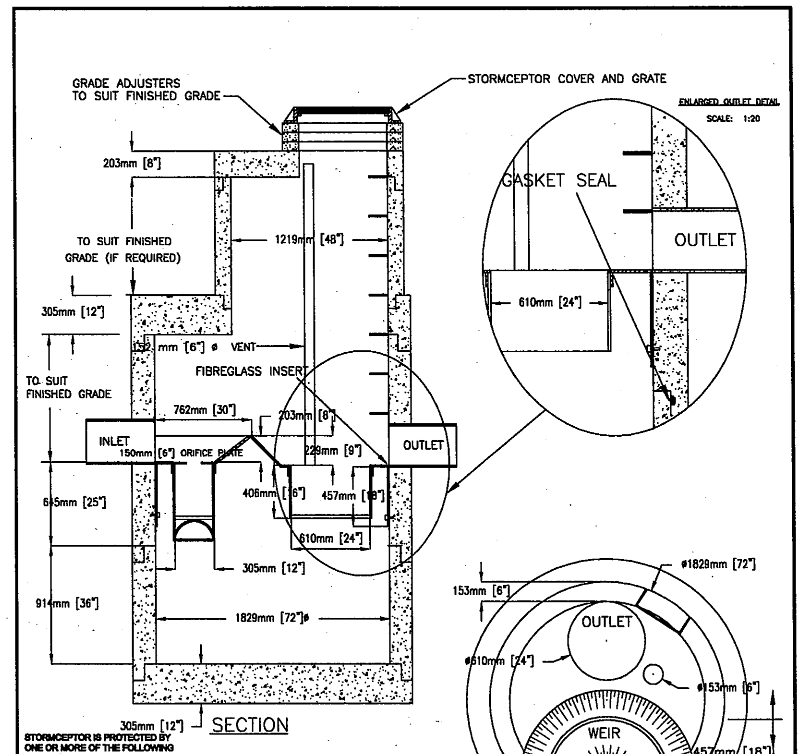
NOTES
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. WHEN SLAB TYPE RAISED MEDIAN IS INSTALLED ON EXISTING ROAD SURFACE THE EXISTING ASPHALT IS TO BE GROUND DOWN 40 OVER ENTIRE AREA OF SLAB.
3. CONCRETE TO BE 30 MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5% TO 7% AIR ENTRAINMENT.
4. CONTRACTION JOINTS (5 X 50 DEEP) ARE TO BE CUT IN THE CONCRETE SLAB EVERY 6 METRES.

York Region Transportation and Works

TYPICAL DETAIL FOR CONSTRUCTION OF CONCRETE SLAB RAISED MEDIAN ISLANDS AT INTERSECTIONS

JULY 2006
DATE

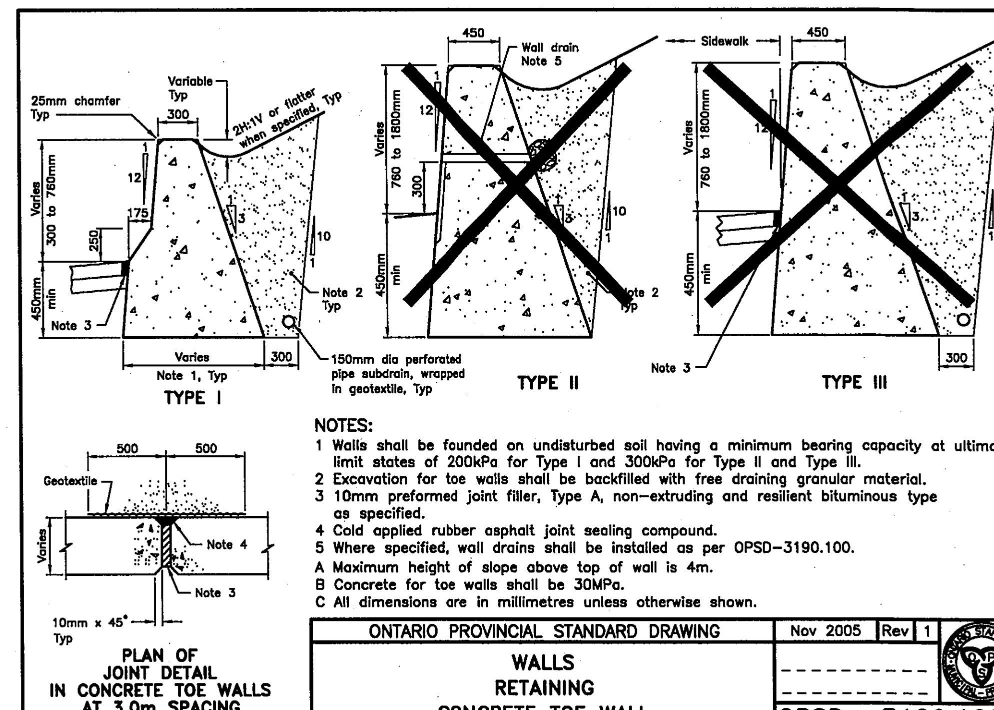
E-6.03



STORMCEPTOR IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:

Notes :
1. Dimensions may vary regionally due to different manufacturer's. Please contact local manufacturer for detailed construction drawings.
2. Access way is offset to allow access to the fibreglass bypass slab and to allow inspection and maintenance from the surface.
3. Pipe installation by grouting or flexible boots.
4. Flexible boots may not be suitable for all installations. Please contact your sales representative for further information.
5. 610 mm [24"] outlet to be used for cleanout access to the treatment chamber.
6. Safety grates for the 610 mm [24"] outlet are available.

DATE REQ'D:	# REQ'D:	SCALE: 1:30	STC 750 PRECAST CONCRETE STORMCEPTOR
DATE: 02/23/99	D.B.: A.M.G.	UNITS:	FIBREGLASS DISC DESIGN – 750 IMP. GALLON CAPACITY



NOTES:
1 Walls shall be founded on undisturbed soil having a minimum bearing capacity at ultimate limit states of 200kPa for Type I and 300kPa for Type II and Type III.
2 Excavation for toe walls shall be backfilled with free draining granular material.
3 10mm preformed joint filler, Type A, non-extruding and resilient bituminous type as specified.
4 Cold applied rubber asphalt joint sealing compound.
5 Where specified, wall drains shall be installed as per OPSD-3190.100.
A Maximum height of slope above top of wall is 4m.
B Concrete for toe walls shall be 30MPa.
C All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2005	Rev	1
WALLS RETAINING CONCRETE TOE WALL	OPSD- 3120.100M		

N.T.S.

DRAWING NAME: 2538-199-00_CT-MISC-23.dwg PLOT DATE: 9/28/2010 3:30 PM
SAVED BY: mazzaferrom SAVE DATE: 7/22/2010 4:01 PM

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404 Northbound Lanes
Station 33+700 to 38+600

SHEET
BH-01

Golder Associates
Office, Prov/State

Highway 404 Northbound
Station 33+700 to 38+600,
Referenced to Fut. Median C/L

33+700 28.00 Rt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 -1.50 Br Sa Si Tr Cl Tr Gr, Moist
1.50-4.50 Gry Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 2.50, Sat

33+700 12.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.00 Br Sa Si Tr Cl Tr Gr, Moist
1.00-4.50 Gry Si Sa Tr Cl Tr Gr, Moist

33+700 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.30 Br Sa Si Tr Cl Tr Gr, Moist
1.30-4.60 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 3.00, Sat, V Dense @ 4.1*
* Sample Depth = 3.00 - 4.50
w = 7 %

33+725 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -3.00 Br Sa Si Tr Cl Tr Gr, Moist

33+750 28.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.00 Br Sa Si Tr Cl Tr Gr, Moist
1.00-2.25 Br Si Sa Tr Cl Tr Gr, Moist

33+750 20.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -2.55 Br Sa Si W Cl, Moist, Comp @ 2.1*
* Sample Depth = 2.25 - 2.55
Passing 4.75 mm = 100 %
2.00 mm = 99 %
425 um = 97 %
75 um = 68 %
5 um = 17 %
2 um = 12 %
w = 11 %
Plasticity = Non-plastic
Classification = ML
Frost Susc. = MSFH
'K' Factor = 0.35

33+750 12.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 -2.25 Br Sa Si Tr Cl Tr Gr, Moist

33+775 20.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 500 Br Sa Si Tr Cl Tr Gr, Moist
500 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+800 12.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 650 Br Sa Si Tr Cl Tr Gr, Moist
650 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+800 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 600 Br Sa Si Tr Cl Tr Gr, Moist
600 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+800 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 550 Br Sa Si Tr Cl Tr Gr, Moist
550 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+850 20.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 - 490 Br Sa Si Tr Cl Tr Gr, Moist
490 -1.50 Gry-Br Si Sa Tr Cl Tr Gr, Wet

33+900 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 600 Br Sa Si Tr Cl Tr Gr, Moist
600 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

33+900 28.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 700 Br Sa Si Tr Cl Tr Gr, Moist
700 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

33+900 12.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 450 Br Sa Si Tr Cl Tr Gr, Moist
450 -1.50 Br Cl Si W Sa Tr Gr, Moist

33+925 20.00 Rt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si W Cl Tr Gr, Moist

33+950 20.00 Rt C/L D-0 HA
0 - 330 Dk Br Si Tps
330 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

33+975 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+000 20.00 Rt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+050 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+063 60.80 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 600 Dk Br Cl Si W Sa Tr Org M, Moist
600 -1.10 Dk Br Si Sa Tr Cl Tr Org M, Wet
1.10-1.50 Br Cl Si W Sa, Moist
1.50-3.50 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 3.0

34+075 20.00 Rt C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+100 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+125 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Sa Si W Cl Tr Gr, Moist

34+150 20.00 Rt C/L D-0 PA
0 - 275 Dk Br Si Tps
275 -1.50 Br Sa Si W Cl Tr Gr, Moist*
* Sample Depth = 500 - 900
w = 15 %

34+200 28.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+200 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 900 Br Sa Si Tr Cl Tr Gr, Moist
900 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+200 20.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 800 Br Sa Si Tr Cl Tr Gr, Moist
800 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+225 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 900, Hard @ 3.0

34+250 12.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.60, Hard @ 3.0

34+250 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.30, Hard @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 21 %

34+250 28.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.60, Hard @ 3.0

34+275 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.45 Br Cl Si W Sa Tr Gr, Moist, V Stiff @ 3.0

34+300 28.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.70, Hard @ 3.0

34+300 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -3.46 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.70, Hard @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 15 %

34+300 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.46 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.60, V Stiff @ 3.0

34+325 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -5.05 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 4.30, Hard @ 4.6

34+350 12.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -5.05 Br Cl Si W Sa, Moist, Fr Wat @ 2.40, Hard @ 4.6*
* Sample Depth = 4.60 - 5.05
w = 14 %

34+350 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -5.05 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 4.60, Hard @ 4.6

34+350 28.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -3.00 Br Cl Si W Sa Tr Gr, Moist
3.00-5.05 Br Cl Si W Sa, Moist, Fr Wat @ 4.30*
* Sample Depth = 4.60 - 5.05
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 94 %
75 um = 60 %
5 um = 37 %
2 um = 21 %
w = 16 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.30

34+375 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -5.05 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 4.60, V Stiff @ 4.6

34+400 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.75 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.50, Hard @ 4.3

34+400 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -3.60 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 1.80
3.60-5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Hard @ 4.6

34+400 28.00 Rt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 -5.05 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.00

34+425 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.00, Hard @ 4.6*
* Sample Depth = 4.60 - 5.05
w = 11 %

34+450 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.80, V Stiff @ 4.6

34+450 12.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -4.90 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.50, Hard @ 4.4*
* Sample Depth = 4.60 - 4.90
w = 19 %

34+450 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.30, Hard @ 4.6*
* Sample Depth = 1.50 - 3.00
Passing 4.75 mm = 97 %
2.00 mm = 97 %
425 um = 91 %
75 um = 68 %
5 um = 28 %
2 um = 18 %
w = 16 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.35
Std. Proctor MWD = 2180 kg/m³
MDD = 1989 kg/m³
w opt = 10 %

34+475 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -4.90 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.30, Hard @ 4.4

34+500 12.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -2.90 Br Cl Si Tr Sa Tr Gr, Moist
2.90-4.90 Gry Cl Si Tr Sa Tr Gr, Moist

34+500 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -3.20 Br Cl Si W Sa Tr Gr, Moist
3.20-4.90 Gry Cl Si W Sa Tr Gr, Moist, Hard @ 4.4

34+500 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.60 Br Cl Si W Sa Tr Gr Occ Cob, Moist
4.60-4.90 Gry Cl Si Tr Sa Tr Gr, Moist

34+525 20.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -4.90 Br Cl Si Tr Sa Tr Gr, Moist, Hard @ 4.4

34+550 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.90 Br Cl Si Tr Sa Tr Gr, Wet*
* Sample Depth = 4.60 - 4.90
w = 26 %

34+550 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -4.90 Br Cl Si Tr Sa Tr Gr, Wet, Hard @ 4.4

34+550 12.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -4.90 Br Cl Si Tr Sa Tr Gr, Wet, Hard @ 4.4

34+575 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.90 Br Cl Si Tr Sa Tr Gr, Moist, Hard @ 4.4

34+600 12.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.40 Br Sa Si W Cl Tr Gr, Moist
1.40-4.90 Gry Cl Si W Sa Tr Gr, Moist, Hard @ 4.4*
* Sample Depth = 4.60 - 4.90
w = 13 %

34+600 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.00 Br Sa Si W Cl Tr Gr, Moist, Fr Wat @3.90
4.00-5.05 Gry Cl Si W Sa Tr Gr, Moist, Hard @ 4.6

34+600 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -5.05 Br Cl Si W Sa Tr Gr, Moist

34+625 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.40 Br Si Sa W Cl Tr Gr, Moist
1.40-2.60 Br Cl Si Tr Sa Tr Gr, Moist
2.60-5.05 Gry Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.6

34+650 28.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -5.05 Br-Gry Si Cl, Moist, Fr Wat @ 3.00, Sat*
* Sample Depth = 4.60 - 5.05
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 100 %
5 um = 73 %
2 um = 53 %
w = 19 %
Classification = CI-CH
Frost Susc. = LSFH
'K' Factor = 0.25

34+650 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -4.88 Br-Gry Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.4

34+650 20.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -4.88 Br-Gry Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 4.50, Sat

34+675 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -3.10 Br-Gry Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 2.20, Sat
3.10-5.05 Gry-Br Cl Si Tr Sa Tr Gr, Moist, Sat, Hard @ 4.6*
* Sample Depth = 4.60 - 5.05
w = 22 %

34+700 20.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -3.45 Br-Gry Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 2.20, Sat, Hard @ 4.4*
* Sample Depth = 1.50 - 3.00
Passing 4.75 mm = 100 %
2.00 mm = 99 %
425 um = 98 %
75 um = 93 %
5 um = 54 %
2 um = 31 %
w = 16 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.45
Std. Proctor MWD = 2038 kg/m³
MDD = 1751 kg/m³
w opt = 16 %

34+700 28.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 -3.45 Br Si Cl Tr Sa Tr Gr, Moist, Hard @ 3.0

34+700 12.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -3.45 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.40, Sat, V Dense @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 13 %

34+725 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.10 Br Si Sa Tr Cl Tr Gr, Moist
1.10-3.00 Br Cl Si Tr Sa Tr Gr, Moist
3.00-3.40 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 3.0

34+750 12.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.70 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 1.50
1.70-3.40 Br Sa Si W Cl Tr Gr, Moist, Dense @ 3.0

34+750 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.80 Br Sa Si Tr Cl Tr Gr, Moist
1.80-3.40 Br Cl Si W Sa Tr Gr, Moist*
* Sample Depth = 3.10 - 3.40
w = 22 %

34+750 28.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.20 Br Si Sa W Cl Tr Gr Occ Cob, Moist
1.20-3.40 Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 3.00, Hard @ 3.0

34+775 20.00 Rt C/L D-0 PA
0 - 300 Br Si Tps
300 -2.70 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 2.40
2.70-3.90 Br Cl Si Tr Sa Tr Gr Occ Cob, Moist
3.90-4.90 Gry Cl Si Tr Sa Tr Gr Occ Cob, Moist, Hard @ 4.4

34+800 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 800 Br Si Sa Tr Cl Tr Gr, Moist
800 -3.70 Br Sa Si Tr Cl Tr Gr, Moist
3.70-4.90 Gry Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.4

34+800 28.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 700 Br Si Sa Tr Cl Tr Gr, Moist
700 -3.30 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.40
3.30-4.90 Gry Si Cl Tr Sa Tr Gr, Moist, Hard @ 4.4*
* Sample Depth = 4.50 - 4.80
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 99 %
5 um = 58 %
2 um = 40 %
w = 18 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.40

34+800 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -2.40 Br Sa Si Tr Cl Tr Gr, Moist
2.40-3.80 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 2.40
3.80-4.90 Gry-Br Cl Si Tr Sa Tr Gr, Moist, Hard @ 4.4

34+825 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.20, Sat, Hard @ 4.6

34+850 12.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -5.00 Gry-Br Si Cl Tr Sa Occ Cob Occ Blds, Moist, Fr Wat @ 1.80, Sat, Hard @ 4.6

34+850 20.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -5.05 Gry-Br Si Cl Tr Sa, Moist, Fr Wat @ 2.40, Sat, Hard @ 4.6

34+900 12.00 Rt C/L D-0 PA
0 - 130 Lt Br Cr Gran
130 - 400 Br Si Sa W Gr, Wet
400 - 700 Dk Br Sa Si Tr Cl Tr Gr W Org M, Moist
700 -4.73 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.3*
* Sample Depth = 4.60 - 4.73
w = 11 %

34+900 20.00 Rt C/L D-0 PA
0 - 140 Lt Br Cr Gran
140 - 550 Br Cl Si W Sa Tr Gr Tr Org M, Moist
550 - 850 Br Si Sa W Gr Tr Cl, Wet
850 -5.05 Gry-Br Cl Si W Sa Tr Gr Occ Cob, Moist, Hard @ 4.6

34+900 28.00 Rt C/L D-0 PA
0 - 440 Dk Br Si Tps
440 -3.00 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.80, Sat
3.00-4.70 Gry Si Sa Tr Cl Tr Gr, Sat, V Dense @ 4.2

34+925 20.00 Rt C/L D-0 HA
0 - 090 Lt Br Cr Gran
090 - 330 Dk Br Si Tps
330 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 800

34+950 12.00 Rt C/L D-0 HA
0 - 500 Dk Br Si Tps
500 -1.50 Br Sa Si Tr Cl Tr Gr, Wet, Fr Wat @ 600

34+950 20.00 Rt C/L D-0 HA
0 - 350 Dk Br Si Tps
350 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 550

34+950 28.00 Rt C/L D-0 HA
0 - 150 Dk Br Si Tps
150 -1.50 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 250, Sat

35+000 20.00 Rt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 -1.50 Br Cl Si Tr Sa Tr Gr Occ Cob, Moist, Fr Wat @ 550

35+050 22.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 760 Br Cl Si Tr Sa Tr Gr, Moist
760 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+050 14.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+050 30.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+150 19.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+150 27.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+200 31.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+250 24.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 550 Br Si Cl Tr Sa Tr Gr, Moist
550 -1.50 Br Cl Si W Sa Tr Gr, Moist*
* Sample Depth = 1.20 - 1.50
w = 13 %

35+250 32.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+250 40.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+300 33.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 530 Br Cl Si Tr Sa Tr Gr, Moist
530 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+325 26.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 800 Br Si Cl W Sa Tr Gr, Moist*
800 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 500 - 800
Passing 4.75 mm = 99 %
2.00 mm = 99 %
425 um = 96 %
75 um = 83 %
5 um = 60 %
2 um = 45 %
w = 22 %
WL = 33 % WP = 18 % IP = 16 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.25

35+325 34.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 510 Br Si Cl Tr Sa Tr Gr, Moist
510 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 3.0

35+325 42.00 Rt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+350 35.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+375 28.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 1.20 Br Sa W Gr Tr Si, Moist
1.20- 4.50 Br Sa Si W Cl Tr Gr, Moist*
* Sample Depth = 3.00 - 4.50
Passing 4.75 mm = 98 %
2.00 mm = 97 %
425 um = 93 %
75 um = 70 %
5 um = 26 %
2 um = 13 %
w = 10 %
Classification = ML
Frost Susc. = MSFH
'K' Factor = 0.25
Std. Proctor MWD = 2031 kg/m³
MDD = 1846 kg/m³
w opt = 10 %

MINISTRY OF TRANSPORTATION, ONTARIO
PH-D-707 88-05

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SAVED BY: mazzaferom

METRIC

CONT	
WP 2005-07-00	
SOIL DATA Highway 404 Northbound Lanes Station 33+700 to 38+600	SHEET BH-02
Golder Associates Office, Prov/State	

35+375 36.00 Rt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 - 1.50 Br Sa W Gr Tr Si, Moist
1.50 - 4.80 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.4*
* Sample Depth = 4.50 - 4.80
w = 8 %

35+375 44.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 1.30 Br Sa W Gr Tr Si, Moist
1.30 - 4.50 Br Sa Si Tr Cl Tr Gr, Moist

35+400 37.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 800 Br Cl Si Tr Sa Tr Gr, Moist
800 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+425 46.00 Rt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 750 Br Cl Si Tr Sa Tr Gr, Moist
750 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+425 30.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist
1.50 - 3.00 Br Si Sa Tr Cl Tr Gr, Moist

35+425 38.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 1.30 Br Cl Si Tr Sa Tr Gr, Moist
1.30 - 3.45 Br Si Sa W Gr Tr Cl, Moist, V Dense @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 7 %

35+450 38.50 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300-1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+500 31.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320-980 Br Cl Si Tr Sa Tr Gr, Moist
980-1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+500 39.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300-700 Br Cl Si Tr Sa Tr Gr, Moist
700-1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+500 47.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310-500 Br Cl Si Tr Sa Tr Gr, Moist
500-1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+550 38.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280-1.00 Br Cl Si Tr Sa Tr Gr, Moist
1.00 - 1.50 Br Sa Tr Cl Tr Si Tr Gr, Wet*
* Sample Depth = 1.20 - 1.50
w = 18 %

35+600 29.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230-1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+600 37.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300-1.50 Br Sa Tr Cl Tr Si Tr Gr, Wet*
* Sample Depth = 1.20 - 1.50
w = 20 %

35+600 45.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280-1.50 Br Sa Tr Cl Tr Si Tr Gr, Wet

35+625 35.50 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250-1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+650 42.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230-1.00 Br Si Sa Tr Cl Tr Gr, Moist
1.00 - 1.50 Br Si Cl Tr Sa Tr Gr, Wet

35+650 34.00 Rt C/L D-0 PA
0 - 220 Dk Br Si Tps
220-1.20 Br Si Sa Tr Cl Tr Gr, Moist
1.20 - 1.50 Br Si Cl Tr Sa Tr Gr, Wet

35+650 26.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270-480 Br Si Sa Tr Cl Tr Gr, Moist
480-1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+675 32.50 Rt C/L D-0 PA
0 - 370 Dk Br Si Tps
370-1.40 Br F-Med Sa Tr Si, Moist
1.40 - 3.00 Gry Si Cl Tr Sa Tr Gr, Moist

35+650 26.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 - 480 Br Si Sa Tr Cl Tr Gr, Moist
480 - 1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+675 32.50 Rt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 1.40 Br F-Med Sa Tr Si, Moist
1.40 - 3.00 Gry Si Cl Tr Sa Tr Gr, Moist

35+700 23.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.00 Br F-Med Sa Tr Si Tr Gr, Moist
1.00-3.00 Gry-Br Si Cl Tr Sa Tr Gr, Moist

35+700 31.00 Rt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.30 Br F-Med Sa Tr Si Tr Gr, Moist
1.30-2.90 Gry Cl Si Tr Sa Tr Gr, Moist
2.90-3.48 Gry Sa Si W Cl, Moist, Comp @ 3.1

35+700 39.00 Rt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 -3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+725 30.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.90 Br Si Cl Tr Sa Tr Gr, Moist
1.90-2.72 Br Sa Si Tr Cl Tr Gr, Moist
2.72-3.00 Gry Cl Si Tr Sa Tr Gr, Moist

35+750 20.50 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.85 Br Sa Si Tr Cl Tr Gr, Moist
1.85-4.50 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+750 28.50 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -800 Br Si Cl Tr Sa Tr Gr, Moist
800 -2.10 Br Sa W Gr Tr Cl Tr Si, Moist
2.10-3.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 2.40, Hard @ 2.5

35+750 36.50 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -900 Br Cl Si Tr Sa Tr Gr, Moist
900 -2.10 Br Sa W Gr, Moist
2.10-4.50 Gry Cl Si Tr Sa Tr Gr, Moist

35+775 27.00 Rt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -800 Br Sa Si Tr Cl Tr Gr, Moist
800 -6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+800 26.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Br Sa Si Tr Cl Tr Gr, Moist
1.50-2.20 Br Sa Si W Cl Tr Gr, Moist
2.20-6.48 Gry-Br Si Cl Tr Sa Tr Gr, Moist, V Stiff @ 6.0

35+800 34.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -900 Br Sa Si Tr Cl Tr Gr, Moist
900 -6.00 Gry-Br Si Cl Tr Sa Tr Gr, Moist

35+800 18.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -2.90 Br Sa Si W Cl Tr Gr, Moist
2.90-6.00 Gry-Br Si Cl Tr Sa Tr Gr, Moist*
* Sample Depth = 3.00 - 6.00
Passing 4.75 mm = 98 %
2.00 mm = 97 %
425 um = 96 %
75 um = 91 %
5 um = 62 %
2 um = 42 %
w = 18 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.30
Std. Proctor MWD = 1860 kg/m³
MDD = 1590 kg/m³
w opt = 17 %

35+825 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

35+850 20.00 Rt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

35+875 24.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 30.00 Rt C/L D-0 PA
0 - 170 Dk Br Si Tps
170 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 22.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 - 6.48 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 14.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+925 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 4.50 Br Cl Si Tr Sa Tr Gr, Moist

35+950 12.00 Rt C/L D-0 PA
0 - 215 Dk Br Si Tps
215 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+950 28.00 Rt C/L D-0 PA
0 - 235 Dk Br Si Tps
235 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+950 20.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+200 12.00 Rt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Wet

36+200 20.00 Rt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+200 28.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+250 20.00 Rt C/L D-0 PA
0 - 325 Dk Br Si Tps
325 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 28.00 Rt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 12.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+975 20.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+000 28.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+000 20.00 Rt C/L D-0 PA
0 - 315 Dk Br Si Tps
315 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+000 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+050 20.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+100 28.00 Rt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+100 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+100 12.00 Rt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+150 20.00 Rt C/L D-0 PA
0 - 150 Dk Br Si Tps
150 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+200 12.00 Rt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Wet

36+200 20.00 Rt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+200 28.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+250 20.00 Rt C/L D-0 PA
0 - 325 Dk Br Si Tps
325 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 28.00 Rt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 12.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+350 20.00 Rt C/L D-0 PA
0 - 360 Dk Br Si Tps
360 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 12.00 Rt C/L D-0 PA
0 - 190 Dk Br Si Tps
190 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 20.00 Rt C/L D-0 PA
0 - 345 Dk Br Si Tps
345 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 28.00 Rt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+450 20.00 Rt C/L D-0 HA
0 - 050 Dk Br Si Tps
050 -540 Br Si Sa Tr Cl Tr Gr, Moist
540 -1.00 Blk Org Si
1.00-1.50 Br Sa Si Tr Cl Tr Gr, Moist

36+500 12.00 Rt C/L D-0 HA
0 - 020 Wat
020 - 440 Dk Br Si Tps
440 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+500 20.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps, Fr Wat @ 100
500 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+500 28.00 Rt C/L D-0 HA
0 - 300 Dk Br Si Tps, Fr Wat @ 200
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+550 20.00 Rt C/L D-0 HA
0 - 370 Dk Br Si Tps
370 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+600 12.00 Rt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 550

36+600 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si W Sa Tr Gr Occ Cob, Wet, Fr Wat @ 400

36+600 28.00 Rt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.50 Br-Gry Cl Si W Sa, Wet, Fr Wat @ 500, Sat*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 87 %
5 um = 21 %
2 um = 18 %
w = 31 %
Classification = CL
Frost Susc. = HSFH
'K' Factor = 0.55

36+625 20.00 Rt C/L D-0 HA
0 - 580 Dk Br Si Tps, Fr Wat @ 400
580 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+650 12.00 Rt C/L D-0 HA
0 - 420 Dk Br Si Tps
420 -1.50 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 500, Sat

36+650 20.00 Rt C/L D-0 HA
0 - 440 Dk Br-Gry Si Tps, Sat, Fr Wat @ 400
440 -1.50 Br-Gry Cl Si W Sa Tr Gr, Sat*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 94 %
2.00 mm = 90 %
425 um = 81 %
75 um = 61 %
5 um = 31 %
2 um = 19 %
w = 16 %
WL = 20 % WP = 13 % IP = 7 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.30

36+650 28.00 Rt C/L D-0 HA
0 - 340 Dk Br Si Tps
340 -1.50 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 500, Sat

36+675 20.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+700 12.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+700 20.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Sa Si W Cl Tr Gr Occ Cob, Moist

36+700 28.00 Rt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 -1.50 Br Cl Si Tr Sa Tr Gr Occ Cob, Moist

36+750 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si W Cl Tr Gr, Moist

36+800 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Wet*
* Sample Depth = 600 - 900
w = 25 %

36+800 28.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Sa Si W Cl Tr Gr Occ Cob, Moist

36+800 12.00 Rt C/L D-0 PA
0 - 500 Dk Br Cl Tps
500 -1.10 Br Cl Si Tr Sa Tr Gr, Moist
1.10-1.50 Br Si Sa Tr Cl Tr Gr, Moist

36+850 20.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.30 Br Cl Si Tr Sa Tr Gr Occ Cob, Moist
1.30-1.50 Br Si Sa Tr Cl Tr Gr, Moist

36+900 12.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Si Cl Tr Sa Tr Gr Occ Cob, Moist

36+900 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br F-Med Sa W Si Tr Cl Tr Gr, Moist

36+900 28.00 Rt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 -1.50 Br F-Med Sa W Si Tr Cl Tr Gr, Moist

36+925 20.00 Rt C/L D-0 HA
0 - 350 Dk Br Si Tps
350 -1.00 Br Sa Si W Cl Tr Gr, Moist

36+950 20.00 Rt C/L D-0 HA
0 - 400 Dk Br Si Tps
400 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

36+975 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+000 20.00 Rt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+025 20.00 Rt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+050 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+071 20.60 Rt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Si Cl W Sa Tr Gr, Moist
1.00-4.90 Br Sa Si Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 4.4

37+075 20.00 Rt C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+077 15.80 Rt C/L D-0 HA
0 - 500 Dk Br Si Tps
500 - 2.00 Br Sa Si W Cl Tr Gr Occ Cob Occ Blds, Moist
2.00-3.90 Br Si Sa Tr Gr, Moist
3.90-4.90 Br Sa Si Tr Gr, Moist, V Dense @ 4.4

37+084 26.50 Rt C/L D-0 HA
0 - 500 Dk Br Si Tps
500 - 2.30 Br Si Cl Tr Sa, Moist
2.30-4.70 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 4.30, V Dense @ 4.3

37+100 20.00 Rt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

37+100 12.00 Rt C/L D-0 HA
0 - 450 Dk Br Si Tps
450 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+105 15.90 Rt C/L D-0 HA
0 - 600 Dk Br Si Tps
600 - 2.10 Br Si Cl Tr Sa, Moist
2.10-5.50 Br Si Sa W Gr Tr Cl Occ Cob Occ Blds, Moist, Fr Wat @ 4.70, V Dense @ 5.1

37+108 24.80 Rt C/L D-0 HA
0 - 600 Dk Br Si Tps
600 - 2.30 Br Si Cl Tr Sa, Moist
2.30-2.70 Br Cl Si W Sa Tr Gr, Wet
2.70-5.50 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 5.1

37+115 20.90 Rt C/L D-0 HA
0 - 400 Dk Br Si Tps
400 -1.40 Br Si Cl Tr Sa
1.40-1.70 Br Si Sa Tr Cl, Moist
1.70-4.40 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Comp @ 4.0

37+150 20.00 Rt C/L D-0 PA
0 - 700 Dk Br Si Tps
700 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+200 28.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -800 Br Sa Si Tr Cl Tr Gr, Moist
800 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+200 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -500 Br Sa Si Tr Cl Tr Gr, Moist
500 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+200 12.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+250 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.20 Br Sa Si Tr Cl Tr Gr, Moist
1.20-1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+275 12.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+275 28.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+275 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+300 20.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.80, V Dense @ 4.4

37+325 28.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 - 4.90 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.4

37+325 12.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 4.90 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist, V Dense @ 4.4*
* Sample Depth = 4.60 - 4.90
w = 17 %

37+325 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 4.50 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.00
4.50-4.90 Gry Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.4

37+350 20.00 Rt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 - 700 Br Cl Si Tr Sa Tr Gr, Moist
700 - 4.90 Gry Sa Si W Cl Tr Gr, Moist, Fr Wat @ 2.10, V Dense @ 4.4*
* Sample Depth = 4.60 - 4.90
w = 19 %

37+351 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

37+375 28.00 Rt C/L D-0 PA
0 - 145 Dk Br Si Tps
145 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

37+375 20.00 Rt C/L D-0 HA
0 - 150 Dk Br Si Tps
150 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+375 12.00 Rt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -500 Br Sa Si Tr Cl Tr Gr, Moist
500 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

37+400 20.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

37+425 20.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Sa Si W Cl Tr Gr, Moist

37+425 28.00 Rt C/L D-0 PA
0 - 295 Dk Br Si Tps
295 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+425 12.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Sa Si W Cl Tr Gr, Moist

37+450 20.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404 Northbound Lanes
Station 33+700 to 38+600

SHEET
BH-03

Golder Associates
Office, Prov/State

37+475 28.00 Rt C/L D-0 PA
0 - 265 Dk Br Si Tps
265 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+475 12.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Si Sa W Cl Tr Gr, Moist

37+475 20.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Si Sa Tr Gr, Moist

37+500 20.00 Rt C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+525 20.00 Rt C/L D-0 HA
0 - 170 Dk Br Si Tps
170 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+550 20.00 Rt C/L D-0 HA
0 - 260 Dk Br Si Tps
260 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+575 20.00 Rt C/L D-0 HA
0 - 150 Dk Br Si Tps
150 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+600 20.00 Rt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+625 20.00 Rt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+650 20.00 Rt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+675 20.00 Rt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+700 20.00 Rt C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+725 20.00 Rt C/L D-0 PA
0 - 440 Dk Br Si Tps
440 -2.10 Br Sa Si Tr Cl Tr Gr, Moist
2.10-6.23 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 5.80, V Dense @ 5.8

37+750 12.00 Rt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 -5.10 Br-Gry Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 4.90, Sat
5.10-6.55 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 6.1*
* Sample Depth = 6.10 - 6.55
w = 19 %

37+750 20.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 -600 Br Sa Si Tr Cl Tr Gr, Moist
600 -6.10 Br-Gry Si Sa Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 5.50, Sat
6.10-6.23 Br-Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 5.8

37+750 28.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -600 Br Sa Si Tr Cl Tr Gr, Moist
600 -6.20 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 5.50, V Dense @ 5.8

37+775 20.00 Rt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -700 Br Sa Si Tr Cl Tr Gr, Moist
700 -5.10 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist
5.10-6.55 Br-Gry Si Cl, Moist, Fr Wat @ 5.20, Sat, Hard @ 6.1*
* Sample Depth = 6.10 - 6.55
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 100 %
5 um = 55 %
2 um = 34 %
w = 17 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.50

37+800 12.00 Rt C/L D-0 PA
0 - 430 Dk Br Si Tps
430 -730 Br Sa Si Tr Cl Tr Gr, Moist
730 -1.50 Br Cl Si W Sa Tr Gr, Moist
1.50-3.43 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.90, Sat, V Dense @ 3.0

37+800 20.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -1.60 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.20, Sat
1.60-3.40 Br Si Sa Tr Cl Tr Gr, Moist, V Dense @ 3.0

37+800 28.00 Rt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 -900 Br Sa Si Tr Cl Tr Gr, Moist
900 -2.90 Br Si Sa Tr Cl Tr Gr, Moist
2.90-3.45 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.00, Dense @ 3.0

37+825 20.00 Rt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 -3.43 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.00, V Dense @ 3.0

37+850 20.00 Rt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.50 Br Sa Si Tr Cl Tr Gr, Moist*
* Sample Depth = 1.20 - 1.50
w = 13 %

37+850 28.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -700 Br Cl Si W Sa Tr Gr, Moist
700 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

37+850 12.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+875 20.00 Rt C/L D-0 PA
0 - 150 Dk Br Si Tps
150 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+900 12.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.30 Br Sa Si Tr Cl Tr Gr, Moist
1.30-1.50 Br Cl Si W Sa Tr Gr, Moist

37+900 20.00 Rt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

37+900 28.00 Rt C/L D-0 PA
0 - 650 Dk Br Si Tps
650 -950 Br Si Sa Tr Cl Tr Gr, Wet
950 -1.20 Br Cl Si W Sa Tr Gr, Wet
1.20-1.50 Br Si Cl Tr Sa Tr Gr, Moist

37+950 20.00 Rt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 -950 Br Cl Si W Sa Tr Gr, Moist
950 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+000 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.00 Br Cl Si W Sa Tr Gr, Moist*
1.00-1.50 Br Cl Si W Sa Tr Gr, Moist
* Sample Depth = 700 - 1.00
Passing 4.75 mm = 98 %
2.00 mm = 96 %
425 um = 90 %
75 um = 61 %
5 um = 24 %
2 um = 17 %
w = 22 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.35

38+000 20.00 Rt C/L D-0 PA
0 - 420 Dk Br Si Tps
420 -1.50 Br Cl Si W Sa Tr Gr, Moist

38+000 28.00 Rt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si W Sa Tr Gr, Moist

38+050 20.00 Rt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -450 Br Si Sa, Moist
450 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+050 C/L D-0 PA
0 - 260 Dk Br Si Tps
260 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+100 28.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+100 12.00 Rt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+100 20.00 Rt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+150 20.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Cl Si W Sa Tr Gr, Moist

38+200 20.00 Rt C/L D-0 HA
0 - 330 Dk Br Si Tps
330 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+200 28.00 Rt C/L D-0 HA
0 - 410 Dk Br Si Tps
410 -1.50 Br Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 600

38+200 12.00 Rt C/L D-0 HA
0 - 330 Dk Br Si Tps
330 -1.50 Br-Gry Cl Si W Sa Tr Gr, Wet @ 350, Fr Wat @ 350, Sat

38+250 20.00 Rt C/L D-0 HA
0 - 100 Wat
100 -500 Dk Br Si Tps
500 -1.50 Br-Gry Si Cl Tr Sa Tr Gr, Sat

38+300 12.00 Rt C/L D-0 HA
0 - 420 Dk Br-Gry Si Tps, Sat, Fr Wat @ 0
420 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+300 20.00 Rt C/L D-0 HA
0 - 100 Wat
100 -500 Dk Br Si Tps
500 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+300 28.00 Rt C/L D-0 HA
0 - 420 Dk Br Si Tps, Fr Wat @ 100
420 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+350 20.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps, Fr Wat @ 020
210 -600 Br Cl Si W Sa Tr Gr, Moist
600 -1.50 Gry Si Cl Tr Sa Tr Gr, Moist

38+400 28.00 Rt C/L D-0 PA
0 - 100 Wat
100 -290 Dk Br Si Tps
290 -480 Br Cl Si W Sa Tr Gr, Wet
480 -1.50 Br Si Cl Tr Sa Tr Gr, Wet

38+400 12.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+400 20.00 Rt C/L D-0 PA
0 - 100 Wat
100 -380 Dk Br Si Tps
380 -510 Br Cl Si W Sa Tr Gr, Moist
510 -1.50 Br Si Cl Tr Sa Tr Gr, Moist to Wet*
* Sample Depth = 1.20 - 1.50
w = 21 %

38+450 20.00 Rt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 -1.50 Br Si Cl W Sa Tr Gr, Moist

38+500 12.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -580 Br Cl Si W Sa Tr Gr, Moist
580 -1.50 Br Si Cl W Sa Tr Gr, Moist

38+500 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -780 Br Cl Si W Sa Tr Gr, Moist
780 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+500 28.00 Rt C/L D-0 PA
0 - 100 Wat
100 -420 Dk Br Si Tps
420 -980 Br Cl Si W Sa Tr Gr, Moist
980 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+550 20.00 Rt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 -1.20 Br Cl Si W Sa Tr Gr, Moist
1.20-1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 12.00 Rt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 -650 Br Cl Si W Sa Tr Gr, Moist
650 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -810 Br Cl Si W Sa Tr Gr, Moist
810 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 28.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -920 Br Cl Si W Sa Tr Gr, Wet
920 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05
DRAWING NAME: 2538-199-00_GF-B-03.dwg PLOT DATE: 9/28/2010 4:08 PM
SAVED BY: mazzaferrom SAVE DATE: 5/19/2010 10:46 AM

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404 Southbound Lanes
Station 33+700 to 39+050

SHEET
BH-04

Golder Associates
Office, Prov/State

Highway 404 Southbound
Station 33+700 to 39+050,
Referenced to Fut. Median C/L

33+700 12.00 Lt C/L D-0 PA
0 - 700 Dk Br Si Tps
700 -1.10 Br Sa Si Tr Cl Tr Gr, Moist
1.10 - 4.50 Gry Si Sa Tr Cl Tr Gr, Wet

33+700 20.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 -1.00 Br Sa Si Tr Cl Tr Gr, Moist
1.00 - 4.50 Gry Si Sa Tr Cl Tr Gr, Moist, V Dense @ 4.0*
* Sample Depth = 3.00 - 4.50
w = 7 %

33+700 28.00 Lt C/L D-0 PA
0 - 550 Dk Br Si Tps
550 -1.50 Br Sa Si Tr Cl Tr Gr, Moist
1.50 - 4.50 Gry Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 3.00

33+725 20.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

33+750 12.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.00 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 800
1.00 - 2.25 Br Sa Si Tr Cl Tr Gr, Wet

33+750 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 600
1.50 - 2.55 Br Sa Si Tr Cl Tr Gr, Wet, Dense @ 2.1

33+750 28.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 900 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 750
900 - 2.25 Br Sa Si Tr Cl Tr Gr, Wet

33+775 20.00 Lt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 520 Br Sa Si Tr Cl Tr Gr, Moist
520 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+800 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 560 Br Cl Si Tr Sa Tr Gr, Moist
560 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

33+800 28.00 Lt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 - 690 Br Cl Si Tr Sa Tr Gr, Moist
690 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

33+800 12.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.20

33+850 20.00 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 -1.00 Br Cl Si Tr Sa Tr Gr, Moist
1.00 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

33+900 28.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+900 12.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+900 20.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+925 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si W Cl Tr Gr, Moist

33+950 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

33+975 20.00 Lt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+000 20.00 Lt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+050 20.00 Lt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+075 20.00 Lt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+100 20.00 Lt C/L D-0 HA
0 - 350 Dk Br Si Tps
350 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+125 2.00 Lt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+150 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+200 12.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+200 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+200 28.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+225 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.80, Dense @ 3.0

34+250 12.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 2.70 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.50
2.70 - 3.45 Br Sa Si W Cl Tr Gr, Moist*
* Sample Depth = 3.00 - 3.45
w = 13 %

34+250 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 2.50 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 1.50
2.50 - 3.45 Br F-Med Sa W Si Tr Cl Tr Gr, Moist, Dense @ 3.0

34+250 28.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.60, V Dense @ 3.0

34+275 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 3.45 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 760, Hard @ 3.0

34+300 12.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps

34+300 20.00 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 3.45 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.70, Sat, Dense @ 3.0

34+300 28.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.90, Dense @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 10 %

34+325 20.00 Lt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 - 3.45 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.60, Sat, Hard @ 3.0

34+350 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.70, Sat, Hard @ 4.6

34+350 12.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 - 5.05 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.6*
* Sample Depth = 4.60 - 5.05
w = 21 %

34+350 28.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 5.05 Br-Gry Cl Si W Sa Tr Gr, Wet, Fr Wat @ 1.00, Sat, Hard @ 4.6

34+375 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 4.30 Br Cl Si W Sa Tr Gr, Moist
4.30 - 5.05 Br-Gry Si Sa Tr Cl Tr Gr, Sat, Fr Wat @ 4.30, Sat, Dense @ 4.6

34+400 12.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Hard @ 4.6

34+400 20.00 Lt C/L D-0 PA
0 - 360 Dk Br Si Tps
360 - 5.05 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.6

34+400 28.00 Lt C/L D-0 PA
0 - 460 Dk Br Si Tps
460 - 5.05 Br-Gry Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 4.00, Sat, Hard @ 4.6

34+425 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Si Cl Tr Sa Tr Gr, Moist
1.50 - 4.50 Gry Si Cl Tr Sa Tr Gr, Moist

34+450 20.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 4.60 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 4.00

34+450 28.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 - 4.50 Br Cl Si Tr Sa Tr Gr Occ Cob, Moist*
* Sample Depth = 500 - 800
w = 16 %

34+450 12.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 4.50 Br Cl Si Tr Sa Tr Gr, Moist

34+475 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.20 Br Cl Si Tr Sa Tr Gr, Moist
1.20 - 4.50 Gry Si Cl Tr Sa Tr Gr, Moist

34+500 12.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.40 Br Cl Si Tr Sa Tr Gr, Moist
1.40 - 4.50 Gry Si Cl Tr Sa Tr Gr, Moist

34+500 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 780 Br Si Cl Tr Sa Tr Gr, Moist
780 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+500 28.00 Lt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 -1.40 Br Si Cl Tr Sa Tr Gr, Moist
1.40 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+525 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Moist
1.50 - 4.50 Br-Gry Si Cl Tr Sa Tr Gr, Moist, Hard @ 4.1

34+550 12.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.40 Br Si Sa Tr Cl Tr Gr, Moist
1.40 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+550 20.00 Lt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 - 900 Br Si Cl Tr Sa Tr Gr, Moist
900 - 4.80 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+550 28.00 Lt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 - 850 Br Si Cl Tr Sa Tr Gr, Moist
850 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+575 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si Tr Sa Tr Gr, Moist
1.50 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+600 28.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.30 Br Si Cl Tr Sa Tr Gr, Moist
1.30 - 4.50 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist

34+600 12.00 Lt C/L D-0 PA
0 - 420 Dk Br Si Tps
420 -1.00 Br Cl Si Tr Sa Tr Gr, Moist
1.00 - 4.50 Gry Si Sa Tr Cl Tr Gr, Moist

34+600 20.00 Lt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 - 950 Br Si Cl Tr Sa Tr Gr, Moist
950 - 4.50 Br-Gry Si Sa Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 4.00, V Dense @ 4.1

34+625 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 3.20 Br-Gry Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 3.00, Sat
3.20 - 4.73 Br-Gry Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Sat, V Dense @ 4.3

34+650 12.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 4.88 Gry-Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 3.00, Sat, Hard @ 4.4

34+650 20.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 4.73 Gry-Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 4.00, Sat, Hard @ 4.3

34+650 28.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps, Fr Wat @ 0
380 - 3.00 Br-Gry Cl Si W Sa Tr Gr Occ Cob, Sat
3.00 - 4.73 Gry-Br Sa Si W Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 4.3*
* Sample Depth = 4.60 - 4.73
Passing 4.75 mm = 94 %
2.00 mm = 92 %
425 um = 86 %
75 um = 61 %
5 um = 21 %
2 um = 13 %
w = 9 %
Classification = ML
Frost Susc. = MSFH
'K' Factor = 0.30

34+675 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 - 4.88 Gry-Br Cl Si W Sa Tr Gr Occ Cob, Sat, Hard @ 4.4

34+700 20.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 3.38 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.00, Sat, Hard @ 3.9

34+700 28.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps, Fr Wat @ 300
320 - 3.23 Gry-Br Cl Si W Sa Tr Gr, Sat, Hard @ 3.8

34+700 12.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps, Fr Wat @ 100
320 - 3.45 Br-Gry Cl Si W Sa Tr Gr, Sat, Hard @ 3.0

34+725 20.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 3.45 Br-Gry Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 3.00, Sat, Hard @ 3.0

34+750 12.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 3.43 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.50, Sat, Hard @ 3.0

34+750 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 3.45 Br-Gry Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 2.50, Sat, Hard @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 17 %

34+750 28.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 3.28 Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 2.90, Hard @ 2.8*
* Sample Depth = 3.00 - 3.28
w = 16 %

34+775 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 4.83 Gry-Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 3.70, Hard @ 4.4

34+800 12.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps, Fr Wat @ 0
400 - 2.80 Br Sa Si W Cl Tr Gr, Moist
2.80 - 4.90 Br Si Cl Tr Sa, Moist, Hard @ 4.4*
* Sample Depth = 4.50 - 4.80
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 99 %
5 um = 57 %
2 um = 40 %
w = 22 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.40

34+825 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.30 Br Cl Si Tr Sa Tr Gr, Moist
1.30 - 4.50 Br Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 3.60

34+850 28.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.60 Br Cl Si Tr Sa Tr Gr, Moist
1.60 - 4.50 Br Si Cl Tr Sa Tr Gr, Moist

34+850 20.00 Lt C/L D-0 PA
0 - 390 Dk Br Si Tps
390 -1.80 Br Cl Si Tr Sa Tr Gr, Moist
1.80 - 4.40 Br Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 3.90
4.40 - 4.95 Br Sa Tr Si, Wet, V Dense @ 4.5*
* Sample Depth = 4.50 - 4.95
Passing 4.75 mm = 100 %
2.00 mm = 98 %
425 um = 76 %
75 um = 10 %
w = 19 %
Classification = SP-SM
Frost Susc. = LSFH
'K' Factor = 0.05

34+850 12.00 Lt C/L D-0 PA
0 - 450 Dk Br Si Tps
450 - 2.20 Br Cl Si Tr Sa Tr Gr, Moist
2.20 - 4.50 Br Si Cl Tr Sa Tr Gr, Moist, Fr Wat @ 3.60

34+875 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 3.30 Br Cl Si Tr Sa Tr Gr, Moist, Hard @ 2.9

34+900 12.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 3.00 Br Cl Si Tr Sa Tr Gr, Moist

34+900 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 3.45 Br Cl Si Tr Sa Tr Gr, Moist, V Stiff @ 3.0

34+900 28.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 3.00 Br Cl Si Tr Sa Tr Gr, Moist

34+925 20.00 Lt C/L D-0 HA
0 - 350 Dk Br Si Tps
350 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 500

34+950 12.00 Lt C/L D-0 HA
0 - 420 Dk Br Si Tps
420 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet @ 1.20

34+950 20.00 Lt C/L D-0 HA
0 - 430 Dk Br Si Tps, Fr Wat @ 250
430 -1.50 Br Sa Si W Cl Tr Gr, Wet

34+950 28.00 Lt C/L D-0 HA
0 - 420 Dk Br Si Tps, Fr Wat @ 200
420 - 600 Br Sa Si W Cl Tr Gr Occ Cob, Wet
600 -1.50 Br Cl Si Tr Sa Tr Gr, Wet

35+000 20.00 Lt C/L D-0 HA
0 - 400 Dk Br Si Tps, Fr Wat @ 300
400 -1.50 Br Si Cl Tr Sa Tr Org M, Wet*
* Sample Depth = 700 - 1.00
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 90 %
5 um = 40 %
2 um = 32 %
w = 35 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.45

35+050 30.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 650 Br Cl Si Tr Sa Tr Gr, Moist
650 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+050 14.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+050 22.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+100 23.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 500 Br Cl Si Tr Sa Tr Gr, Moist
500 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+150 24.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+150 32.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+150 16.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 490 Br Si Cl Tr Sa Tr Gr, Moist
490 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+200 25.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+250 18.50 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+250 26.50 Lt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+250 34.50 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 900 Br Cl Si Tr Sa Tr Gr, Moist
900 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+300 28.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 650 Br Si Cl Tr Sa Tr Gr, Moist
650 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+325 36.50 C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.70 Br Sa Tr Si Tr Gr, Moist
1.70 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+325 20.50 Lt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 - 710 Br Sa Tr Si Tr Gr, Moist
710 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+325 28.50 Lt C/L D-0 PA
0 - 225 Dk Br Si Tps
225 - 2.00 Br Sa W Gr Tr Si, Moist, Fr Wat @ 1.20
2.00 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist*
* Sample Depth = 3.00 - 3.45
w = 11 %

35+350 29.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 - 3.00 Br Si Cl Tr Sa Tr Gr, Moist

35+375 21.50 Lt C/L D-0 PA
0 - 275 Dk Br Si Tps
275 -1.10 Br Cl Si Tr Sa Tr Gr, Moist
1.10 - 4.50 Br Si Cl Tr Sa Tr Gr, Moist

35+375 29.50 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.00 Br Cl Si Tr Sa Tr Gr, Moist
1.00 - 4.60 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 2.70, V Dense @ 4.1

35+375 37.50 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 900 Br Cl Si Tr Sa Tr Gr, Moist
900 - 4.50 Br Sa Si Tr Cl Tr Gr, Moist

35+425 22.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.40 Br Si Cl Tr Sa Tr Gr, Moist
1.40 - 3.00 Br Si Sa Tr Cl Tr Gr, Moist

35+425 30.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.20 Br Sa Si Tr Cl Tr Gr, Moist
1.20 -1.70 Br Si Cl Tr Sa Tr Gr, Moist
1.70 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 3.0

35+425 38.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si Tr Cl Tr Gr, Moist
1.00 -1.60 Br Si Cl Tr Sa Tr Gr, Moist
1.60 - 3.00 Br Sa Si Tr Cl Tr Gr, Moist

35+450 30.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 820 Br Cl Si Tr Sa Tr Gr, Moist
820 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

35+500 22.00 Lt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

35+500 30.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

35+500 38.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

35+550 28.50 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+600 27.50 Lt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 - 750 Br Cl Si Tr Sa Tr Gr, Moist
750 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+600 19.50 Lt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 820 Br Cl Si Tr Sa Tr Gr, Moist
820 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+600 35.50 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 850 Br Cl Si Tr Sa Tr Gr, Moist
850 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+625 26.50 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 720 Br Cl Si Tr Sa Tr Gr, Moist
720 -1.50 Gry Si Cl Tr Sa Tr Gr, Moist

35+650 17.50 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 710 Br Cl Si Tr Sa Tr Gr, Moist
710 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+650 25.50 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 400 Br Si Sa Tr Cl Tr Gr, Moist
400 -1.50 Br Sa Tr Cl Tr Si Tr Gr, Moist

35+650 33.50 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+675 24.50 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Sa Tr Si Tr Gr, Moist
1.50 - 3.00 Br Si Cl Tr Sa Tr Gr, Moist

35+700 16.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.90 Br Sa Si Tr Cl, Moist
1.90 - 3.00 Gry Cl Si Tr Sa Tr Gr, Moist, Stiff @ 2.5

PR-D-707 88-05
MINISTRY OF TRANSPORTATION, ONTARIO
DRAWING NAME: 2538-199-00_GF-B-04.dwg
SAVED BY: mazzaferrom SAVE DATE: 5/19/2010 10:47 AM PLOT DATE: 9/28/2010 4:09 PM

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404 Southbound Lanes
Station 33+700 to 39+050

SHEET
BH-05

Golder Associates
Office, Prov/State

35+700 24.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.54 Br Sa Si Tr Cl, Moist
1.54 - 3.00 Gry Cl Si Tr Sa Tr Gr, Moist

35+700 32.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 2.00 Br Sa Si Tr Cl Tr Gr, Moist
2.00 - 3.00 Gry Cl Si Tr Sa Tr Gr, Moist

35+725 23.50 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.15 Br F-Med Sa W Si Tr Cl, Moist
1.15 - 3.00 Gry Si Cl Tr Sa Tr Gr, Moist

35+750 31.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 2.20 Br Sa Si Tr Cl Tr Gr, Moist
2.20 - 4.50 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+750 15.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 - 2.30 Br Sa Si Tr Cl Tr Gr, Moist
2.30 - 3.00 Br F-Med Sa Tr Cl Tr Si, Moist
3.00 - 4.50 Gry-Br Sa Si Tr Cl Tr Gr, Moist

35+750 23.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 -1.50 Br Sa Si Tr Cl Tr Gr, Moist
1.50 - 5.05 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 4.6

35+775 22.50 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 2.30 Br Si Sa Tr Gr, Moist
2.30 - 6.00 Gry-Br Sa Si W Cl Tr Gr, Moist

35+800 14.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.90 Br Sa Si Tr Cl Tr Gr, Moist
1.90 - 6.00 Br Si Cl Tr Sa, Moist*
* Sample Depth = 4.50 - 6.00
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 98 %
5 um = 58 %
2 um = 35 %
w = 18 %
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.45
Std. Proctor MWD = 2088 kg/m³
MDD = 1800 kg/m³
w opt = 16 %

35+800 22.00 Lt C/L D-0 PA
0 - 420 Dk Br Si Tps
420 -1.20 Br Cl Si W Sa Tr Gr, Moist
1.20 - 6.48 Gry-Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 5.20, Hard @ 6.0

35+800 30.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.10 Br Si Cl Tr Sa Tr Gr, Moist
1.10 - 6.00 Br Sa Si W Cl Tr Gr, Moist

35+825 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

35+850 20.00 Lt C/L D-0 HA
0 - 210 Dk Br Si Tps
210 -1.00 Br Sa Si W Cl Tr Gr, Moist

35+875 21.00 Lt C/L D-0 HA
0 - 210 Dk Br Si Tps
210 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 20.00 Lt C/L D-0 HA

0 - 350 Dk Br Si Tps
350 - 6.48 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 28.00 Lt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+900 12.00 Lt C/L D-0 HA
0 - 315 Dk Br Si Tps
315 - 6.00 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+925 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 800 Br Sa Si W Cl Tr Gr, Moist
800 - 4.50 Gry-Br Cl Si Tr Sa Tr Gr, Moist

35+950 12.00 Lt C/L D-0 PA
0 - 235 Dk Br Si Tps
235 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+950 20.00 Lt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

35+950 28.00 Lt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 -1.50 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 800

35+975 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+000 28.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+000 12.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist, Fr Wat @ 800

36+000 20.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+050 20.00 Lt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

36+100 28.00 Lt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

36+100 12.00 Lt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

36+100 20.00 Lt C/L D-0 HA
0 - 300 Blk Sa Tps
300 -1.50 Br Si Cl Tr Gr Tr Rk Frag, Moist

36+150 20.00 Lt C/L D-0 PA
0 - 180 Dk Br Si Tps
180 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+200 28.00 Lt C/L D-0 HA
0 - 100 Dk Br Si Tps
100 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+200 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si Tr Sa Tr Gr, Wet

36+200 12.00 Lt C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.50 Br Cl Si Tr Sa Tr Gr, Wet

36+250 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 12.00 Lt C/L D-0 PA
0 - 430 Dk Br Si Tps
430 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 28.00 Lt C/L D-0 PA
0 - 540 Dk Br Si Tps
540 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+350 20.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 20.00 Lt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 28.00 Lt C/L D-0 PA
0 - 365 Dk Br Si Tps
365 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

36+400 12.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+450 20.00 Lt C/L D-0 PA
0 - 050 Dk Br Si Tps
050 - 595 Br Si Sa Tr Cl Tr Gr, Moist
595 - 980 Blk Org Si
980 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

36+500 12.00 Lt C/L D-0 HA
0 - 530 Dk Br Si Tps, Fr Wat @ 050
530 -1.50 Br Cl Si W Sa Tr Gr, Sat

36+500 20.00 Lt C/L D-0 HA
0 - 330 Dk Br Si Tps, Fr Wat @ 300
330 -1.50 Br Cl Si W Sa Tr Gr, Wet

36+500 28.00 Lt C/L D-0 HA
0 - 420 Dk Br Si Tps, Fr Wat @ 150
420 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+550 20.00 Lt C/L D-0 HA
0 - 590 Dk Br Si Tps, Fr Wat @ 400
590 -1.50 Br-Gry Cl Si W Sa Tr Gr, Sat

36+600 28.00 Lt C/L D-0 HA
0 - 450 Dk Br Si Tps
450 -1.50 Br-Gry Cl Si W Sa Tr Gr, Wet, Fr Wat @ 500, Sat

36+600 12.00 Lt C/L D-0 HA
0 - 450 Dk Br Si Tps, Fr Wat @ 340
450 -1.50 Br-Gry Cl Si W Sa Tr Gr, Sat

36+600 20.00 Lt C/L D-0 HA
0 - 430 Dk Br Si Tps
430 -1.50 Br-Gry Cl Si W Sa Tr Gr, Fr Wat @ 450, Sat

36+625 20.00 Lt C/L D-0 HA
0 - 360 Dk Br Si Tps
360 -1.50 Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 500

36+650 12.00 Lt C/L D-0 HA
0 - 350 Dk Br Si Tps
350 -1.50 Br-Gry Cl Si W Sa Tr Gr, Moist, Fr Wat @ 850, Sat

36+650 20.00 Lt C/L D-0 HA
0 - 460 Dk Br Si Tps
460 -1.50 Br Cl Si W Sa Tr Gr Occ Cob, Moist, Fr Wat @ 650

36+650 28.00 Lt C/L D-0 HA
0 - 460 Dk Br Si Tps
460 -1.50 Br Cl Si W Sa Tr Gr Occ Cob, Moist

36+675 20.00 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 -1.50 Br Sa Si Tr Cl Tr Gr, Wet

36+700 28.00 Lt C/L D-0 PA

0 - 330 Dk Br Si Tps
330 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

36+700 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Sa Si Tr Cl Tr Gr, Wet

36+700 12.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet

36+750 20.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+800 12.00 Lt C/L D-0 PA
0 - 340 Dk Br Si Tps
340 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+800 20.00 Lt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+800 28.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+850 20.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 800 Br Cl Si W Sa Tr Gr, Moist
800 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

36+900 12.00 Lt C/L D-0 PA
0 - 460 Dk Br Si Tps
460 -1.50 Br Sa Si W Cl Tr Gr, Moist

36+900 20.00 Lt C/L D-0 PA
0 - 420 Dk Br Si Tps
420 -1.50 Br Sa Si W Cl Tr Gr, Moist

36+900 28.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Sa Si W Cl Tr Gr, Moist

36+925 20.00 Lt C/L D-0 HA
0 - 320 Dk Br Si Tps
320 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

36+950 20.00 Lt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

36+975 20.00 Lt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+000 20.00 Lt C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+025 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+050 20.00 Lt C/L D-0 HA
0 - 310 Dk Br Si Tps
310 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+060 20.80 Lt C/L D-0 HA
0 - 400 Dk Br Si Tps
400 - 800 Br Sa Si Tr Cl Tr Gr Tr Rootlets, Wet
800 - 4.00 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 1.20
4.00 - 5.50 Br Cl Si W Sa Tr Gr, Moist, Hard @ 5.1

37+068 16.00 Lt C/L D-0 HA
0 - 800 Br Cl Si W Sa Tr Gr W Org M, Moist*
800 - 5.50 Br Sa Si W Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 5.1
* Sample Depth = 300 - 600
w = 25 %

37+074 26.50 Lt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 -1.40 Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
1.40 - 4.10 Br Si Sa W Gr Tr Cl Occ Cob Occ Blds, Moist
4.10 - 4.70 Br Sa W Si, Wet
4.70 - 5.50 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 5.1

37+093 27.00 Lt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 - 3.80 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 2.90, V Stiff @ 3.4
3.80 - 5.50 Gry-Br Cl Si W Sa Tr Gr, Moist

37+093 15.50 Lt C/L D-0 HA
0 - 1.00 Dk Br Si Tps
1.00 -1.50 Br Si Sa Tr Cl, Moist
1.50 - 5.30 Br Si Sa Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 5.20, V Dense @ 4.8

37+100 12.00 Lt C/L D-0 PA
0 - 900 Dk Br Si Tps
900 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+100 28.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+100 20.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+106 20.90 Lt C/L D-0 HA
0 - 600 Dk Br Si Tps
600 - 5.20 Br Sa Si W Cl W Gr Occ Cob Occ Blds, Moist, V Dense @ 4.8

37+150 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+200 12.00 Lt C/L D-0 PA
0 - 430 Dk Br Si Tps
430 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+200 20.00 Lt C/L D-0 PA
0 - 440 Dk Br Si Tps
440 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+200 28.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+250 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br F-Med Sa W Si Tr Gr, Wet

37+275 12.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+275 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+275 28.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+300 20.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, Dense @ 3.0

37+325 28.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 4.75 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 4.00, V Dense @ 4.4

37+325 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 4.88 Br Sa Si W Cl Tr Gr, Moist, Fr Wat @ 4.50, V Dense @ 4.4*
* Sample Depth = 4.60 - 4.88
w = 12 %
** Sample Depth = 3.00 - 4.50
Passing 4.75 mm = 97 %
2.00 mm = 96 %
425 um = 91 %
75 um = 75 %
5 um = 20 %
2 um = 12 %
w = 8 %
Classification = ML
Frost Susc. = HSFH
'K' Factor = 0.45
Std. Proctor MWD = 2143 kg/m³
MDD = 1957 kg/m³
w opt = 10 %

37+325 12.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 5.05 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 4.50, Sat, Dense @ 4.6

37+350 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 - 4.90 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.50, Sat, V Dense @ 4.4

37+375 12.00 Lt C/L D-0 PA
0 - 360 Dk Br Si Tps
360 - 850 Br-Gry Sa Si Tr Cl Tr Gr, Wet, Fr Wat @ 600, Sat
850 -1.00 Br Cl Si W Sa Tr Gr, Moist
1.00 - 3.90 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet
3.90 - 4.50 Br-Gry F-Co Sa W Gr Tr Si, Sat
4.50 - 4.90 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.4*
* Sample Depth = 4.60 - 4.90

37+375 28.00 Lt C/L D-0 PA
0 - 380 Dk Br Si Tps
380 - 4.73 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.80, Sat, V Dense @ 4.3

37+375 20.00 Lt C/L D-0 PA
0 - 430 Dk Br Si Tps
430 - 3.90 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 900, Sat
3.90 - 4.50 Br-Gry F-Co Sa W Gr Tr Si, Sat
4.50 - 4.73 Br Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.3

37+400 20.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 4.88 Br-Gry Sa Si W Cl Tr Gr, Moist, Fr Wat @ 600, Sat, V Dense @ 4.4*
* Sample Depth = 4.60 - 4.88
Passing 4.75 mm = 90 %
2.00 mm = 89 %
425 um = 83 %
75 um = 59 %
5 um = 21 %
2 um = 14 %
w = 10 %
Classification = ML
Frost Susc. = LSFH
'K' Factor = 0.25

37+425 12.00 Lt C/L D-0 PA
0 - 370 Dk Br Si Tps
370 - 6.38 Br-Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.00, Sat, V Dense @ 5.9

37+425 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 6.35 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.20, V Dense @ 5.9*
* Sample Depth = 6.10 - 6.35
w = 10 %

37+425 28.00 Lt C/L D-0 PA
0 - 180 Dk Br Si Tps
180 - 5.20 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 1.20, Sat
5.20 - 6.25 Gry-Br Sa Si Tr Cl Tr Gr Occ Cob, Moist, V Dense @ 5.8

37+450 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 6.35 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 1.10, Sat, V Dense @ 5.9

37+475 12.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+475 20.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+475 28.00 Lt C/L D-0 PA
0 - 050 Dk Br Si Tps
050 - 220 Br F-Med Sa Tr Cl Tr Si Tr Gr, Moist
220 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

37+500 20.00 Lt C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+525 20.00 Lt C/L D-0 HA
0 - 210 Dk Br Si Tps
210 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+550 20.00 Lt C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+575 20.00 Lt C/L D-0 HA

0 - 190 Dk Br Si Tps
190 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+600 20.00 Lt C/L D-0 HA
0 - 260 Dk Br Si Tps
260 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+625 20.00 Lt C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+650 20.00 Lt C/L D-0 HA
0 - 230 Dk Br Si Tps
230 -1.00 Br Sa Si W Cl Tr Gr, Moist

37+675 20.00 Lt C/L D-0 HA
0 - 320 Dk Br Si Tps
320 -1.00 Br Sa Si W Cl Tr Gr, Moist

37+700 20.00 Lt C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+725 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Sa Tps
200 - 4.05 Br Sa Si Tr Cl Tr Gr, Moist
4.05 - 5.10 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 4.90
5.10 - 6.45 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 6.0

37+750 12.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 630 Br Si Sa Tr Cl Tr Gr, Moist
630 - 3.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 2.40
- 3.50 NFP

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404 Southbound Lanes
Station 33+700 to 39+050

SHEET
BH-06

Golder Associates
Office, Prov/State

37+750 28.00 Lt C/L D-0 PA
0 - 200 Dk Br Sa Tps
200 - 2.90 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.10
2.90 - 5.80 Br Sa Si W Cl Tr Gr, Moist
5.80 - 6.14 Br Cl Si W Sa Tr Gr, Moist, Hard @ 5.7*
* Sample Depth = 6.00 - 6.14
Passing 4.75 mm = 95 %
2.00 mm = 90 %
425 um = 80 %
75 um = 54 %
5 um = 28 %
2 um = 17 %
w = 19 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.25

37+775 20.00 Lt C/L D-0 PA
0 - 1.10 Dk Br Si Tps
1.10 - 2.80 Br Si Sa Tr Cl Tr Gr, Moist
2.80 - 4.90 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist
4.90 - 6.10 Gry Sa Si Tr Cl Tr Gr Occ Cob, Moist to Wet, Fr Wat @ 4.90
6.10 - 6.45 Gry F-Med Sa W Si Tr Cl Tr Gr, Moist, V Dense @ 6.0

37+800 28.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 3.00 Br Sa Si W Cl Tr Gr Occ Cob, Moist
3.00 - 3.60 Br Cl Si Tr Sa Tr Gr, Moist, Hard @ 3.0

37+800 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Sa Tps
250 - 800 Br Si Sa Tr Cl Tr Gr, Moist
800 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist
1.50 - 1.80 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist
1.80 - 3.00 Br Sa Si W Cl Tr Gr, Moist
3.00 - 3.45 Br Sa Si Tr Cl Tr Gr, Moist, Hard @ 3.0

37+800 12.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 3.45 Br Si Sa Tr Cl Tr Gr Occ Cob, Moist, Dense @ 3.0

37+825 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 600 Br Sa Si W Cl Tr Gr, Moist
600 - 800 Br Cl Si W Sa Tr Gr, Moist
800 - 1.20 Gry Sa Si Tr Cl Tr Gr Occ Cob, Moist
1.20 - 3.45 Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 2.70, V Dense @ 3.0

37+850 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+850 28.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist

37+850 12.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 600

37+875 20.00 Lt C/L D-0 PA
0 - 180 Dk Br Si Tps
180 - 1.50 Br Sa Si Tr Cl Tr Gr, Wet

37+900 28.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 700 Br Cl Si W Sa Tr Gr, Moist
700 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+900 20.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 1.50 Br Cl Si W Sa Tr Gr Occ Cob, Moist

37+900 12.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 1.50 Br Cl Si W Sa Tr Gr Occ Cob, Moist

37+950 20.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 - 1.50 Br Cl Si W Sa Tr Gr, Wet*
* Sample Depth = 500 - 800
w = 26 %

38+000 12.00 Lt C/L D-0 PA
0 - 580 Dk Br Si Tps
580 - 900 Br Cl Si W Sa Tr Gr, Moist
900 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+000 20.00 Lt C/L D-0 PA
0 - 750 Dk Br Si Tps
750 - 1.00 Br Cl Si W Sa Tr Gr, Moist
1.00 - 1.50 Br Si Cl Tr Sa, Wet*
* Sample Depth = 1.00 - 1.30
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 97 %
5 um = 75 %
2 um = 61 %
w = 29 %
WL = 41 % WP = 23 % IP = 18 %
Classification = CI
Frost Susc. = LSFH
'K' Factor = 0.20

38+000 28.00 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 - 950 Br Cl Si W Sa Tr Gr, Moist
950 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+050 20.00 Lt C/L D-0 PA
0 - 240 Dk Br Si Tps
240 - 450 Br Si Sa Tr Cl Tr Gr, Moist
450 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+100 28.00 Lt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+100 12.00 Lt C/L D-0 PA
0 - 234 Dk Br Si Tps
234 - 1.50 Br Sa Si W Cl Tr Gr, Moist

38+100 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+150 20.00 Lt C/L D-0 PA
0 - 285 Dk Br Si Tps
285 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+200 12.00 Lt C/L D-0 PA
0 - 275 Dk Br Si Tps
275 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+200 20.00 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+200 28.00 Lt C/L D-0 PA
0 - 285 Dk Br Si Tps
285 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+250 20.00 Lt C/L D-0 PA
0 - 340 Dk Br-Gry Si Tps, Sat, Fr Wat @ 040, Sat
340 - 600 Br Cl Si W Sa Tr Gr, Moist
600 - 1.50 Gry Si Cl Tr Sa Tr Gr, Moist

38+300 20.00 Lt C/L D-0 HA
0 - 350 Dk Br Si Tps, Fr Wat @ 0
350 - 1.50 Br Cl Si W Sa Tr Gr, Moist

38+300 28.00 Lt C/L D-0 HA
0 - 400 Dk Br Si Tps
400 - 1.50 Br-Gry Cl Si W Sa Tr Gr, Wet @ 1.20, Sat

38+300 12.00 Lt C/L D-0 HA
0 - 240 Dk Br Si Tps, Fr Wat @ 0
240 - 1.50 Br Si Cl W Sa Tr Gr, Moist

38+350 20.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 800 Br Cl Si W Sa Tr Gr, Moist
800 - 1.50 Gry Si Cl Tr Sa Tr Gr, Moist

38+400 12.00 Lt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 - 450 Br Cl Si W Sa Tr Gr, Wet
450 - 1.50 Br Si Cl Tr Sa Tr Gr, Wet

38+400 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 470 Br Cl Si W Sa Tr Gr, Moist
470 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+400 28.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 520 Br Cl Si W Sa Tr Gr, Moist
520 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+450 20.00 Lt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 - 610 Br Cl Si W Sa Tr Gr, Moist
610 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+500 28.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 650 Br Cl Si Tr Sa, Wet*
650 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist
* Sample Depth = 300 - 600
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 92 %
5 um = 24 %
2 um = 18 %
w = 26 %
Classification = CL
Frost Susc. = HSFH
'K' Factor = 0.55

38+500 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 990 Br Cl Si W Sa Tr Gr, Moist
990 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+500 12.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 1.10 Br Cl Si W Sa Tr Gr, Moist
1.10 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+550 20.00 Lt C/L D-0 PA
0 - 210 Dk Br Si Tps
210 - 950 Br Cl Si W Sa Tr Gr, Moist
950 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 12.00 Lt C/L D-0 PA
0 - 230 Dk Br Si Tps
230 - 410 Br Cl Si Tr Sa Tr Gr, Moist
410 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 400 Br Cl Si Tr Sa Tr Gr, Moist
400 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 28.00 Lt C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 580 Br Cl Si Tr Sa Tr Gr, Moist
580 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+650 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 650 Br Cl Si W Sa Tr Gr, Moist
650 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+700 28.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+700 12.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 700 Br Si Cl Tr Sa Tr Gr, Moist
700 - 1.50 Br Cl Si W Sa Tr Gr, Moist

38+700 20.00 Lt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+750 20.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 950 Br Si Cl Tr Sa Tr Gr, Moist
950 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+800 12.00 Lt C/L D-0 PA
0 - 220 Dk Br Si Tps
220 - 1.50 Br Si Cl Tr Sa Tr Gr, Moist*
* Sample Depth = 1.00 - 1.30
w = 22 %

38+800 20.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 1.50 Br Cl Si W Sa Tr Gr, Wet

38+800 28.00 Lt C/L D-0 PA
0 - 350 Dk Br Si Tps
350 - 1.50 Br Cl Si W Sa Tr Gr, Moist

38+850 20.00 Lt C/L D-0 PA
0 - 330 Dk Br Si Tps
330 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

38+900 28.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 1.00 Br Sa Si W Cl Tr Gr, Moist
1.00 - 1.50 Br Cl Si W Sa Tr Gr, Moist

38+900 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps, Moist
200 - 1.50 Br Sa Si W Cl Tr Gr, Wet

38+900 12.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps, Moist
300 - 1.50 Br Cl Si W Sa Tr Gr, Moist

38+950 20.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 1.50 Br Cl Si W Sa Tr Gr, Moist

39+000 12.00 Lt C/L D-0 PA
0 - 150 Dk Br Si Tps
150 - 1.50 Br Si Cl W Sa Tr Gr, Moist

39+000 20.00 Lt C/L D-0 PA
0 - 400 Blk Sa Tps
400 - 600 Dk Br Si Tps, Moist
600 - 1.50 Br Cl Si W Sa Tr Gr, Moist*
* Sample Depth = 900 - 1.20
w = 15 %

39+000 28.00 Lt C/L D-0 PA
0 - 500 Blk Sa Tps
500 - 1.50 Br Cl Si W Sa Tr Gr, Moist

39+050 20.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 1.50 Br Cl Si W Sa Tr Gr, Wet

METRIC

CONT WP 2005-07-00	SOIL DATA Highway 404	SHEET BH-07

Golder Associates
Office, Prov/State

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_GF-B-07.dwg
SAVED BY: mazzaferrom SAVE DATE: 5/19/2010 10:48 AM PLOT DATE: 9/28/2010 4:09 PM

Highway 404 Median
Station 33+700 to 38+600,
Referenced to Fut. Median C/L

33+700 C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

33+800 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+900 C/L D-0 PA
0 - 260 Dk Br Si Tps
260 - 500 Br Sa Si Tr Cl Tr Gr, Moist
500 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

33+925 C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

33+975 C/L D-0 HA
0 - 250 Dk Br Si Tps
250 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+075 C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

34+125 C/L D-0 HA
0 - 280 Dk Br Si Tps
280 -1.00 Br Sa Si W Cl Tr Gr, Moist

34+200 C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+300 C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+400 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

34+500 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+600 C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si W Cl Tr Gr, Moist

34+700 C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -1.50 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 1.20

34+800 C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

34+950 C/L D-0 HA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si Tr Cl Tr Gr Occ Cob, Wet, Fr Wat @ 400

35+100 C/L D-0 PA
0 -310 Dk Br Si Tps
310 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+200 C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+300 C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Cl Si W Sa Tr Gr, Moist

35+500 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Si Sa Tr Cl Tr Gr, Moist

35+600 C/L D-0 PA
0 - 250 Dk Br Si Tps
250 - 650 Br Cl Si Tr Sa Tr Gr, Moist
650 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

35+700 C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+800 C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

35+850 C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

35+900 C/L D-0 PA
0 - 278 Dk Br Si Tps
278 -1.50 Br Sa Si W Cl Tr Gr, Moist

35+950 C/L D-0 PA
0 - 215 Dk Br Si Tps
215 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+300 C/L D-0 PA
0 - 380 Dk Br Si Tps
380 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+400 C/L D-0 PA
0 - 395 Dk Br Si Tps
395 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+500 C/L D-0 HA
0 -410 Dk Br Si Tps, Fr Wat @ 100
410 -1.50 Br Cl Si W Sa Tr Gr, Moist

36+600 C/L D-0 HA
0 - 510 Dk Br Si Tps
510 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+700 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+800 C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

36+900 C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si W Cl Tr Gr, Moist

36+950 C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+000 C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Cl Si Tr Sa Tr Gr, Moist

37+100 C/L D-0 PA
0 - 900 Dk Br Si Tps
900 -1.50 Br Sa Si W Cl Tr Gr, Moist

37+200 C/L D-0 PA
0 - 750 Dk Br Si Tps
750 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+300 C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+400 C/L D-0 PA
0 - 370 Dk Br Si Tps
370 -1.50 Br Sa Si Tr Cl Tr Gr, Moist

37+500 C/L D-0 HA
0 - 180 Dk Br Si Tps
180 -1.00 Br Sa Si Tr Cl Tr Gr

37+550 C/L D-0 HA
0 - 240 Dk Br Si Tps
240 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+600 C/L D-0 HA
0 - 290 Dk Br Si Tps
290 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+650 C/L D-0 HA
0 - 270 Dk Br Si Tps
270 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+700 C/L D-0 HA
0 - 300 Dk Br Si Tps
300 -1.00 Br Sa Si Tr Cl Tr Gr, Moist

37+800 C/L D-0 PA
0 - 380 Dk Br Si Tps
380 -1.00 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist
1.00 -1.50 Gry-Br Cl Si W Sa Tr Gr, Wet, Fr Wat @ 1.20, Sat

37+900 C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 950 Br Sa Si Tr Cl Tr Gr, Wet
950 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+100 C/L D-0 PA
0 - 235 Dk Br Si Tps
235 -1.50 Br Sa Si W Cl Tr Gr, Moist

38+300 C/L D-0 HA
0 - 050 Wat
050 - 400 Dk Br Si Tps
400 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+400 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 520 Br Cl Si W Sa Tr Gr, Moist
520 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+500 C/L D-0 PA
0 - 280 Dk Br Si Tps
280 - 520 Br Cl Si W Sa Tr Gr, Moist
520 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

38+600 C/L D-0 PA
0 - 290 Dk Br Si Tps
290 - 520 Br Cl Si W Sa Tr Gr, Moist
520 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

Foundation Locations
Station 33+950 to 38+501, Referenced to Foundation

33+950 20.20 Rt C/L D-0 PA
0 - 100 Dk Br Cl Si W Sa Tr Org M, Moist
100 -1.50 Br Cl Si W Sa, Moist
1.50 - 5.20 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 5.10, Hard @ 4.8

34+103 19.70 Lt C/L D-0 PA
0 - 100 Dk Br Si Tps
100 - 800 Dk Br Cl Si W Sa Tr Org M, Moist
800 -1.50 Br Si Sa Tr Cl Tr Gr, Moist
1.50 - 4.40 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 3.10
4.40 - 5.20 Gry Cl Si W Sa, Moist, Hard @ 4.8

34+150 19.90 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 700 Br Cl Si W Sa Tr Gr Tr Org M, Moist
700 -1.50 Br Si Sa Tr Cl Tr Gr, Moist, Fr Wat @ 900
1.50 - 5.20 Gry-Br Cl Si W Sa Tr Gr, Moist, Stiff @ 4.8

34+360 47.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 3.10 Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 900
3.10 - 5.20 Gry-Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Dense @ 4.8

34+410 20.00 Lt C/L D-0 PA
0 - 100 Dk Br Si Tps
100 - 3.10 Br Si Sa Tr Cl Tr Gr, Moist to Wet, Fr Wat @ 900
3.10 - 4.60 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist
4.60 - 5.20 Gry Cl Si W Sa Tr Gr, Moist, V Dense @ 4.8

34+460 15.00 Lt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Cl Si W Sa Occ Cob Occ Blds, Moist
1.50 - 2.30 Br Si Sa Tr Cl, Moist
2.30 - 5.20 Gry Cl Si W Sa, Moist, Fr Wat @ 3.10, Hard @ 4.8

34+510 20.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 5.20 Br Cl Si W Sa, Moist, Fr Wat @ 800, Hard @ 4.8

34+560 10.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 3.10 Br Cl Si W Sa Tr Gr, Wet @ 4.30
3.10 - 5.20 Br Cl Si Tr Sa, Moist, Fr Wat @ 4.30, Hard @ 4.8

34+790 38.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 800 Br Si Sa Tr Cl Tr Gr, Moist
800 - 4.60 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds Tr Org M, Moist
4.60 - 5.20 Gry Cl Si W Sa, Wet, Fr Wat @ 5.10, Hard @ 4.8

34+840 25.10 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 800 Br Cl Si Tr Sa Tr Gr Tr Org M, Wet
800 - 4.60 Br Sa Si Tr Cl Tr Gr, Moist
4.60 - 5.20 Gry Cl Si W Sa, Moist, Hard @ 4.8

34+880 25.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Si Sa Tr Cl Tr Gr, Wet, Fr Wat @ 600
1.50 - 2.30 Br Cl Si Tr Sa, Moist
2.30 - 5.20 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 4.8

35+040 27.00 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 -1.50 Br Cl Si W Sa Tr Gr Tr Org M, Wet, Fr Wat @ 1.20
1.50 - 2.30 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Wet, Sat
2.30 - 5.50 Br Cl Si W Sa Tr Gr, Moist, Hard @ 5.1

35+090 27.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br-Gry Si Cl W Sa Tr Gr Tr Org M, Wet, Fr Wat @ 1.20, Sat
1.50 - 5.00 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Wet, V Dense @ 4.5

35+140 27.10 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 800 Br Cl Si W Sa Tr Gr, Moist
800 - 2.30 Br Cl Si W Sa W Gr Occ Cob Occ Blds, Moist
2.30 - 3.10 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist
3.10 - 3.60 Br Si Sa Tr Cl, Moist
3.60 - 4.10 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds
4.10 - 5.20 Br Cl Si W Sa, Moist, Fr Wat @ 5.10, Hard @ 4.8

35+750 29.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si W Gr Tr Cl Occ Cob Occ Blds Tr Org M, Moist
1.50 - 5.20 Br Cl Si W Sa, Moist, V Stiff @ 4.8

35+795 59.00 Rt C/L D-0 PA
0 - 100 Dk Br Si Tps
100 - 2.30 Br Sa Si Tr Cl Tr Org M, Moist
2.30 - 5.20 Gry-Br Cl Si W Sa Tr Gr, Moist, Fr Wat @ 2.70, Hard @ 4.8

35+840 28.40 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 - 800 Br Si Sa Tr Cl Tr Org M, Moist
800 - 4.90 Br Cl Si W Sa Tr Gr Occ Cob Occ Blds, Moist
4.90 - 5.20 Gry Cl Si W Sa, Moist, Fr Wat @ 5.10, Hard @ 4.8

35+900 28.10 Rt C/L D-0 PA
0 - 2.30 Br Cl Si W Sa Tr Gr Occ Cob Occ Blds, Moist
2.30 - 5.20 Br Cl Si W Sa, Moist, Hard @ 4.8

36+905 20.00 Lt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 - 2.30 Br Cl Si W Sa Tr Gr Tr Org M, Moist
2.30 - 4.60 Br Cl Si Tr Sa, Moist
4.60 - 6.40 Br Si Sa Tr Cl, Wet, Fr Wat @ 6.30, V Dense @ 4.8

36+953 19.90 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Cl Si W Sa Tr Gr Tr Org M, Moist
1.50 - 4.60 Br Sa W Si, Moist, Fr Wat @ 2.80
4.60 - 5.20 Br Si W Sa Tr Cl, Wet, Dense @ 4.8

37+003 20.00 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 -1.50 Br Cl Si W Sa Tr Gr, Moist
1.50 - 4.20 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist to Wet, Fr Wat @ 1.80
4.20 - 4.70 Br Sa Si Tr Cl, Wet
4.70 - 5.20 Gry Cl Si Tr Sa Tr Gr, Moist, V Stiff @ 4.8

37+055 19.90 Rt C/L D-0 PA
0 - 800 Dk Br Si Tps
800 -1.50 Br Si Cl W Sa Tr Gr, Moist
1.50 - 3.80 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist
3.80 - 5.20 Br Sa W Si Tr Cl, Moist, V Dense @ 4.8

37+123 20.00 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 - 4.20 Br Sa Si W Gr Tr Cl Occ Cob Occ Blds, Moist, Fr Wat @ 3.00, Dense @ 3.8

37+153 20.60 Rt C/L D-0 PA
0 - 700 Dk Br Si Tps
700 - 4.60 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Dense @ 4.1

37+440 28.10 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 - 5.20 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 4.8

37+490 28.00 Lt C/L D-0 PA
0 - 800 Dk Br Si Tps, Fr Wat @ 700
800 -1.30 Br Sa & Gr Tr Si Occ Cob Occ Blds, Wet
1.30 - 5.20 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, V Dense @ 4.8

37+574 25.00 Rt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 - 5.20 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 1.00, V Dense @ 4.8

37+589 28.00 Lt C/L D-0 PA
0 - 800 Dk Br Si Tps
800 - 4.60 Br Si Sa Tr Cl Tr Gr, Moist
4.60 - 5.20 Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 5.10, V Dense @ 4.8

37+638 27.00 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 - 5.20 Br Si Sa W Gr Tr Cl, Moist, Fr Wat @ 3.10, Dense @ 4.8

37+690 27.10 Lt C/L D-0 PA
0 - 600 Dk Br Si Tps
600 - 3.10 Br Cl Si W Sa Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 2.80
3.10 - 5.20 Gry-Br Cl Si Tr Sa, Moist, Hard @ 4.8

37+738 26.90 Rt C/L D-0 PA
0 - 500 Dk Br Si Tps
500 - 5.20 Br Sa Si W Gr Tr Cl Occ Cob Occ Blds, Moist, V Dense @ 4.8

37+774 26.00 Lt C/L D-0 PA
0 - 800 Dk Br Si Tps
800 - 4.60 Br Sa Si Tr Cl Tr Gr Occ Cob Occ Blds, Moist, Fr Wat @ 2.60
4.60 - 5.20 Br Si Sa W Gr Tr Cl Occ Cob Occ Blds, Wet, Comp @ 4.8

38+202 25.70 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 - 3.80 Br Si Cl W Sa Tr Gr, Moist
3.80 - 5.20 Br Si Tr Sa, Moist to Wet, Fr Wat @ 4.00, Dense @ 4.8

38+262 8.30 Lt C/L D-0 PA
0 - 500 Dk Br Si Tps, Fr Wat @ 300
500 - 5.00 Br Si Cl W Sa Tr Gr, Moist
5.00 - 5.20 Gry Si Tr Cl Tr Sa, Moist to Wet, Dense @ 4.8

38+302 24.90 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 -1.50 Gry Si Cl Tr Sa, Moist, Sat

38+352 25.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 - 4.70 Br Si Cl W Sa Tr Gr, Moist
4.70 - 5.20 Gry Sa Si Tr Cl Tr Gr, Moist, V Dense @ 4.8

38+402 24.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist
1.50 - 3.80 Gry-Br Si Cl W Sa W Gr, Moist
3.80 - 4.70 Gry Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.80
4.70 - 5.20 Gry Cl Si W Sa Tr Gr, Moist, V Stiff @ 4.8

38+452 23.10 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 - 800 Br Cl Si W Sa Tr Gr, Moist
800 - 4.10 Gry-Br Si Cl W Sa Tr Gr, Moist, Fr Wat @ 1.90
4.10 - 5.20 Gry Sa Si Tr Cl Tr Gr, Moist, Dense @ 4.8

38+501 27.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 - 3.80 Gry Si Cl W Sa Tr Gr, Sat
3.80 - 4.60 Gry Si Sa Tr Cl Tr Gr, Wet
4.60 - 5.20 Gry Cl Si W Sa Tr Gr, Moist, Hard @ 4.8

METRIC

CONT WP 2005-07-00	SHEET BH-08
SOIL DATA Highway 404 Ramps at Woodbine Ave.	
Golder Associates Office, Prov/State	

N-S Ramp at Woodbine Ave.
Station 10+234 to 10+684,
Referenced to C/L of Fut.

10+234 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -600 Br Sa Si W Cl, Wet
600 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+284 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+284 8.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Si Cl Tr Sa Tr Gr, Wet*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 99 %
2.00 mm = 99 %
425 um = 98 %
75 um = 98 %
5 um = 77 %
2 um = 59 %
w = 25 %
WL = 37 % WP = 19 % IP = 18 %
Classification = CI
Frost Susc. = LSFH
'K' Factor = 0.20

10+334 C/L D-0 PA
0 - 100 Wat
100 -300 Dk Br Si Tps
300 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+384 0.00 C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+384 8.00 Lt C/L D-0 PA
0 - 315 Dk Br Si Tps
315 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+384 8.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+434 C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -400 Br Si Cl W Sa Tr Gr, Moist
400 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+484 8.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+484 0.00 C/L D-0 PA
0 - 500 Dk Br Si Tps
500 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

10+484 8.00 Lt C/L D-0 PA
0 - 160 Dk Br Si Tps
160 -500 Br Si Cl W Sa Tr Gr, Moist
500 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+534 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -700 Br Si Cl W Sa Tr Gr, Moist
700 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+584 8.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+584 8.00 Rt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+584 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+634 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+684 0.00 C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -900 Br Si Cl W Sa Tr Gr, Moist
900 -1.50 Br Cl Si W Sa Tr Gr, Wet

10+684 8.00 Lt C/L D-0 PA
0 - 320 Dk Br Si Tps
320 -1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+684 8.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.20 Br Si Cl Tr Sa Tr Gr, Moist
1.20 -1.50 Br Cl Si W Sa Tr Gr, Wet

S-N/S Ramp at Woodbine Ave.
Station 10+326 to 10+700,
Referenced to C/L of Fut.

10+326 0.00 C/L D-0 PA
0 - 100 Ice
100 -380 Dk Br Si Tps
380 -830 Br Cl Si W Sa Tr Gr, Wet
830 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

10+376 8.00 Rt C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -1.20 Br Si W Cl Tr Sa Tr Gr, Moist
1.20 -1.50 Gry-Br Si Cl W Sa Tr Gr, Moist

10+376 8.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -700 Br Si W Cl Tr Sa Tr Gr, Wet*
700 -1.50 Br Si Cl Tr Sa Tr Gr, Moist
* Sample Depth = 400 - 600
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 91 %
5 um = 18 %
2 um = 12 %
w = 25 %
Classification = ML
Frost Susc. = HSFH
'K' Factor = 0.60

10+376 0.00 C/L D-0 PA
0 - 200 Dk Br Si Tps
200 -850 Br Si W Cl Tr Sa Tr Gr, Wet
850 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+426 0.00 C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -700 Br Cl Si W Sa Tr Gr, Moist
700 -1.50 Br Si Cl W Sa Tr Gr, Moist

10+476 0.00 C/L D-0 PA
0 - 350 Dk Br Si Tps
350 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+476 8.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+476 8.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+526 0.00 C/L D-0 PA
0 - 240 Dk Br Si Tps
240 -1.50 Br Cl Si W Sa Tr Gr, Moist

10+576 8.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.50 Br Sa Si W Cl Tr Gr, Wet

10+576 8.00 Lt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -1.50 Br Sa Si W Cl Tr Gr, Wet

10+576 0.00 C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -1.50 Br Sa Si W Cl Tr Gr, Wet*
* Sample Depth = 1.20 - 1.50
w = 26 %

10+600 20.00 Lt C/L D-0 HA
0 - 180 Dk Br Si Tps
180 -1.30 Br Sa Si Tr Cl Tr Gr, Moist
1.30 -1.60 Blk Org Si, Moist, Fr Wat @ 1.30
1.60 -1.80 Br Sa Si W Cl Tr Gr, Moist
1.80 -2.30 Br Si Cl Tr Sa Tr Gr, Moist

10+625 20.00 Lt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 -800 Br Sa Tr Si, Moist
800 -1.50 Blk Org Si, Moist
1.50 -2.00 Br Sa Si Tr Cl Tr Gr, Moist

10+626 C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -1.50 Br Sa Si W Cl Tr Gr, Wet

10+650 20.00 Lt C/L D-0 HA
0 - 260 Dk Br Si Tps
260 -1.60 Blk Org Si, Moist, Fr Wat @ 1.20
1.60 -1.90 Br Sa Si Tr Cl Tr Gr, Moist

10+676 20.00 Lt C/L D-0 PA
0 - 310 Dk Br Si Tps
310 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

10+676 28.00 Lt C/L D-0 PA
0 - 290 Dk Br Si Tps
290 -680 Br Sa Tr Si Tr Gr, Wet
680 -1.50 Br Si Cl Tr Sa Tr Gr, Moist

10+676 12.00 Lt C/L D-0 PA
0 - 400 Dk Br Si Tps
400 -1.50 Br Sa Si W Cl Tr Gr, Wet

10+700 20.00 Lt C/L D-0 PA
0 - 480 Dk Br Si Tps
480 -1.50 Br Sa Si W Cl Tr Gr, Wet

S-S Ramp at Woodbine
Station 10+025 to 10+050,
Referenced to C/L of Fut.

10+025 C/L D-0 HA
0 - 220 Dk Br Si Tps
220 -320 Blk Org Si, Moist
320 -1.50 Br Sa Si W Cl Tr Gr, Moist, Fr Wat @ 1.40

10+050 8.00 Lt C/L D-0 HA
0 - 150 Dk Br Si Tps
150 -600 Blk Org Si, Moist
600 -1.50 Br Sa Si W Cl Tr Gr, Moist, Fr Wat @ 1.40

10+050 8.00 Rt C/L D-0 HA
0 - 200 Dk Br Si Tps
200 -700 Blk Org Si, Moist
700 -1.50 Br Sa Si W Cl Tr Gr, Moist, Fr Wat @ 1.40

10+050 C/L D-0 HA
0 - 210 Dk Br Si Tps
210 -350 Blk Org Si, Moist
350 -1.50 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.40

METRIC

CONT WP 2005-07-00

SOIL DATA
Highway 404
Woodbine Ave.

SHEET BH-09

Golder Associates
Office, Prov/State

Woodbine Avenue
Station 9+350 to 10+715,
Referenced to C/L

9+350 1.00 Lt C/L D-0 PA
0 - 230 Asph
230 - 420 Lt Br Cr Gran
420 - 850 Br F-Med Sa Tr Si Tr Gr, Moist
850 - 1.50 Br Sa Si Tr Cl Tr Gr, Wet

9+400 2.20 Rt C/L D-0 PA
0 - 220 Asph
220 - 520 Lt Br Cr Gran*
520 - 900 Gry F-Med Sa W Si Tr Gr, Moist
900 - 1.10 Br Sa Si Tr Cl Tr Gr, Moist
1.10 - 1.50 Br F-Med Sa W Si Tr Gr, Wet, Fr Wat @ 1.10
* Sample Depth = 220 - 520
Passing 26.5 mm = 100 %
19.0 mm = 97 %
13.2 mm = 81 %
9.5 mm = 72 %
4.75 mm = 58 %
1.18 mm = 38 %
300 um = 15 %
75 um = 6 %
w = 4 %
Unacceptable Granular A
(58% passing 4.75 um)
Acceptable Granular B, Type I

9+400 10.00 Rt C/L D-200 PA
0 - 220 Dk Br Si Tps
220 - 600 Br Sa Si Tr Cl Tr Gr, Moist
600 - 1.50 Br Si Sa Tr Gr, Moist

9+400 6.00 Rt C/L D-100 PA
0 - 270 Lt Br Cr Gran
270 - 600 Br Si Sa Tr Gr, Moist
600 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

9+400 6.50 Lt C/L D-100 PA
0 - 200 Lt Br Cr Gran
200 - 320 Dk Br Sa Si Tr Gr, Moist
320 - 880 Br F-Med Sa Tr Si Tr Gr, Moist
880 - 1.50 Br Sa Si Tr Cl Tr Gr, Wet

9+500 6.00 Rt C/L D-100 PA
0 - 270 Lt Br Cr Gran
270 - 470 Br F-Med Sa W Si W Gr, Moist
470 - 670 Br Sa Si Tr Gr Tr Org M, Moist
670 - 1.50 Gry Cl Si W Sa Tr Gr, Moist*
* Sample Depth = 800 - 1.10
Passing 4.75 mm = 98 %
2.00 mm = 97 %
425 um = 90 %
75 um = 64 %
5 um = 23 %
2 um = 17 %
w = 17 %
Plasticity =
Classification = CL
Frost Susc. = MSFH
'K' Factor = 0.35

9+500 1.00 Lt C/L D-0 PA
0 - 210 Asph
210 - 460 Lt Br Cr Gran
460 - 790 Br F-Med Sa W Gr Tr Si, Moist
790 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist

9+500 11.00 Lt C/L D-400 HA
0 - 300 Dk Br-Gry Si Tps, Fr Wat @ 020, Sat
300 - 1.20 Blk Org Si Tr Cl Tr Gr, Sat
1.20 - 1.50 Gry Cl Si Tr Sa Tr Gr, Moist

9+500 6.00 Lt C/L D-100 PA
0 - 250 Lt Br Cr Gran
250 - 630 Br F-Med Sa Tr Si Tr Gr, Moist
630 - 1.50 Dk Br Sa Si W Cl Tr Gr, Moist

9+600 6.20 Rt C/L D-100 PA
0 - 280 Lt Br Cr Gran
280 - 480 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
480 - 780 Br F-Med Sa W Si Tr Gr, Moist
780 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

9+600 6.00 Lt C/L D-100 PA
0 - 280 Lt Br Cr Gran
280 - 830 Br F-Med Sa W Gr Tr Si, Moist
830 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist

9+600 2.40 Rt C/L D-0 PA
0 - 220 Asph
220 - 480 Lt Br Cr Gran
480 - 900 Br F-Med Sa W Si W Gr, Moist*
900 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 500 - 800
Passing 150 mm = 100 %
26.5 mm = 100 %
4.75 mm = 68 %
1.18 mm = 52 %
300 um = 31 %
75 um = 17 %
w = 7 %
Unacceptable Granular B, Type I
(17% passing 75 um)
Acceptable SSM

9+600 10.00 Rt C/L D-300 HA
0 - 300 Dk Br Si Tps
300 - 1.90 Blk Org Si Tr Cl Tr Gr, Wet, Fr Wat @ 1.00, Sat

9+700 11.00 Lt C/L D-500 HA
0 - 1.00 Dk Br-Gry Si Tps, Fr Wat @ 500, Sat
1.00 - 2.10 Blk Org Si Tr Cl Tr Gr, Sat
2.10 - 2.40 Gry Si Sa Tr Cl Tr Gr, Sat

9+700 1.00 Lt C/L D-0 PA
0 - 210 Asph
210 - 390 Lt Br Cr Gran
390 - 870 Br F-Med Sa Tr Si Tr Gr, Moist
870 - 1.50 Dk Br Sa Si W Cl Tr Gr, Moist

9+700 6.00 Rt C/L D-100 PA
0 - 270 Lt Br Cr Gran
270 - 500 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
500 - 800 Br F-Med Sa W Si W Gr, Moist
800 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

9+700 6.00 Lt C/L D-100 PA
0 - 250 Lt Br Cr Gran
250 - 710 Br F-Med Sa Tr Si Tr Gr, Moist
710 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist

9+800 10.00 Rt C/L D-600 HA
0 - 300 Dk Br Si Tps
300 - 1.40 Blk Org Si Tr Cl Tr Gr, Moist, Fr Wat @ 1.00, Sat
1.40 - 1.70 Br-Gry Sa Si Tr Cl Tr Gr, Sat

9+800 5.90 Rt C/L D-100 PA
0 - 300 Lt Br Cr Gran
300 - 600 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
600 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

9+800 6.00 Lt C/L D-100 PA
0 - 280 Lt Br Cr Gran
280 - 590 Br F-Med Sa Tr Si Tr Gr, Moist
590 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist

9+800 2.30 Rt C/L D-0 PA
0 - 200 Asph
200 - 520 Lt Br Cr Gran
520 - 800 Br F-Med Sa W Si W Gr, Moist
800 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

9+895 11.00 Lt C/L D-400 HA
0 - 900 Dk Br Si Tps, Fr Wat @ 500
900 - 2.10 Blk Org Si Tr Cl Tr Gr, Sat
2.10 - 2.30 Gry Si Sa Tr Cl Tr Gr, Sat
- 2.30 NFP Blds

9+900 1.00 Lt C/L D-0 PA
0 - 220 Asph
220 - 430 Lt Br Cr Gran*
430 - 820 Br F-Med Sa Tr Si Tr Gr, Moist
820 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 220 - 430
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 90 %
9.5 mm = 83 %
4.75 mm = 62 %
1.18 mm = 41 %
300 um = 22 %
75 um = 11 %
w = 3 %
Unacceptable Granular A
(most sieve sizes too fine)
Unacceptable Granular B, Type I
(11% passing 75 um)

9+900 6.00 Rt C/L D-0 PA
0 - 290 Lt Br Cr Gran
290 - 490 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
490 - 750 Br F-Med Sa W Si W Gr, Moist
750 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

9+900 6.50 Lt C/L D-100 PA
0 - 300 Lt Br Cr Gran
300 - 410 Dk Br Sa Si Tr Cl Tr Gr, Moist
410 - 830 Br F-Med Sa W Si Tr Gr, Moist
830 - 1.50 Dk Br Sa Si Tr Cl Tr Gr, Moist

10+000 6.00 Lt C/L D-100 PA
0 - 210 Lt Br Cr Gran
210 - 800 Br Sa Si W Cl W Gr, Moist*
800 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 500 - 800
Passing 150 mm = 100 %
26.5 mm = 100 %
4.75 mm = 88 %
1.18 mm = 80 %
300 um = 70 %
75 um = 50 %
w = 8 %
Unacceptable Granular B, Type I
(most sieve sizes too fine)
Unacceptable SSM
(50% passing 75 um)

10+000 6.20 Rt C/L D-100 PA
0 - 270 Lt Br Cr Gran
270 - 430 Dk Br Sa Si Tr Cl Tr Gr, Moist
430 - 640 Br F-Med Sa W Si W Gr, Moist
640 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+000 2.50 Rt C/L D-0 PA
0 - 230 Asph
230 - 530 Lt Br Cr Gran
530 - 870 Br F-Med Sa W Si W Gr, Moist
870 - 1.50 Br Cl Si W Sa Tr Gr, Moist*
* Sample Depth = 1.00 - 1.30
Passing 4.75 mm = 93 %
2.00 mm = 88 %
425 um = 80 %
75 um = 56 %
5 um = 23 %
2 um = 16 %
w = 8 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.30

10+100 1.00 Lt C/L D-0 PA
0 - 210 Asph
210 - 340 Lt Br Cr Gran
340 - 680 Dk Br Sa Si Tr Cl Tr Gr, Moist
680 - 1.50 Gry Cl Si Tr Sa Tr Gr, Moist

10+100 11.00 Lt C/L D-700 HA
0 - 100 Dk Br Si Tps
100 - 600 Br Sa Si W Gr Tr Cl, Wet
600 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+100 6.40 Rt C/L D-100 PA
0 - 330 Lt Br Cr Gran
330 - 800 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
800 - 1.50 Gry Cl Si W Sa Tr Gr, Moist

10+100 6.00 Lt C/L D-0 PA
0 - 220 Lt Br Cr Gran
220 - 600 Br F-Med Sa W Si Tr Gr, Moist
600 - 1.50 Gry Si Sa W Cl W Gr, Moist*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 87 %
2.00 mm = 81 %
425 um = 72 %
75 um = 49 %
5 um = 18 %
2 um = 12 %
w = 11 %
Plasticity = Non-Plastic
Classification = SM
Frost Susc. = LSFH
'K' Factor = 0.30

10+200 11.00 Rt C/L D-500 HA
0 - 310 Dk Br Si Tps
310 - 1.50 Br-Gry Sa Si Tr Cl Tr Gr, Wet, Fr Wat @ 400, Sat

10+200 3.00 Rt C/L D-0 PA
0 - 200 Asph
200 - 350 Lt Br Cr Gran*
350 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.10 Dk Gry Cl Si W Sa Tr Gr Tr Org M, Moist
1.10 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 200 - 350
Passing 26.5 mm = 100 %
19.0 mm = 95 %
13.2 mm = 91 %
9.5 mm = 73 %
4.75 mm = 55 %
1.18 mm = 39 %
300 um = 23 %
75 um = 10 %
w = 3 %
Unacceptable Granular A
(some sieve sizes too fine)
Unacceptable Granular B, Type I
(10% passing 75 um)

10+200 6.50 Rt C/L D-100 PA
0 - 200 Lt Br Cr Gran
200 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.10 Dk Gry Cl Si W Sa Tr Gr Tr Org M, Moist
1.10 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

10+200 8.60 Lt C/L D-100 PA
0 - 300 Lt Br Cr Gran
300 - 700 Br F-Med Sa W Si Tr Gr, Moist
700 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+300 7.60 Rt C/L D-0 PA
0 - 220 Asph
220 - 480 Lt Br Cr Gran
480 - 950 Br F-Med Sa W Si Tr Gr, Moist
950 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+300 11.70 Rt C/L D-100 PA
0 - 300 Lt Br Cr Gran
300 - 850 Br F-Med Sa W Si Tr Gr, Moist
850 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+300 13.00 Lt C/L D-400 HA
0 - 100 Wat
100 - 300 Dk Br Si Tps
300 - 1.50 Br-Gry Sa Si Tr Cl Tr Gr Occ Cob, Sat

10+300 6.00 Lt C/L D-0 PA
0 - 250 Asph
250 - 480 Lt Br Cr Gran
480 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+390 16.00 Rt C/L D-700 HA
0 - 160 Dk Br Si Tps
160 - 1.50 Br-Gry Sa Si Tr Cl Tr Gr, Wet, Fr Wat @ 200, Sat

10+400 12.00 Lt C/L D-100 PA
0 - 300 Lt Br Cr Gran
300 - 540 Dk Br Sa Si Tr Cl Tr Gr Tr Org M, Moist
540 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.50 Br Sa Si Tr Cl Tr Gr, Wet, Fr Wat @ 1.00

10+400 12.40 Rt C/L D-100 PA
0 - 330 Lt Br Cr Gran
330 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+400 8.40 Rt C/L D-0 PA
0 - 220 Asph
220 - 440 Lt Br Cr Gran
440 - 750 Br F-Med Sa W Si Tr Gr, Moist
750 - 1.50 Br Sa Si Tr Cl Tr Gr, Moist

10+500 15.00 Lt C/L D-1.30 HA
0 - 140 Dk Br Si Tps, Fr Wat @ 0
140 - 1.50 Br Si Sa Tr Cl Tr Gr, Sat

10+500 9.00 Rt C/L D-100 PA
0 - 220 Lt Br Cr Gran
220 - 630 Br F-Med Sa Tr Si Tr Gr, Moist
630 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+600 16.00 Rt C/L D-1.50 HA
0 - 450 Blk Org Si, Fr Wat @ 0
450 - 1.50 Br-Gry Si Sa Tr Cl Tr Gr, Sat

10+600 5.50 Rt C/L D-0 PA
0 - 220 Asph
220 - 310 Lt Br Cr Gran
310 - 650 Br F-Med Sa Tr Si Tr Gr, Moist
650 - 1.20 Dk Br Cl Si Tr Sa Tr Gr, Moist
1.20 - 1.50 Dk Br Si Tps
1.50 - 2.10 Dk Br Si Cl W Sa Tr Gr, Moist*
* Sample Depth = 1.80 - 2.10
Passing 4.75 mm = 99 %
2.00 mm = 99 %
425 um = 98 %
75 um = 88 %
5 um = 56 %
2 um = 42 %
w = 22 %
WL = 31 % WP = 16 % IP = 15 %
Classification = CL
Frost Susc. = LSFH
'K' Factor = 0.30

10+600 6.00 Lt C/L D-100 PA
0 - 210 Lt Br Cr Gran
210 - 580 Br F-Med Sa Tr Si Tr Gr, Moist
580 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+600 8.50 Rt C/L D-200 PA
0 - 200 Lt Br Cr Gran*
200 - 650 Br F-Med Sa Tr Si Tr Gr, Moist
650 - 1.50 Dk Br Cl Si Tr Sa Tr Gr, Moist
* Sample Depth = 0 - 200
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 88 %
9.5 mm = 76 %
4.75 mm = 56 %
1.18 mm = 38 %
300 um = 22 %
75 um = 13 %
w = 4 %
Unacceptable Granular A
(some sieve sizes too fine)
Unacceptable Granular B, Type I
(13% passing 75um)

10+715 5.00 Rt C/L D-0 PA
0 - 200 Asph
200 - 310 Lt Br Cr Gran
310 - 640 Br F-Med Sa Tr Si Tr Gr, Moist*
640 - 1.00 Br Cl Si Tr Sa Tr Gr, Moist
1.00 - 1.30 Dk Br Si Tps**
1.30 - 1.50 Gry Si Sa Tr Cl, Wet***
* Sample Depth = 340 - 640
Passing 150 mm = 100 %
26.5 mm = 100 %
4.75 mm = 96 %
1.18 mm = 89 %
300 um = 70 %
75 um = 14 %
w = 12 %
Unacceptable Granular B, Type I
(70% passing 300 um, 14% passing 75 um)
Acceptable SSM

** Sample Depth = 1.00 - 1.30
w = 61 %

*** Sample Depth = 1.30 - 1.50
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 100 %
75 um = 41 %
5 um = 12 %
2 um = 8 %
w = 20 %
Plasticity = Non-plastic
Classification = SM
Frost Susc. = LSFH
'K' Factor = 0.20

DRAWING NAME: 2538-199-00_GF-B-09.dwg SAVE DATE: 5/19/2010 10:48 AM PLOT DATE: 9/28/2010 4:10 PM
SAVED BY: mazzaferrom

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404
Ravenshoe Rd. and Boag Rd.

SHEET
BH-10

Golder Associates
Office, Prov/State

Ravenshoe Road
Station 9+100 to 9+900,
Referenced to C/L of

9+100 2.50 Lt C/L D-0 PA
0 - 100 Asph
100 - 270 Pulv Asph & Cr Gran Mix
270 - 340 Asph
340 - 620 Br Cr Gran
620 - 850 Br F-Med Sa W Si Tr Gr, Moist
850 - 1.10 Gry Si Cl Tr F Sa Tr Gr, Moist
1.10 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

9+200 2.50 Lt C/L D-0 PA
0 - 100 Asph
100 - 330 Pulv Asph & Cr Gran Mix
330 - 550 Br Cr Gran*
550 - 1.00 Br F-Med Sa W Si Tr Gr, Moist
1.00 - 1.20 Dk Br Cl Si W Sa Tr Gr W Org M, Moist
1.20 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist
* Sample Depth = 330 - 550
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 97 %
9.5 mm = 87 %
4.75 mm = 73 %
1.18 mm = 57 %
300 um = 40 %
75 um = 18 %
w = 4 %
Unacceptable Granular A
(all sieve sizes too fine)
(18% passing 75 um)

9+300 2.50 Lt C/L D-0 PA
0 - 090 Asph
090 - 240 Pulv Asph & Cr Gran Mix
240 - 500 Br Cr Gran
500 - 900 Br F-Med Sa W Si Tr Gr, Moist
900 - 1.10 Dk Br Cl Si W Sa Tr Gr W Org M, Moist
1.10 - 1.50 Gry Sa Si Tr Cl Tr Gr, Moist

9+300 5.30 Lt C/L D-100 PA
0 - 180 Br Cr Gran
180 - 820 Br F-Med Sa W Sa Tr Gr, Moist
820 - 1.00 Dk Br Cl Si W Sa Tr Gr W Org M, Moist
1.00 - 1.50 Gry Sa Si Tr Cl Tr Gr, Fr Wat @ 1.30

9+400 2.50 Lt C/L D-0 PA
0 - 100 Asph
100 - 270 Pulv Asph & Cr Gran Mix
270 - 450 Br Cr Gran
450 - 500 Asph
500 - 610 Lt Br Cr Gran
610 - 1.00 Br F-Med Sa W Si Tr Gr, Moist
1.00 - 1.50 Gry-Br Si Cl Tr F Sa Tr Gr, Moist

9+420 3.90 Rt C/L D-0 PA
0 - 100 Asph
100 - 250 Pulv Asph & Cr Gran Mix
250 - 540 Lt Br Cr Gran
540 - 920 Br F-Med Sa W Si Tr Gr, Moist
920 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist

9+480 5.70 Lt C/L D-0 PA
0 - 130 Asph
130 - 310 Pulv Asph & Cr Gran Mix*
310 - 530 Lt Br Cr Gran
530 - 740 Br F-Med Sa W Si Tr Gr, Moist
740 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist
* Sample Depth = 130 - 310
Passing 26.5 mm = 100 %
19.0 mm = 97 %
13.2 mm = 90 %
9.5 mm = 73 %
4.75 mm = 50 %
1.18 mm = 25 %
300 um = 7 %
75 um = 3 %
w = 2 %
Acceptable Granular A

9+480 7.80 Lt C/L D-100 PA
0 - 200 Lt Br Cr Gran
200 - 800 Br F-Med Sa W Si Tr Gr, Moist
800 - 1.10 Dk Gry Si Cl Tr F Sa Tr Gr Tr Org M, Moist
1.10 - 1.50 Br Si Cl Tr F Sa Tr Gr, Moist, Fr Wat @ 1.20

9+520 9.60 Rt C/L D-0 PA
0 - 180 Asph
180 - 300 Lt Br Cr Gran
300 - 580 Br F-Med Sa W Si Tr Gr, Moist
580 - 1.50 Br Si Cl Tr F Sa Tr Gr, Moist

9+600 6.80 Lt C/L D-0 PA
0 - 120 Asph
120 - 340 Lt Br Cr Gran
340 - 850 Br F-Med Sa W Si Tr Gr, Moist
850 - 1.10 Dk Gry Cl Si W Sa Tr Gr Tr Org M, Moist
1.10 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist

9+600 14.00 Rt C/L D-1.30 HA
0 - 150 Dk Br Si Tps
150 - 1.50 Gry-Br Cl Si W Sa Tr Gr, Wet, Fr Wat @ 300

9+650 5.30 Rt C/L D-0 PA
0 - 170 Lt Br Cr Gran
170 - 1.00 Br F-Med Sa W Si W Gr, Moist
1.00 - 1.20 Dk Gry Cl Si W Sa Tr Gr Tr Org M, Moist
1.20 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist

9+650 2.40 Rt C/L D-0 PA
0 - 140 Asph
140 - 240 Pulv Asph & Cr Gran Mix
240 - 480 Lt Br Cr Gran
480 - 820 Br F-Med Sa W Si Tr Gr, Moist
820 - 1.20 Gry Sa Si Tr Cl Tr Gr, Moist
1.20 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist

9+700 5.70 Lt C/L D-0 PA
0 - 120 Asph
120 - 350 Lt Br Cr Gran
350 - 750 Br F-Med Sa W Si Tr Gr, Moist
750 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist

9+750 13.00 Lt C/L D-1.20 HA
0 - 200 Dk Br Si Tps
200 - 1.50 Gry-Br Si Cl Tr Sa Tr Gr, Moist

9+750 2.50 Rt C/L D-0 PA
0 - 130 Asph
130 - 240 Lt Br Cr Gran*
240 - 290 Asph
290 - 540 Lt Br Cr Gran
540 - 920 Br F-Med Sa W Si Tr Gr, Moist
920 - 1.50 Gry Si Cl Tr F Sa Tr Gr, Moist
* Sample Depth = 130 - 240
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 97 %
9.5 mm = 88 %
4.75 mm = 65 %
1.18 mm = 41 %
300 um = 27 %
75 um = 17 %
w = 4 %
Unacceptable Granular A
(all sieve sizes too fine)
Unacceptable Granular B, Type I
(17% passing 75 um)

9+800 2.20 Lt C/L D-0 PA
0 - 090 Asph, Moist
090 - 300 Pulv Asph & Cr Gran Mix
300 - 600 Lt Br Cr Gran
600 - 850 Br F-Med Sa W Cl W Si, Moist
850 - 1.50 Gry-Br Si Cl Tr Sa, Wet*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 100 %
2.00 mm = 99 %
425 um = 97 %
75 um = 91 %
5 um = 73 %
2 um = 60 %
w = 27 %
WL = 50 % WP = 24 % IP = 26 %
Classification = CI-CH
Frost Susc. = LSFH
'K' Factor = 0.20

9+800 5.20 Lt C/L D-100 PA
0 - 130 Lt Br Cr Gran
130 - 700 Br F-Med Sa W Si W Gr Occ Cob, Moist
700 - 1.50 Gry Si Cl Tr F Sa, Moist

9+850 2.50 Rt C/L D-0 PA
0 - 090 Asph
090 - 210 Pulv Asph & Cr Gran Mix
210 - 270 Lt Br Cr Gran
270 - 320 Asph
320 - 580 Lt Br Cr Gran
580 - 780 Br Si Sa W Gr Occ Cob, Moist*
780 - 1.50 Gry-Br Cl Si W Sa Tr Gr, Moist
* Sample Depth = 580 - 780
Passing 150 mm = 100 %
26.5 mm = 100 %
4.75 mm = 70 %
1.18 mm = 61 %
300 um = 49 %
75 um = 21 %
w = 7 %
Unacceptable Granular B, Type I
(21% passing75 um)
Acceptable SSM

9+850 5.60 Rt C/L D-100 PA
0 - 170 Lt Br Cr Gran
170 - 630 Br F-Med Sa W Si Tr Gr, Moist
630 - 1.50 Dk Gry Cl Si W Sa Tr Gr W Org M, Moist*
* Sample Depth = 800 - 1.10
w = 28 %

9+900 2.50 Lt C/L D-0 PA
0 - 100 Asph
100 - 240 Pulv Asph & Cr Gran Mix*
240 - 390 Lt Br Cr Gran
390 - 440 Asph
440 - 730 Lt Br Cr Gran
730 - 1.00 Br F-Med Sa W Si Tr Gr, Moist
1.00 - 1.50 Gry-Br Si Cl Tr F Sa Tr Gr, Moist
* Sample Depth = 100 - 240
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 94 %
9.5 mm = 84 %
4.75 mm = 60 %
1.18 mm = 30 %
300 um = 15 %
75 um = 7 %
w = 3 %
Unacceptable Granular A
(some sieve sizes too fine)
Acceptable Granular B, Type I

Boag Road
Station 9+710 to 10+215, Referenced to C/L of Boag

9+710 1.00 Rt C/L D-0 PA
0 - 380 Lt Br Cr Gran
380 - 1.30 Br Sa Si W Cl Tr Gr, Moist
1.30 - 1.50 Br Cl Si W Sa Tr Gr, Moist

9+710 1.00 Lt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 2.80 Br Cl Si Tr Sa Tr Gr, Moist
2.80 - 5.60 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 3.30, V Dense @ 5.1

9+750 2.70 Lt C/L D-010 PA
0 - 370 Lt Br Cr Gran
370 - 1.50 Br Cl Si W Sa Tr Gr, Moist

9+750 1.00 Lt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 1.50 Br Cl Si W Sa Tr Gr, Moist

9+750 1.50 Rt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 2.50 Br Cl Si Tr Sa Tr Gr, Moist
2.50 - 5.10 Br Sa Si Tr Cl Tr Gr Occ Cob, Moist, Fr Wat @ 4.20, V Dense @ 4.7

9+800 1.50 Rt C/L D-0 PA
0 - 420 Lt Br Cr Gran
420 - 1.50 Br Cl Si W Sa Tr Gr, Moist

9+850 1.00 Lt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 650 Dk Br Si Tps*
650 - 1.50 Br Sa Si W Cl Tr Gr, Moist**
* Sample Depth = 400 - 650
w = 47 %

** Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 95 %
2.00 mm = 93 %
425 um = 89 %
75 um = 77 %
5 um = 19 %
2 um = 13 %
w = 15 %
Classification = ML
Frost Susc. = HSFH
'K' Factor = 0.45

9+900 1.50 Rt C/L D-0 PA
0 - 480 Lt Br Cr Gran
480 - 2.20 Br Cl Si Tr Sa Tr Gr, Moist
2.20 - 5.10 Br Sa Si Tr Cl Tr Gr, Moist, Fr Wat @ 4.20, V Dense @ 4.7

9+900 2.70 Rt C/L D-0 PA
0 - 320 Lt Br Cr Gran
320 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

9+900 1.00 Rt C/L D-0 PA
0 - 430 Lt Br Cr Gran
430 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

9+950 2.80 Lt C/L D-0 PA
0 - 380 Lt Br Cr Gran
380 - 1.50 Br Sa Si W Cl Tr Gr, Moist

9+950 1.00 Lt C/L D-0 PA
0 - 400 Lt Br Cr Gran*
400 - 1.50 Br Sa Si W Cl Tr Gr, Moist**
* Sample Depth = 0 - 300
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 98 %
9.5 mm = 93 %
4.75 mm = 80 %
1.18 mm = 62 %
300 um = 45 %
75 um = 32 %
w = 4 %
Unacceptable Granular A
(all sieve sizes too fine)
Unacceptable Granular B, Type I
(32 % passing 75 um)

** Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 98 %
2.00 mm = 95 %
425 um = 88 %
75 um = 62 %
5 um = 18 %
2 um = 12 %
w = 13 %
Classification = ML
Frost Susc. = MSFH
'K' Factor = 0.35

10+000 1.00 Rt C/L D-0 PA
0 - 550 Lt Br Cr Gran
550 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+000 2.70 Rt C/L D-0 PA
0 - 500 Lt Br Cr Gran
500 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+000 1.50 Lt C/L D-0 PA
0 - 560 Lt Br Cr Gran
560 - 2.20 Br Cl Si Tr Sa Tr Gr, Moist
2.20 - 5.60 Br Si Sa Tr Cl Tr Gr, Moist, V Dense @ 5.1

10+050 1.00 Lt C/L D-0 PA
0 - 300 Lt Br Cr Gran
300 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+100 2.50 Rt C/L D-0 PA
0 - 300 Lt Br Cr Gran
300 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+100 1.00 Lt C/L D-0 PA
0 - 300 Lt Br Cr Gran
300 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist

10+100 1.50 Lt C/L D-0 PA
0 - 350 Lt Br Cr Gran
350 - 1.60 Br Cl Si Tr Sa Tr Gr, Moist
1.60 - 3.00 Br Si Cl Tr Sa Tr Gr, Moist
3.00 - 5.25 Br Si Sa Tr Cl Tr Gr, Moist, V Dense @ 4.8

10+150 2.70 Lt C/L D-0 PA
0 - 300 Lt Br Cr Gran
300 - 1.50 Br Cl Si W Sa Tr Gr, Moist

10+150 1.00 Lt C/L D-0 PA
0 - 300 Lt Br Cr Gran
300 - 1.50 Br Si Cl Tr Sa, Wet*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 97 %
5 um = 76 %
2 um = 63 %
w = 35 %
WL = 51 % WP = 28 % IP = 23 %
Classification = CI-CH
Frost Susc. = LSFH
'K' Factor = 0.20

10+200 1.20 Rt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 1.50 Br Cl Si W Sa Tr Gr, Moist

10+215 1.00 Lt C/L D-0 PA
0 - 420 Lt Br Cr Gran*
420 - 1.50 Br Cl Si Tr Sa Tr Gr, Moist
* Sample Depth = 0 - 300
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 100 %
9.5 mm = 95 %
4.75 mm = 85 %
1.18 mm = 62 %
300 um = 39 %
75 um = 26 %
w = 3 %
Unacceptable Granular A
(all sieve sizes too fine)
Unacceptable Granular B, Type I
(26% passing 75 um)

10+215 1.00 Rt C/L D-0 PA
0 - 400 Lt Br Cr Gran
400 - 3.00 Br Cl Si Tr Sa Tr Gr, Moist
3.00 - 5.60 Br Sa Tr Si Tr Gr, Moist, Fr Wat @ 4.20, V Dense @ 5.1

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05
DRAWING NAME: 2538-199-00_GF-B-10.dwg SAVE DATE: 5/19/2010 10:49 AM PLOT DATE: 9/28/2010 4:10 PM
SAVED BY: mazzaferrom

METRIC

CONT
WP 2005-07-00

SOIL DATA
Highway 404
Holborn Rd., Culvert and Commuter Parking Lot

SHEET
BH-11

Golder Associates
Office, Prov/State

Holborn Road
Station 9+900 to 10+100, Referenced to C/L of Holborn

9+900 1.00 Lt C/L D-0 PA
0 - 460 Br Cr Gran*
460 -1.50 Br Sa Si W Cl Tr Gr, Moist
* Sample Depth = 100 - 400
Passing 26.5 mm = 100 %
19.0 mm = 100 %
13.2 mm = 100 %
9.5 mm = 97 %
4.75 mm = 81 %
1.18 mm = 63 %
300 um = 45 %
75 um = 29 %
w = 5 %
Unacceptable Granular A
(all sieve sizes too fine)
Unacceptable Granular A
(29% passing 75 um)

9+950 2.50 Rt C/L D-0 PA
0 - 310 Br Cr Gran
310 -1.50 Br Sa Si W Cl Tr Gr, Moist

10+000 1.00 Rt C/L D-0 PA
0 - 350 Lt Br Cr Gran
350 -1.50 Br Cl Si Tr Sa, Wet*
* Sample Depth = 1.20 - 1.50
Passing 4.75 mm = 100 %
2.00 mm = 100 %
425 um = 99 %
75 um = 95 %
5 um = 26 %
2 um = 22 %
w = 27 %
Classification = CL
Frost Susc. = HSFH
'K' Factor = 0.55

10+055 2.50 Rt C/L D-0 PA
0 - 370 Br Cr Gran
370 -1.50 Br Sa Si W Cl Tr Gr, Moist

10+100 2.00 Rt C/L D-0 PA
0 - 380 Br Cr Gran
380 -1.50 Br Cl Si W Sa Tr Gr, Moist

Culvert
Station 33+988 to 34+063, Referenced to Fut. Median C/L

33+988 54.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 -1.10 Dk Br Cl Si Tr Sa Tr Org M, Moist
1.10 -1.20 Br Sa Si Tr Cl, Moist
1.20 -3.50 Dk Br Cl Si Tr Sa Tr Org M, Moist, V Stiff @ 3.1

33+998 33.00 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -800 Dk Br Cl Si W Sa Tr Org M, Moist
800 -2.40 Gry-Br Si Sa Tr Cl, Wet
2.40 -3.50 Gry Cl Si Tr Sa, Moist, Hard @ 3.1

34+015 10.50 Lt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.20 Dk Br Cl Si W Sa Tr Gr Tr Org M, Moist
1.20 -2.30 Br Cl Si W Sa Tr Gr, Moist
2.30 -3.10 Br Sa & Gr Tr Cl Tr Si, Wet
3.10 -3.50 Gry-Br Cl Si Tr Sa, Moist, Hard @ 3.0

34+032 13.40 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.10 Dk Br Cl Si Tr Sa Tr Org M, Moist
1.10 -3.50 Gry Si Cl Tr Sa, Moist, V Stiff @ 3.1

34+047 39.70 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps, Fr Wat @ 0
300 -1.50 Dk Br Cl Si Tr Sa
1.50 -2.74 Br Cl Si Tr Sa, Moist
2.74 -3.50 Gry Cl Si Tr Sa, Moist, Hard @ 3.1

34+063 60.80 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -600 Dk Br Cl Si W Sa Tr Org M, Moist
600 -1.10 Dk Br Si Sa Tr Cl Tr Org M, Wet
1.10 -1.50 Br Cl Si W Sa, Moist
1.50 -3.50 Gry Cl Si Tr Sa Tr Gr, Moist, Hard @ 3.1

Commuter Parking Lot at Woodbine Ave.
Station 9+700 to 9+800, Referenced to C/L of Woodbine Ave.

9+700 50.00 Rt C/L D-0 HA
0 - 210 Dk Br Si Tps
210 -1.30 Br Sa Si Tr Cl Tr Gr, Wet
1.30 -1.80 Br Cl Si W Sa Tr Gr, Moist

9+720 60.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -1.10 Br Si Sa Tr Cl Tr Gr, Wet, Fr Wat @ 600
1.10 -1.60 Br Cl Si Tr Sa Tr Gr, Wet
1.60 -3.45 Br Sa W Gr Tr Si, Wet, Comp @ 3.0

9+760 90.00 Rt C/L D-0 PA
0 - 280 Dk Br Si Tps
280 -550 Br Si Sa Tr Cl Tr Gr, Wet
550 -1.70 Br Cl Si Tr Sa Tr Gr, Wet, Fr Wat @ 1.20
1.70 -3.45 Br Sa W Gr Tr Si, Wet, Comp @ 3.0

9+760 60.00 Rt C/L D-0 PA
0 - 300 Dk Br Si Tps
300 -650 Br Si Sa Tr Cl Tr Gr, Wet, Fr Wat @ 300
650 -1.50 Br Cl Si Tr Sa Tr Gr, Wet
1.50 -3.45 Br Sa W Gr Tr Si, Wet, Loose @ 3.0*
* Sample Depth = 3.00 - 3.45
w = 19 %

9+760 32.00 Rt C/L D-0 PA
0 - 720 Dk Br Si Tps, Fr Wat @ 300
720 -1.50 Br Cl Si Tr Sa Tr Gr, Wet
1.50 -3.45 Br Sa W Gr Tr Si, Wet, Comp @ 3.0

9+800 90.00 Rt C/L D-0 PA
0 - 270 Dk Br Si Tps
270 -600 Br Si Sa Tr Cl Tr Gr, Wet*
600 -1.50 Br Si Cl Tr Sa Tr Gr, Wet, Fr Wat @ 900
1.50 -3.45 Br Si Sa Tr Cl Tr Gr, Wet, Comp @ 3.0
* Sample Depth = 300 - 600
w = 19 %

9+800 50.00 Rt C/L D-0 PA
0 - 250 Dk Br Si Tps
250 -750 Br Si Sa Tr Cl Tr Gr, Wet, Fr Wat @ 600
750 -1.40 Br Si Cl Tr Sa Tr Gr, Wet
1.40 -3.45 Br Sa W Gr Tr Si, Wet, Comp @ 3.0

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SAVED BY: mazzaferrom SAVE DATE: 8/18/2010 2:38 PM

MINISTRY OF TRANSPORTATION, ONTARIO

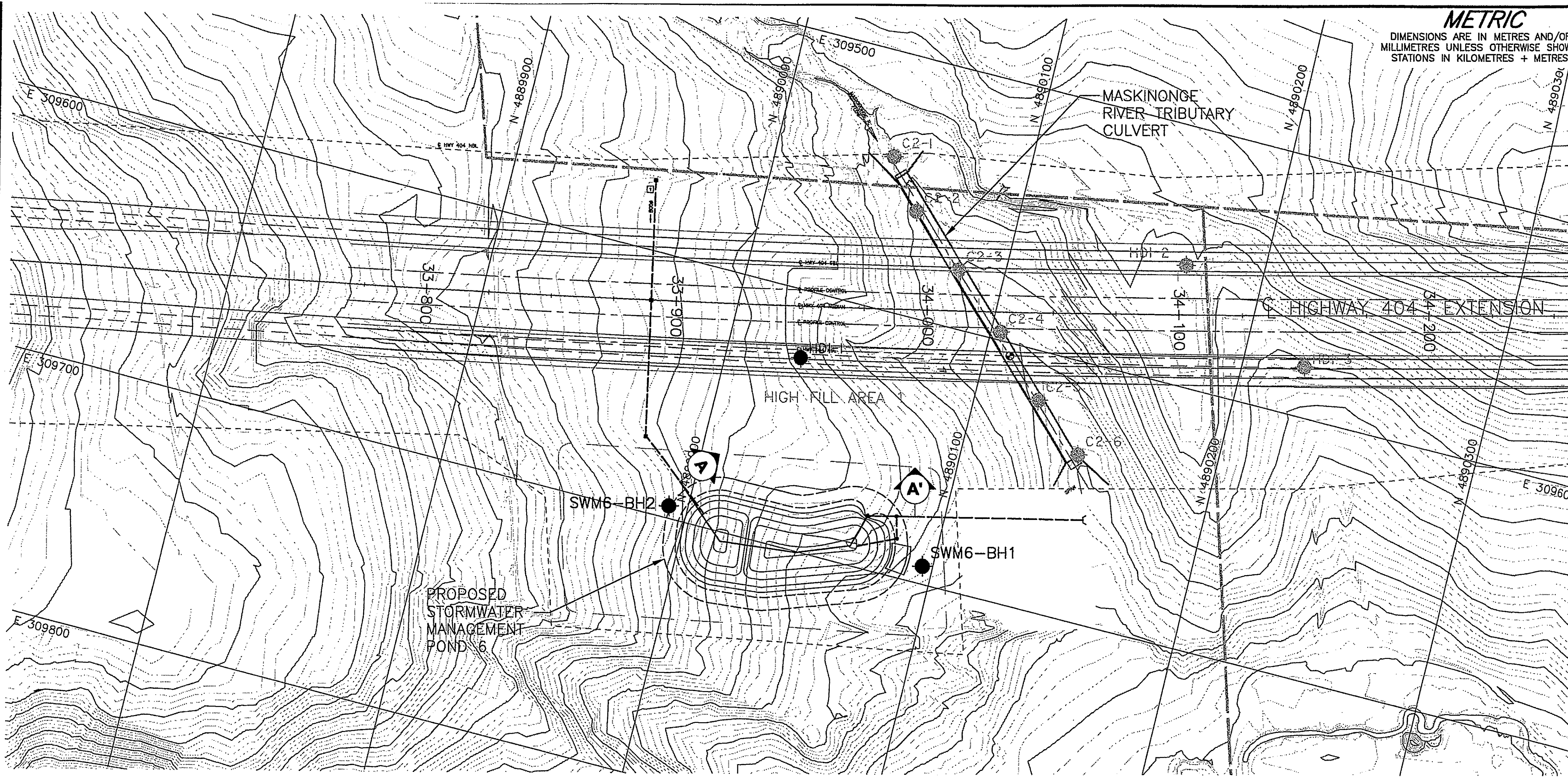
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

HIGHWAY 404 EXTENSION
STORMWATER MANAGEMENT POND 6
BOREHOLE LOCATION AND SOIL STRATA

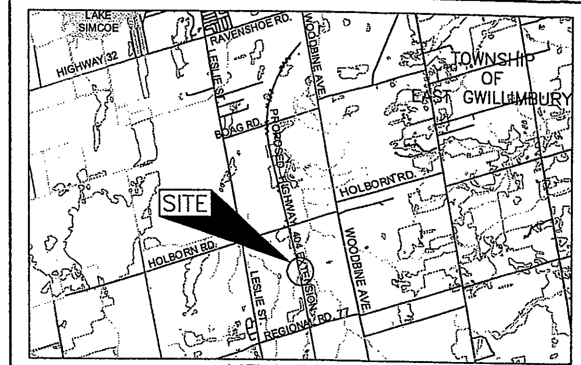
SHEET BH-12

Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



PLAN

SCALE 20 0 20 40 m



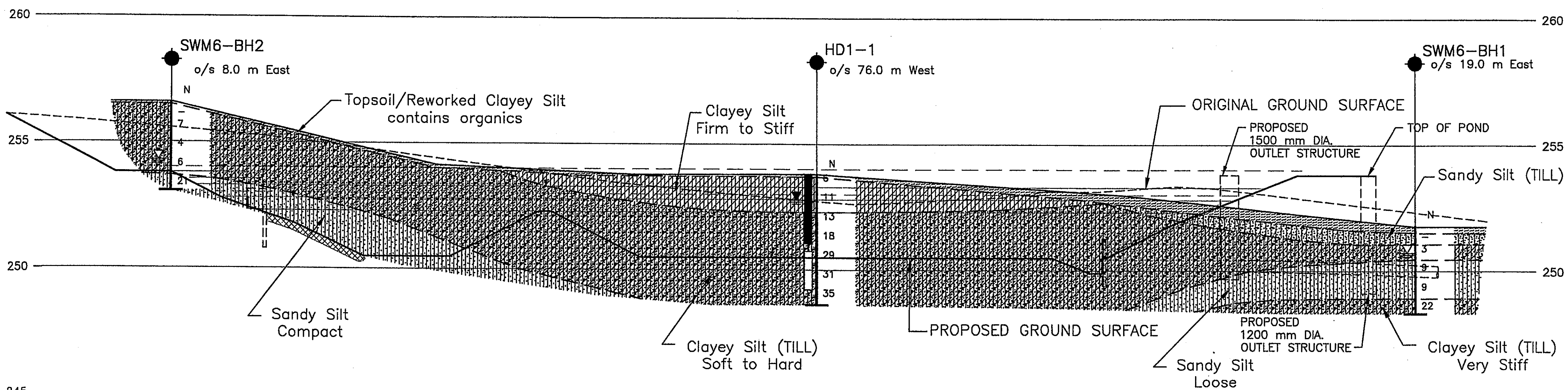
KEY PLAN

SCALE 1.5 0 1.5 3 km

LEGEND

- Borehole – Current Investigation
- Seal
- Piezometer
- N Standard Penetration Test Value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- WL in piezometer, measured on June 12, 2009
- WL upon completion of drilling

No.	ELEVATION	CO-ORDINATES NORTHING	CO-ORDINATES EASTING
SWM6-BH1	251.8	4890095.9	309693.1
SWM6-BH2	256.6	4889992.5	309695.2
HD1-1	253.8	4890029.2	309626.0



CROSS-SECTION A-A'

HORIZONTAL SCALE 4 0 4 8 m
2 0 2 4 m VERTICAL SCALE

NOTES

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REFERENCE

Base plans provided in digital format by AECOM, drawing files "76808.dwg" and "76809.dwg", received, November, 16, 2009 and drawing file "2538-199-00_00-ST-1001-To Golder-091126.dwg", received November 26, 2009.

DRAFT

NO.	DATE	BY	REVISION

Geocres No.			
HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC/RJ	CHKD. KJB	APPD. JMAC	DWG. D1

PLOT DATE: March 22, 2010
FILENAME: T:\Projects\2008\08-1111-0022 (UMA, York)\-04- Hydrogeology Report\08111110022GA001.dwg

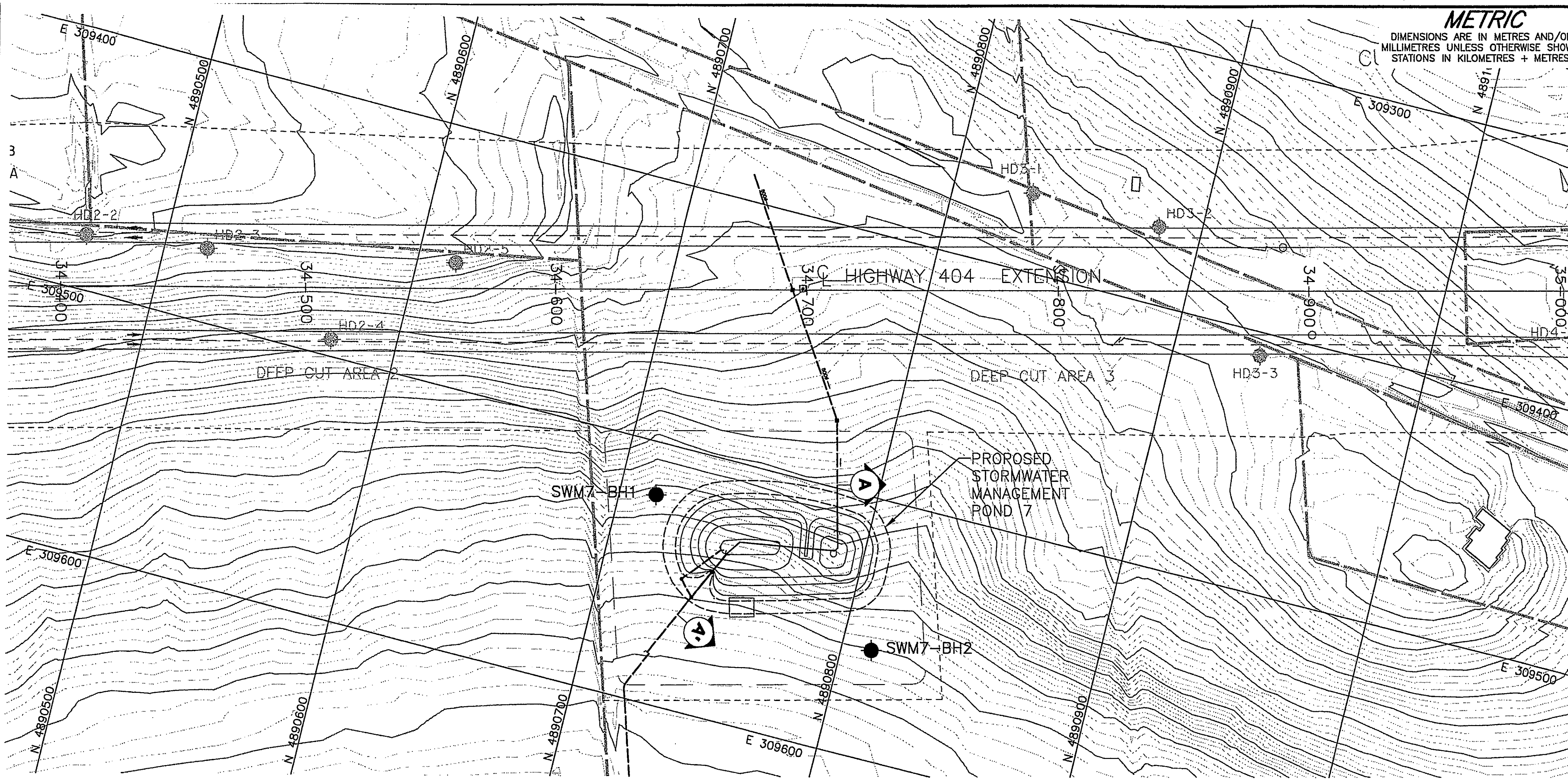
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

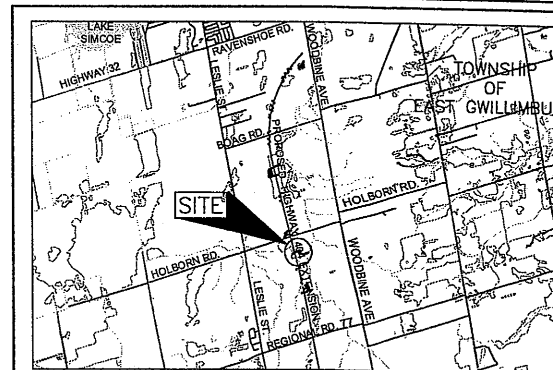
SHEET BH-13

HIGHWAY 404 EXTENSION
STORMWATER MANAGEMENT POND 7
BOREHOLE LOCATION AND SOIL STRATA

Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



PLAN
SCALE
20 0 20 40 m

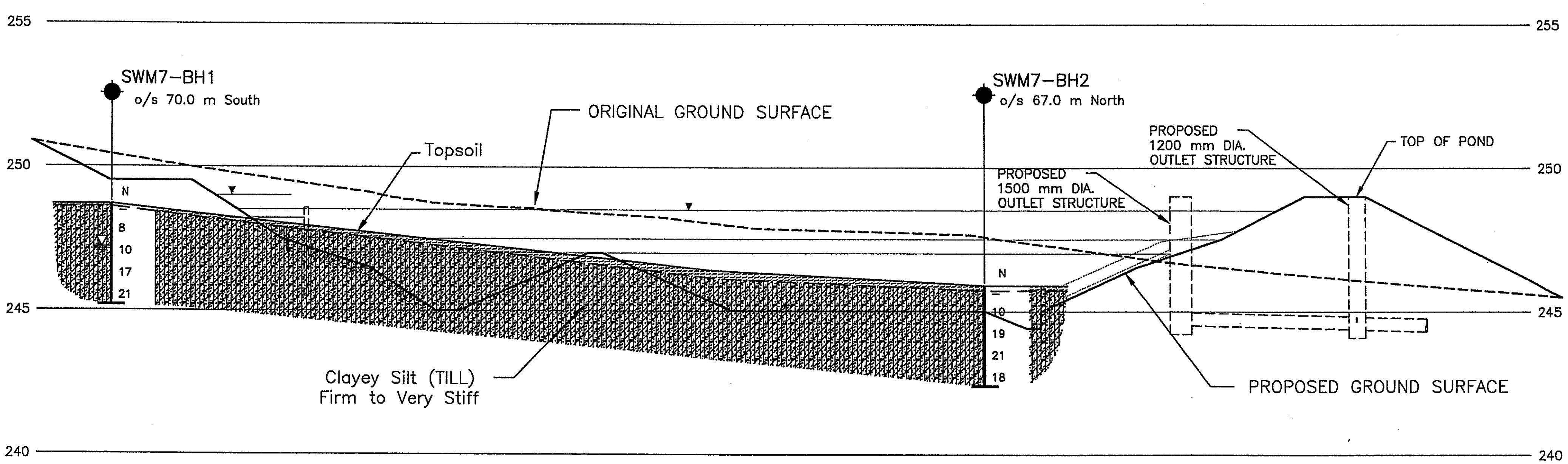


KEY PLAN
SCALE
1.5 0 1.5 3 km

LEGEND

- Borehole – Current Investigation
- N Standard Penetration Test Value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- WL upon completion of drilling

No.	ELEVATION	CO-ORDINATES	
		NORTHING	EASTING
SWM7-BH1	248.8	4890714.5	309520.4
SWM7-BH2	246.0	4890811.6	309558.0



CROSS-SECTION A-A'
HORIZONTAL SCALE
4 0 4 8 m
2 0 2 4 m
VERTICAL SCALE

NOTES

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REFERENCE

Base plans provided in digital format by AECOM, drawing files "76808.dwg" and "76809.dwg", received, November, 16, 2009 and drawing file "2538-199-00_00-ST-1001-To Golder-091126.dwg", received November 26, 2009.

DRAFT

NO.	DATE	BY	REVISION

Geocres No.			
HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC	CHKD. KJB	APPD. JMAC	DWG. D2

PLOT DATE: March 22, 2010

MINISTRY OF TRANSPORTATION, ONTARIO

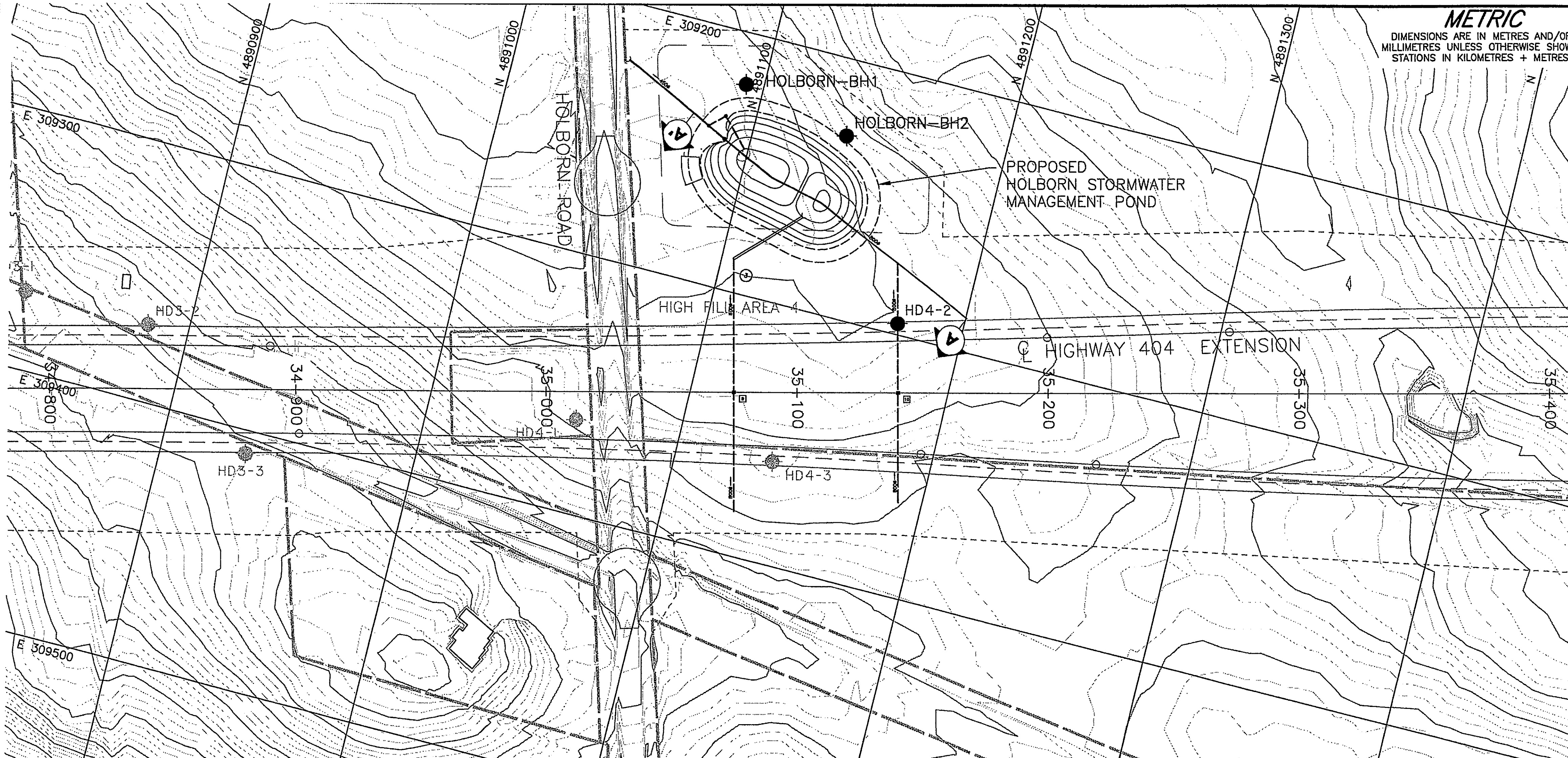
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

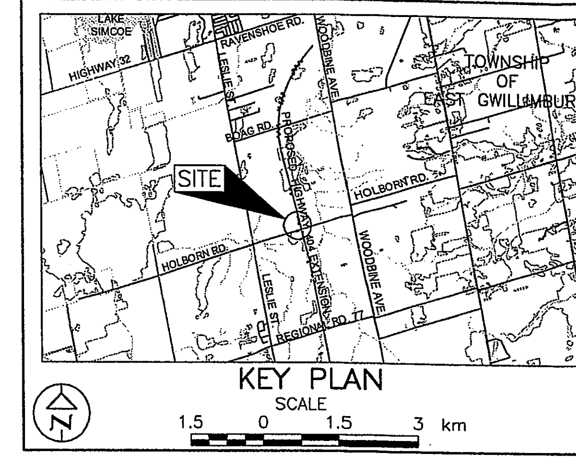
HIGHWAY 404 EXTENSION
HOLBORN STORMWATER MANAGEMENT POND
BOREHOLE LOCATION AND SOIL STRATA

SHEET BH-14

Golder Associates
Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



PLAN
SCALE
20 0 20 40 m

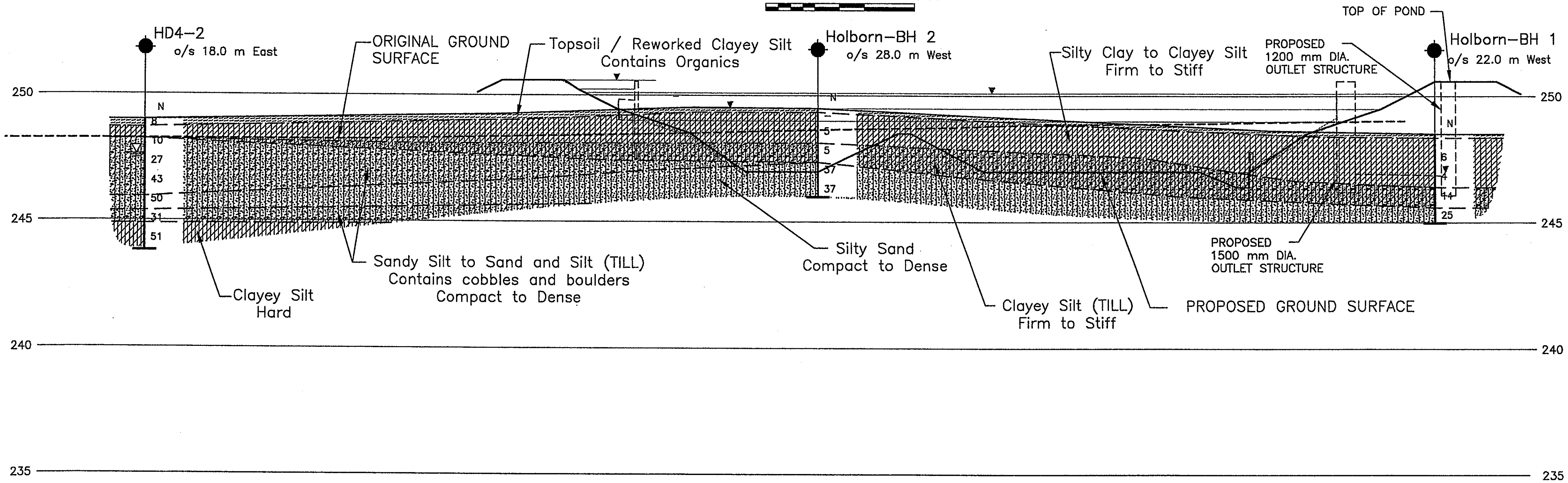


KEY PLAN
SCALE
1.5 0 1.5 3 km

LEGEND

- Borehole – Previous Investigation
- N Standard Penetration Test Value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- WL upon completion of drilling

No.	ELEVATION	CO-ORDINATES NORTHING	CO-ORDINATES EASTING
HOLBORN-BH1	248.5	4891093.1	309220.0
HOLBORN-BH2	249.5	4891136.8	309229.7
HD4-2	249.0	4891173.8	309295.7



CROSS-SECTION A-A'
HORIZONTAL SCALE
4 0 4 8 m
2 0 2 4 m
VERTICAL SCALE

NOTES

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REFERENCE

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DRAFT

NO.	DATE	BY	REVISION

Geocres No.			
HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC/RJ	CHKD. KJB	APPD. JMAC	DWG. D3

PLOT DATE: March 22, 2010

MINISTRY OF TRANSPORTATION, ONTARIO

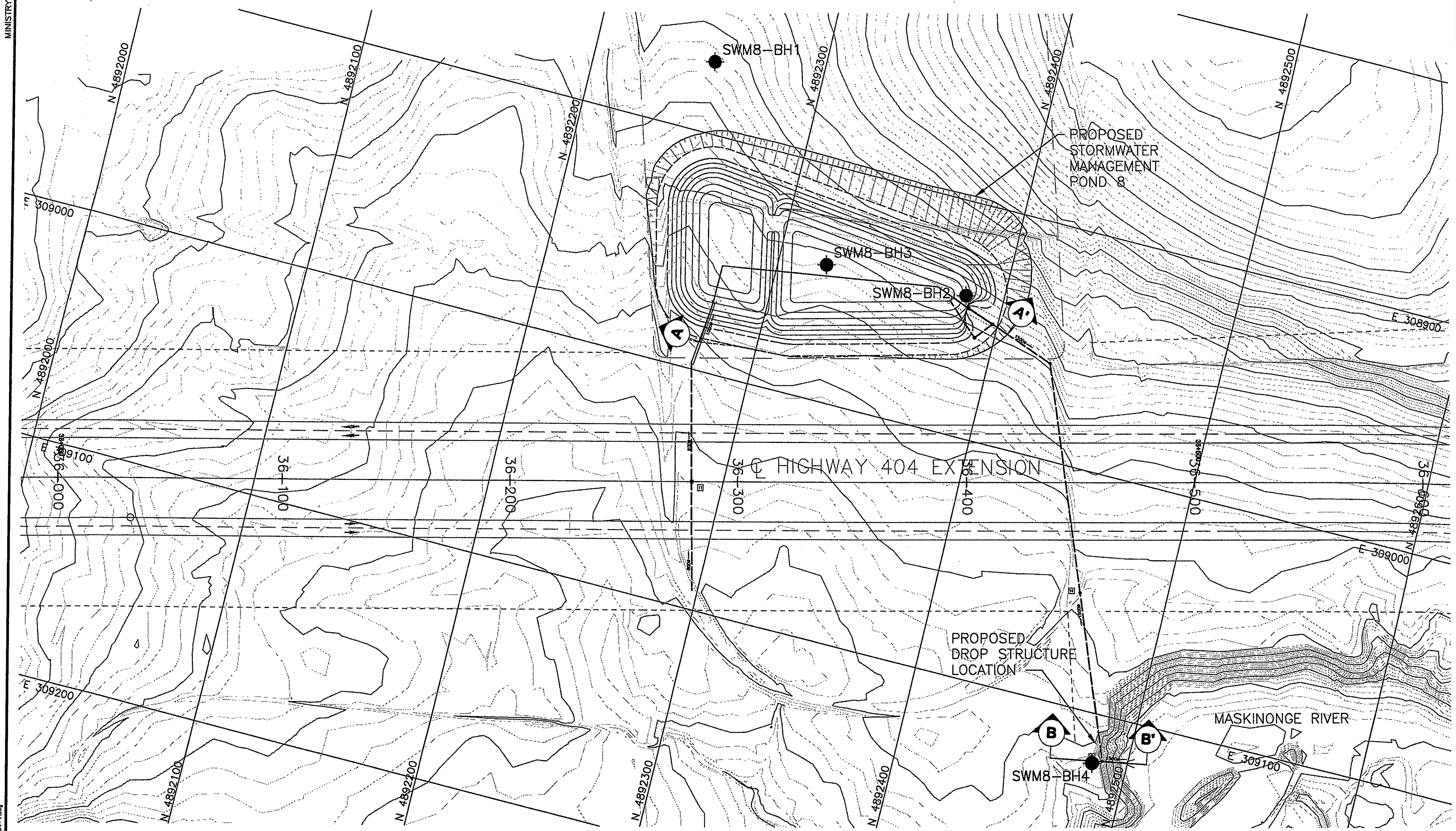
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

HIGHWAY 404 EXTENSION
STORMWATER MANAGEMENT POND 8
BOREHOLE LOCATION

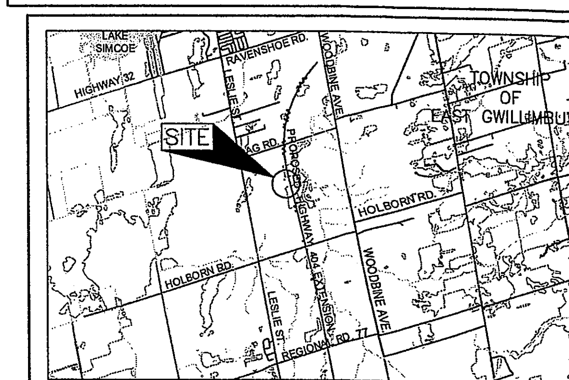
SHEET BH-15

Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



PLAN

SCALE
20 0 20 40 m



KEY PLAN

SCALE
1.5 0 1.5 3 km

LEGEND

● Borehole – Current Investigation

No.	ELEVATION	CO-ORDINATES	
		NORTHING	EASTING
SWM8-BH1	244.5	4892252.8	308869.5
SWM8-BH2	243.6	4892383.7	308940.0
SWM8-BH3	243.1	4892320.8	308942.0
SWM8-BH4	238.7	4892485.0	309121.0

NOTES

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REFERENCE

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DRAFT

NO.	DATE	BY	REVISION

Geocres No.

HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC/RJ	CHKD. KJB	APPD. JMAC	DWG. D4-1

MINISTRY OF TRANSPORTATION, ONTARIO

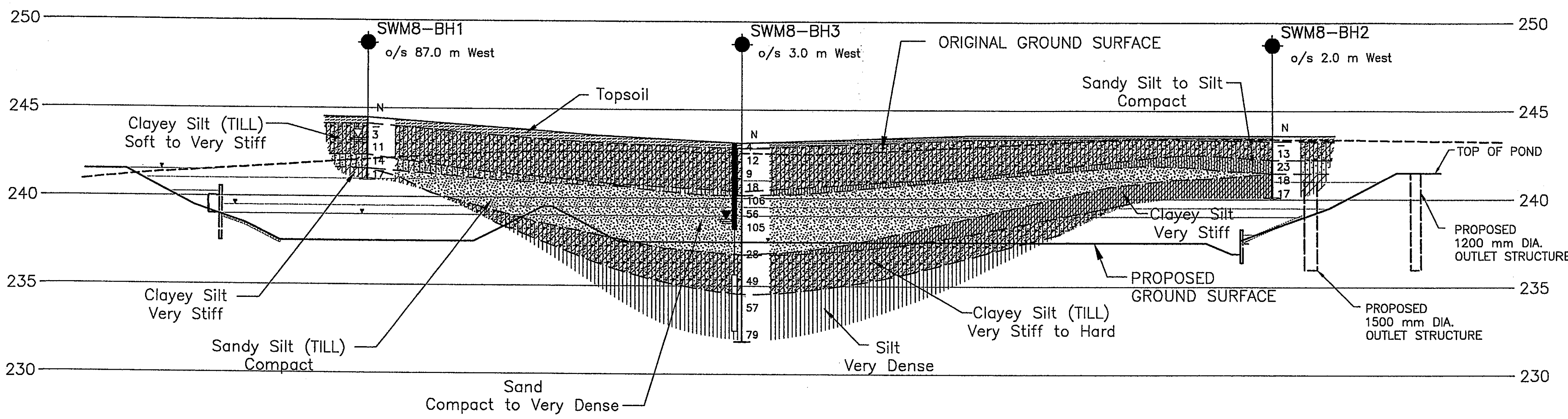
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

HIGHWAY 404 EXTENSION
STORMWATER MANAGEMENT POND 8
SOIL STRATA

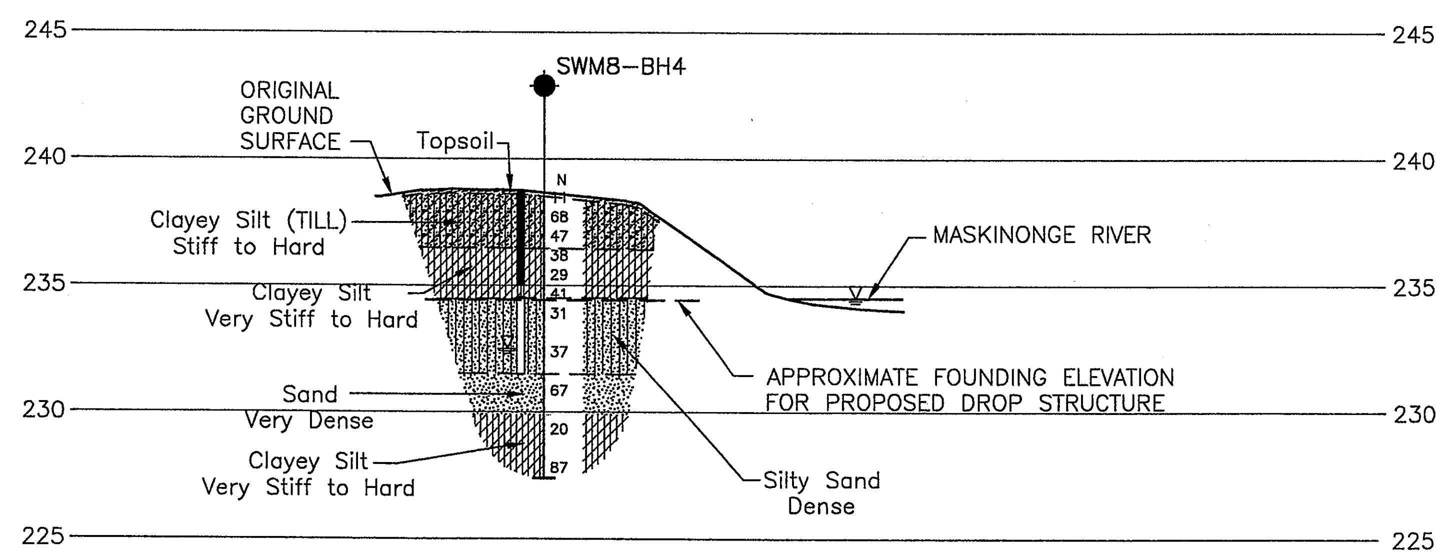
SHEET BH-16

Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



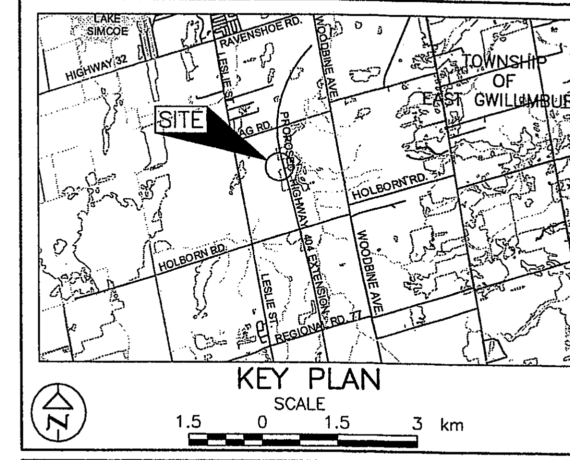
CROSS-SECTION A-A'

HORIZONTAL SCALE 6 0 6 12 m
3 0 3 6 m VERTICAL SCALE



CROSS-SECTION B-B'

HORIZONTAL SCALE 6 0 6 12 m
3 0 3 6 m VERTICAL SCALE



KEY PLAN
SCALE 1.5 0 1.5 3 km

LEGEND

- Borehole – Current Investigation
- Seal
- Piezometer
- N Standard Penetration Test Value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- WL in piezometer, measured on March 11, 2010
- WL upon completion of drilling

No.	ELEVATION	CO-ORDINATES NORTHING	CO-ORDINATES EASTING
SWM8-BH1	244.5	4892252.8	308869.5
SWM8-BH2	243.6	4892383.7	308940.0
SWM8-BH3	243.1	4892320.8	308942.0
SWM8-BH4	238.7	4892485.0	309121.0

NOTES

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REFERENCE

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DRAFT

NO.	DATE	BY	REVISION

Geocres No.

HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC/RJ	CHKD. KJB	APPD. JMAC	DWG. D4-2

PLOT DATE: March 22, 2010

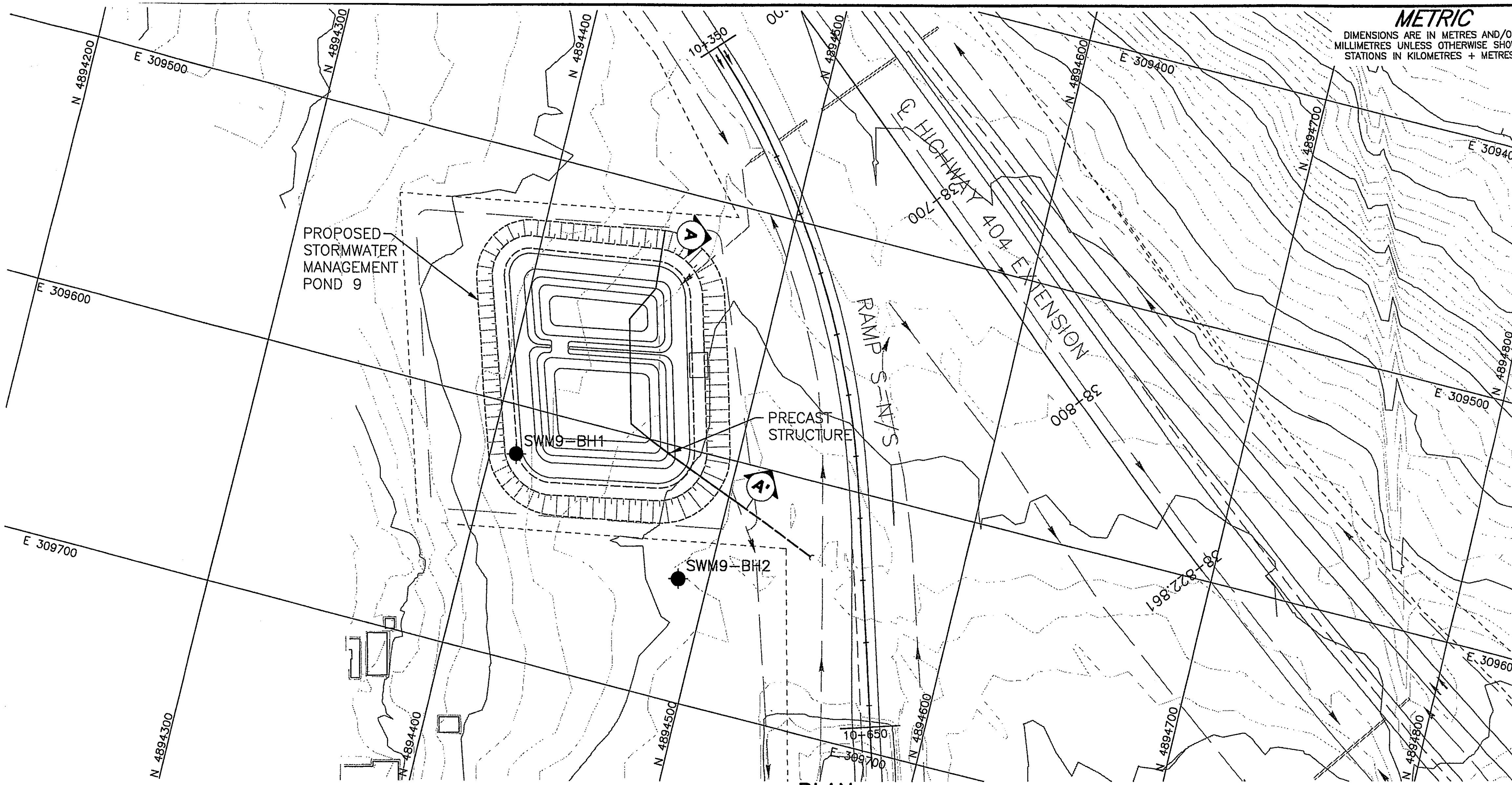
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN. STATIONS IN KILOMETRES + METRES.

CONT No.
WP No. 2005-07-00

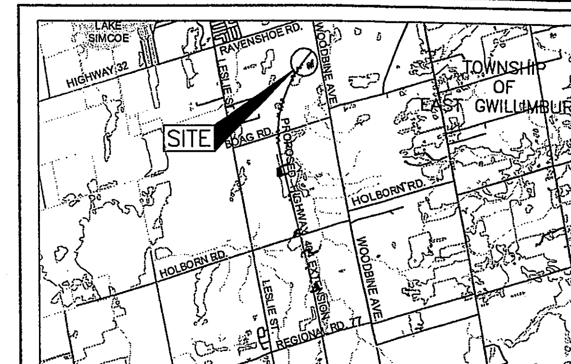
HIGHWAY 404 EXTENSION
STORMWATER MANAGEMENT POND 9
BOREHOLE LOCATION AND SOIL STRATA

SHEET BH-17

Golder Associates Ltd.
MISSISSAUGA, ONTARIO, CANADA



PLAN
SCALE
20 0 20 40 m

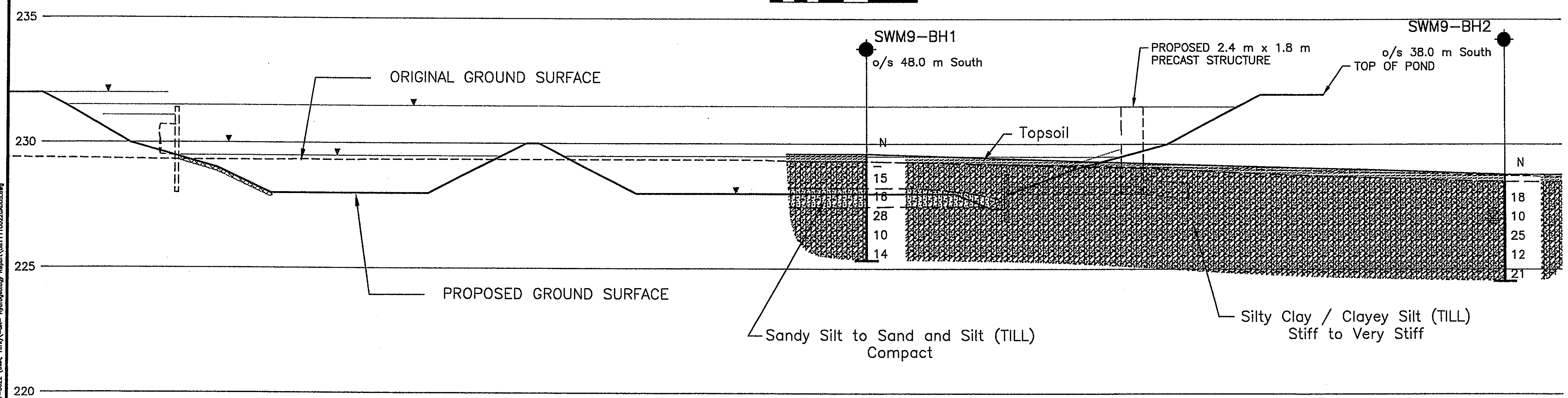


KEY PLAN
SCALE
1.5 0 1.5 3 km

LEGEND

- Borehole – Current Investigation
- N Standard Penetration Test Value
- 16 Blows/0.3m unless otherwise stated (Std. Pen. Test, 475 j/blow)
- WL upon completion of drilling

No.	ELEVATION	CO-ORDINATES NORTHING	CO-ORDINATES EASTING
SWM9-BH1	229.6	4894410.5	309619.3
SWM9-BH2	228.8	4894488.0	309651.5



CROSS SECTION A–A'
HORIZONTAL SCALE
4 0 4 8 m
2 0 2 4 m
VERTICAL SCALE

NOTES

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REFERENCE

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DRAFT

NO.	DATE	BY	REVISION

Geocres No.			
HWY. 404		PROJECT NO. 08-1111-0022	DIST.
SUBM'D.	CHKD. TB	DATE: Mar 2010	SITE:
DRAWN: JFC/RJ	CHKD. KJB	APPD. JMAC	DWG. D5

PLOT DATE: March 22, 2010
FILENAME: T:\Projects\2008\08-1111-0022 (AMA, York)\-04- Hydrogeology Report\08111100220A005.dwg

METRIC

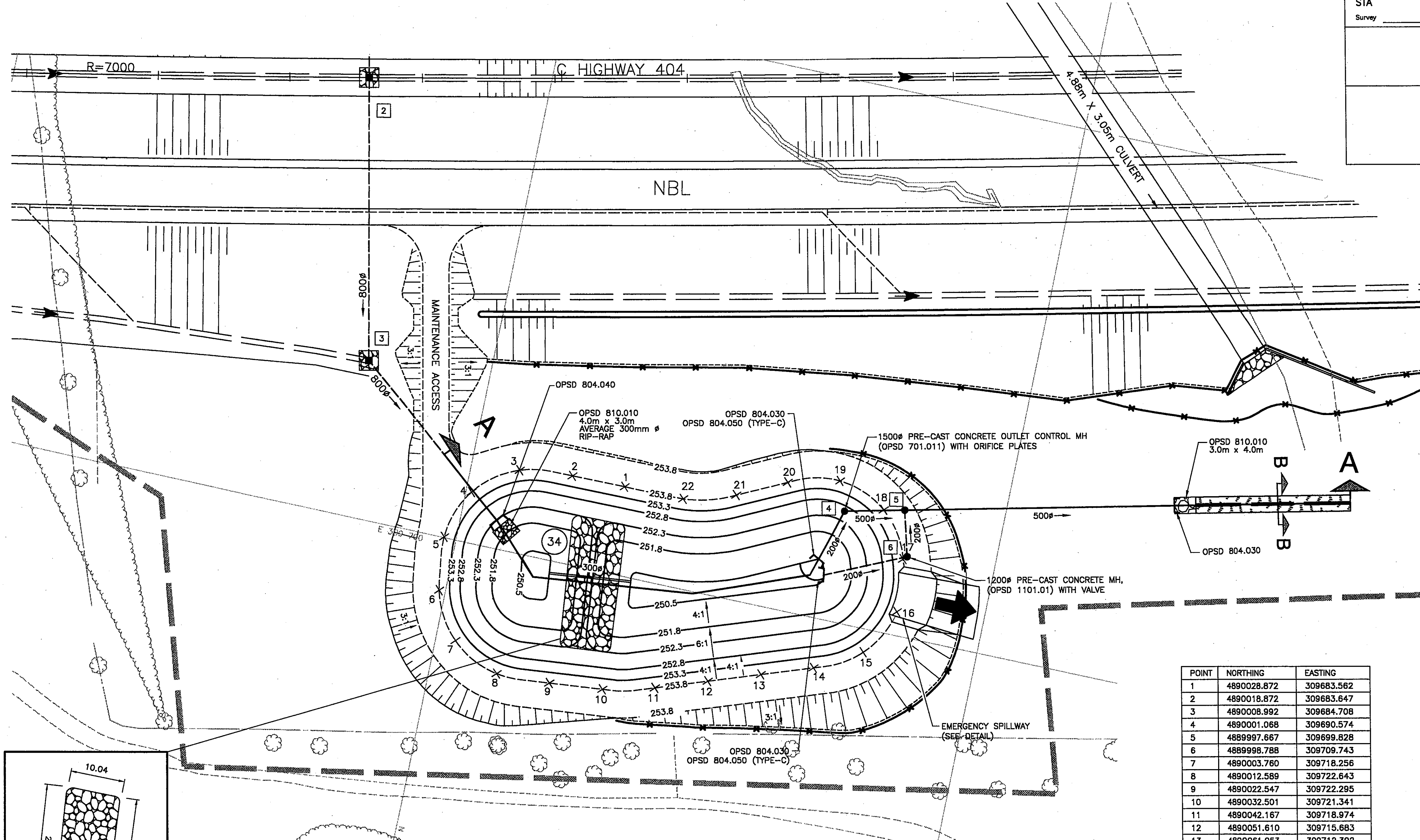
PLATE No
CONT
WP 2005-07-00

POND 6
STA TO STA
Survey Revised

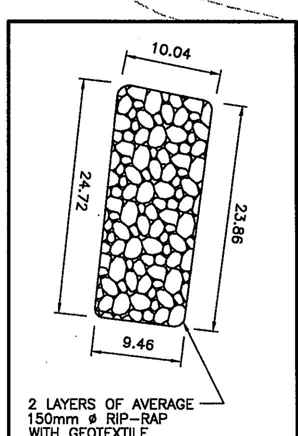
SHEET
PP-01

AECOM

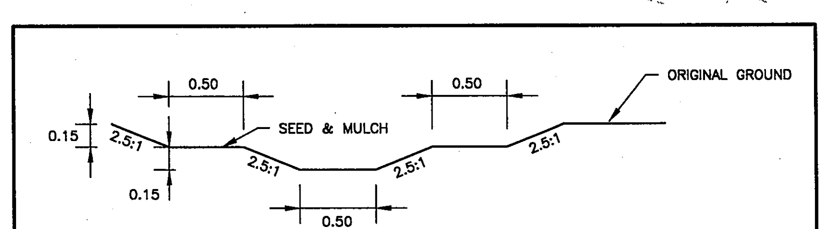
LICENSED PROFESSIONAL ENGINEER
S. J. HOLLINGWORTH
PROVINCE OF ONTARIO



POINT	NORTHING	EASTING
1	4890028.872	309683.562
2	4890018.872	309683.647
3	4890008.992	309684.708
4	4890001.068	309690.574
5	4889997.667	309699.828
6	4889998.788	309709.743
7	4890003.760	309718.256
8	4890012.589	309722.643
9	4890022.547	309722.295
10	4890032.501	309721.341
11	4890042.167	309718.974
12	4890051.610	309715.683
13	4890061.053	309712.392
14	4890070.496	309709.101
15	4890079.118	309704.258
16	4890083.780	309695.571
17	4890082.927	309685.740
18	4890077.478	309677.538
19	4890068.297	309673.991
20	4890058.714	309676.331
21	4890049.710	309680.681
22	4890040.171	309683.429



BERM RIP-RAP DETAIL



SECTION B-B
N.T.S

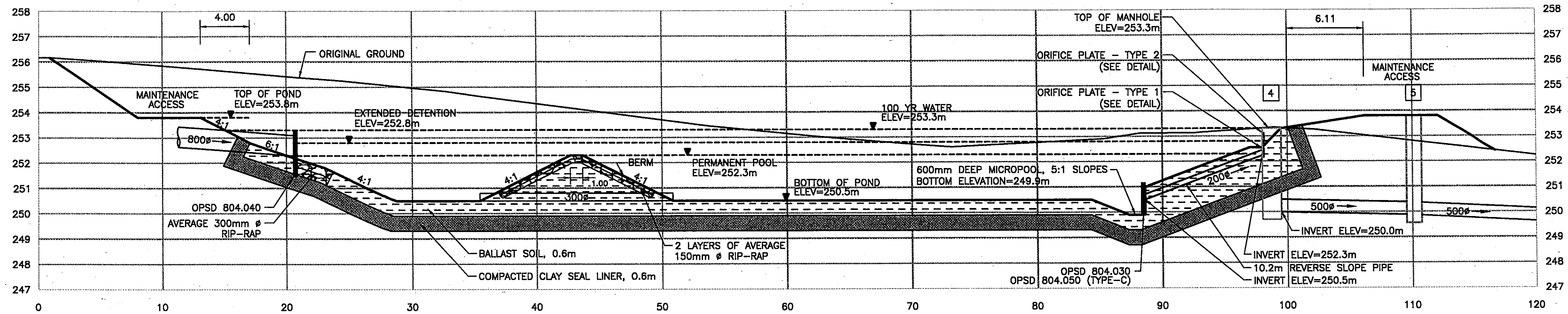
SCALE
5.0m 0 10.0m
Horizontal

DRAWING NAME: 2538-199-00_CT-PP-01.dwg
SAVED BY: mazzaferrom SAVE DATE: 9/13/2010 2:10 PM PLOT DATE: 9/29/2010 9:14 AM

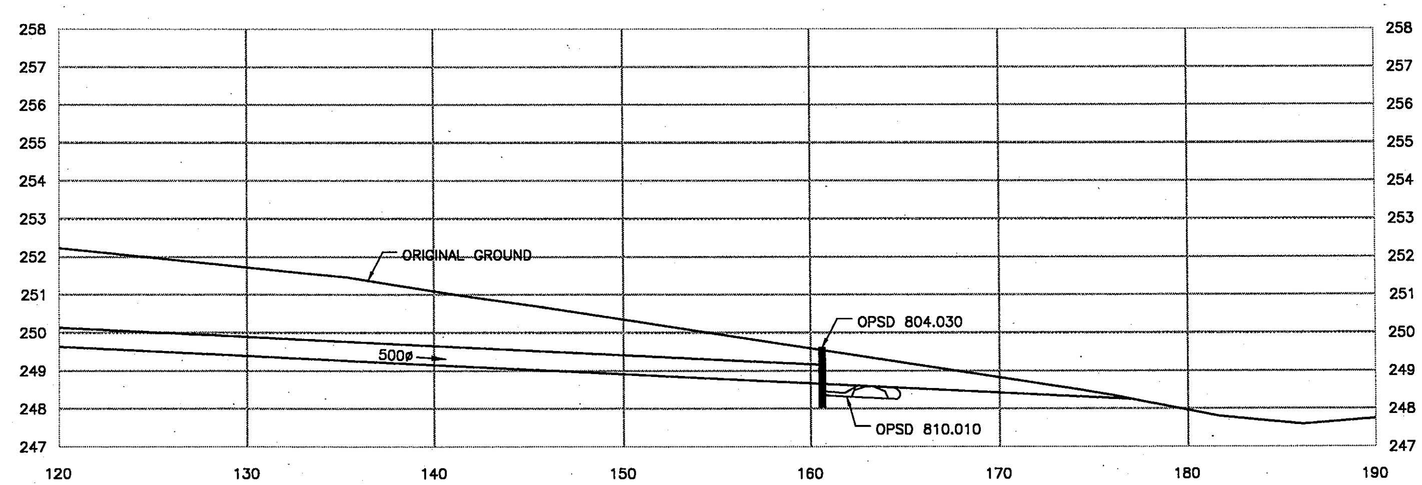
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

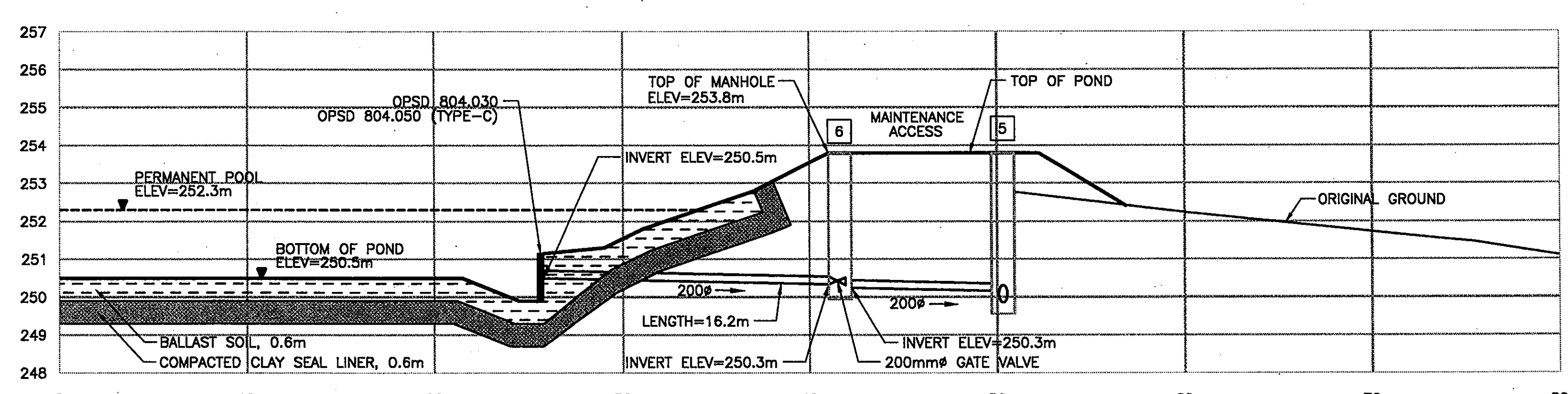
PLATE No	
CONT WP	2005-07-00
POND 6 STA TO STA Survey Revised	SHEET PP-02
AECOM	



SECTION A-A

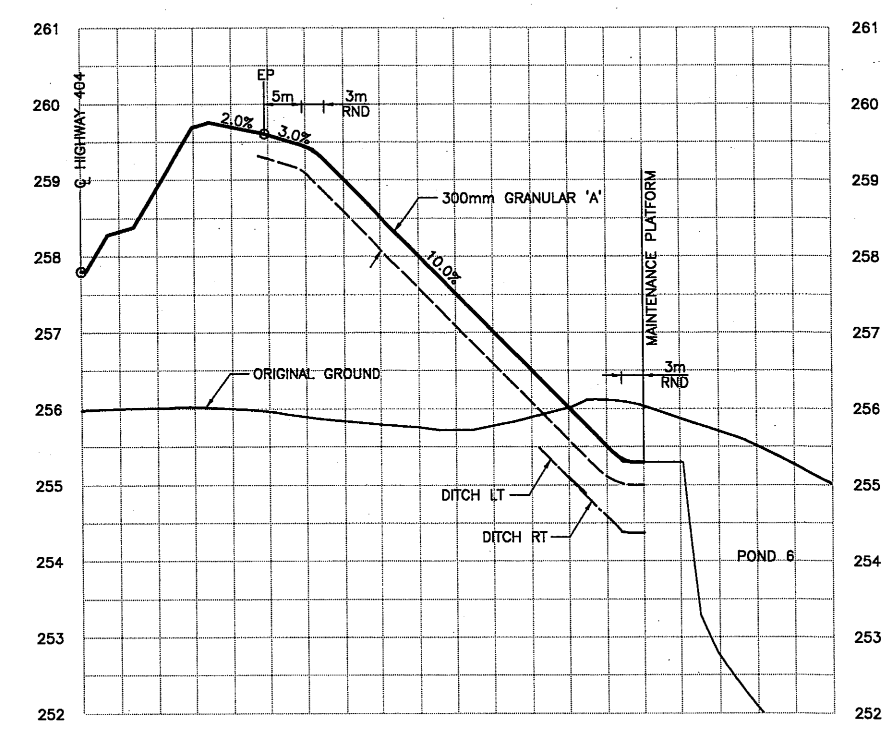


SECTION A-A



MAINTENANCE DRAIN PIPE

SCALE 1.0m 0 2.0m Horizontal 0.5m 0 1.0m Vertical



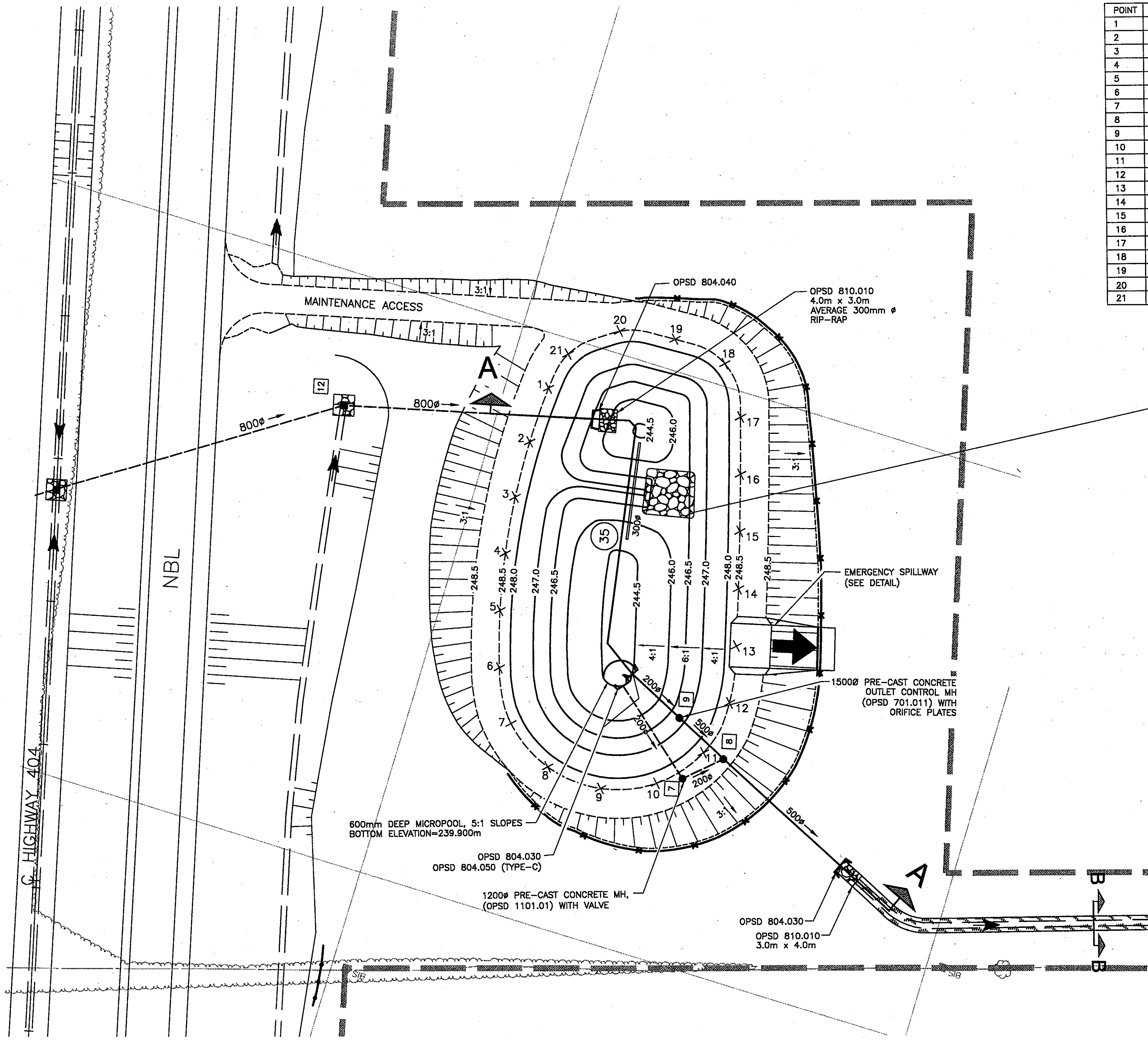
ACCESS ROAD TO POND 6

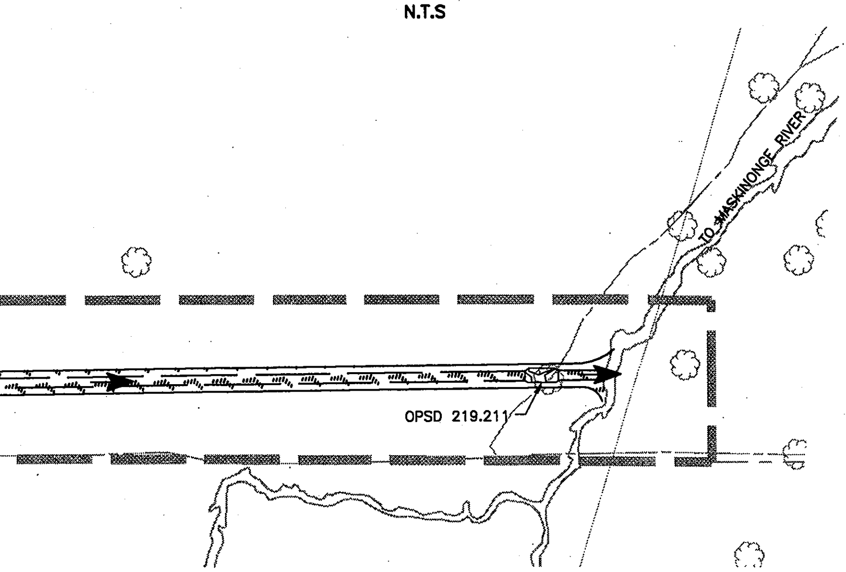
(STA. 23+905 RT)

SCALE 2.5m 0 5.0m Horizontal 0.25m 0 0.5m Vertical

DRAWING NAME: 2538-199-00_CT-PP-02.dwg SAVED BY: mazzaferrom SAVE DATE: 7/5/2010 2:33 PM PLOT DATE: 9/29/2010 9:04 AM

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05





METRIC

POINT	NORTHING	EASTING
1	4890790.658	309507.419
2	4890780.673	309506.934
3	4890770.681	309507.271
4	4890760.751	309508.427
5	4890750.950	309510.394
6	4890741.343	309513.160
7	4890732.667	309517.948
8	4890727.321	309526.286
9	4890726.415	309536.150
10	4890730.154	309545.322
11	4890737.696	309551.742
12	4890747.371	309553.695
13	4890757.201	309552.003
14	4890766.875	309549.473
15	4890776.521	309546.837
16	4890786.138	309544.093
17	4890795.723	309541.242
18	4890803.847	309535.905
19	4890805.340	309526.213
20	4890803.823	309516.434
21	4890797.339	309508.986

PLATE No

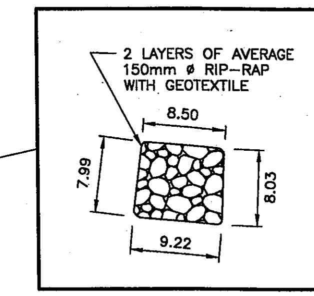
CONT
WP 2005-07-00

POND 7
STA TO STA
Survey Revised

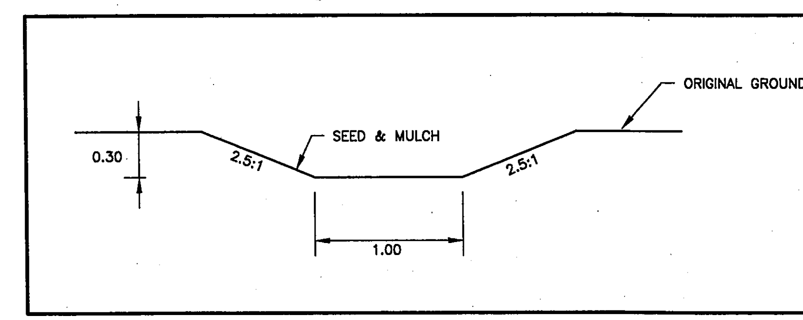
SHEET
PP-03

AECOM

LICENSED PROFESSIONAL ENGINEER
S. J. HOLLINGWORTH
PROVINCE OF ONTARIO



BERM RIP-RAP DETAIL



SECTION B-B
N.T.S

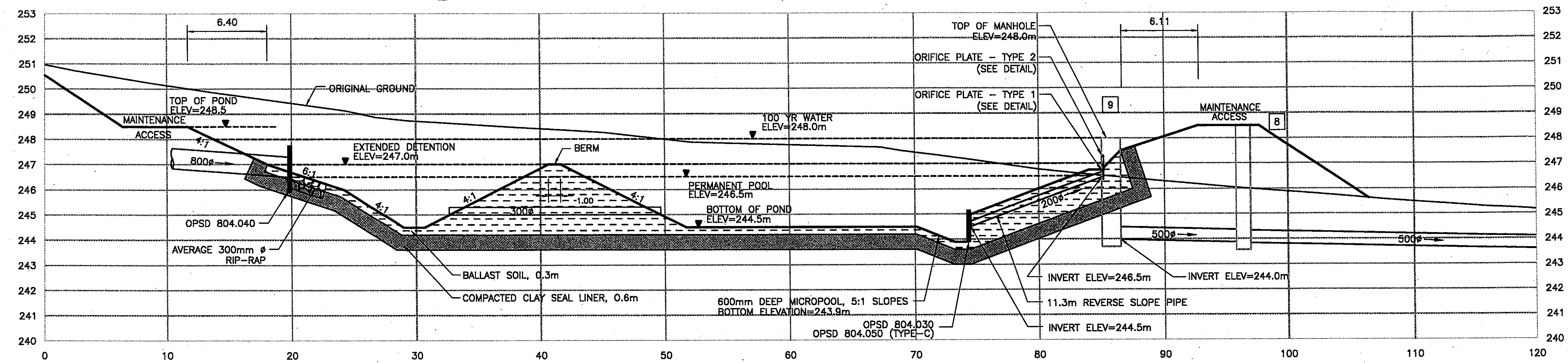
SCALE
5.0m 0 10.0m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

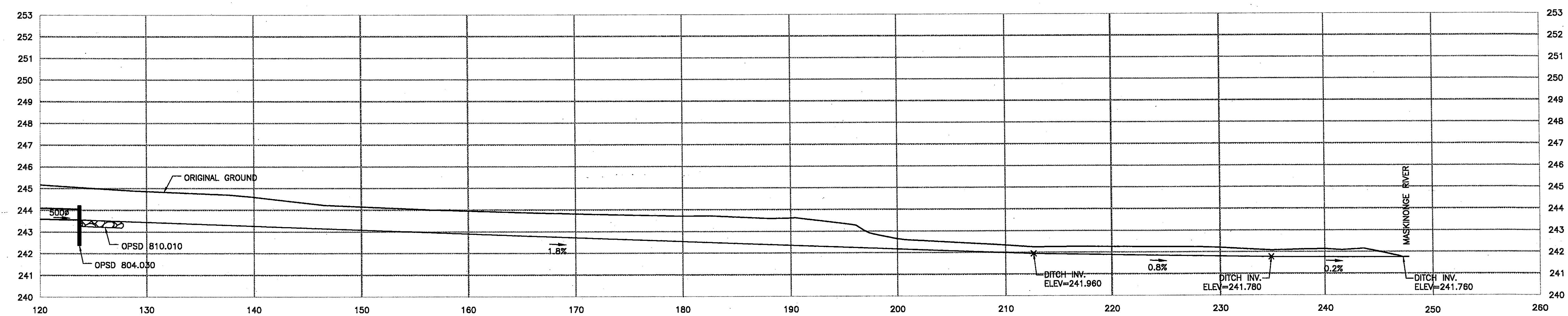
DRAWING NAME: 2538-199-00_CT-PP-03.dwg PLOT DATE: 9/29/2010 9:14 AM
SAVED BY: mazzaferrom SAVE DATE: 9/13/2010 2:09 PM

METRIC

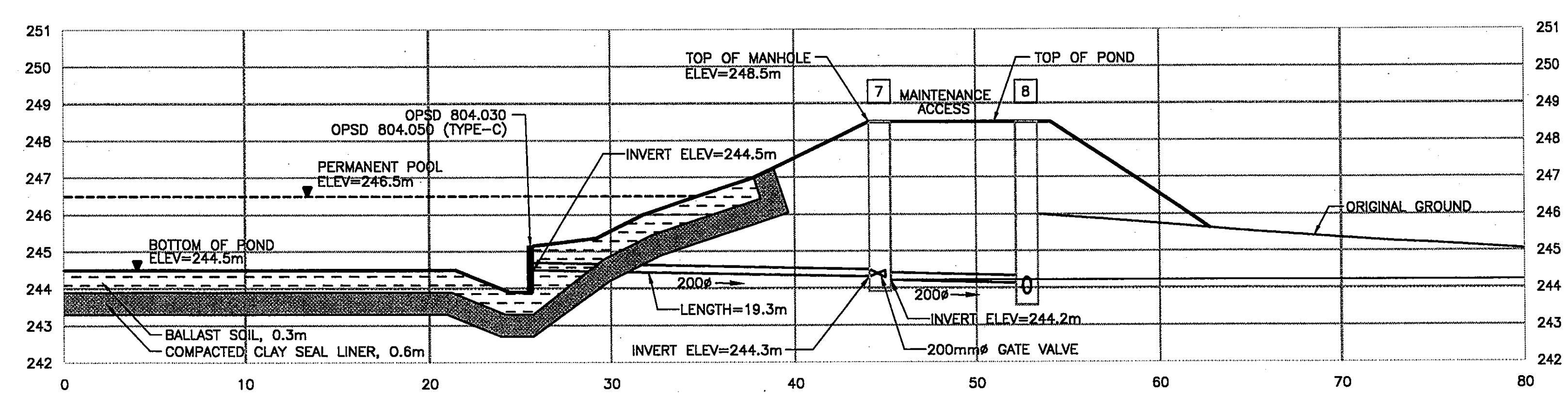
PLATE No CONT WP 2005-07-00		
POND 7 STA TO STA Survey Revised		SHEET PP-04
AECOM		
LICENSED PROFESSIONAL ENGINEER S. J. HOLLINGWORTH PROVINCE OF ONTARIO		



SECTION A-A



SECTION A-A



MAINTENANCE DRAIN PIPE

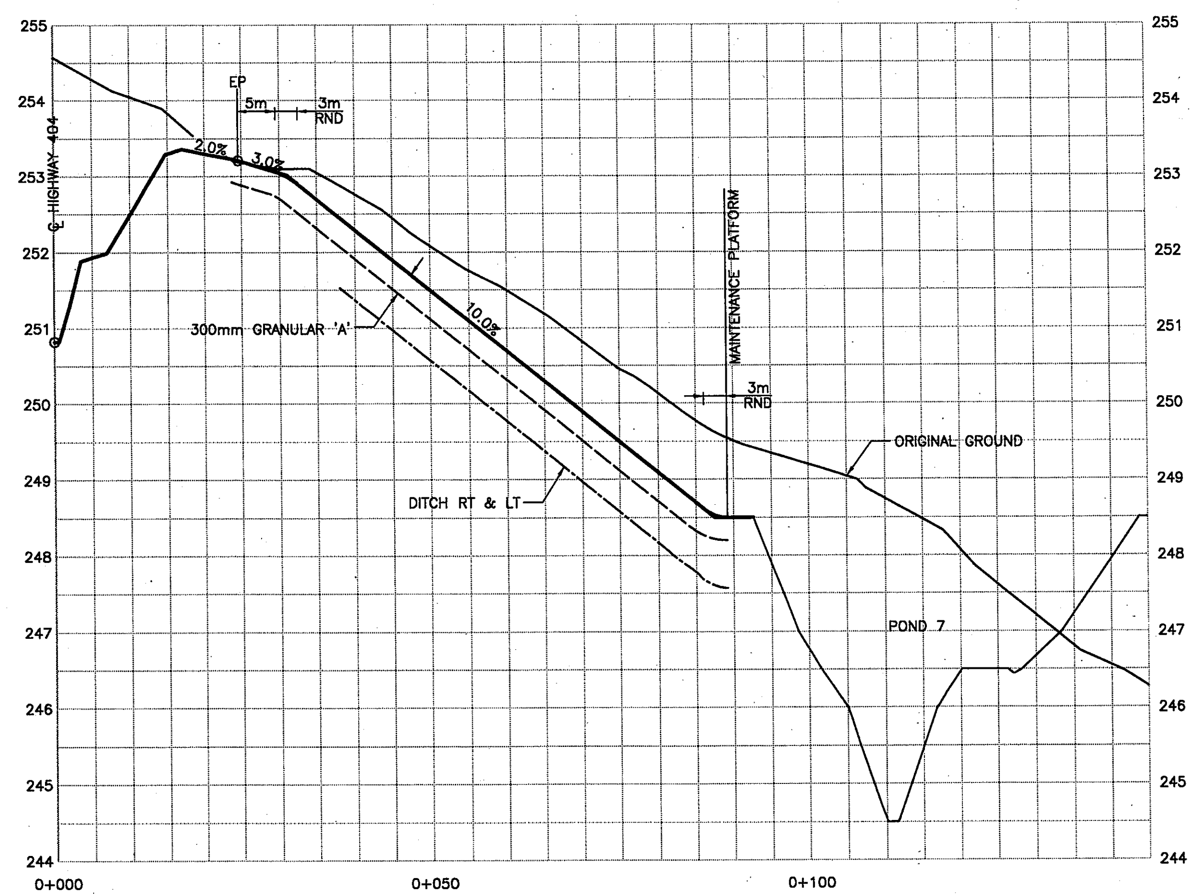
SCALE
1.0m 0 2.0m Horizontal
0.5m 0 1.0m Vertical

PR-D-707 88-05 MINISTRY OF TRANSPORTATION, ONTARIO

DRAWING NAME: 2538-199-00_CT-PP-04.dwg SAVE DATE: 7/5/2010 2:33 PM PLOT DATE: 9/29/2010 9:06 AM SAVED BY: mazzaferrom

METRIC

PLATE No	
CONT WP 2005-07-00	
POND 7 STA TO STA Survey Revised	SHEET PP-05
AECOM	
S. J. HOLLINGWORTH LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO	



ACCESS ROAD TO POND 7
(STA. 34+730 RT)

SCALE
2.5m 0 5.0m Horizontal
0.25m 0 0.5m Vertical

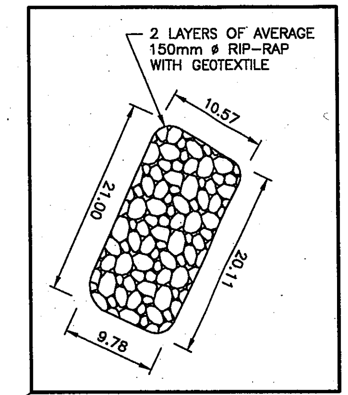
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PP-05.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/5/2010 2:33 PM PLOT DATE: 9/29/2010 9:06 AM

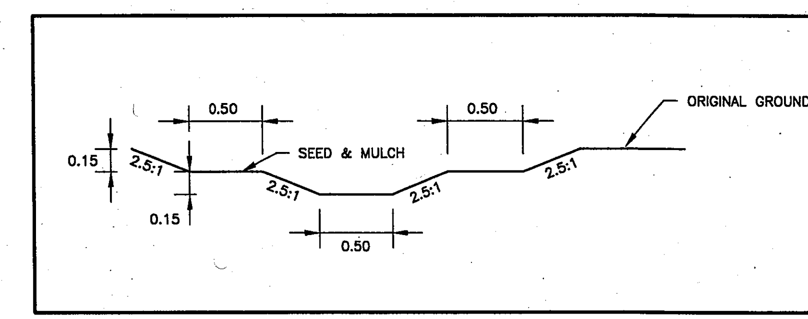
METRIC

PLATE No	
CONT WP	2005-07-00
HOLBORN POND	SHEET PP-06
STA TO STA	
Survey Revised	
AECOM	

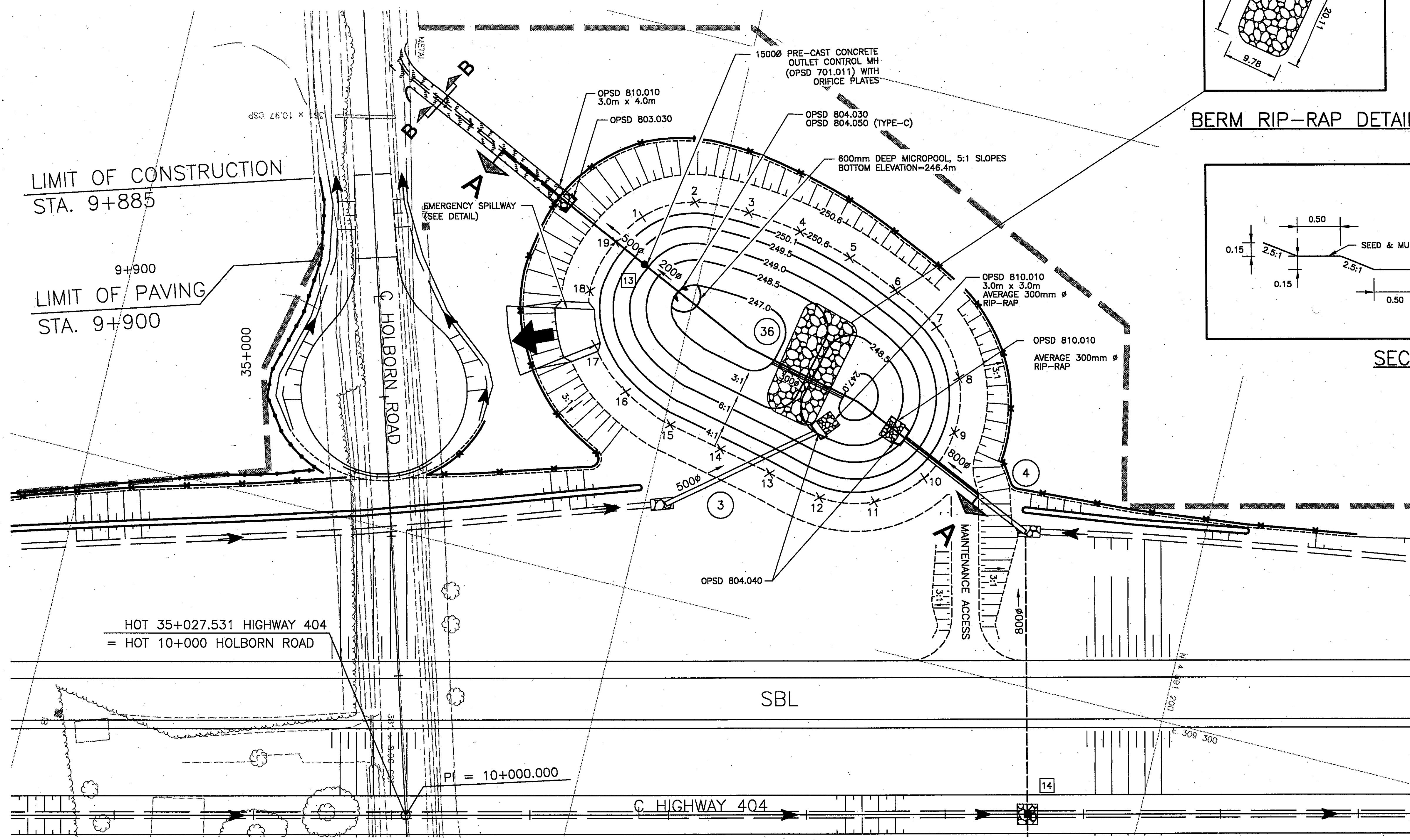
S. J. HOLLINGWORTH
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



BERM RIP-RAP DETAIL



SECTION B-B
N.T.S



POINT	NORTHING	EASTING
1	4891087.608	309234.587
2	4891096.189	309229.742
3	4891106.148	309229.242
4	4891116.081	309230.324
5	4891125.774	309232.752
6	4891135.085	309236.389
7	4891143.846	309241.159
8	4891149.921	309248.966
9	4891151.424	309258.744
10	4891147.949	309267.999
11	4891140.276	309274.237
12	4891130.522	309275.864
13	4891120.748	309273.807
14	4891110.969	309271.726
15	4891101.181	309269.679
16	4891091.998	309265.827
17	4891084.721	309259.093
18	4891081.541	309249.726
19	4891083.968	309240.136

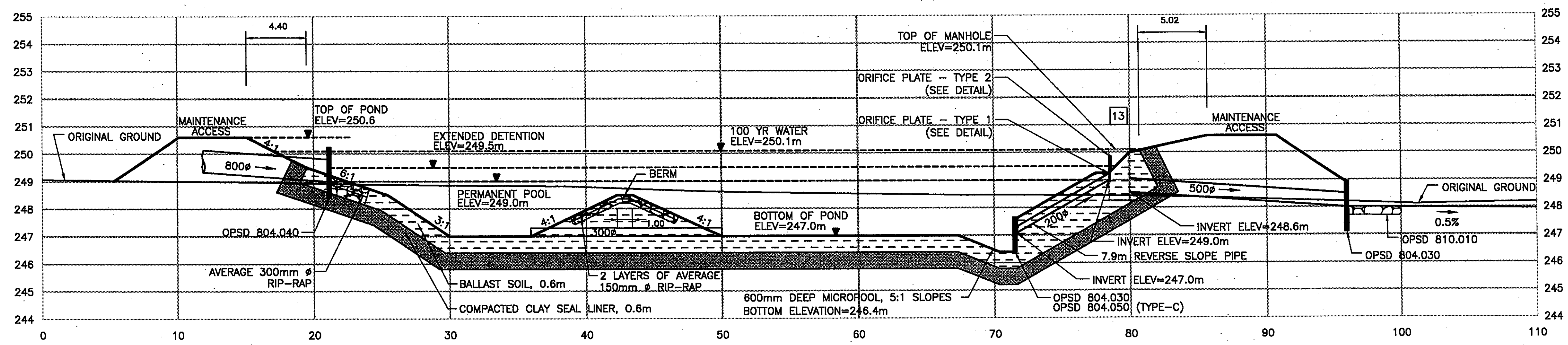
SCALE
5.0m 0 10.0m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 08-05

DRAWING NAME: 2538-199-00_CT-PP-06.dwg PLOT DATE: 9/29/2010 9:07 AM
SAVED BY: mazzoferrom SAVE DATE: 9/13/2010 2:21 PM

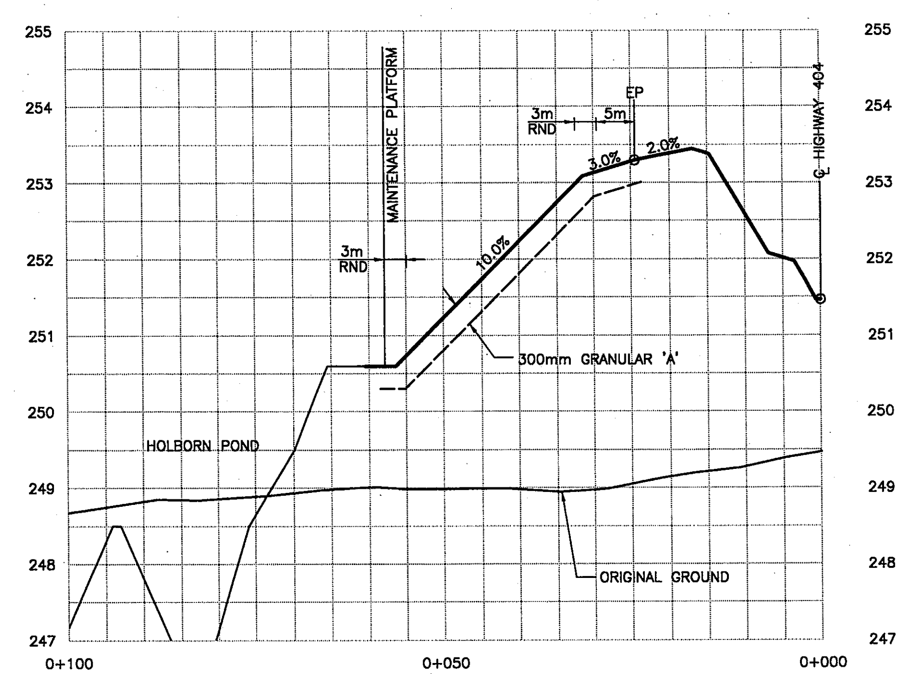
METRIC

PLATE No CONT WP 2005-07-00	
HOLBORN POND STA TO STA Survey Revised	SHEET PP-07
AECOM	
S. J. HOLLINGWORTH — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO	



SECTION A-A

SCALE
1.0m 0 2.0m Horizontal
0.5m 0 1.0m Vertical



ACCESS ROAD TO HOLBORN POND
(STA. 35+125 LT)

SCALE
2.5m 0 5.0m Horizontal
0.25m 0 0.5m Vertical

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05
DRAWING NAME: 2538-199-00_CT-PP-07.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/5/2010 2:24 PM PLOT DATE: 9/29/2010 9:07 AM

METRIC

POINT	NORTHING	EASTING
1	4892377.688	308920.435
2	4892350.500	308917.676
3	4892323.312	308914.918
4	4892296.124	308912.159
5	4892268.936	308909.400
6	4892256.756	308912.072
7	4892248.526	308921.439
8	4892247.445	308933.862
9	4892254.907	308965.697
10	4892258.981	308973.892
11	4892266.276	308979.415
12	4892275.269	308981.113
13	4892308.781	308979.620
14	4892316.042	308978.526
15	4892337.648	308972.901
16	4892359.253	308967.276
17	4892380.859	308961.651
18	4892392.664	308953.524
19	4892396.506	308939.717
20	4892390.597	308926.661

PLATE No

CONT WP 2005-07-00

POND 8

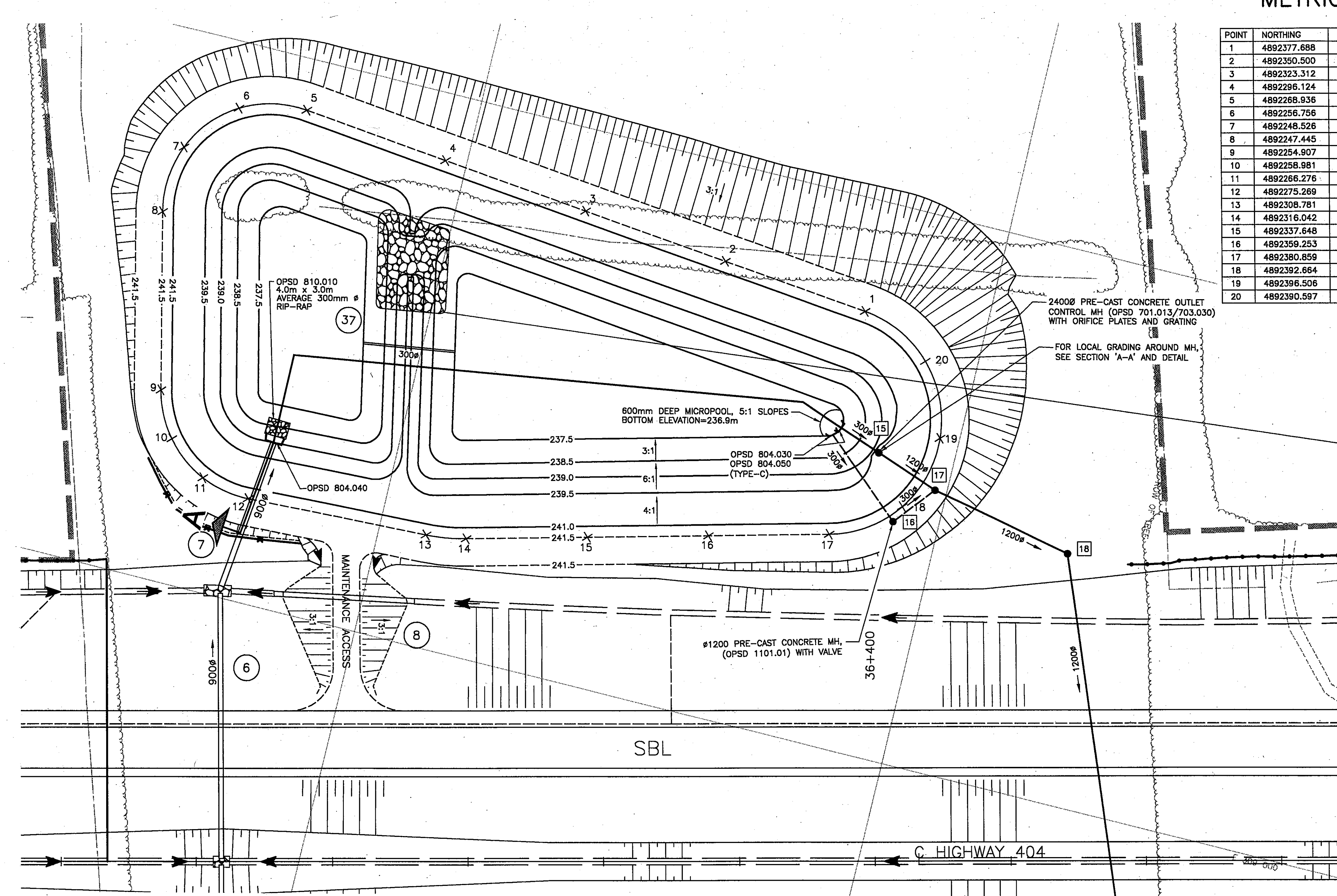
STA TO STA

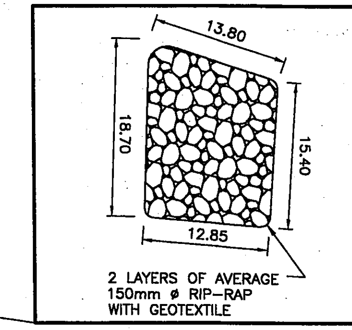
Survey Revised

SHEET PP-08

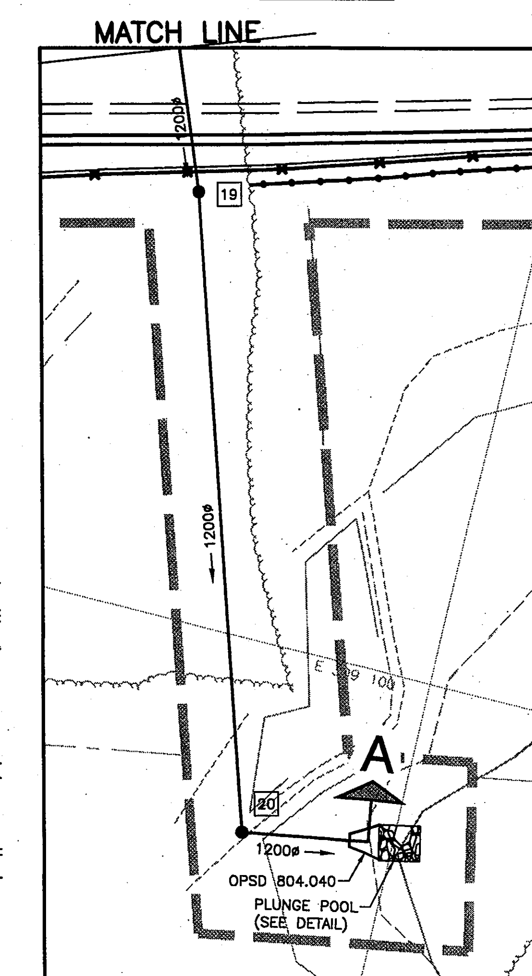
AECOM

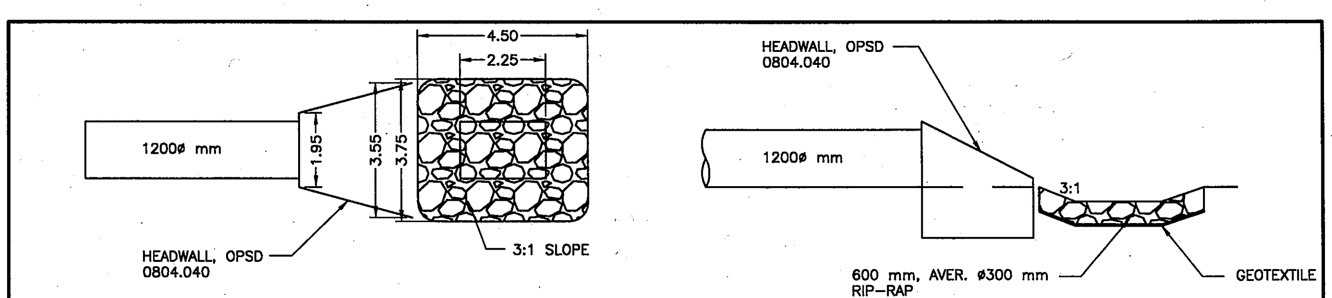
LICENSED PROFESSIONAL ENGINEER S. J. HOLLINGWORTH PROVINCE OF ONTARIO





BERM RIP-RAP DETAIL





PLUNGE POOL DETAIL

N.T.S

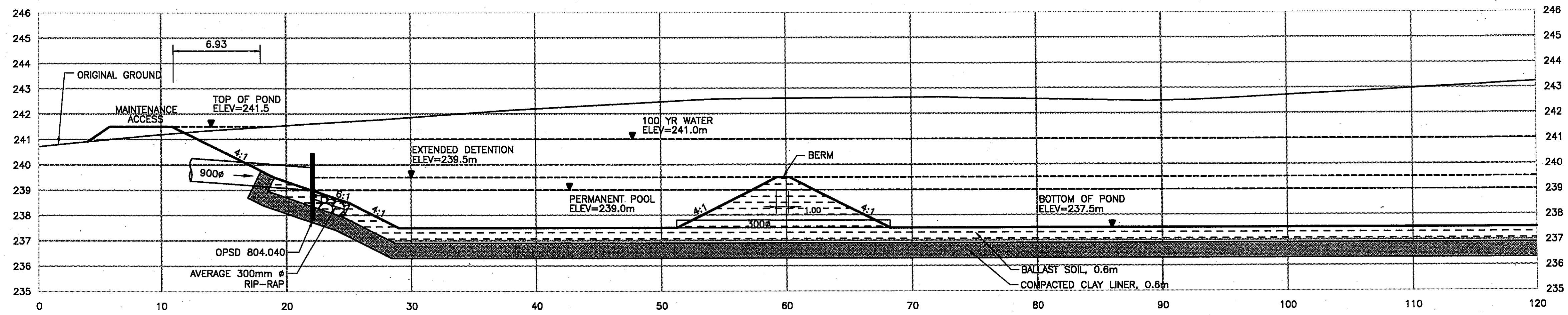
SCALE 5.0m 0 10.0m Horizontal

DRAWING NAME: 2538-199-00_CT-PP-08.dwg
SAVED BY: mazzaferrom SAVE DATE: 9/13/2010 4:23 PM PLOT DATE: 9/29/2010 9:15 AM

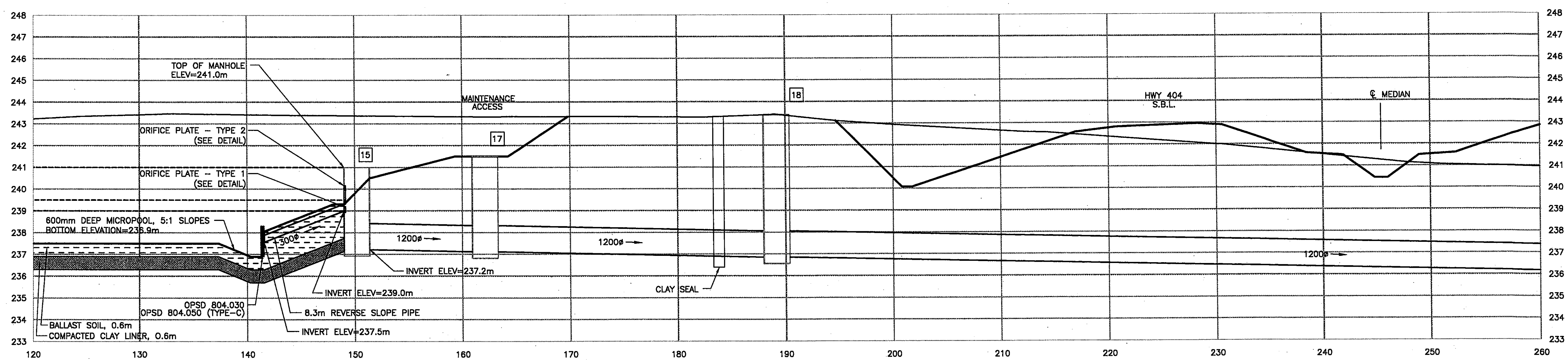
MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

METRIC

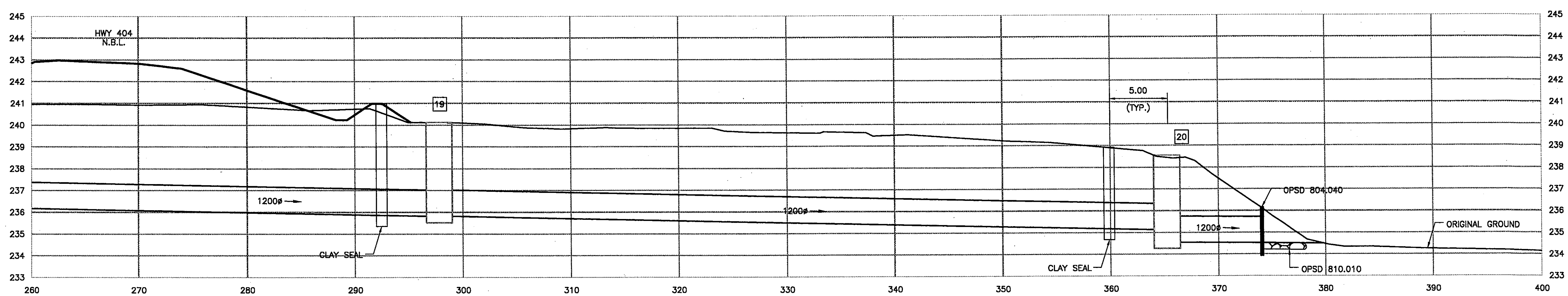
PLATE No CONT WP 2005–07–00		
POND 8 STA TO STA Survey Revised		SHEET PP–09
AECOM	S. J. HOLLINGWORTH — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO	



SECTION A–A



SECTION A–A



SECTION A–A

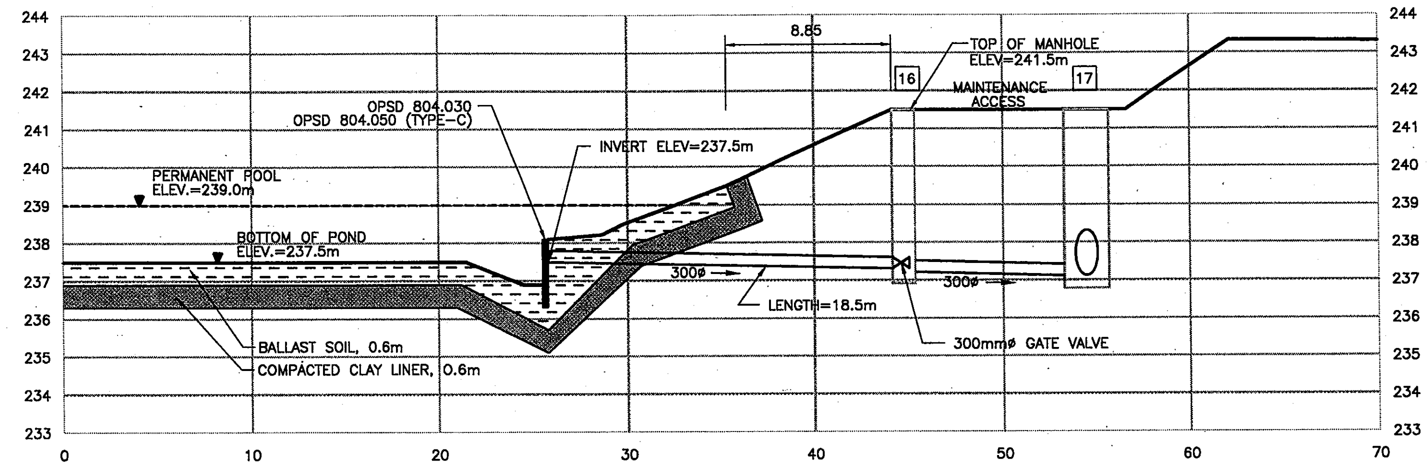
SCALE
1.0m 0 2.0m Horizontal
0.5m 0 1.0m Vertical

MINISTRY OF TRANSPORTATION, ONTARIO PH–D–707 88–05

DRAWING NAME: 2538–199–00_CT–PP–09.dwg PLOT DATE: 9/20/2010 9:08 AM
SAVED BY: mazzaferrom SAVE DATE: 7/5/2010 2:23 PM

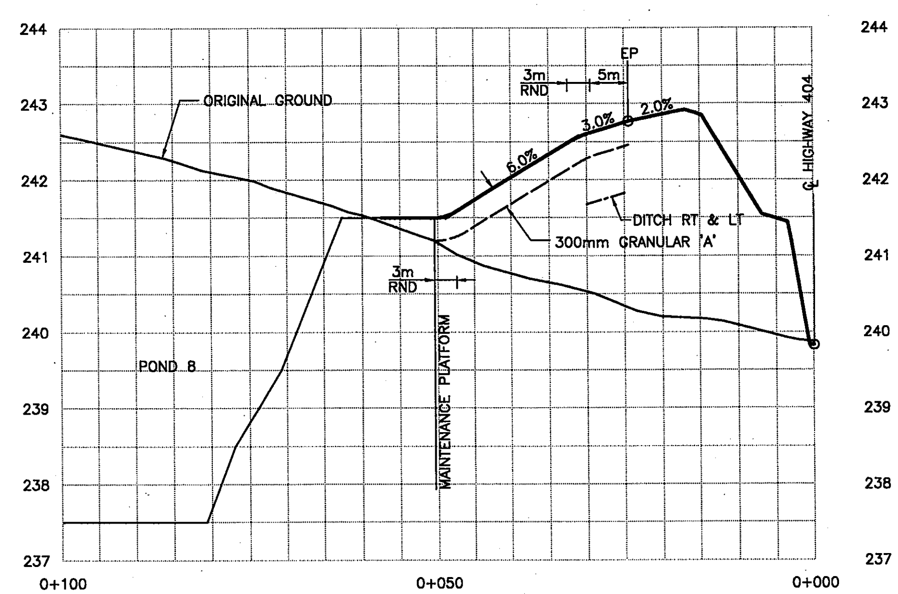
METRIC

PLATE No CONT WP 2005-07-00	
POND 8 STA TO STA Survey Revised	SHEET PP-10
AECOM	
LICENSED PROFESSIONAL ENGINEER S. J. HOLLINGWORTH PROVINCE OF ONTARIO	



MAINTENANCE DRAIN PIPE

SCALE



ACCESS ROAD TO POND 8
(STA. 36+303 LT)

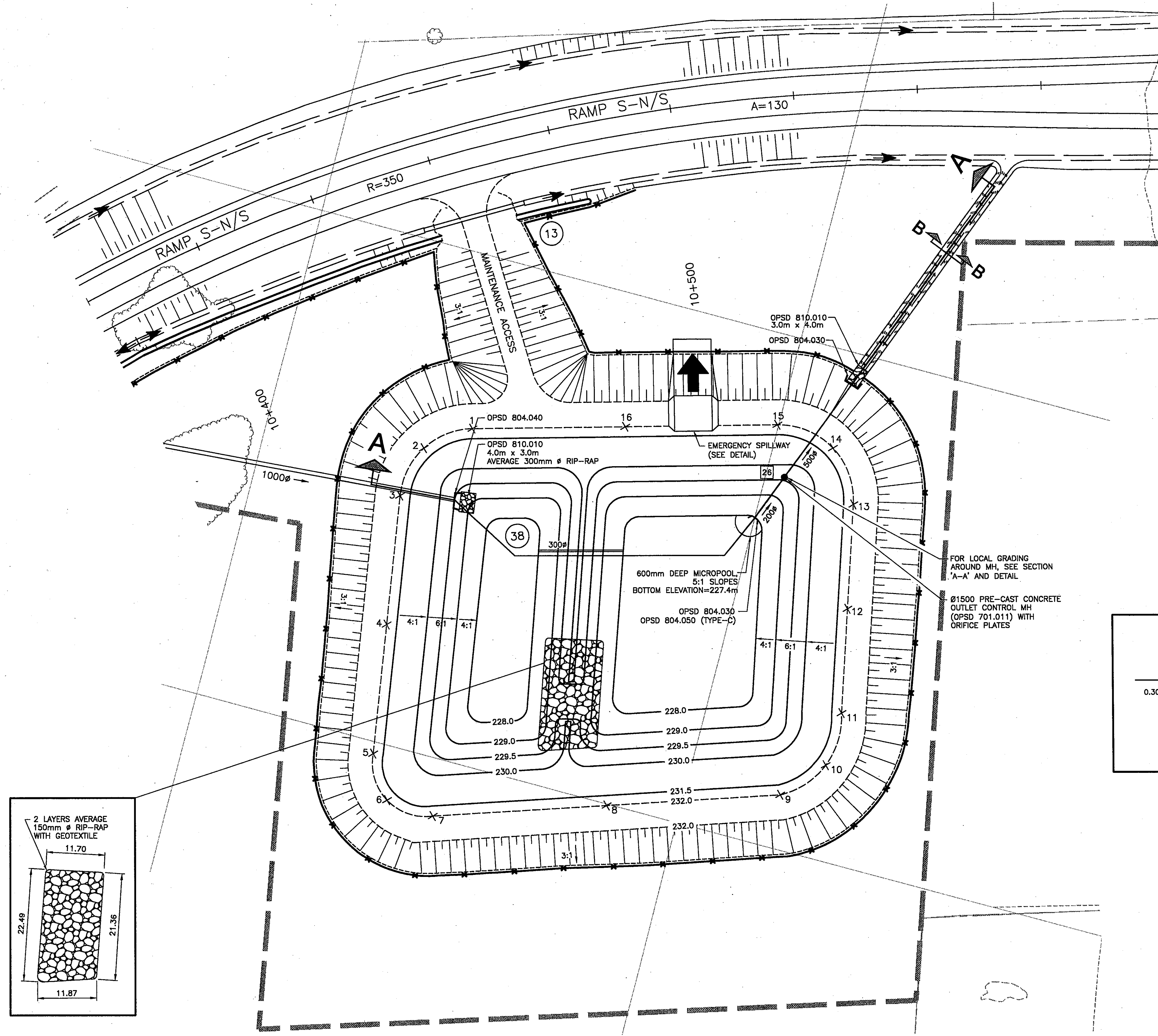
SCALE

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

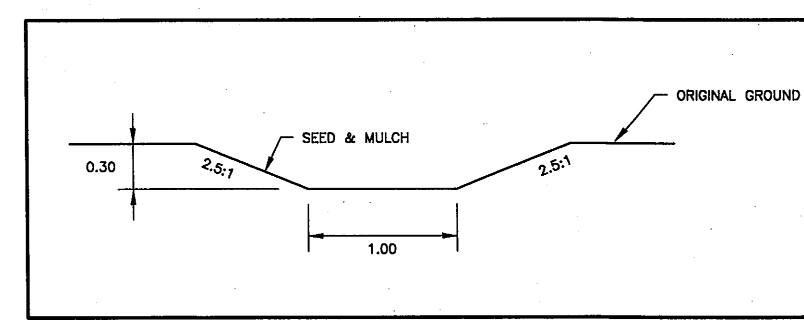
DRAWING NAME: 2538-199-00_CT-PP-10.dwg
SAVED BY: mazzaferrom SAVE DATE: 8/11/2010 9:19 AM PLOT DATE: 9/29/2010 9:10 AM

METRIC

PLATE No	
CONT WP	2005–07–00
POND 9	SHEET PP–11
STA	TO STA
Survey	Revised
AECOM	



POINT	NORTHING	EASTING
1	4894465.553	309540.481
2	4894459.252	309531.916
3	4894448.856	309529.680
4	4894423.264	309533.560
5	4894397.673	309537.440
6	4894389.420	309542.481
7	4894388.695	309552.128
8	4894399.731	309585.427
9	4894410.767	309618.727
10	4894418.804	309626.030
11	4894429.651	309626.532
12	4894450.090	309622.494
13	4894470.529	309618.456
14	4894480.395	309611.605
15	4894482.071	309599.711
16	4894473.812	309570.096



SECTION B–B
N.T.S

SCALE
5.0m 0 10.0m
Horizontal

DRAWING NAME: 2538-199-00_CT-PP-11.dwg
SAVED BY: mazzaferrom SAVE DATE: 9/14/2010 12:16 PM PLOT DATE: 9/29/2010 9:15 AM

METRIC

PLATE No

CONT WP 2005-07-00

POND 9

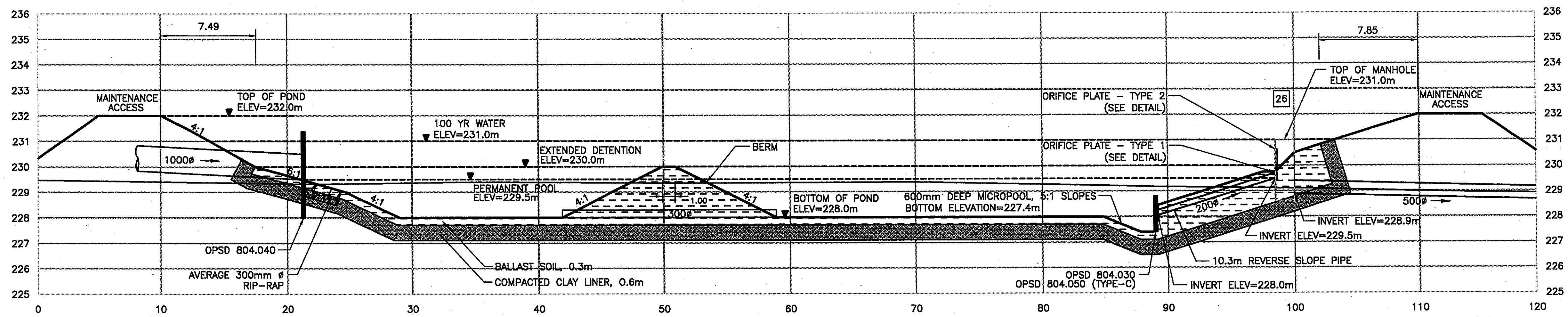
STA TO STA

Survey Revised

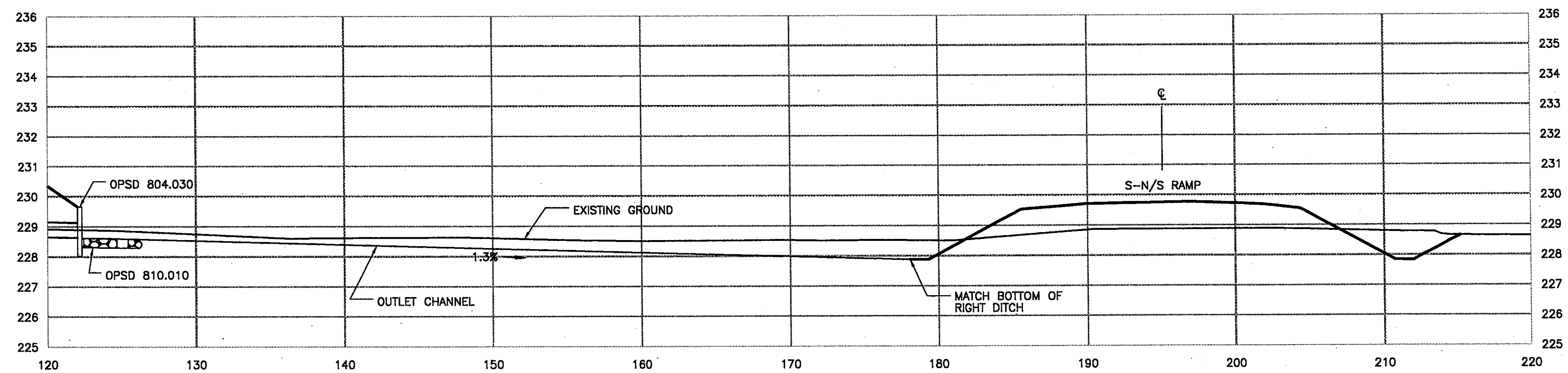
SHEET PP-12

AECOM

LICENSED PROFESSIONAL ENGINEER S. J. HOLLINGWORTH PROVINCE OF ONTARIO



SECTION A-A

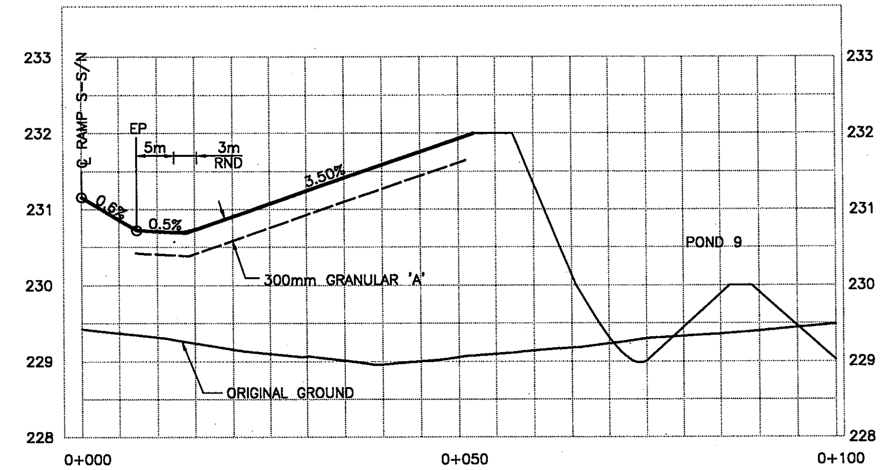


SECTION A-A

SCALE

1.0m 0 2.0m Horizontal

0.5m 0 1.0m Vertical



ACCESS ROAD TO POND 9

(STA. 10+405 RT)

SCALE

2.5m 0 5.0m Horizontal

0.25m 0 0.5m Vertical

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PP-12.dwg PLOT DATE: 9/29/2010 9:16 AM

SAVED BY: mazzaferrom SAVE DATE: 7/5/2010 2:22 PM

METRIC

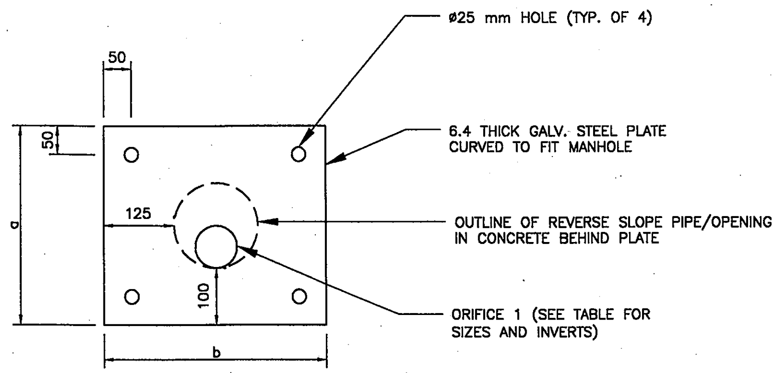
PLATE No
CONT
WP 2005-07-00

POND DETAILS
STA TO STA
Survey Revised

SHEET
PP-13

AECOM

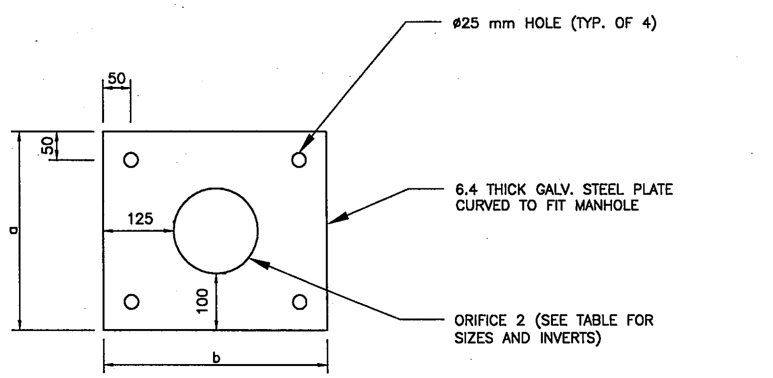
LICENSED PROFESSIONAL ENGINEER
S. J. HOLLINGWORTH
PROVINCE OF ONTARIO



	ORIFICE 1		PLATE (TYPE -1)	
	ø mm	INVERT	a	b
POND 6	75	252.3	400	450
POND 7	75	246.5	400	450
HOLBORN POND	75	249.0	400	450
POND 8	125	239.0	500	550
POND 9	95	229.5	400	450

ORIFICE 1 PLATE DETAIL

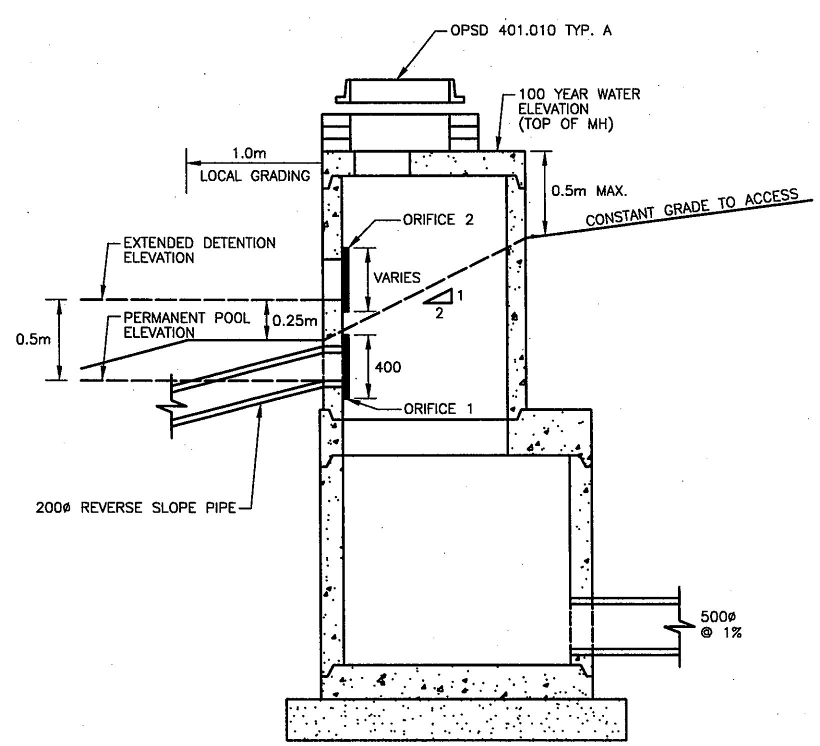
N.T.S.



	ORIFICE 2		PLATE (TYPE-2)	
	ø mm	INVERT	a	b
POND 6	220	252.8	420	470
POND 7	204	247.0	404	454
HOLBORN POND	173	249.5	373	423
POND 8	450	239.5	650	700
POND 9	380	230.0	580	630

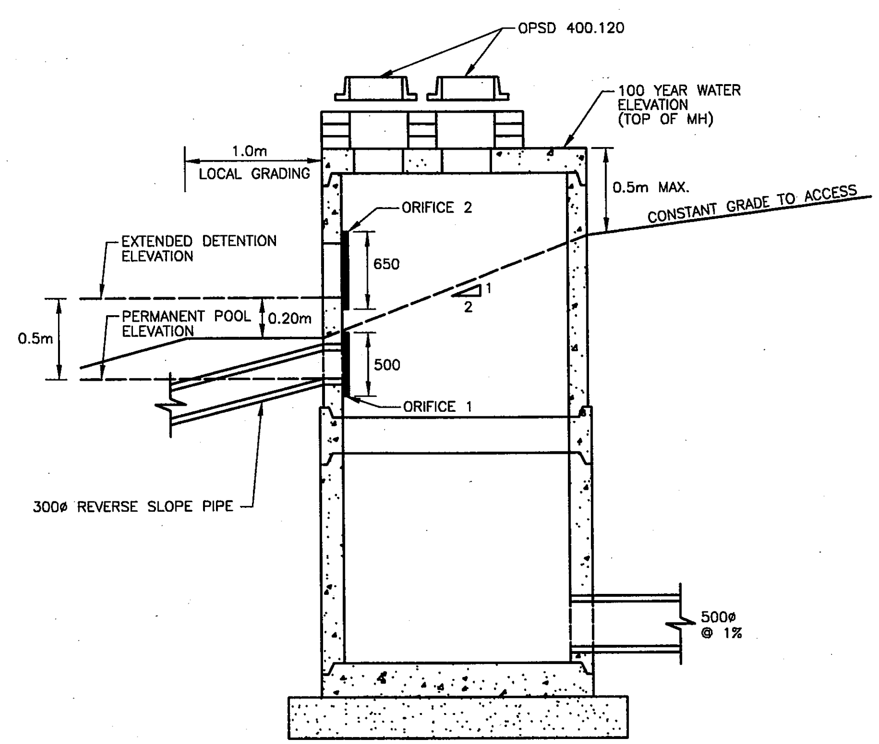
ORIFICE 2 PLATE DETAIL

N.T.S.



TYPICAL OUTLET STRUCTURE MANHOLE

N.T.S.

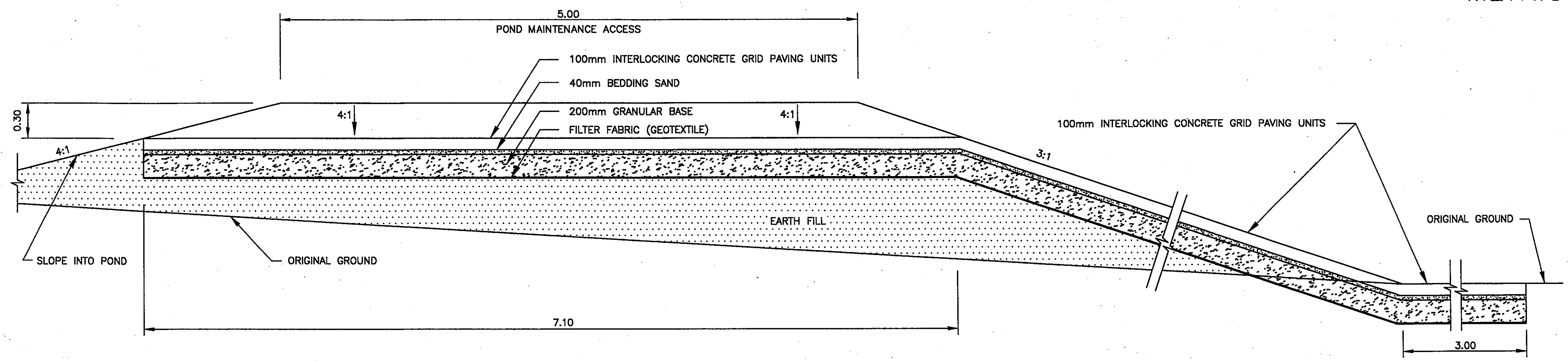


OUTLET STRUCTURE FOR MANHOLE #15

N.T.S.

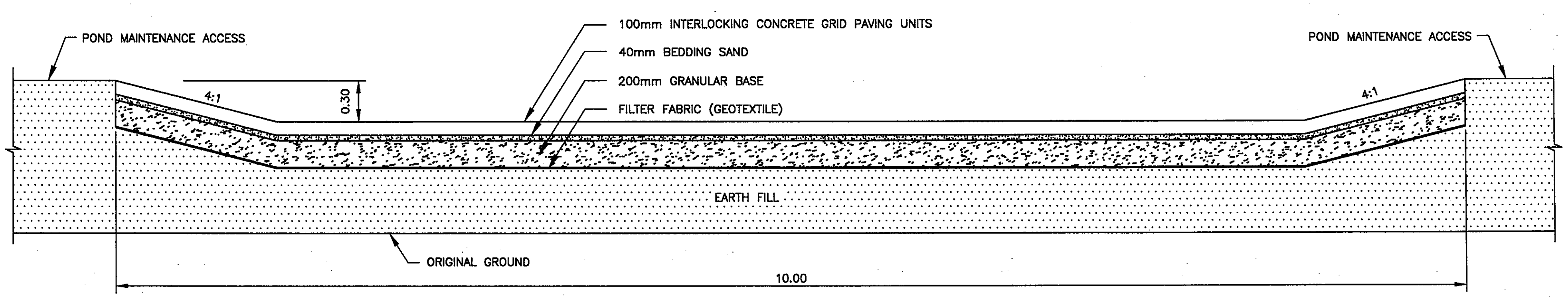
METRIC

PLATE No CONT WP 2005–07–00		
POND DETAILS STA TO STA Survey Revised		SHEET PP–14
AECOM		
	S. J. HOLLINGWORTH — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO	



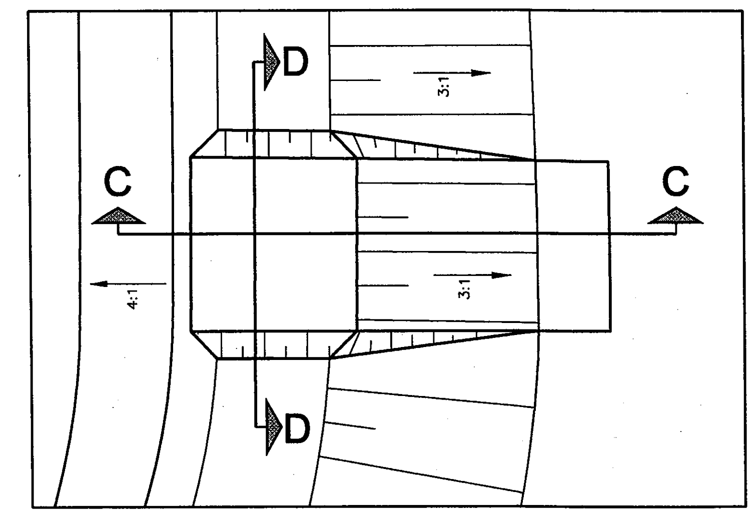
EMERGENCY SPILLWAY DETAIL
SECTION C–C

N.T.S.



EMERGENCY SPILLWAY DETAIL
SECTION D–D

N.T.S.



EMERGENCY SPILLWAY DETAIL

N.T.S.

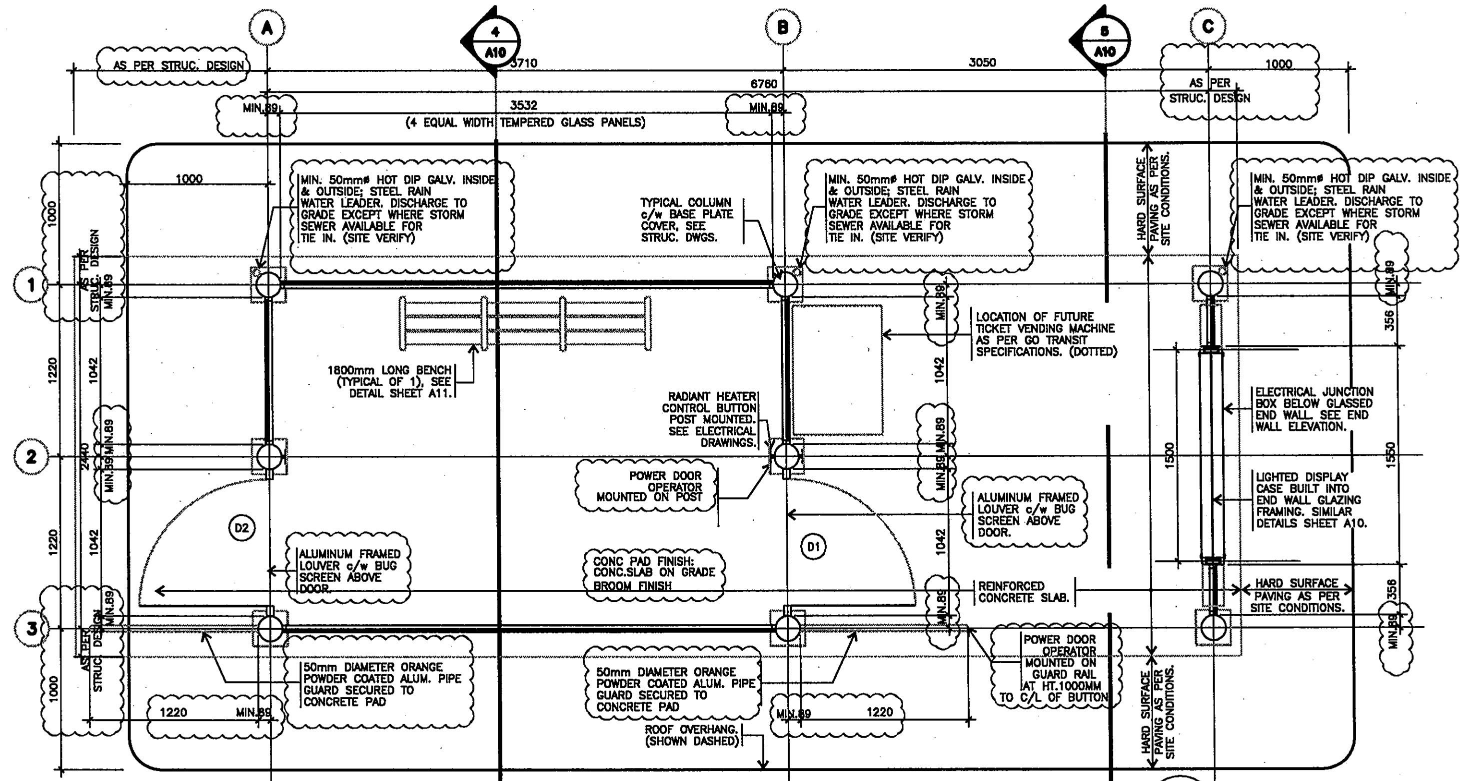
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PP-14.dwg SAVE DATE: 7/27/2010 11:16 AM PLOT DATE: 9/29/2010 9:17 AM
SAVED BY: mazzaferrom

METRIC

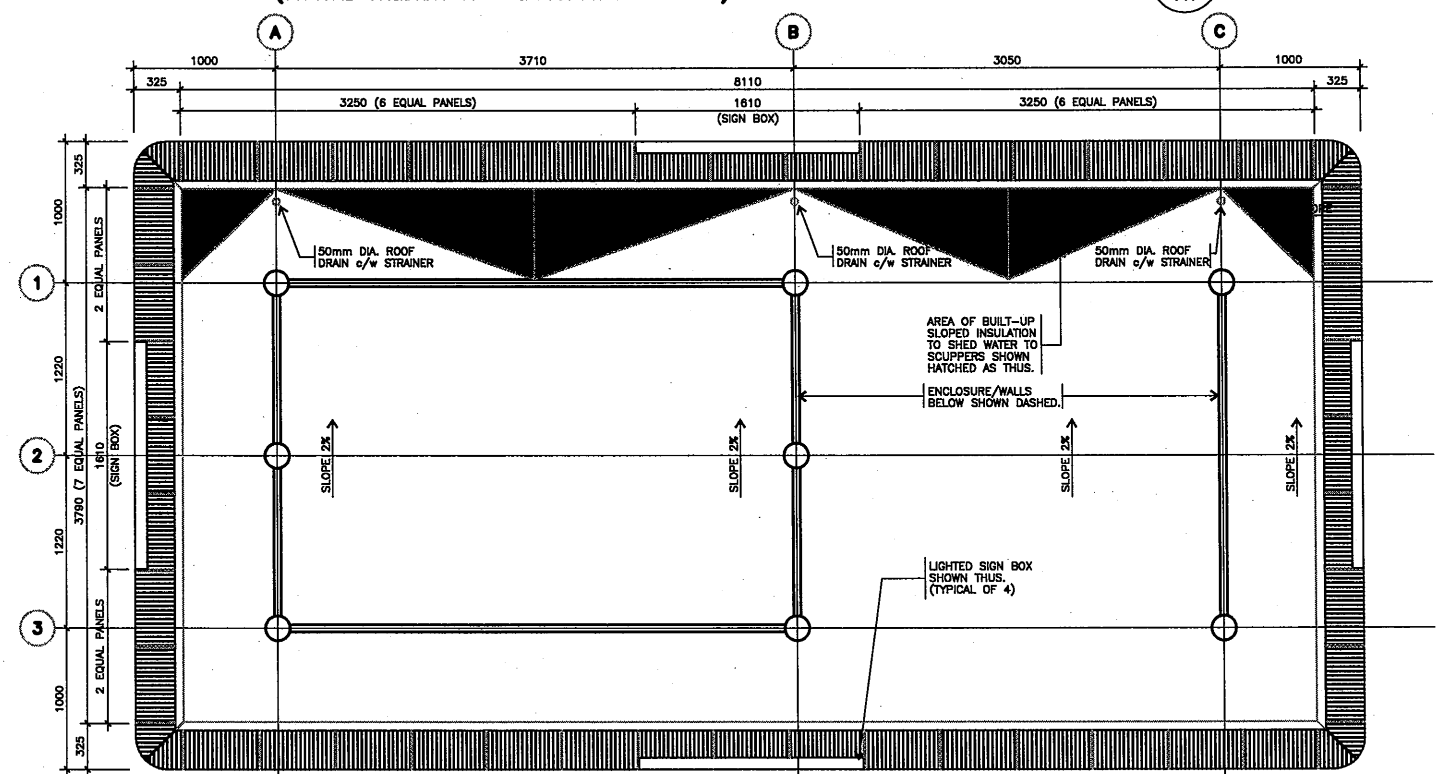
DIMENSIONS ARE IN METRES
AND/OR MILLIMETRES
UNLESS OTHERWISE SHOWN

CONT WP 2005–07–00	
BRT SHELTERS TYPICAL SHELTER 'A'	SHEET G–01
AECOM	Ref. No. A1
METROLINX CORPORATE INFRASTRUCTURE	



PLAN LAYOUT
(TYPICAL SHELTER 'A' – 2440mm x 3710mm)

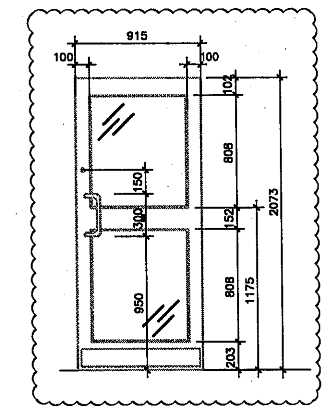
1:25 1/A1



ROOF PLAN LAYOUT
(TYPICAL SHELTER 'A' – 2440mm x 3710mm)

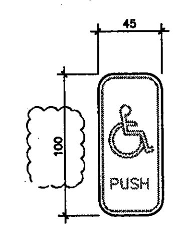
1:25 2/A1

DOOR TYPES:



D1
915 x 2073 x 44mm ALUMINUM DOOR c/w CLEAR TEMPERED GLAZING. ALUMINUM FRAME TO SUIT ROUGH OPENING. CONTINUOUS STAINLESS STEEL HINGE. SINGLE–ARM OVERHEAD CONCEALED CLOSURE, PUSH BAR AND DOOR PULL, POWER OPERATOR, DEADBOLT w/ KEYED CYLINDER LOCK (EXTERIOR SIDE) w/ COVER PLATE (NO THUMB LOCK). DOORS KEYED AS PER SPEC., BARRIER–FREE ALUMINUM DOOR THRESHOLD, DOOR SWEEP, WEATHERSTRIPPING, KICK PLATE (PUSH SIDE), DOOR STOP w/ HOLD OPEN ON PIPE GUARD. (REFER TO SPECIFICATION FOR APPROVED ITEMS)

D2
SAME AS D1 – MIRRORED



"500 SERIES" PUSH BUTTON w/ STAINLESS STEEL REMOTE PLATE AS MANUFACTURED BY "GYROTECH" OR APPROVED ALTERNATIVE BY "STANLEY HC PTO" OR "BESAM". MOUNT PUSH BUTTON IN SUPPORT COLUMN AS SHOWN.

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_C1-BRT-01.dwg
SAVED BY: mazzaferrom SAVE DATE: 3/31/2010 11:40 AM PLOT DATE: 9/29/2010 9:21 AM

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT
WP 2005-07-00

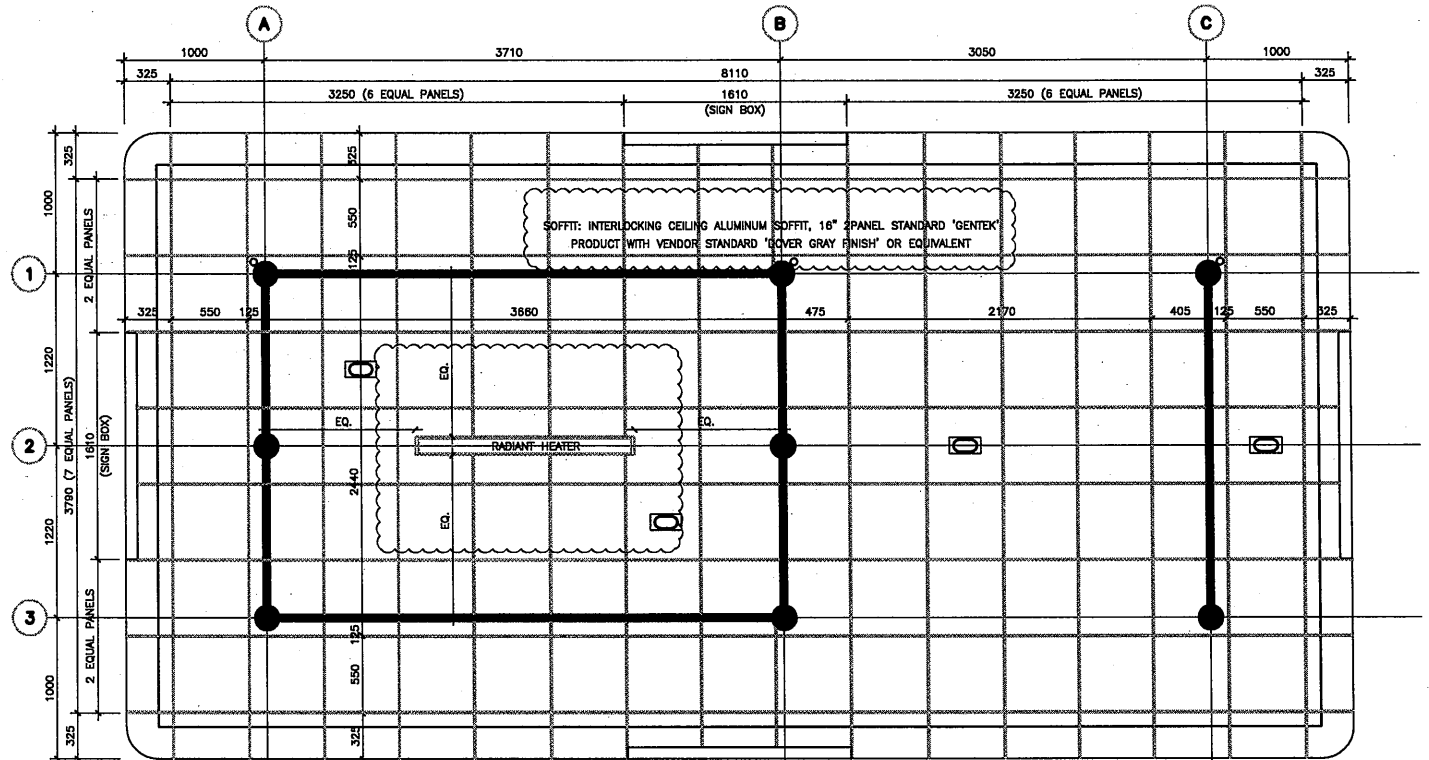
BRT SHELTERS
TYPICAL SHELTER 'A'

SHEET G-02

Ref. No. A2

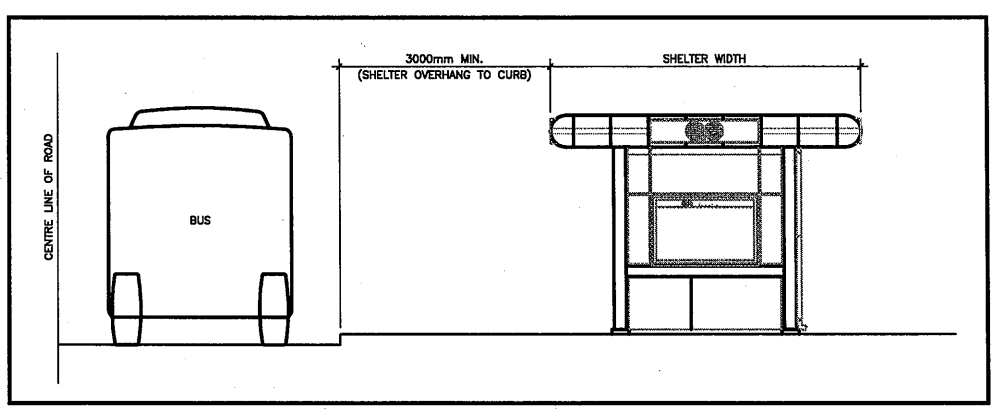
AECOM

METROLINX
CORPORATE INFRASTRUCTURE



REFLECTED CEILING PLAN
(TYPICAL SHELTER 'A' – 2440mm x 3710mm)

1:25 1/A2



CLEARANCE REQUIREMENT

N.T.S.

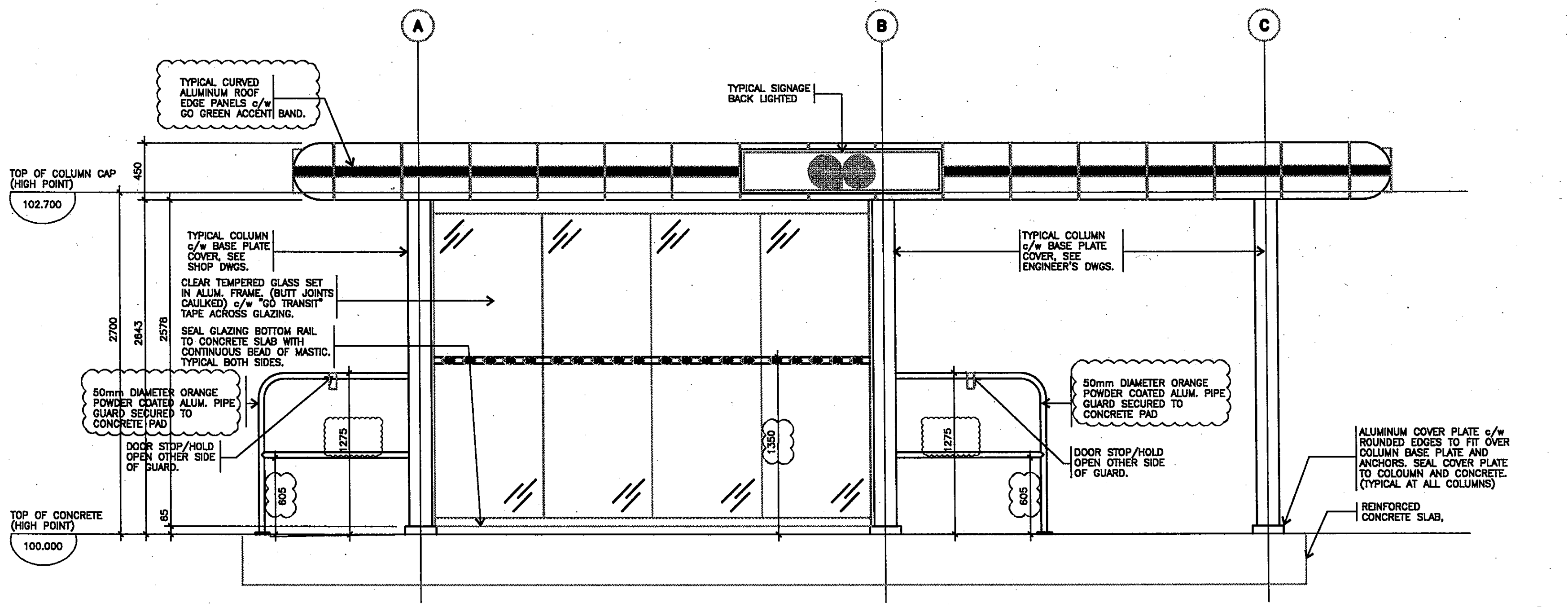
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 86-05

DRAWING NAME: 2538-199-00_CT-BRT-02.dwg
SAVED BY: mazzaferrom SAVE DATE: 3/31/2010 11:42 AM PLOT DATE: 9/29/2010 9:21 AM

METRIC

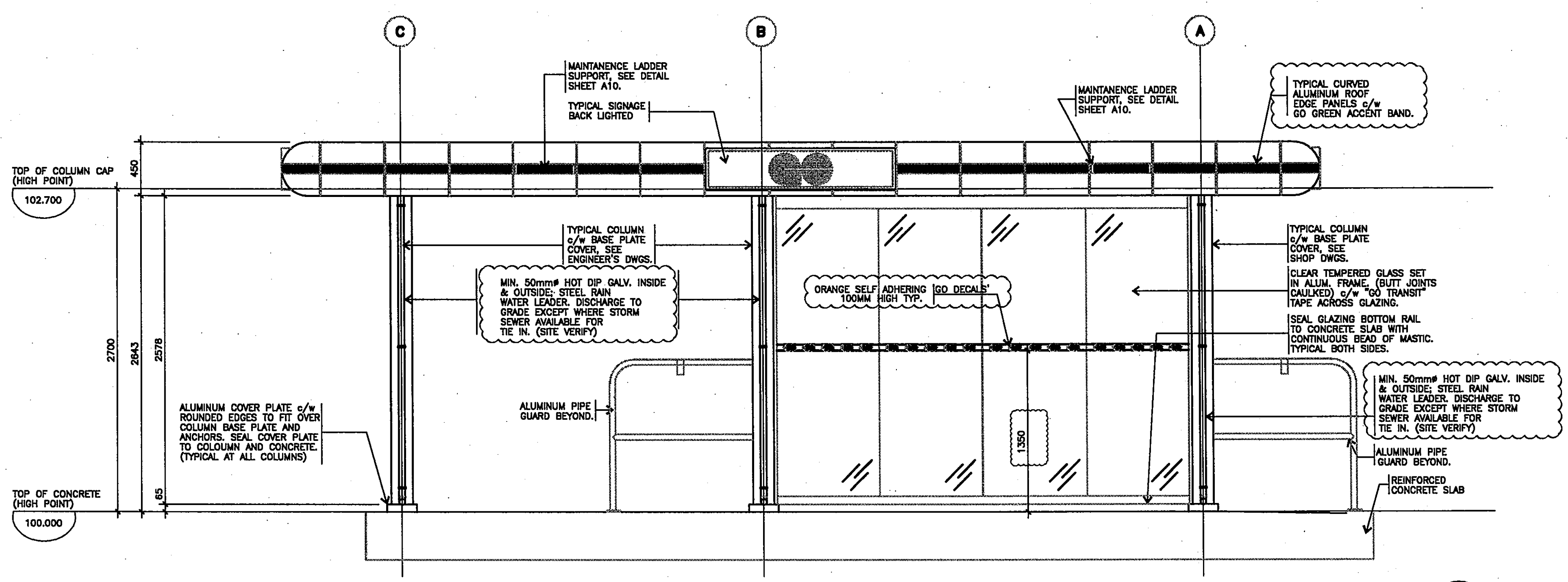
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
BRT SHELTERS TYPICAL SHELTER 'A'	SHEET G-03
AECOM	Ref. No. A3
METROLINX CORPORATE INFRASTRUCTURE	



ROAD SIDE ELEVATION
(TYPICAL SHELTER 'A' – 2440mm x 3710mm)

1:25 1/A7



PARKING SIDE ELEVATION
(TYPICAL SHELTER 'A' – 2440mm x 3710mm)

1:25 2/A7

N.T.S.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-BRT-03.dwg PLOT DATE: 9/29/2010 9:22 AM
SAVED BY: mazzaferrom SAVE DATE: 3/31/2010 11:43 AM

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT

WP 2005-07-00

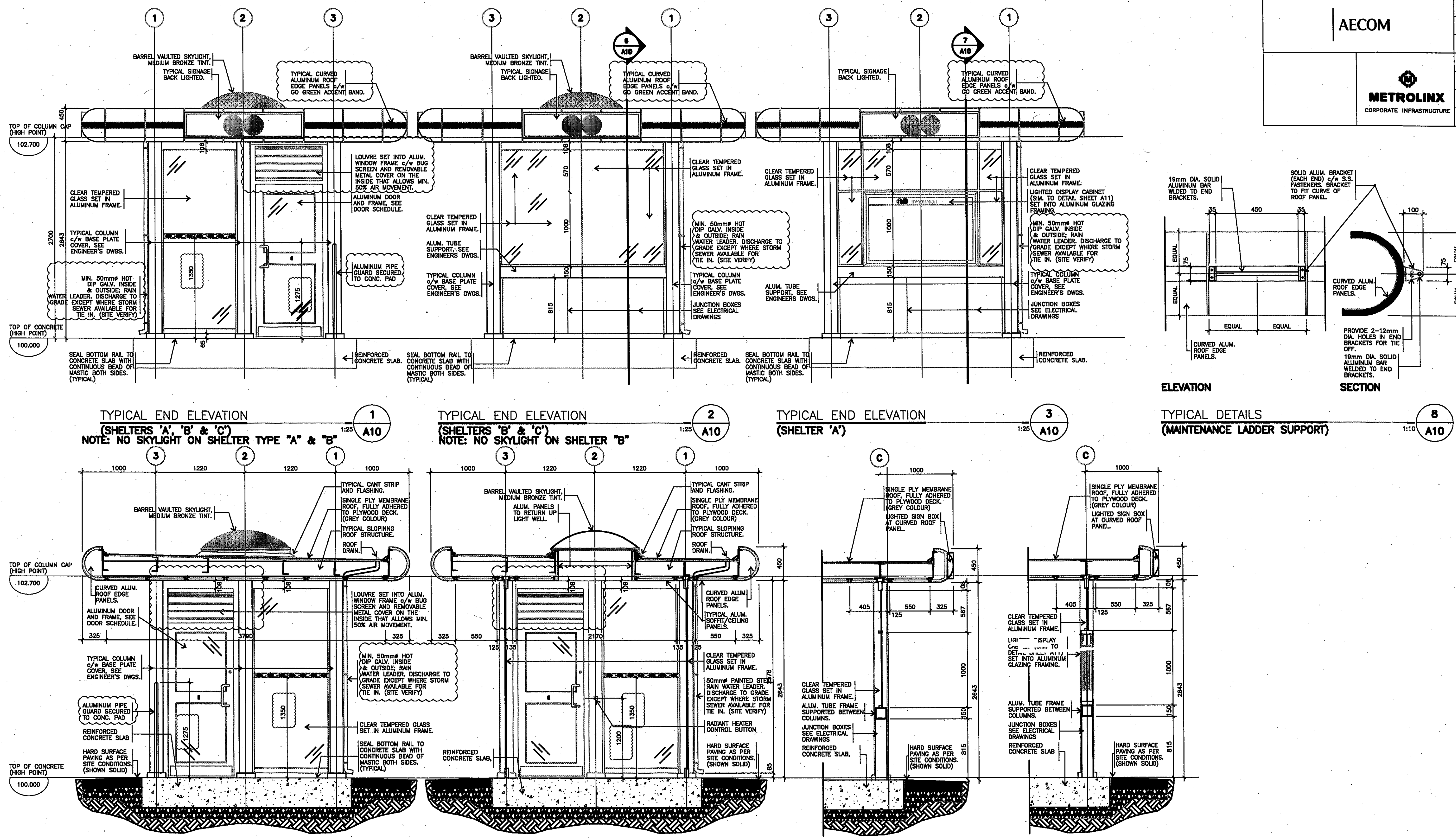
BRT SHELTERS
TYPICAL SHELTER 'A'

SHEET G-04

Ref. No. A4

AECOM

METROLINX
CORPORATE INFRASTRUCTURE



TYPICAL END ELEVATION (SHELTERS 'A', 'B' & 'C') 1:25 — 1/A10
NOTE: NO SKYLIGHT ON SHELTER TYPE "A" & "B"

TYPICAL END ELEVATION (SHELTERS 'B' & 'C') 1:25 — 2/A10
NOTE: NO SKYLIGHT ON SHELTER "B"

TYPICAL END ELEVATION (SHELTER 'A') 1:25 — 3/A10

TYPICAL DETAILS (MAINTENANCE LADDER SUPPORT) 1:10 — 8/A10

TYPICAL SECTION/ELEVATION (SHELTER 'A', 'B' & 'C') 1:25 — 4/A10
NOTE: NO SKYLIGHT ON SHELTER TYPE "A" & "B"

TYPICAL SECTION/ELEVATION (SHELTER 'A', 'B' & 'C') 1:25 — 5/A10
NOTE: NO SKYLIGHT ON SHELTER TYPE "A" & "B"

TYPICAL SECTION (SHELTERS 'B' & 'C') 1:25 — 6/A10

TYPICAL SECTION (SHELTER 'A') 1:25 — 7/A10

N.T.S.

DRAWING NAME: 2538-199-00_CT-BRT-04.dwg
SAVED BY: mozzaferrom SAVE DATE: 3/31/2010 11:44 AM PLOT DATE: 9/29/2010 9:22 AM

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT
WP 2005-07-00

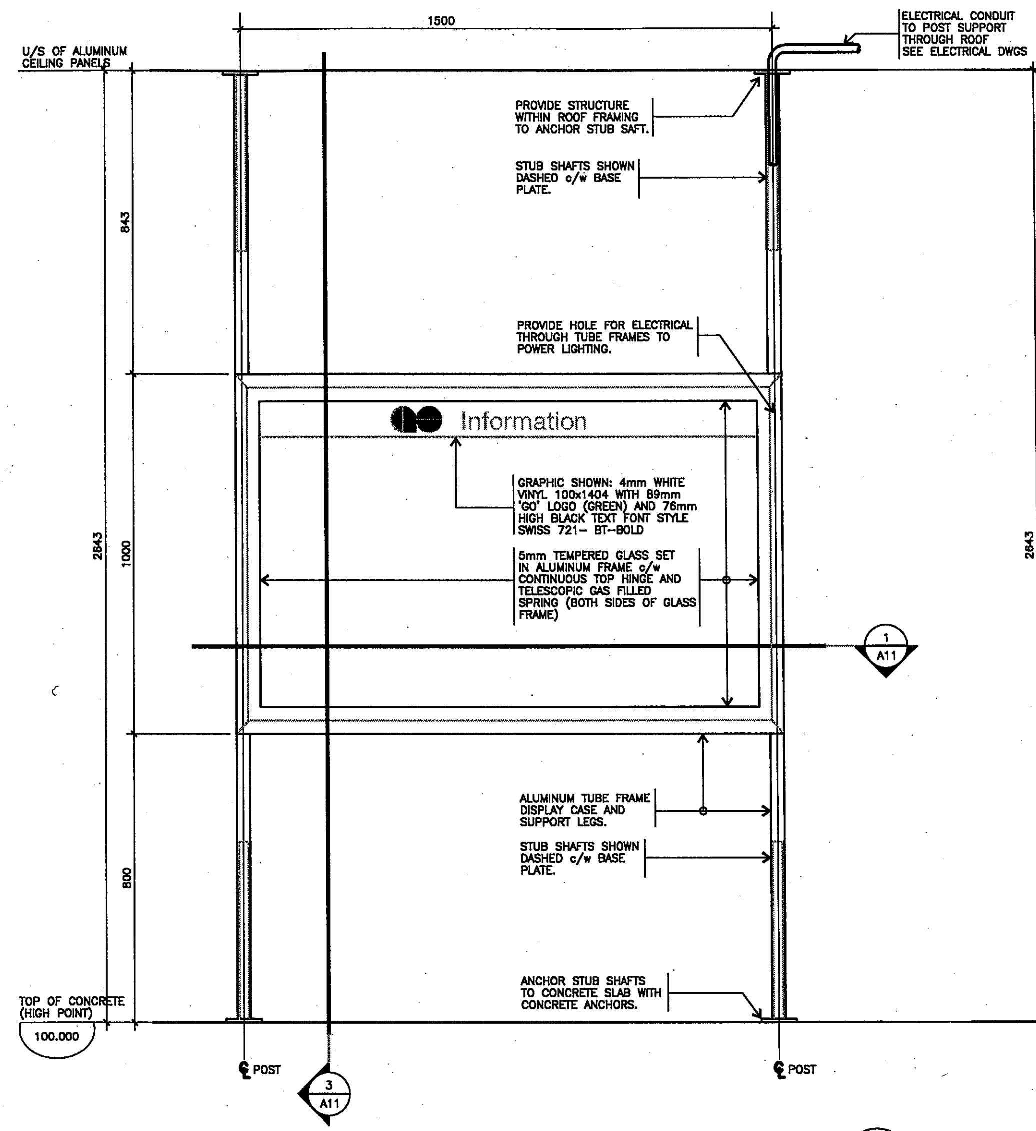
BRT SHELTERS
TYPICAL SHELTER 'A'

SHEET G-05

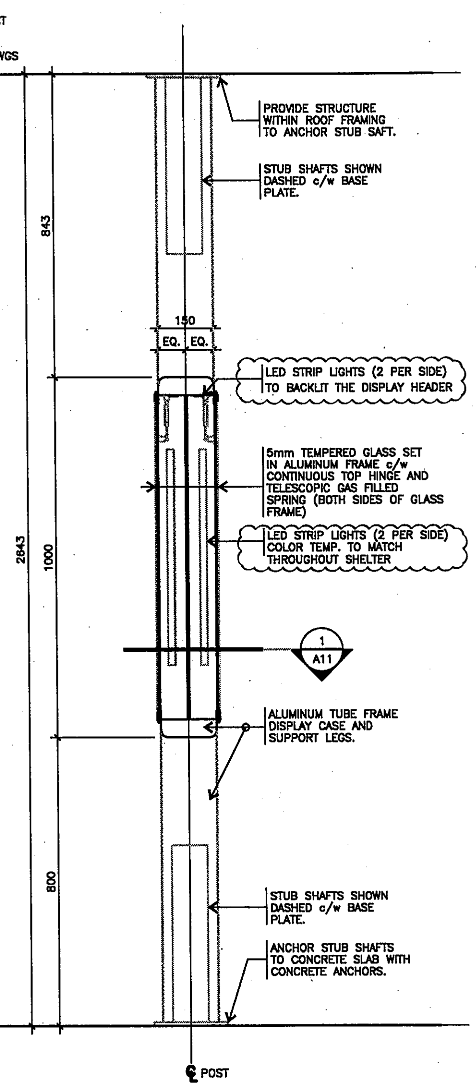
Ref. No. A5

AECOM

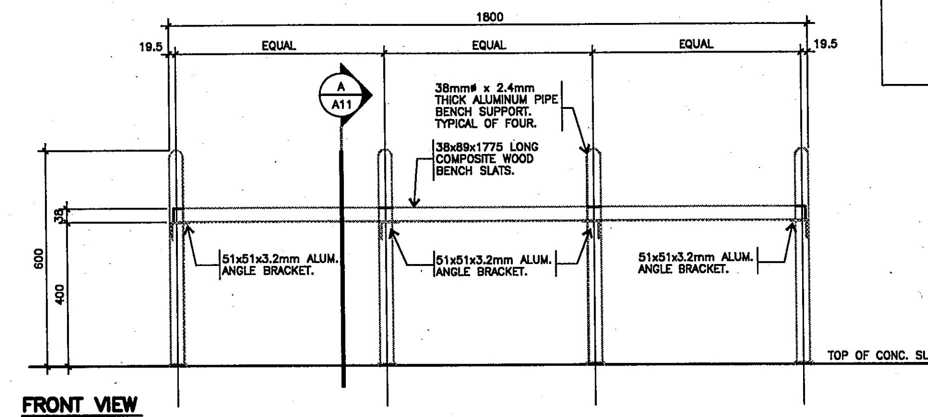
METROLINX
CORPORATE INFRASTRUCTURE

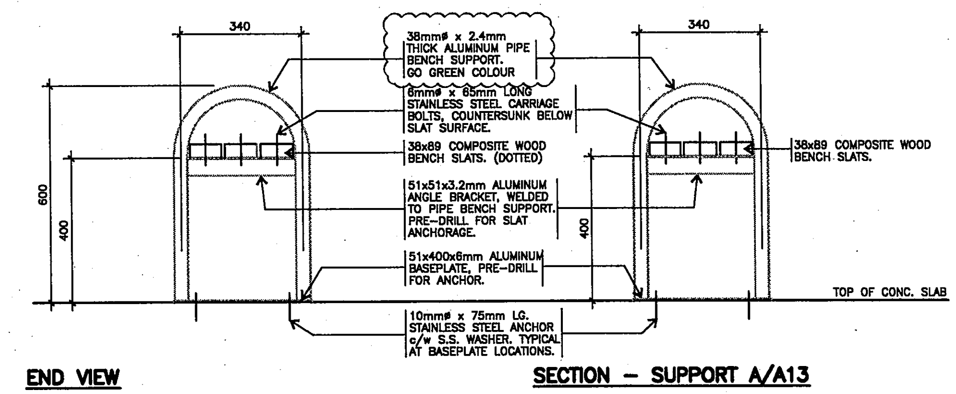


FRONT ELEVATION — 2 A11 — 1:10

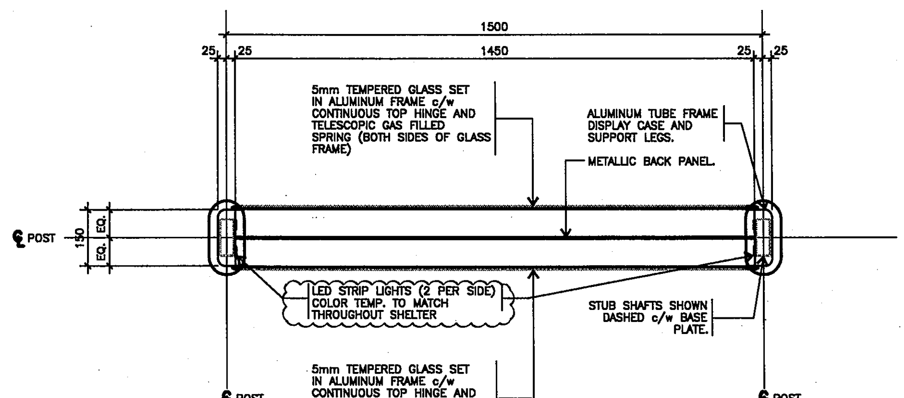


SECTION DETAIL — 3 A11 — 1:10





PEDESTRIAN BENCH (TYPICAL) — 4 A11 — 1:10



PALN SECTION — 1 A11 — 1:10

N.T.S.

DRAWING NAME: 2538-199-00_CT-BRT-05.dwg
SAVED BY: mazzaferrom SAVE DATE: 3/31/2010 11:45 AM PLOT DATE: 9/29/2010 9:22 AM

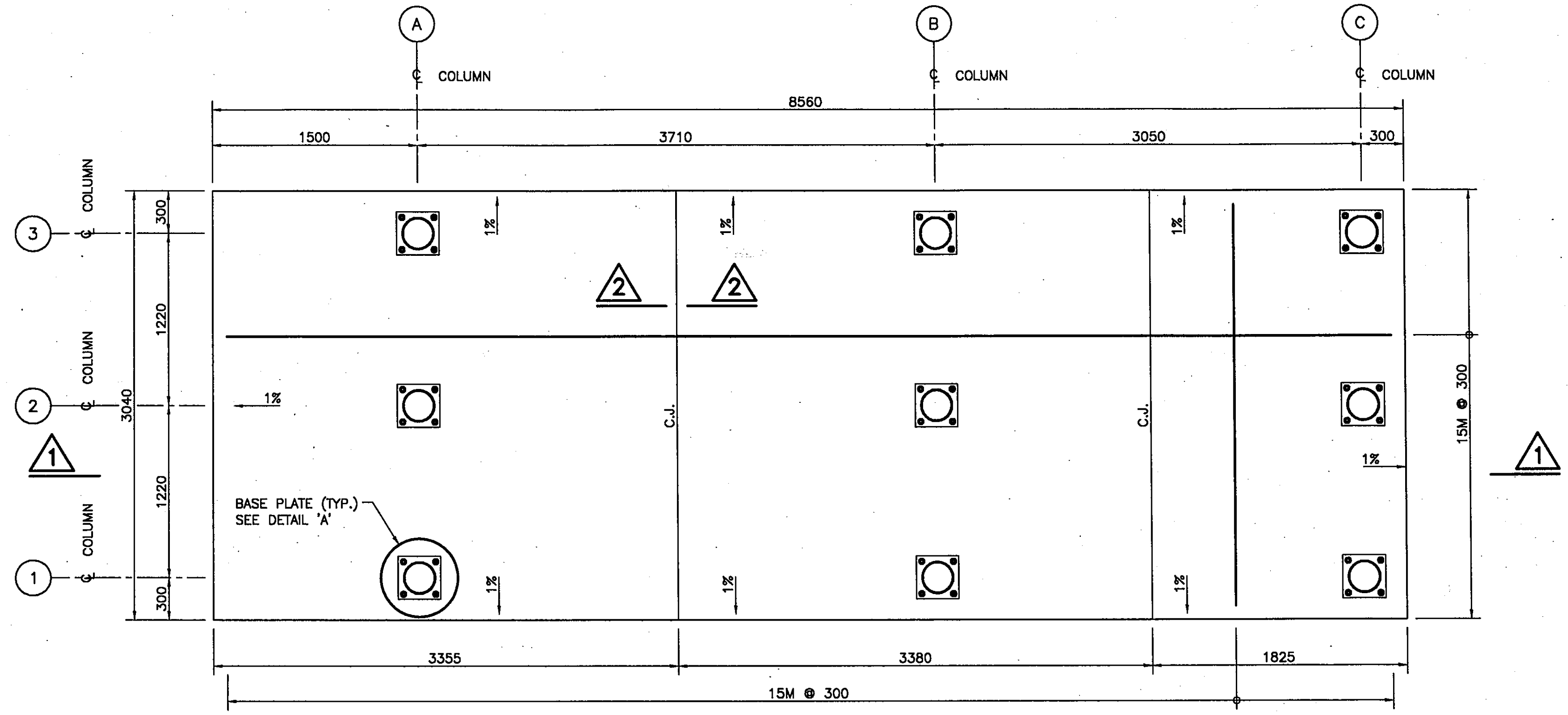
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

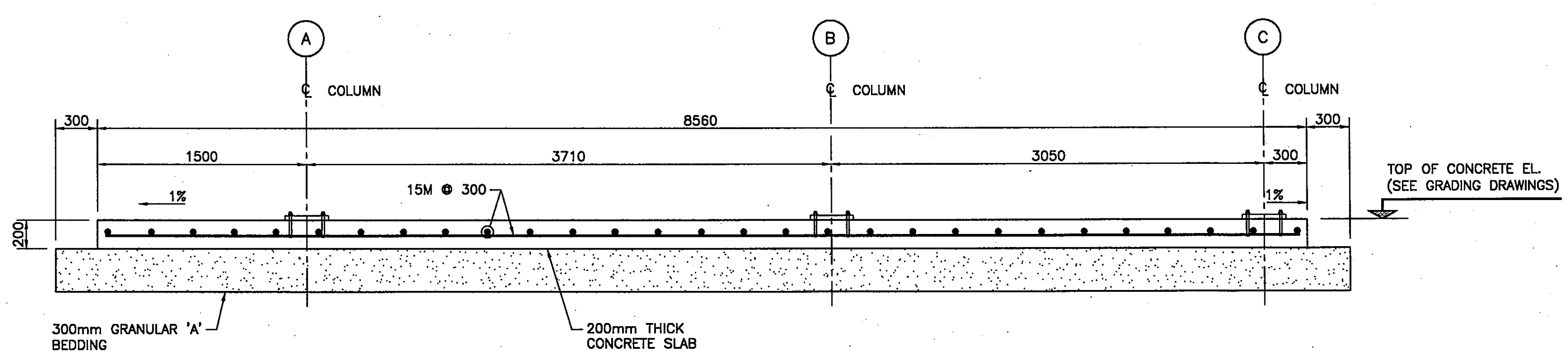
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT WP 2005-07-00	
BRT SHELTERS SHELTER SLAB	SHEET ST-1
AECOM	
METROLINX CORPORATE INFRASTRUCTURE	

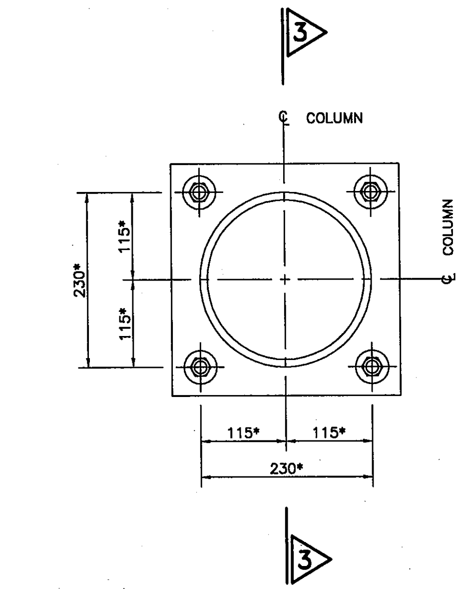


DRAINAGE:
ALL DRAINAGE TO SLOPE AWAY FROM THE SHELTER STARTING AT THE EXTERIOR CENTERLINE OF EXTERIOR COLUMN

PLAN
SCALE: 1:25

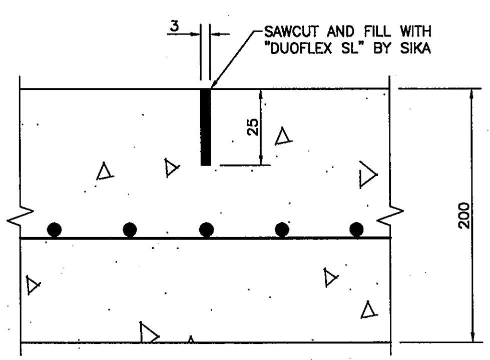


1 SECTION
SCALE: N.T.S.

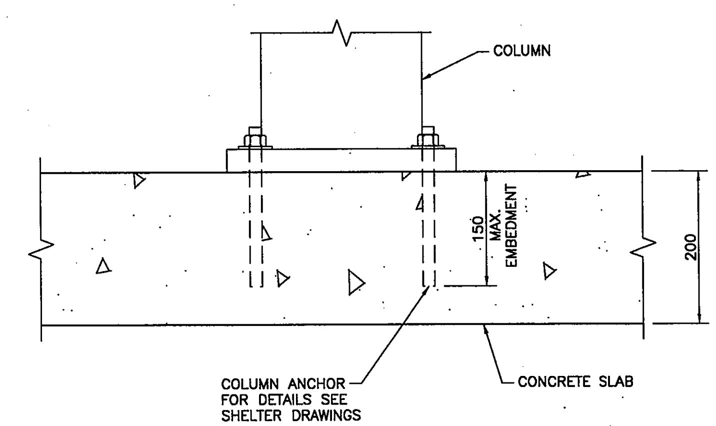


* DIMENSIONS TO BE DETERMINED BY OTHERS.

A DETAIL
SCALE: N.T.S.



2 SECTION
SCALE: N.T.S.



3 SECTION
SCALE: N.T.S.

NOTES:

1. CLASS OF CONCRETE:
   ALL CONCRETE..............................30MPa
2. REINFORCING STEEL:
   ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH C.S.A. G30.18M 1992, GRADE 400, UNLESS NOTED OTHERWISE.

   MINIMUM CLEAR COVER TO REINFORCING STEEL 70mm±20mm UNLESS NOTED OTHERWISE.
3. CONSTRUCTION:
   ALL EXPOSED CONCRETE EDGES TO HAVE 25mm CHAMFER UNLESS NOTED OTHERWISE.

   ALL ANCHOR BOLTS AND BASE PLATES REQUIRED FOR THE STRUCTURE, ARE TO BE DETERMINED AND SUPPLIED BY OTHERS.

   BEARING CAPACITY FOR CONCRETE SLAB AT SLS: 100 KPa

   DESIGN DEAD LOADS:
   LEFT COLUMN (3): 1200 LBS. EACH
   MIDDLE COLUMN (3): 1800 LBS. EACH
   RIGHT COLUMN (2): 1500 LBS. EACH

   ENGINEER TO BE NOTIFIED IF DEAD LOAD FROM THE SHELTER COLUMNS EXCEEDS THE SPECIFIED LOADING.

   THIS DRAWING TO BE READ IN CONJUNCTION WITH THE BRT SHELTER DRAWINGS.

DRAWING NAME: 2538-199-00_CT-MISC-ST-1.dwg PLOT DATE: 9/30/2010 8:52 AM
SAVED BY: kramarov SAVE DATE: 5/3/2010 4:36 PM

1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,20cm
11	333 BROKEN WHITE,20cm
12	333 BROKEN WHITE,30cm
13	SOLID WHITE,30cm
14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

NOTES:

1. 333, 363, 393, Denotes Pavement Marking Spacing (ie., 3 m line, 3 m gap, 3 m line)
2. Use (1) to Denote PAVEMENT MARKING
3. Use [1] to Denote PAVEMENT MARKING, TEMPORARY
4. Use △1 to Denote PAVEMENT MARKING, TEMPORARY–REMOVABLE
5. Use ⟨1⟩ to Denote PAVEMENT MARKING, DURABLE

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	Date 1994 04 01	Rev
LEGEND PAVEMENT MARKINGS	Issue Date WP Issued By	
	MTOD – 101.070	

LEGEND:

BIKE ROUTE SIGN IB–23 (45x45, WHITE FIGURES ON GREEN BACKGROUND) FROM BIKEWAY TRAFFIC CONTROL GUIDELINES FOR CANADA, DEC.1998

DISTANCE MARKER G.f–13

MEDIAN MARKER Wz–4 (25x25) TO BE PLACED ALONG MEDIAN SHOULDER

⟨5⟩ SOLID WHITE, 15cm PAVEMENT MARKINGS, DURABLE–INLAID

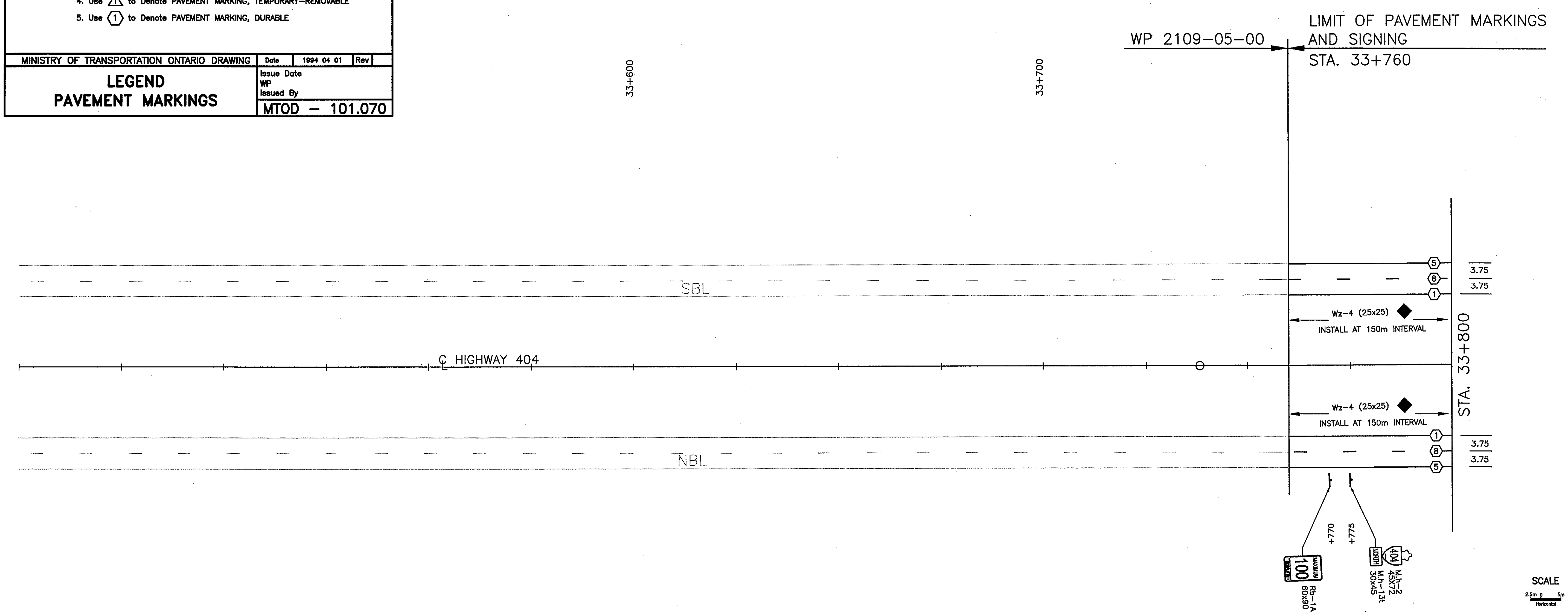
⟨14⟩ SOLID WHITE, 45cm PAVEMENT MARKINGS, DURABLE–INLAID

NOTES:

1. ALL SIGNS AND SIGN OFFSETS ARE TO BE INSTALLED AS PER OTM BOOKS
2. ALL PAVEMENT MARKINGS ARE TO BE DONE ACCORDING TO OTM BOOK 11 (EXCEPT SPECIFY ELSEWHERE IN THE CONTRACT).

METRIC

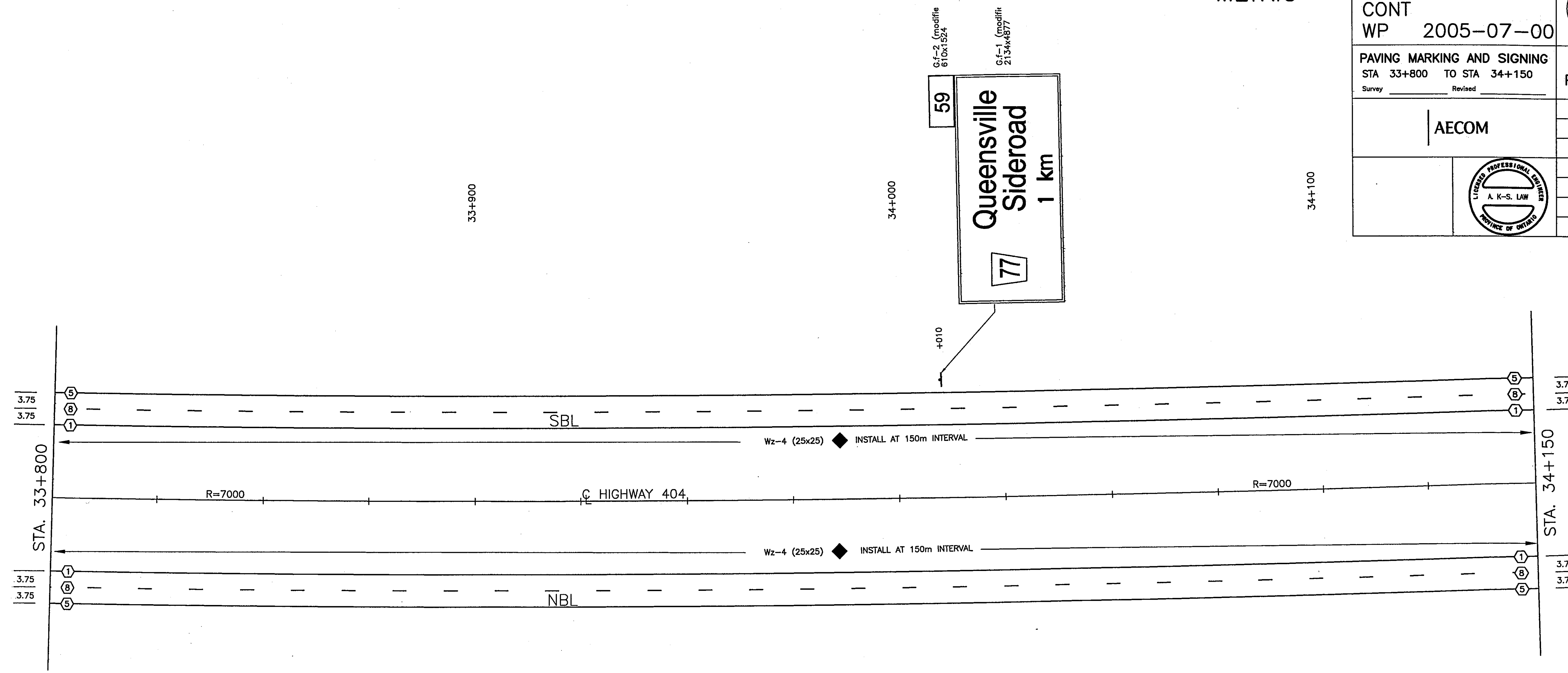
PLATE No	
CONT WP 2005–07–00	
PAVING MARKING AND SIGNING STA 33+450 TO STA 33+800 Survey ____ Revised ____	SHEET PMS–01
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K–S. LAW PROVINCE OF ONTARIO	



DRAWING NAME: 2538–199–00_CT–PMS–01.dwg SAVED BY: mazzaferrom SAVE DATE: 8/16/2010 1:42 PM PLOT DATE: 9/28/2010 3:34 PM

METRIC

PLATE No	
CONT	
WP 2005-07-00	
PAVING MARKING AND SIGNING STA 33+800 TO STA 34+150 Survey ____ Revised ____	SHEET PMS-02
AECOM	
A. K-S. LAW LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO	



SCALE
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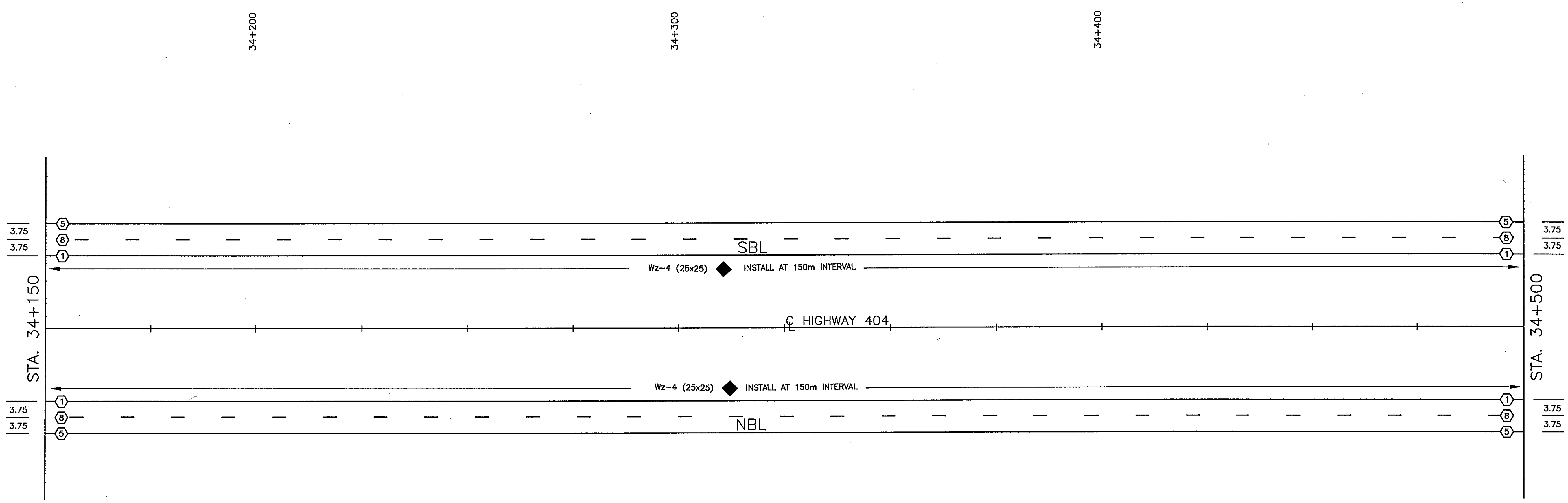
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-02.dwg
SAVED BY: mazzoferrom SAVE DATE: 7/20/2010 11:29 AM PLOT DATE: 9/28/2010 3:34 PM

METRIC

PLATE No	
CONT WP 2005–07–00	
PAVING MARKING AND SIGNING STA 34+150 TO STA 34+500 Survey ____ Revised ____	SHEET PMS–03
AECOM	



SCALE
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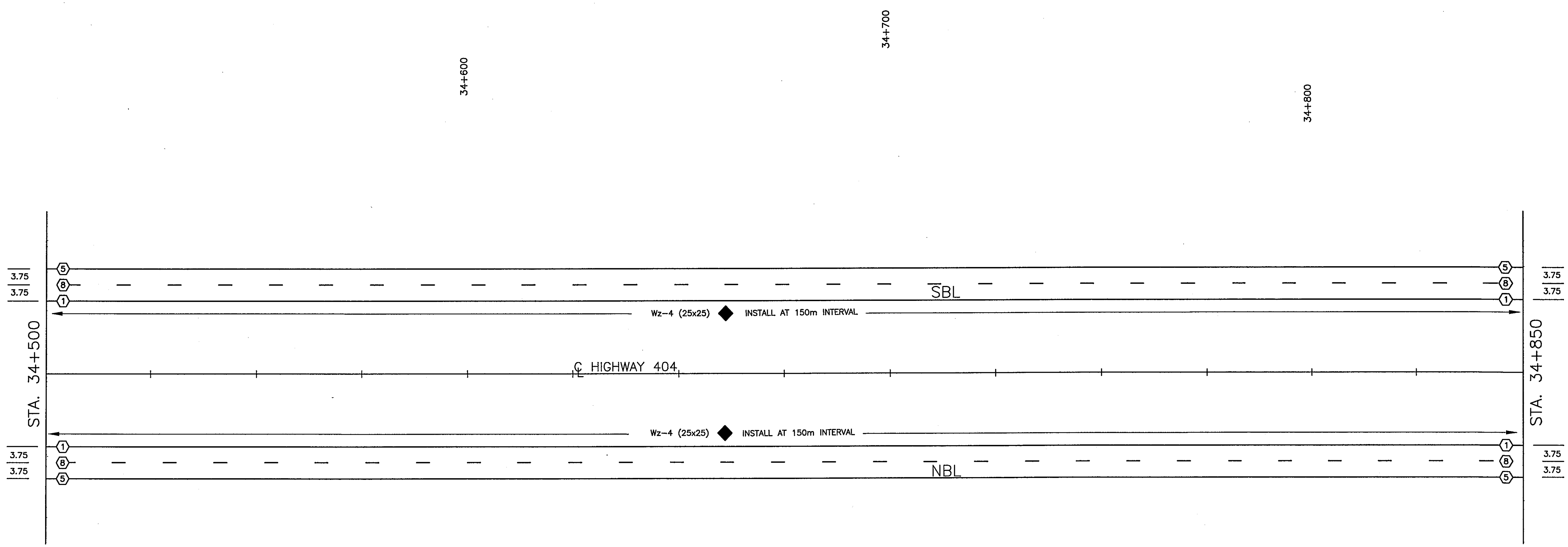
MINISTRY OF TRANSPORTATION, ONTARIO PR–D–707 88–05
DRAWING NAME: 2538–199–00_CT–PMS–03.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/20/2010 11:34 AM PLOT DATE: 9/28/2010 3:34 PM

METRIC

PLATE No CONT WP 2005-07-00	
STA 34+500 TO STA 34+850 Survey ____ Revised ____	SHEET PMS-04
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	



SCALE
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Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-04.dwg
SAVED BY: mozzoferrom SAVE DATE: 7/20/2010 11:39 AM PLOT DATE: 9/28/2010 3:35 PM

METRIC

PLATE No
CONT
WP 2005-07-00

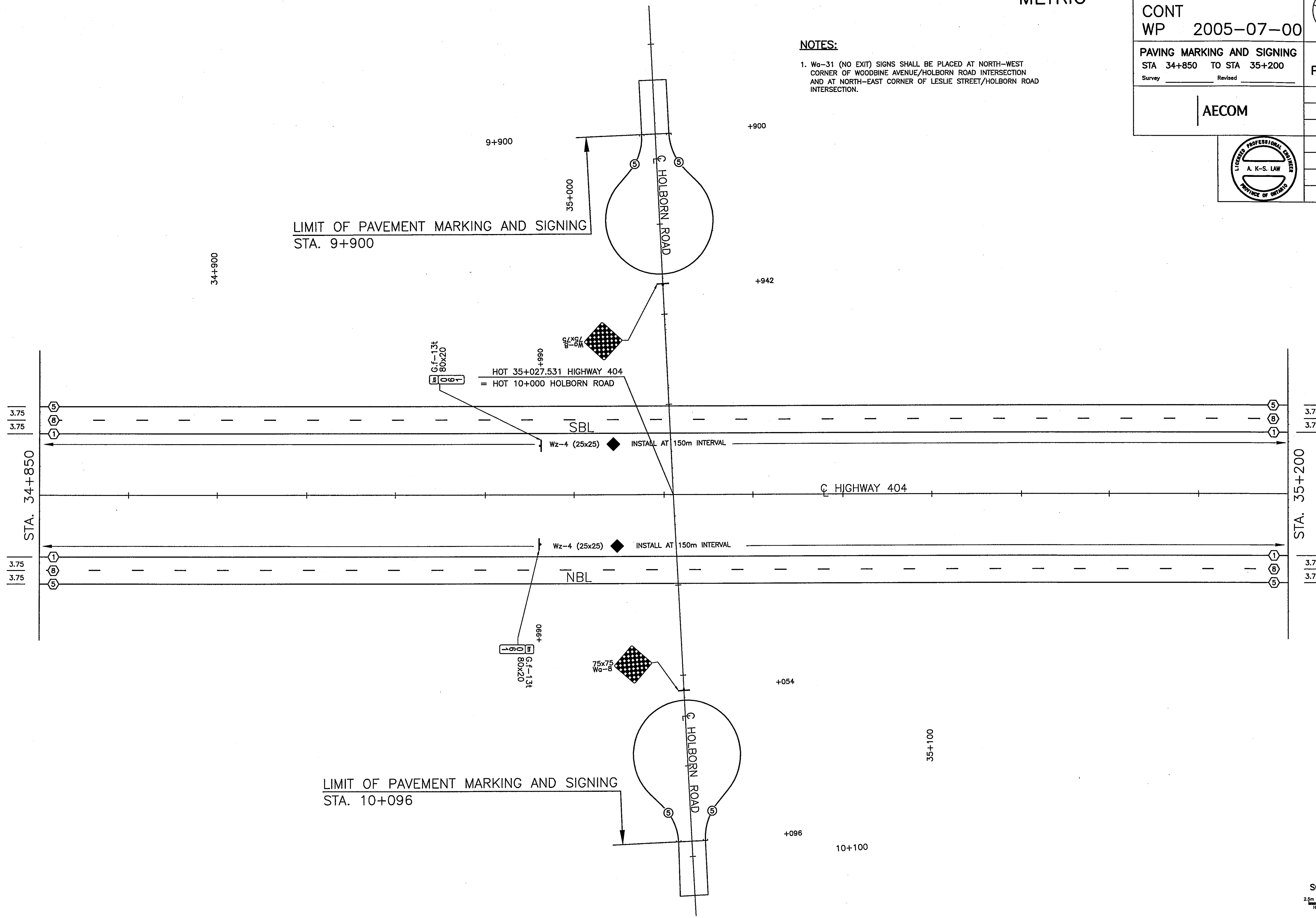
PAVING MARKING AND SIGNING
STA 34+850 TO STA 35+200

SHEET PMS-05

AECOM

NOTES:

1. Wa-31 (NO EXIT) SIGNS SHALL BE PLACED AT NORTH-WEST CORNER OF WOODBINE AVENUE/HOLBORN ROAD INTERSECTION AND AT NORTH-EAST CORNER OF LESLIE STREET/HOLBORN ROAD INTERSECTION.



SCALE

DRAWING NAME: 2538-199-00_CT-PMS-05.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/21/2010 9:27 AM PLOT DATE: 9/28/2010 3:35 PM

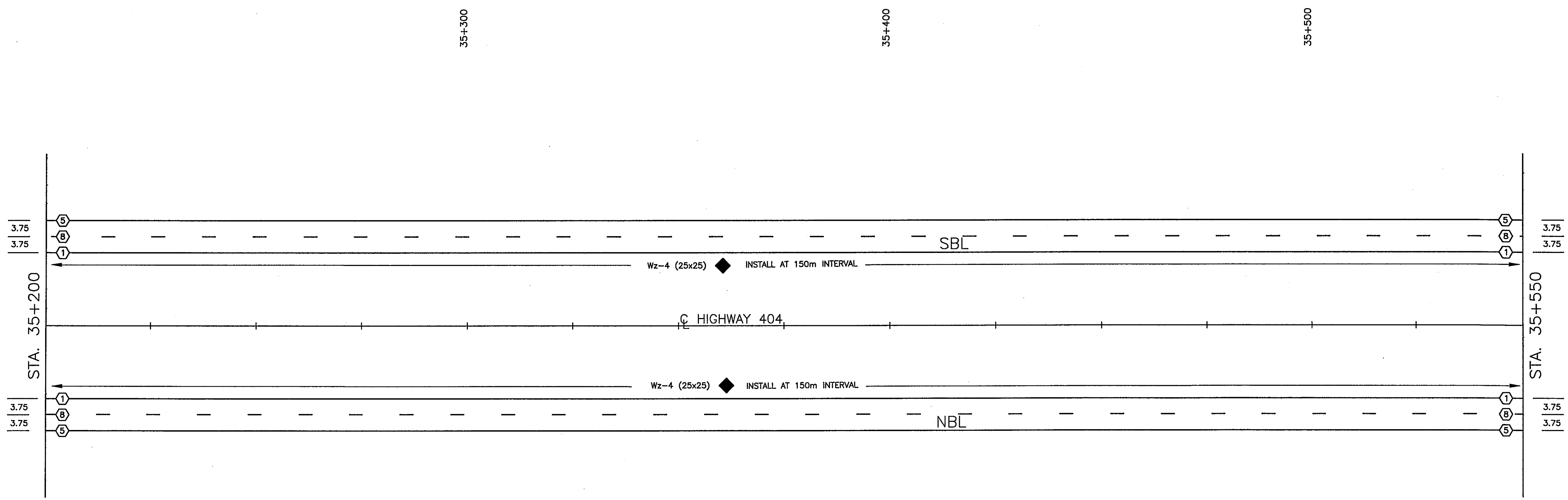
METRIC

PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 35+200 TO STA 35+550
Survey ________ Revised ________

SHEET
PMS-06

AECOM



SCALE
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Horizontal

DRAWING NAME: 2538-199-00_CT-PMS-06.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/20/2010 12:11 PM PLOT DATE: 9/28/2010 3:35 PM

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

METRIC

PLATE No

CONT

WP 2005-07-00

PAVING MARKING AND SIGNING

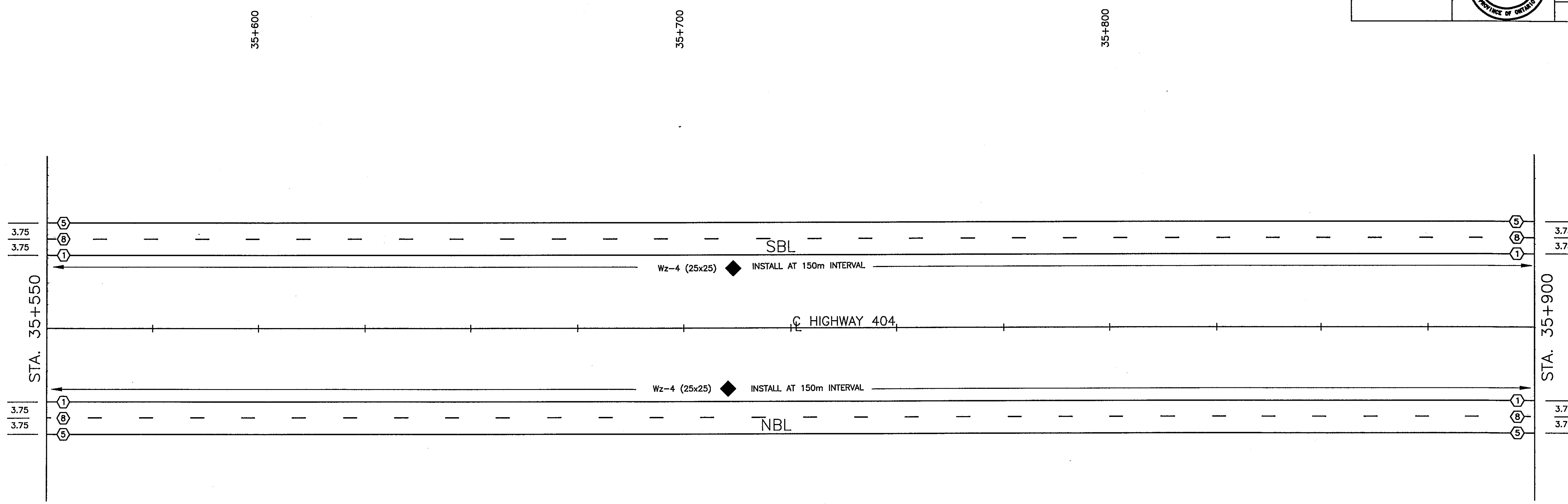
STA 35+550 TO STA 35+900

Survey ______ Revised ______

SHEET PMS-07

AECOM

A. K-S. LAW — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO



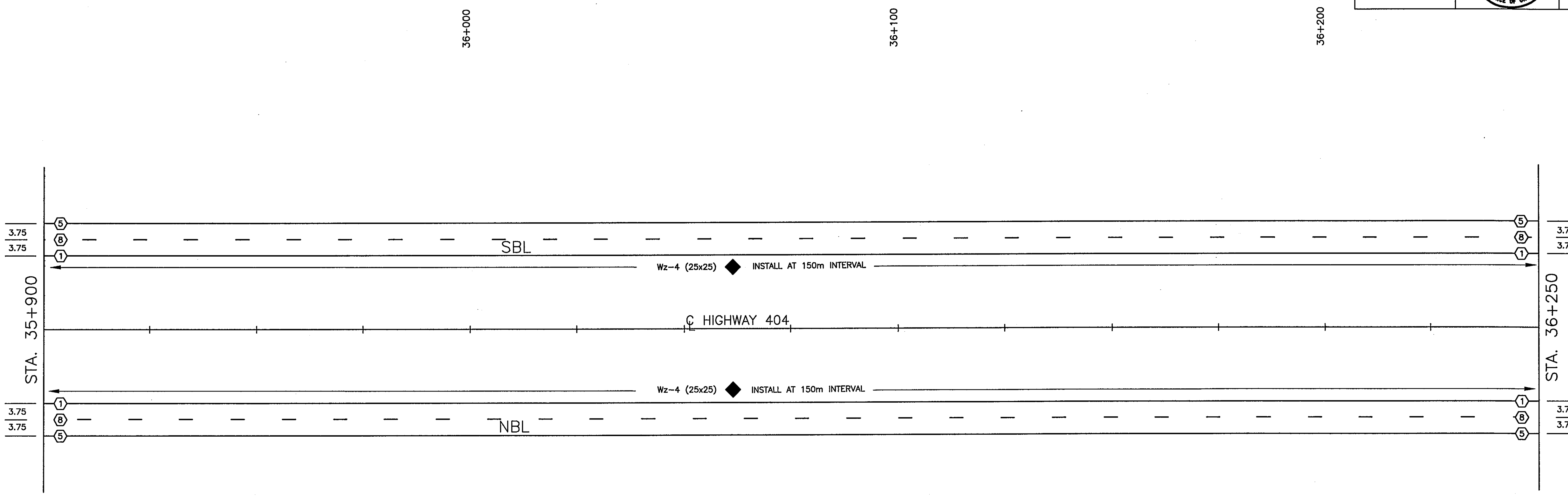
SCALE
2.5m 0 5m
Horizontal

DRAWING NAME: 2538-199-00_CT-PMS-07.dwg
SAVED BY: mazzoferrom SAVE DATE: 7/20/2010 12:12 PM PLOT DATE: 9/28/2010 3:35 PM

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

PLATE No CONT WP 2005-07-00		
PAVING MARKING AND SIGNING STA 35+900 TO STA 36+250 Survey ______ Revised ______		SHEET PMS-08
AECOM		
	LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	



SCALE
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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05
DRAWING NAME: 2538-199-00_CT-PMS-08.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/20/2010 12:14 PM PLOT DATE: 9/28/2010 3:36 PM

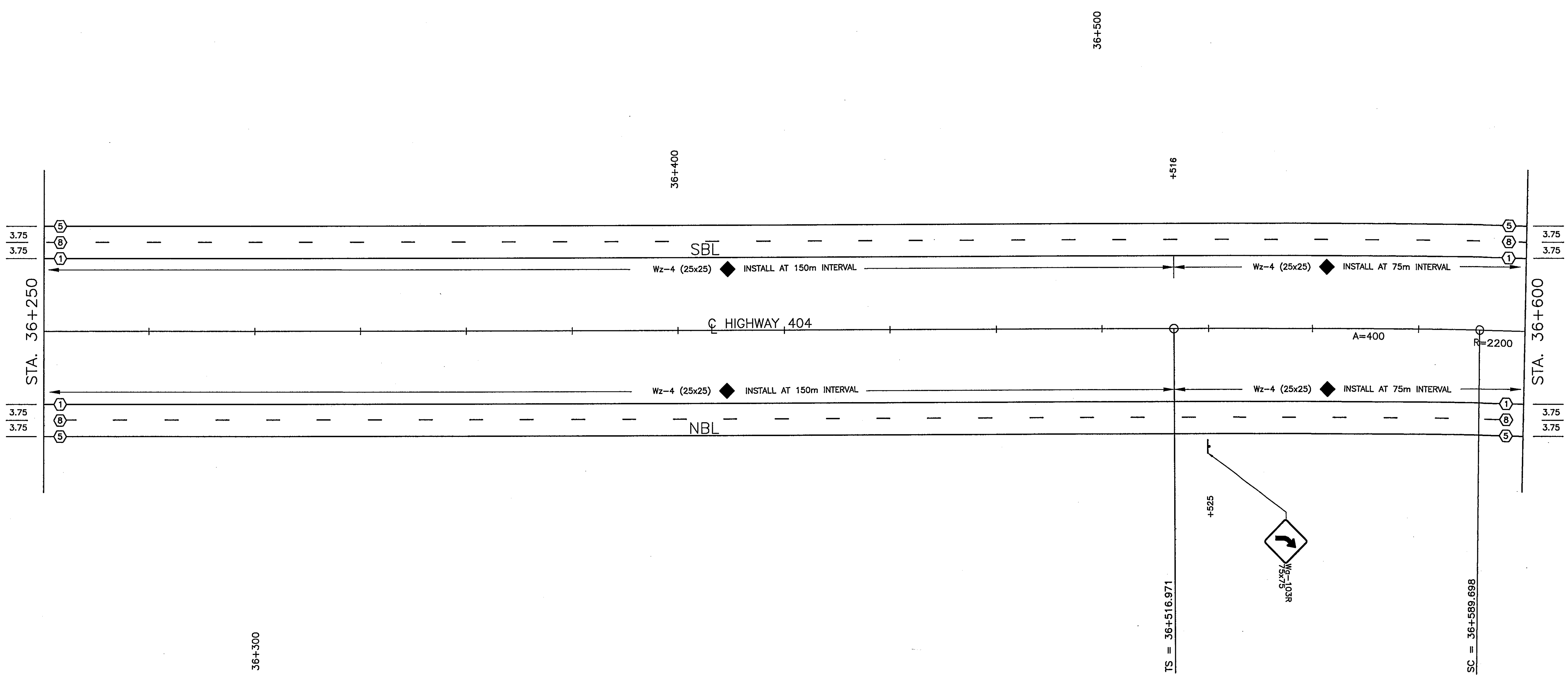
METRIC

PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 36+250 TO STA 36+600
Survey Revised

SHEET
PMS-09

AECOM



SCALE
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DRAWING NAME: 2538-199-00_CT-PMS-09.dwg
SAVED BY: mazzaferrom SAVE DATE: 7/20/2010 12:42 PM PLOT DATE: 9/28/2010 3:36 PM

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

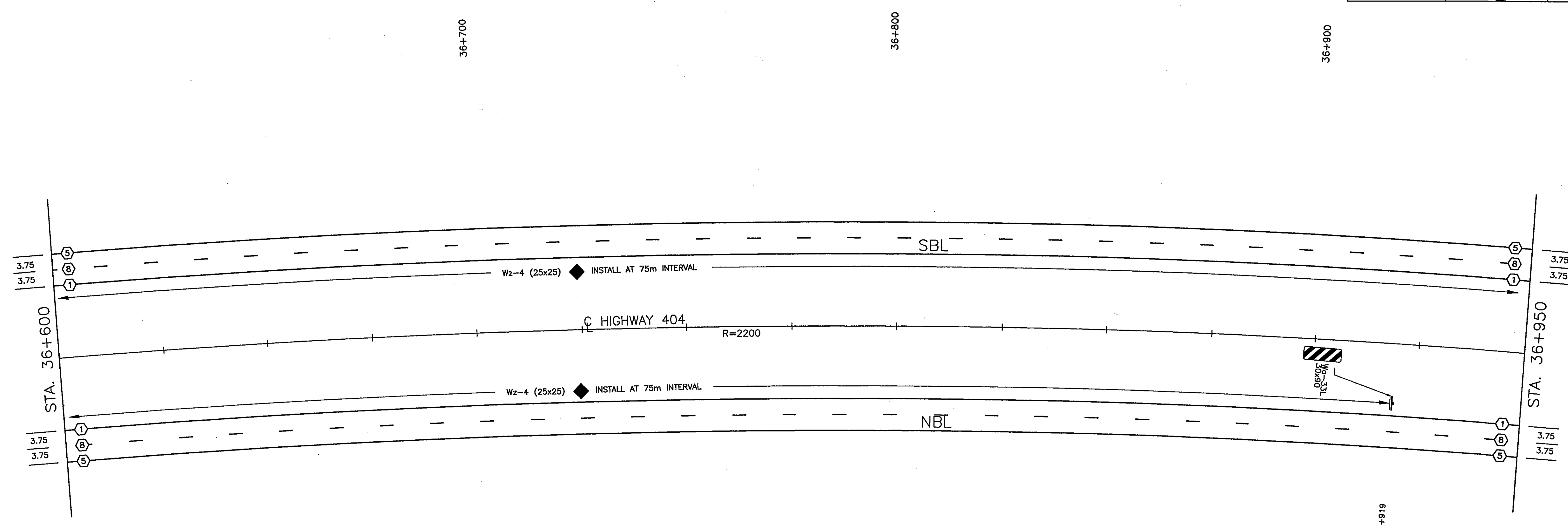
PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 36+600 TO STA 36+950
Survey Revised

SHEET
PMS-10

AECOM

LICENSED PROFESSIONAL ENGINEER
A. K-S. LAW
PROVINCE OF ONTARIO



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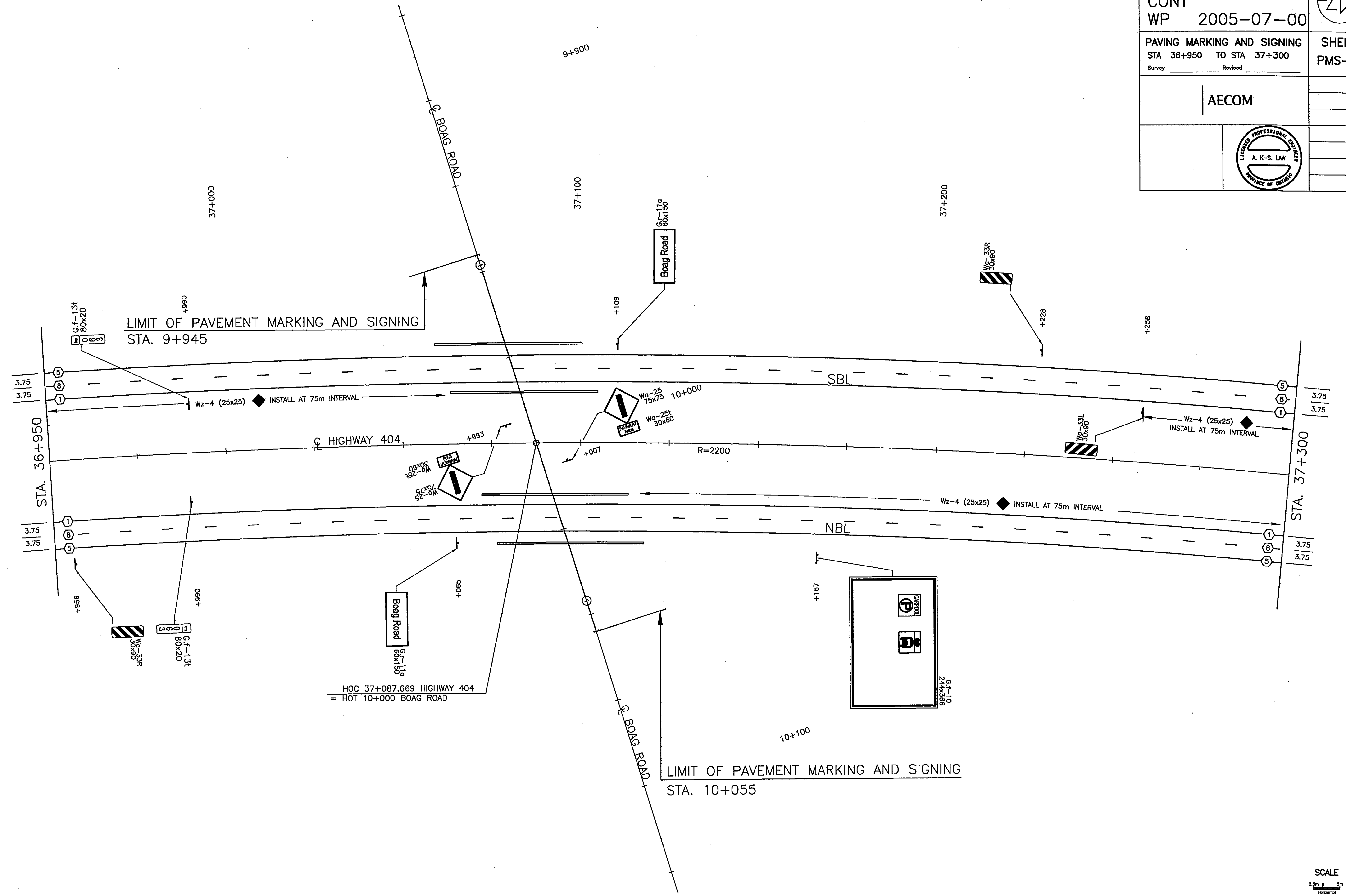
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-10.dwg
SAVED BY: mezzaferrom SAVE DATE: 7/20/2010 12:32 PM PLOT DATE: 9/28/2010 3:36 PM

METRIC

PLATE No	
CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 36+950 TO STA 37+300 Survey ____ Revised ____	SHEET PMS-11
AECOM	

LICENSED PROFESSIONAL ENGINEER
A. K-S. LAW
PROVINCE OF ONTARIO



SCALE
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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-11.dwg PLOT DATE: 9/28/2010 3:36 PM
SAVED BY: mazzoferrom SAVE DATE: 8/17/2010 10:02 AM

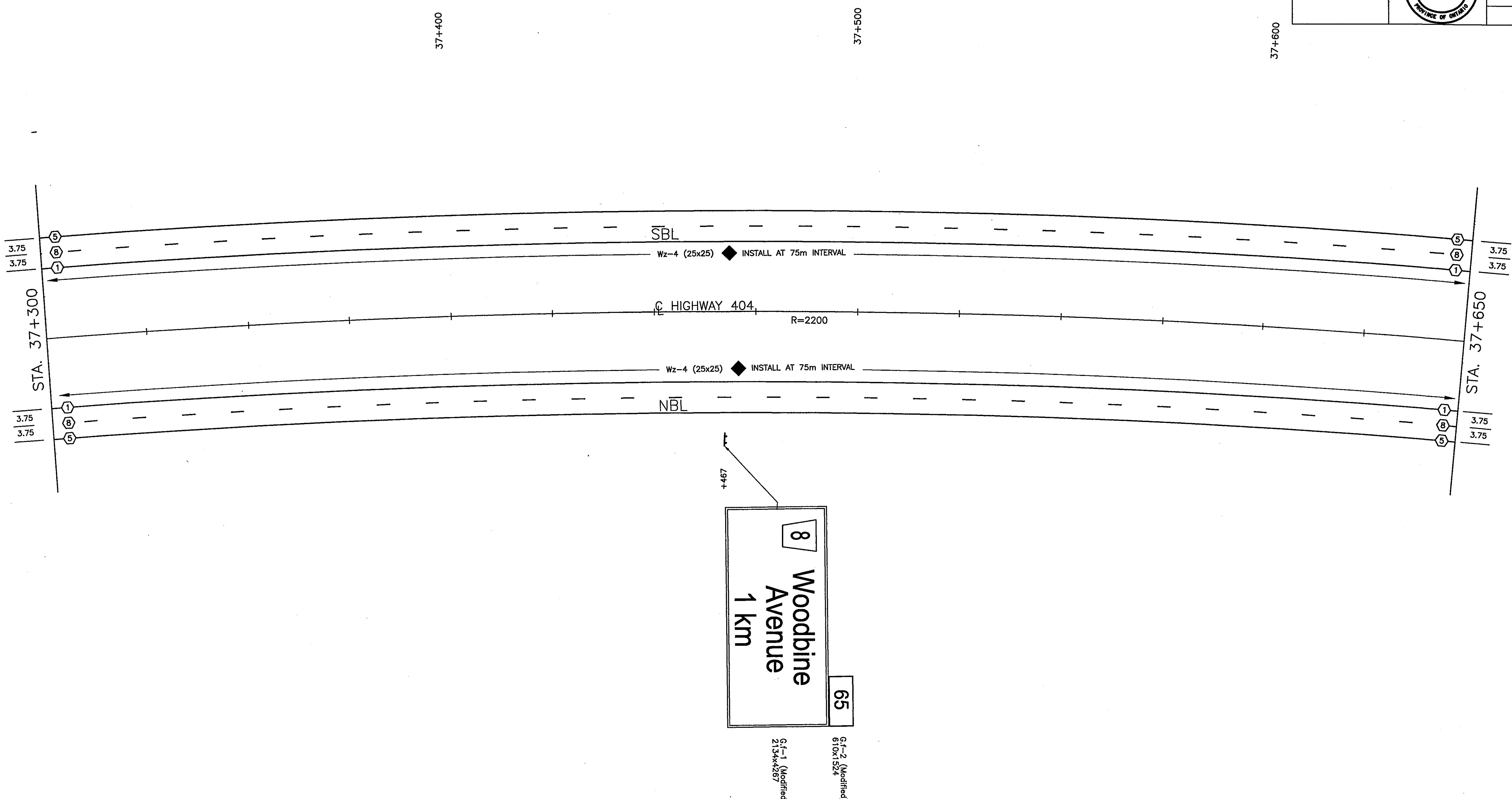
METRIC

PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 37+300 TO STA 37+650
Survey Revised

SHEET PMS-12

AECOM



LICENSED PROFESSIONAL ENGINEER
A. K-S. LAW
PROVINCE OF ONTARIO

SCALE
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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-12.dwg SAVE DATE: 7/20/2010 12:52 PM PLOT DATE: 9/28/2010 3:36 PM
SAVED BY: mazzaferrom

METRIC

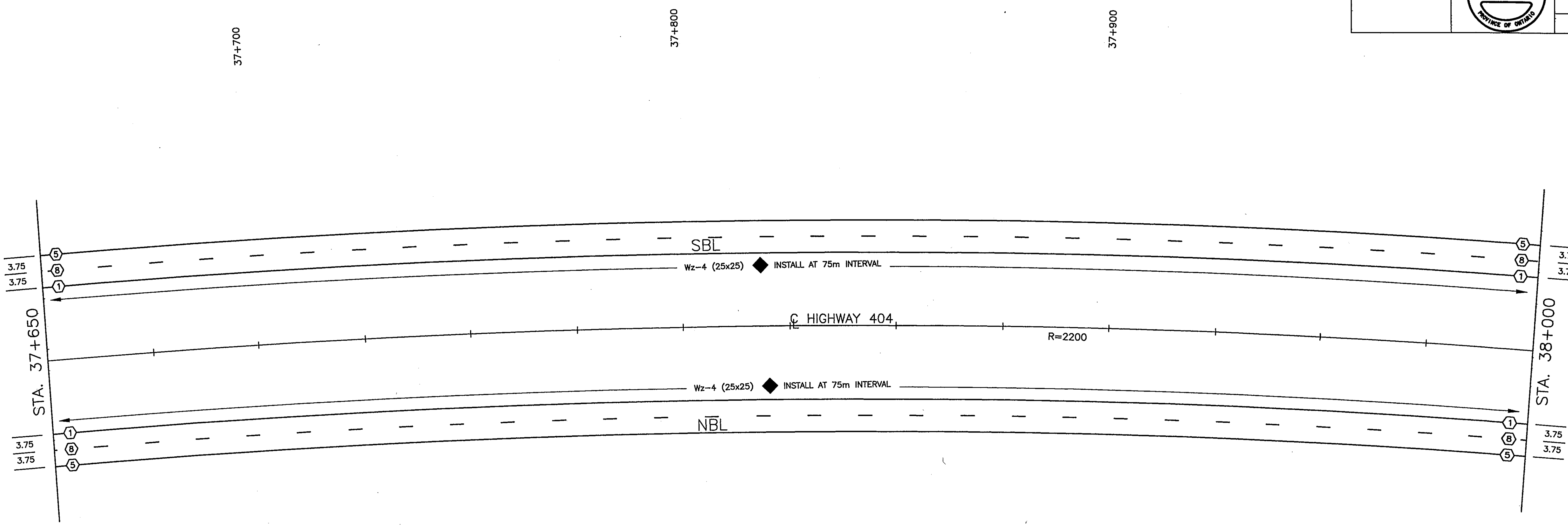
PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 37+650 TO STA 38+000
Survey Revised

SHEET
PMS-13

AECOM

A. K-S. LAW
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



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METRIC

PLATE No

CONT

WP 2005-07-00

PAVING MARKING AND SIGNING

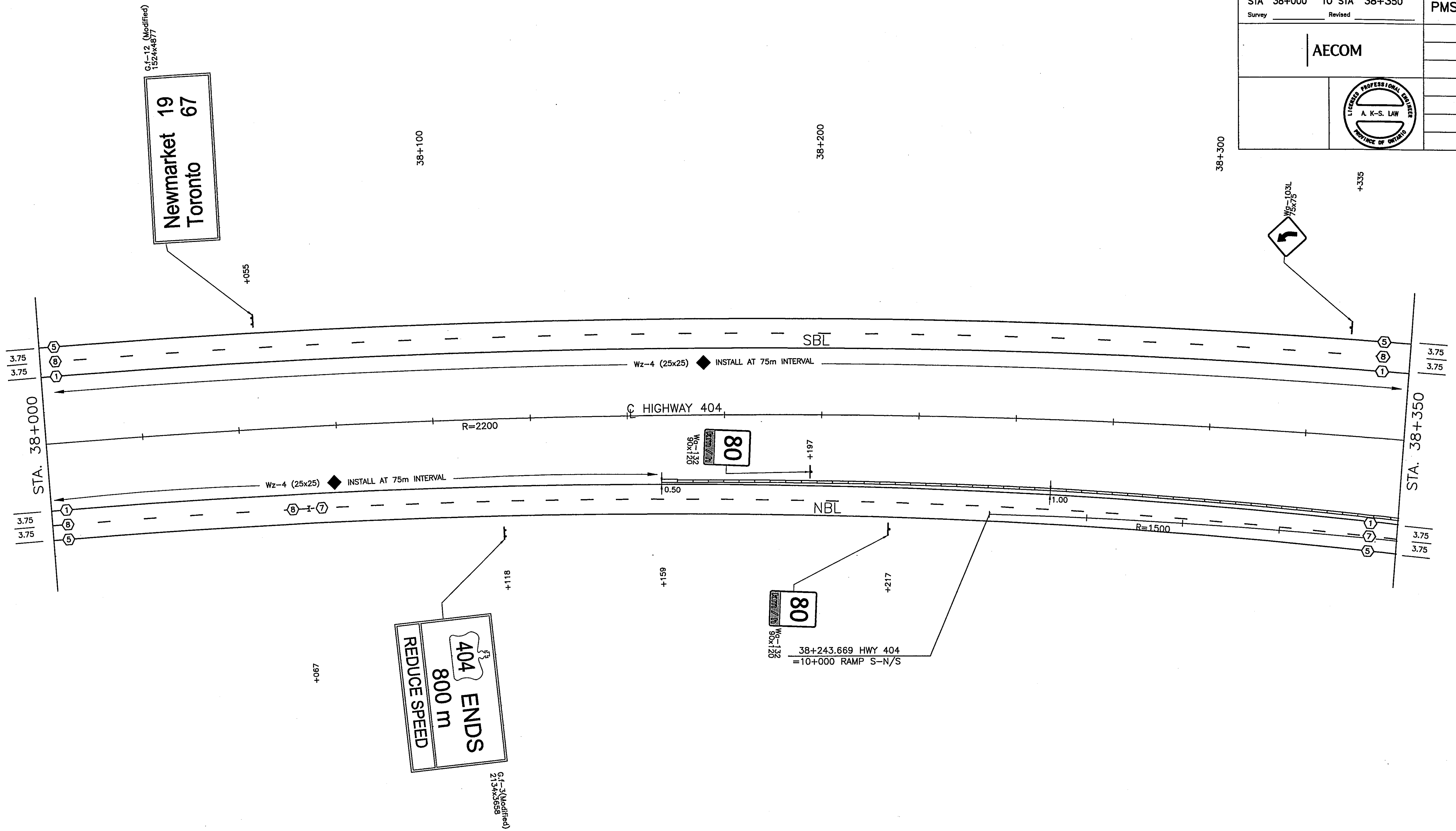
STA 38+000 TO STA 38+350

Survey ______ Revised ______

SHEET PMS-14

AECOM

A. K-S. LAW — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO



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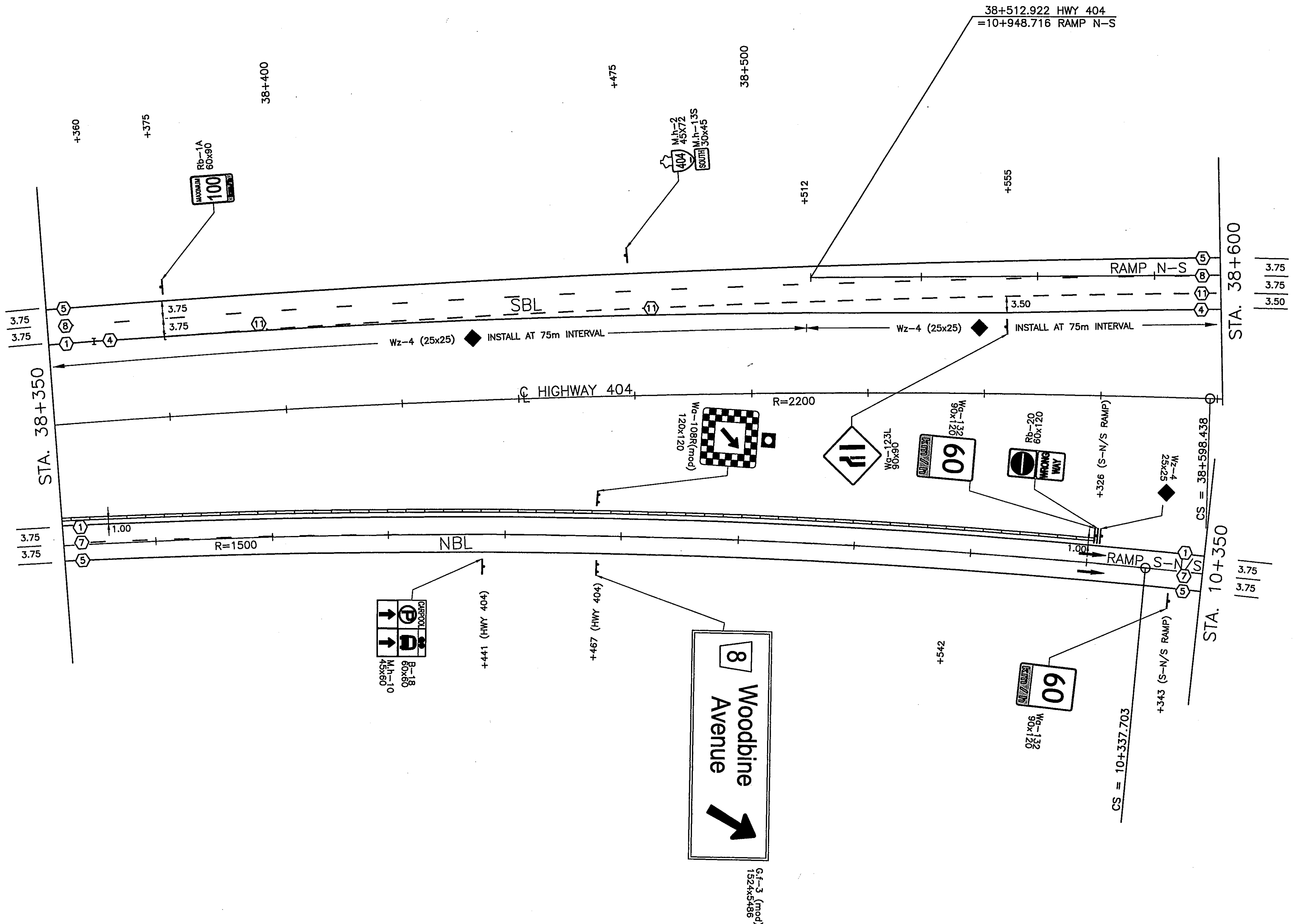
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

PLATE No CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 38+350 TO STA 38+600 Survey ____ Revised ____	SHEET PMS-15
AECOM	

LICENSED PROFESSIONAL ENGINEER
A. K-S. LAW
PROVINCE OF ONTARIO



SCALE
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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

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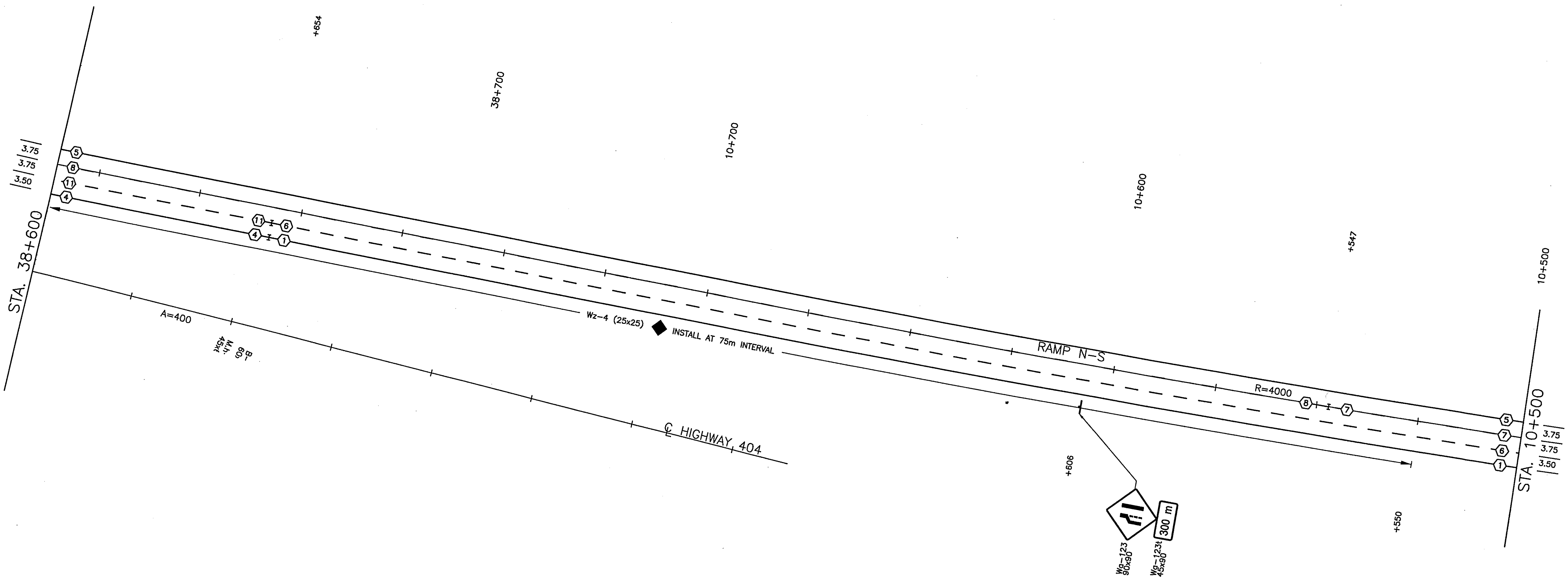
SAVED BY: lowa1

METRIC

PLATE No CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 38+600 TO STA 38+746 Survey ____ Revised ____	SHEET PMS-16
AECOM	
A. K-S. LAW LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO	



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METRIC

PLATE No		
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WP	2005-07-00	
PAVING MARKING AND SIGNING STA 10+350 TO STA 10+650 Survey ______ Revised ______		SHEET PMS-17
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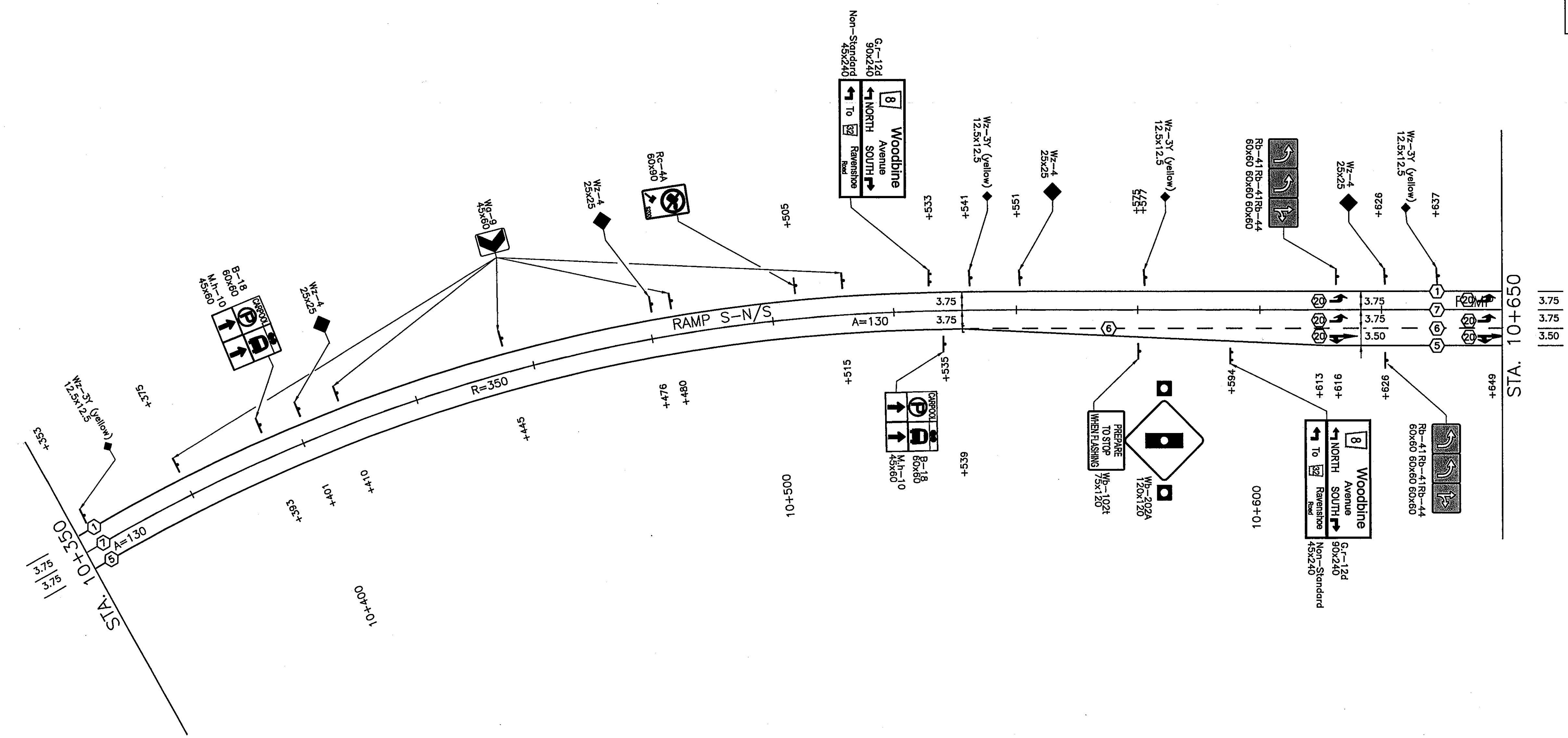

SCALE

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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

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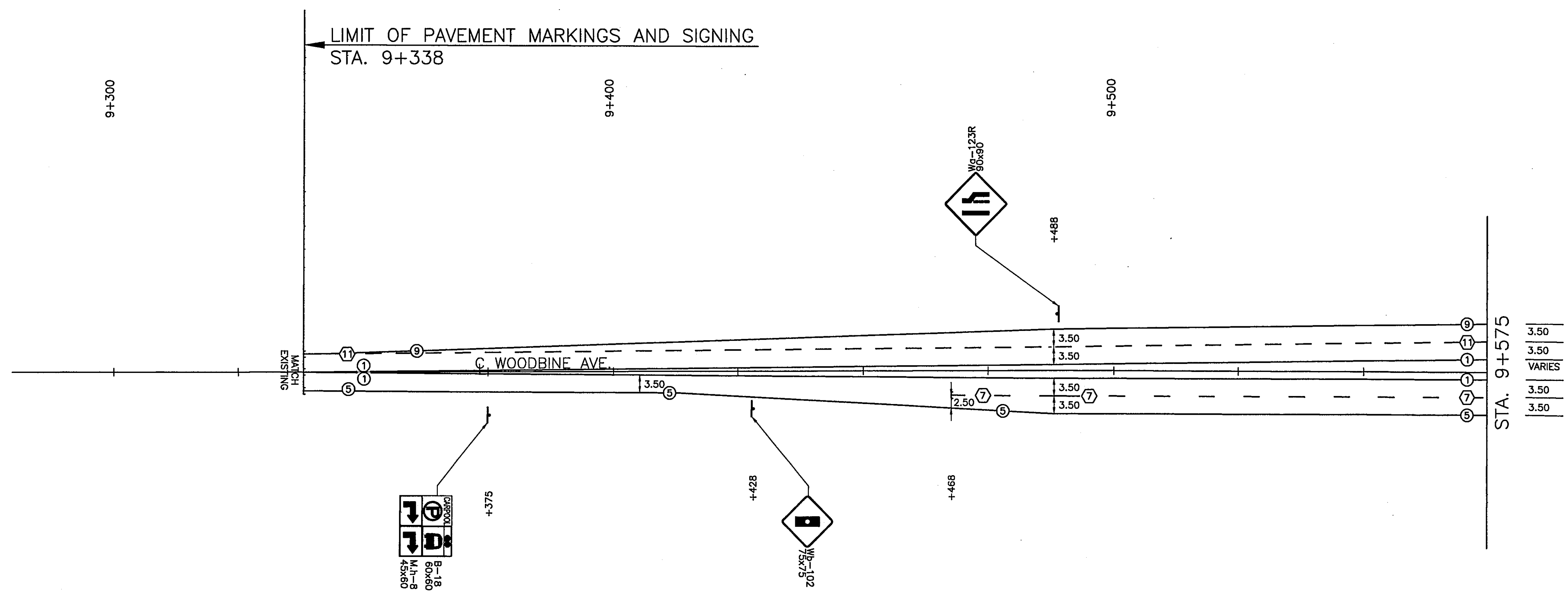
SAVED BY: lowo1 SAVE DATE: 8/16/2010 4:03 PM

METRIC

PLATE No	
CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 9+325 TO STA 9+575	SHEET PMS-18
Survey ______ Revised ______	
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	

NOTE

1. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05

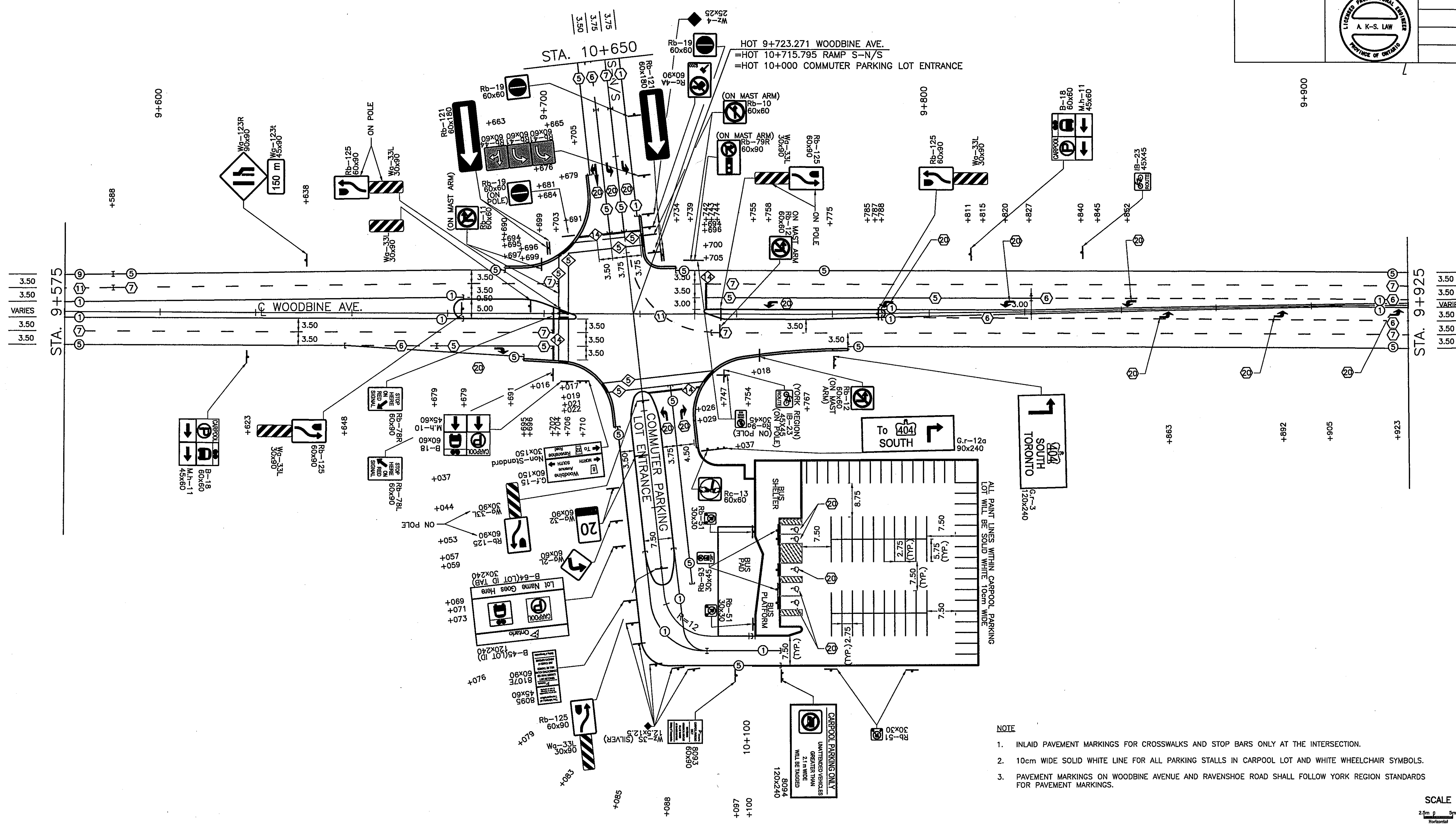
DRAWING NAME: 2538-199-00_CT-PMS-18.dwg PLOT DATE: 9/28/2010 3:38 PM

SAVED BY: mazzaferrom SAVE DATE: 8/16/2010 2:39 PM

METRIC

PLATE No	
CONT	
WP 2005–07–00	
PAVING MARKING AND SIGNING STA 9+575 TO STA 9+925 Survey ________ Revised ________	SHEET PMS–19
AECOM	

A. K-S. LAW
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



NOTE

1. INLAID PAVEMENT MARKINGS FOR CROSSWALKS AND STOP BARS ONLY AT THE INTERSECTION.
2. 10cm WIDE SOLID WHITE LINE FOR ALL PARKING STALLS IN CARPOOL LOT AND WHITE WHEELCHAIR SYMBOLS.
3. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.

SCALE
2.5m 0 5m
Horizontal

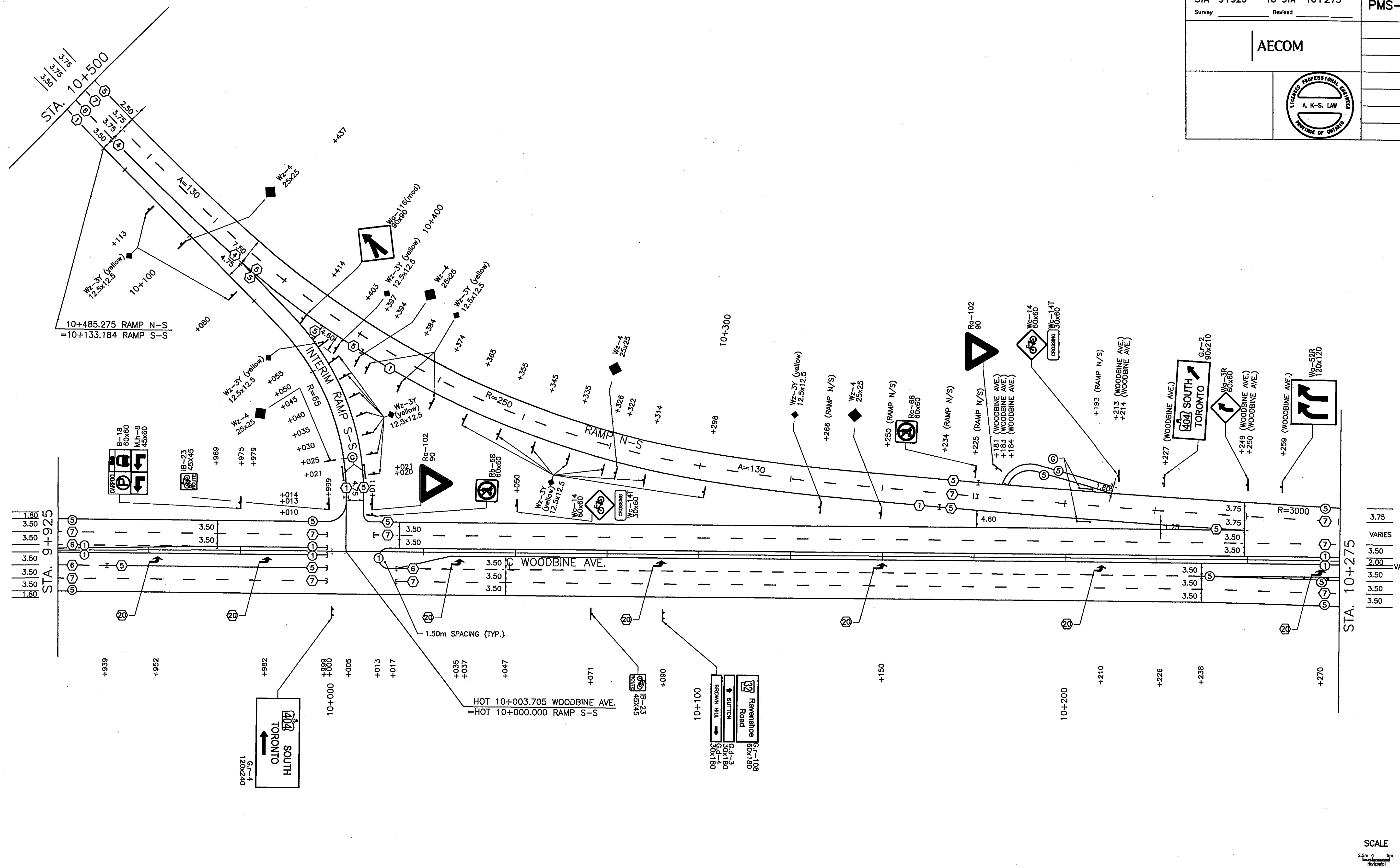
DRAWING NAME: 2538-199-00_CT-PMS-19.dwg
SAVED BY: lawa1 SAVE DATE: 9/2/2010 9:15 AM PLOT DATE: 9/29/2010 5:28 PM

METRIC

PLATE No CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 9+925 TO STA 10+275 Survey Revised	SHEET PMS-20
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	

NOTE

1. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.
2. (G) RAMP CLOSURE GATE REFER TO MISCELLANEOUS DETAILS FOR DRAWINGS.



METRIC

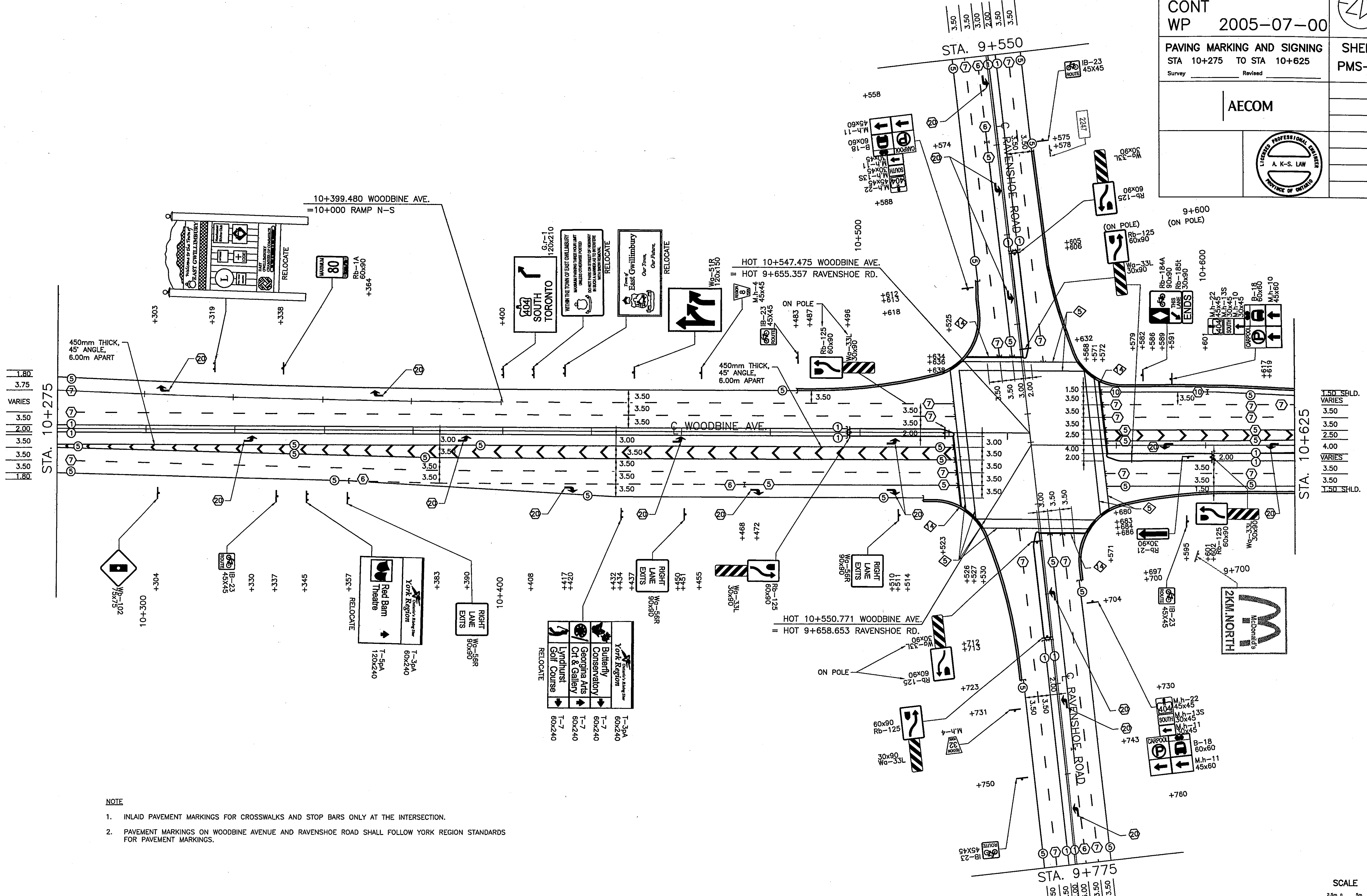
PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 10+275 TO STA 10+625
Survey Revised

SHEET
PMS-21

AECOM

A. K-S. LAW



NOTE

1. INLAID PAVEMENT MARKINGS FOR CROSSWALKS AND STOP BARS ONLY AT THE INTERSECTION.
2. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.

SCALE
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Horizontal

DRAWING NAME: 2538-199-00_CT-PMS-21.dwg
SAVED BY: mazzaferrom SAVE DATE: 8/16/2010 2:41 PM PLOT DATE: 9/28/2010 3:38 PM

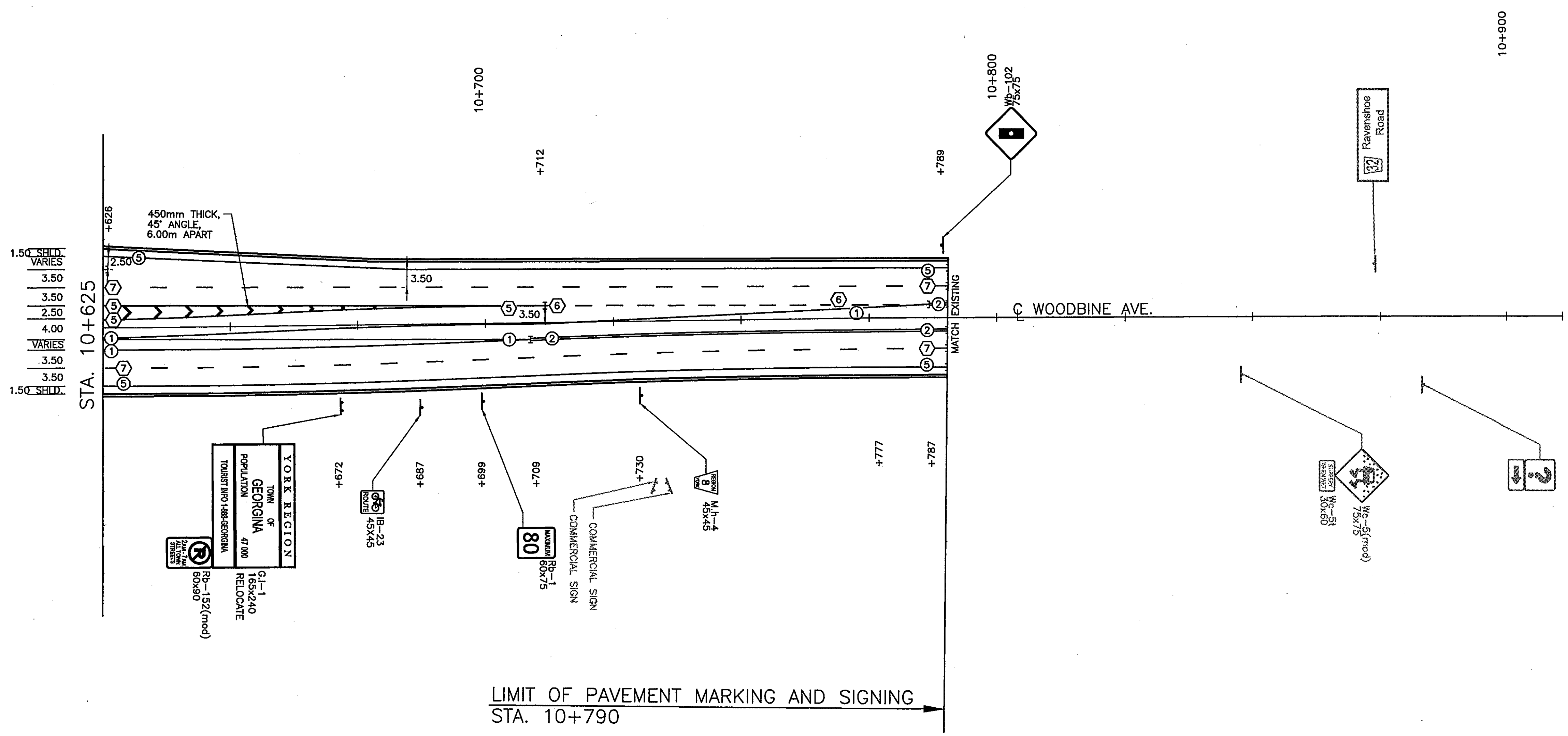
MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

NOTE

1. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.

PLATE No CONT WP 2005–07–00	
PAVING MARKING AND SIGNING STA 10+625 TO STA 10+790 Survey ______ Revised ______	SHEET PMS–22
AECOM	
LICENSED PROFESSIONAL ENGINEER A. K-S. LAW PROVINCE OF ONTARIO	



SCALE

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MINISTRY OF TRANSPORTATION, ONTARIO PH–D–707 88–05

DRAWING NAME: 2538–199–00_CT–PMS–22.dwg PLOT DATE: 9/28/2010 3:39 PM

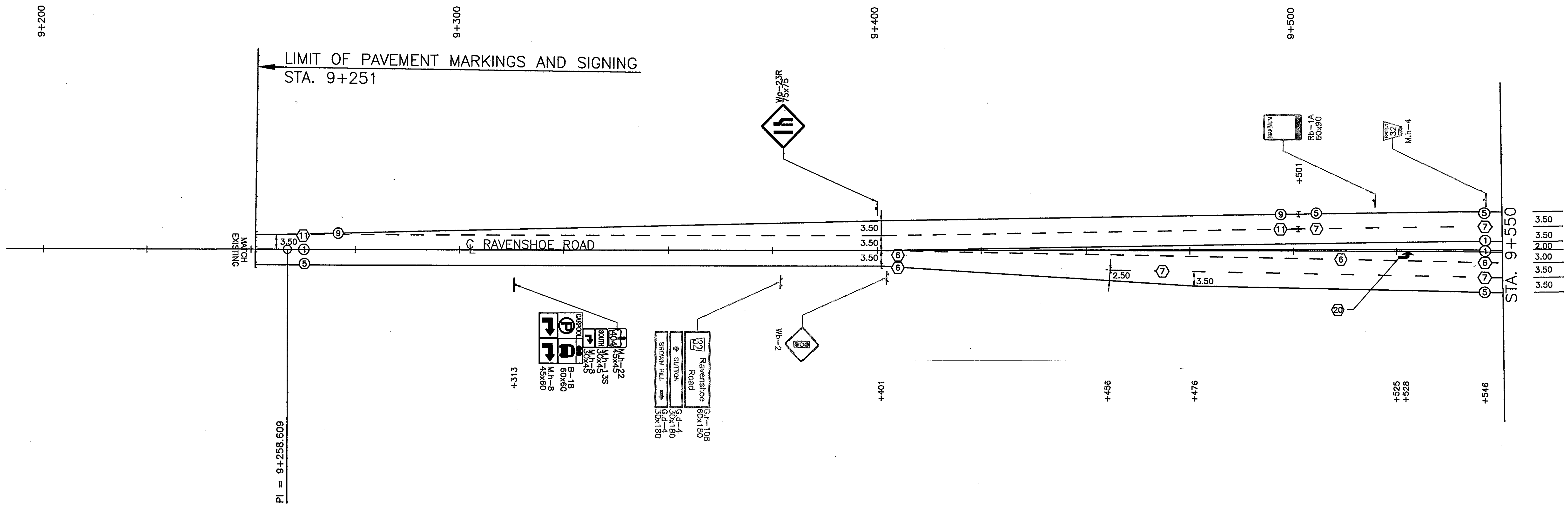
SAVED BY: mazzaferrom SAVE DATE: 8/16/2010 3:18 PM

METRIC

NOTE

1. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.

PLATE No	
CONT WP 2005-07-00	
PAVING MARKING AND SIGNING STA 9+256 TO STA 9+550	SHEET PMS-23
AECOM	
A. K-S. LAW — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO	



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

METRIC

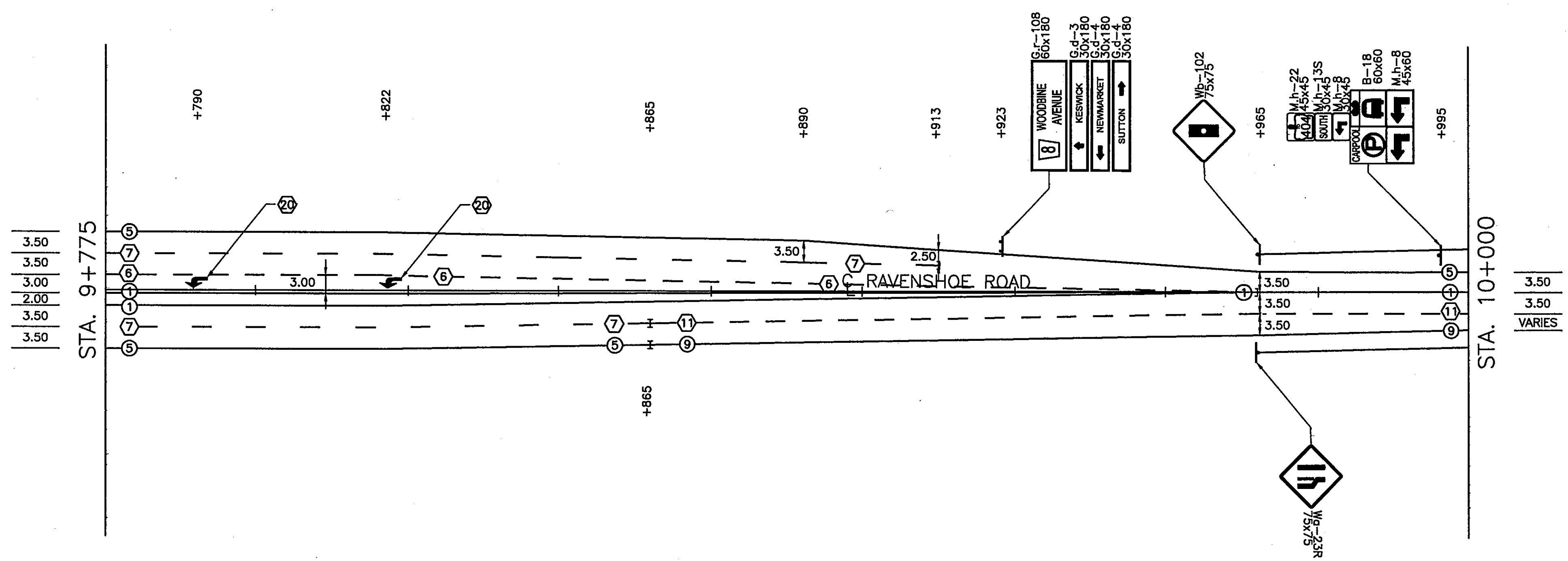
PLATE No
CONT
WP 2005-07-00

PAVING MARKING AND SIGNING
STA 9+775 TO STA 10+110
Survey ______ Revised ______

SHEET
PMS-24

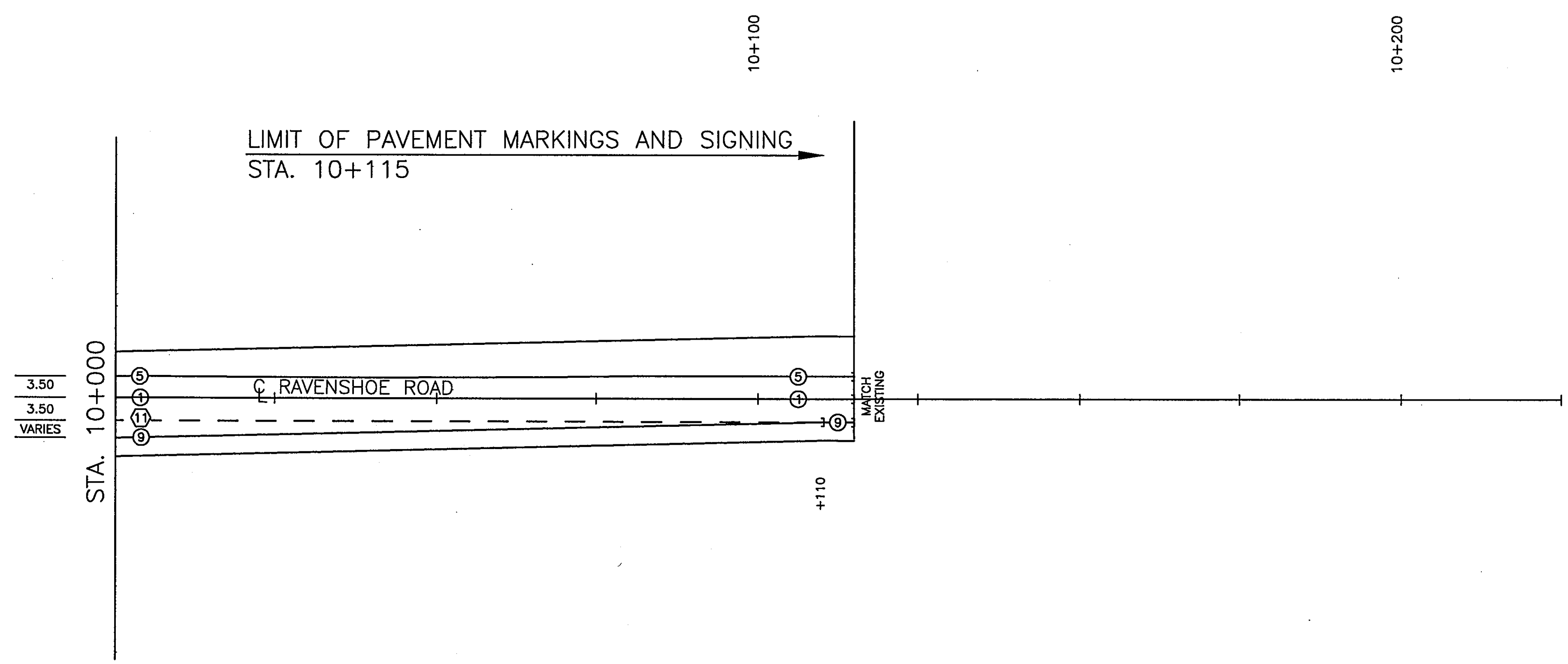
AECOM

A. K-S. LAW
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



NOTE

1. PAVEMENT MARKINGS ON WOODBINE AVENUE AND RAVENSHOE ROAD SHALL FOLLOW YORK REGION STANDARDS FOR PAVEMENT MARKINGS.



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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 2538-199-00_CT-PMS-24.dwg PLOT DATE: 9/28/2010 3:39 PM
SAVED BY: mazzaferrom SAVE DATE: 8/16/2010 3:04 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY PLANT KEY

Plant List - HWY 404 & HOLBORN ROAD

Plant ID:	QTY	Botanical Name	Common Name	Remarks
DECIDUOUS TREES				
BP60	7	BETULA PAPYRIFERA	PAPER BIRCH	60mm cal., 3 stem clump
PB25	42	POPULUS BALSAMIFERA	BALSAM POPLAR	2.50m ht.
PS50	18	PRUNUS SEROTINA	BLACK CHERRY	50mm cal.
PS60	11	PRUNUS SEROTINA	BLACK CHERRY	60mm cal.
QM25	11	QUERCUS MACROCARPA	BUR OAK	2.50m ht.
QM50	3	QUERCUS MACROCARPA	BUR OAK	50mm cal.
QR25	7	QUERCUS RUBRA	RED OAK	2.50m ht.
QR50	21	QUERCUS RUBRA	RED OAK	50mm cal.
QR60	11	QUERCUS RUBRA	RED OAK	60mm cal.
CONIFEROUS TREES				
PN1.2	145	PINUS NIGRA	AUSTRIAN PINE	1.25m ht.
PN1.5	52	PINUS NIGRA	AUSTRIAN PINE	1.50m ht.
PN2.0	26	PINUS NIGRA	AUSTRIAN PINE	2.00m ht.
PP1.2	302	PICEA PUNGENS	COLORADO SPRUCE	1.25m ht.
PP1.5	59	PICEA PUNGENS	COLORADO SPRUCE	1.50m ht.
PP2.0	37	PICEA PUNGENS	COLORADO SPRUCE	2.00m ht.
PPG1.5	4	PICEA PUNGENS 'GLAUCA'	BLUE COLORADO SPRUCE	1.50m ht.
DECIDUOUS SHRUBS *				
ac60	405	AMELANCHIER CANADENSIS	DOWNY SERVICEBERRY	600mm ht.
amm60	258	ARONIA MELANCARPA	BLACK CHOKEBERRY	600mm ht.
cra60	47	CORNUS RACEMOSA	GRAY DOGWOOD	600mm ht.
dlh60	579	DIERVILLA LONICERA	BUSH HONEYSUCKLE	600mm ht.
pop60	74	PHYSOCARPUS OPULIFOLIUS	NATIVE NINEBARK	600mm ht.
pvl60	605	PRUNUS VIRGINIANA	CHOKE CHERRY	600mm ht.
rg60	47	RHUS GLABRA	SMOOTH SUMAC	600mm ht.
rr60	238	ROSA RUGOSA	RED RUGOSA ROSE	600mm ht.
rt60	467	RHUS TYPHINA	STAGHORN SUMAC	600mm ht.
sas60	323	SYMPHORICARPOS ALBUS	SNOWBERRY	600mm ht.,
CONIFEROUS SHRUBS				
jcmj60	349	JUNIPERUS CHINENSIS 'MINT JULEP'	MINT JULIP JUNIPER	600mm sprd.
jcbk60	348	JUNIPERUS CHINENSIS 'BAKAUREA'	GOLD STAR JUNIPER	600mm sprd.

*N.B. 2.5m ht. DECIDUOUS TREES TO BE MIN. 25mm CAL.

Plant List - BOAG ROAD

Plant ID:	QTY	Botanical Name	Common Name	Remarks
DECIDUOUS TREES				
QM60	11	QUERCUS MACROCARPA	BUR OAK	60mm cal.
CONIFEROUS TREES				
PP2.0	14	PICEA PUNGENS	COLORADO SPRUCE	2.00m ht.

Plant List - RAVENSHOE ROAD

Plant ID:	QTY	Botanical Name	Common Name	Remarks
CONIFEROUS TREES				
PP2.0	10	PICEA PUNGENS	COLORADO SPRUCE	2.00m ht.

Plant List - WOODBINE AVENUE

Plant ID:	QTY	Botanical Name	Common Name	Remarks
DECIDUOUS TREES				
QR60	2	QUERCUS RUBRA	RED OAK	60mm cal.
PS60	2	PRUNUS SEROTINA	BLACK CHERRY	60mm cal.
CONIFEROUS TREES				
PP2.0	11	PICEA PUNGENS	COLORADO SPRUCE	2.00m ht.

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS – PAUL MASSALIN – OALA MEMBER

METRIC

terraplan LANDSCAPE ARCHITECTS
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Toronto, Ontario, M3H 2Z1, Canada
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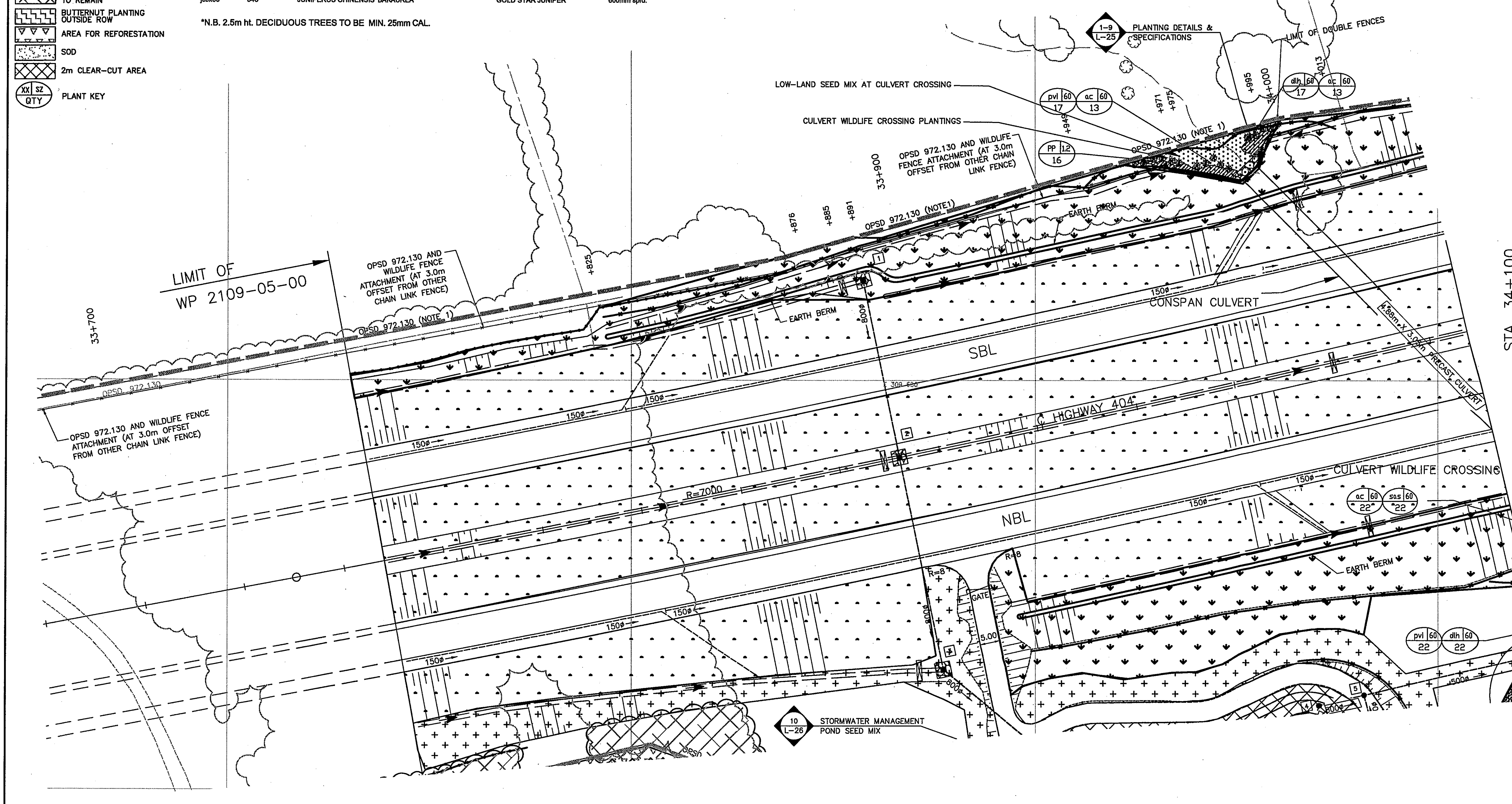
Fax:(416)638-4261
Email:terraplan@terraplan.ca

PLATE No
CONT WP 2005-07-00

LANDSCAPE PLANTING
STA 34+000 TO STA 34+100
Survey ______ Revised ______

AECOM

SHEET L1



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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

METRIC

terraplan
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Email:terraplan@terraplan.ca

PLATE No

CONT

WP 2005-07-00

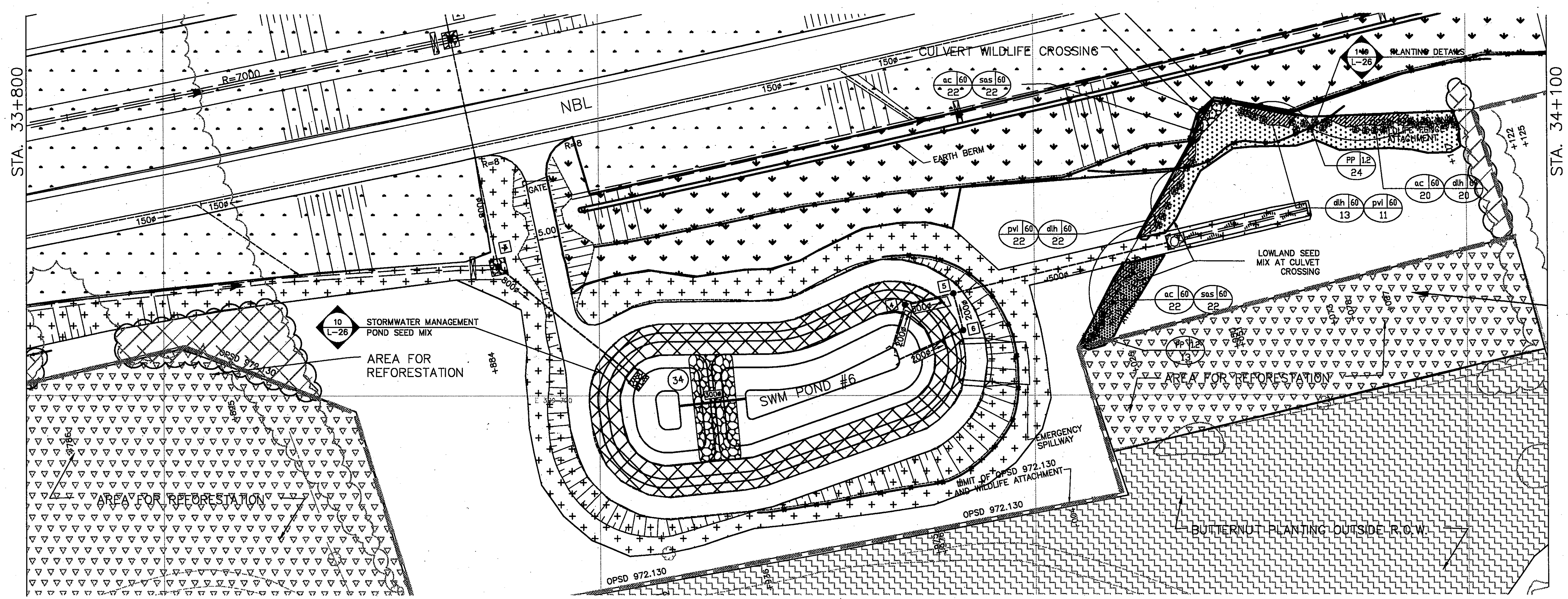
LANDSCAPE PLANTING

STA 33+800 TO STA 34+100

Survey ____ Revised ____

AECOM

SHEET L2



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05
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SAVED BY: L.R.

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
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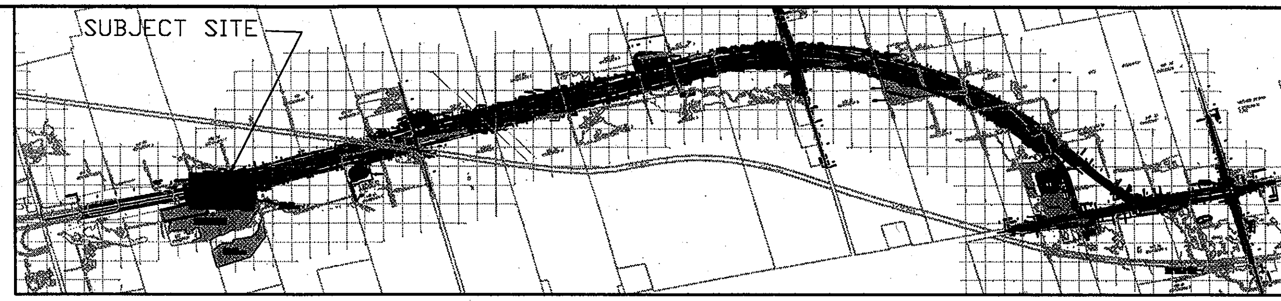
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY



METRIC	PLATE No
terraplan LANDSCAPE ARCHITECTS	CONT
	WP 2005-07-00

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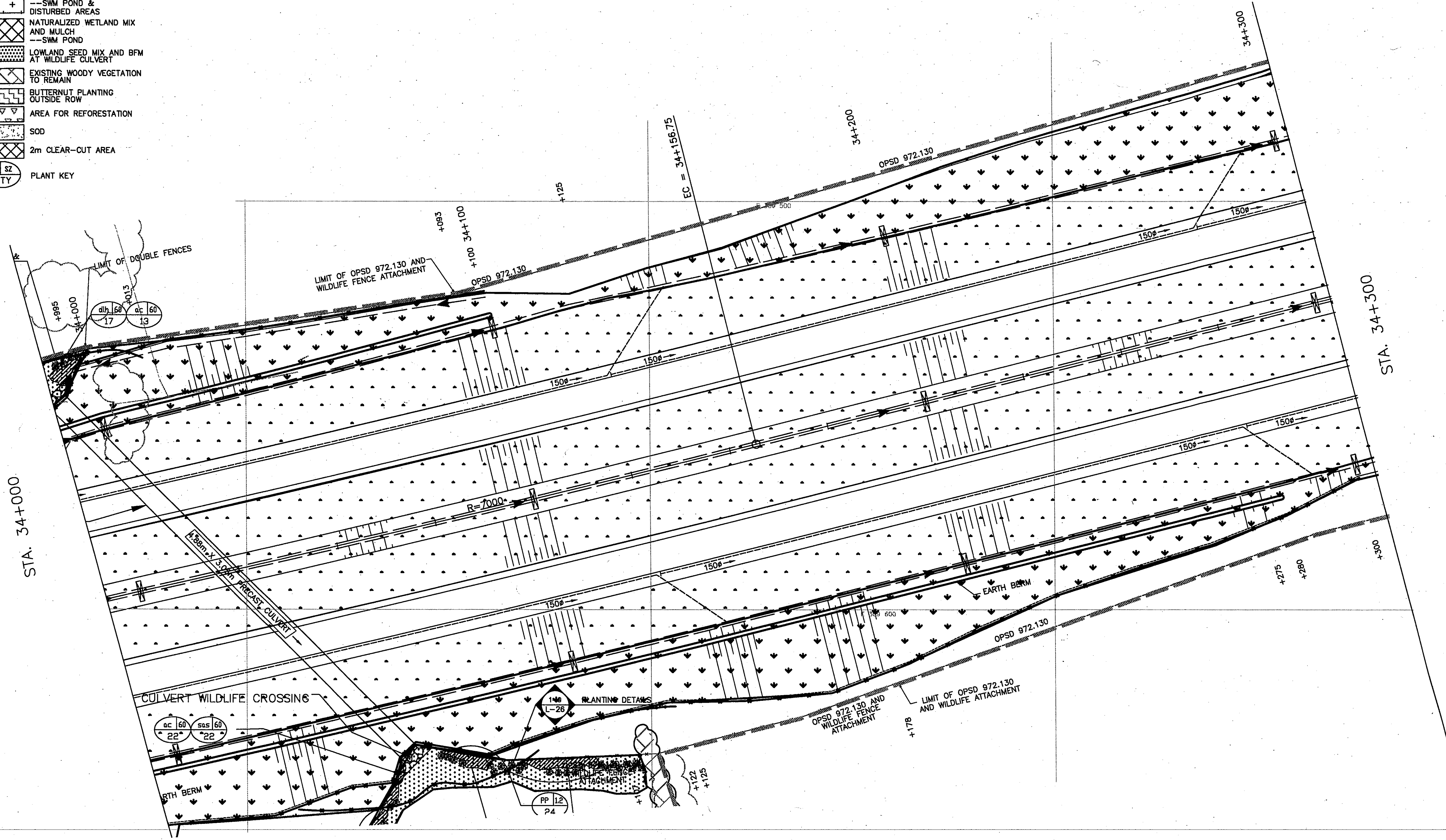
Email:terraplan@terraplan.ca

LANDSCAPE PLANTING
STA 34+000 TO STA 34+300
Survey ______ Revised ______

SHEET L3

AECOM



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

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- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

METRIC

terraplan LANDSCAPE ARCHITECTS

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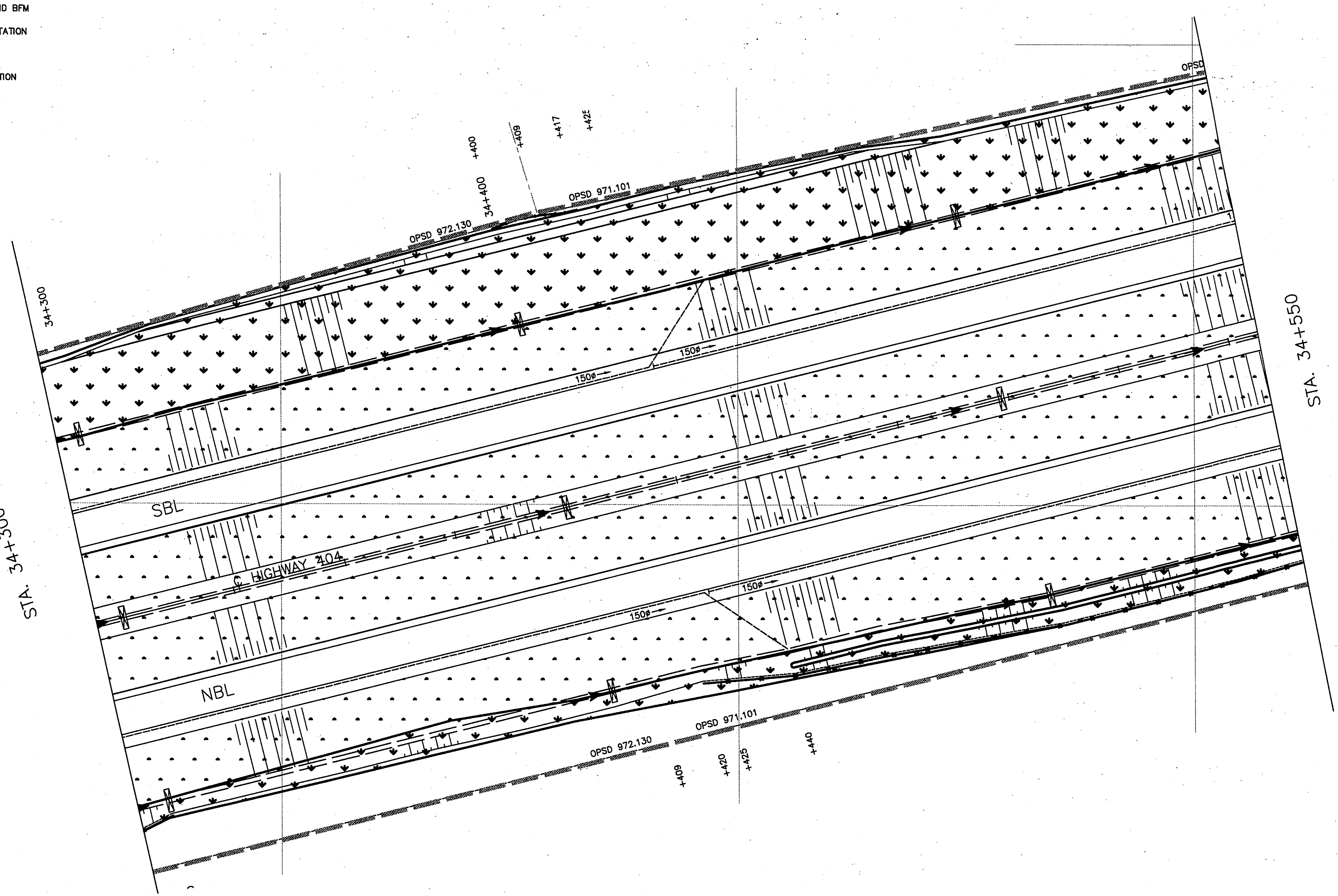
Email:terraplan@terraplan.ca

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 34+300 TO STA 34+550
Survey ______ Revised ______

AECOM

SHEET L4



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

DRAWING NAME: 09-221-prop_L1-8.dwg SAVE DATE: 9/29/2010 11:15 AM PLOT DATE: 9/29/2010 1:10 PM
SAVED BY: L.R.

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY

METRIC

terraplan LANDSCAPE ARCHITECTS
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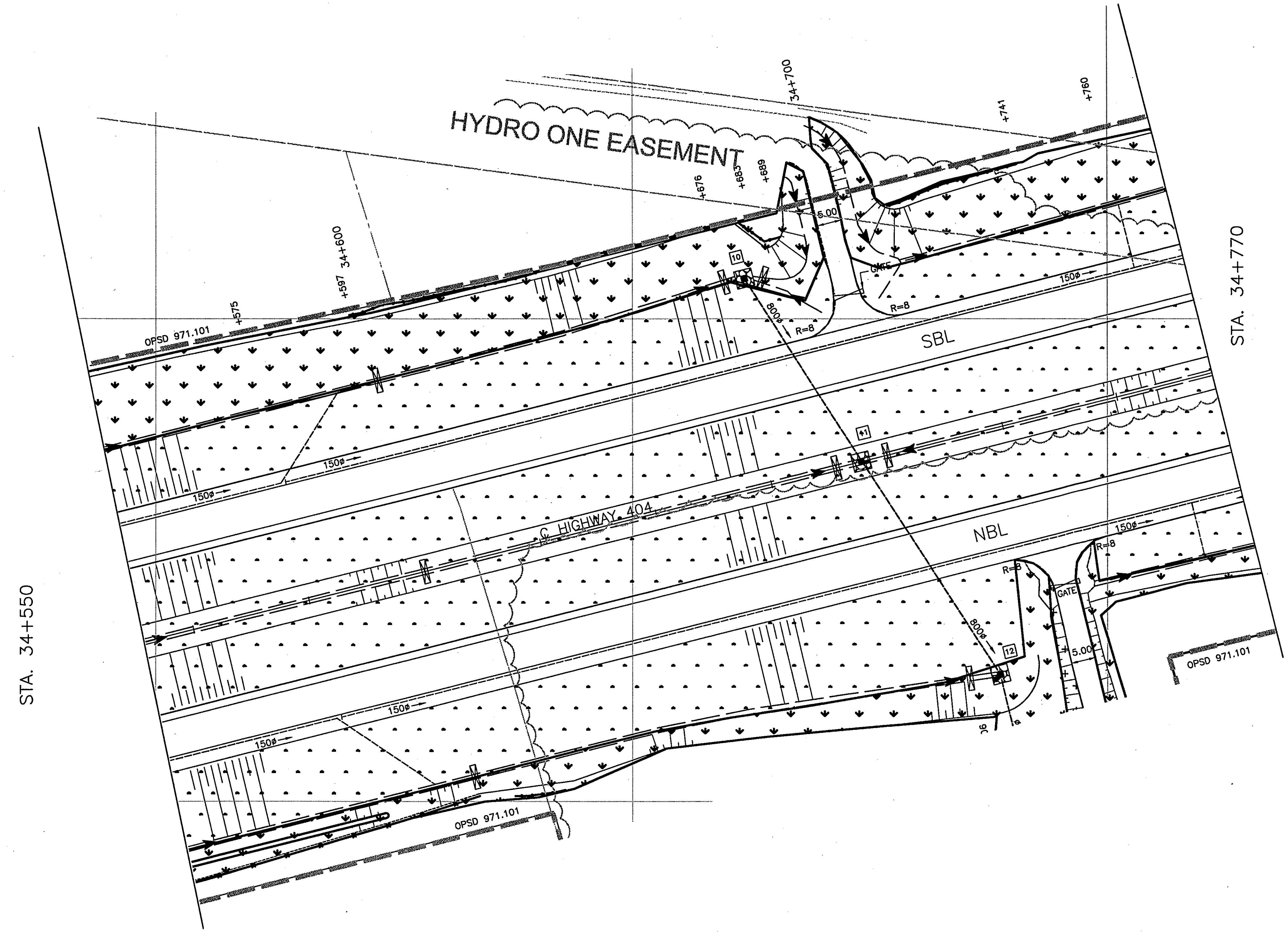
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 34+550 TO STA 34+770
Survey ______ Revised ______

AECOM

SHEET L5



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SAVED BY: L.R. SAVE DATE: 9/29/2010 1:13 PM

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PLATE No

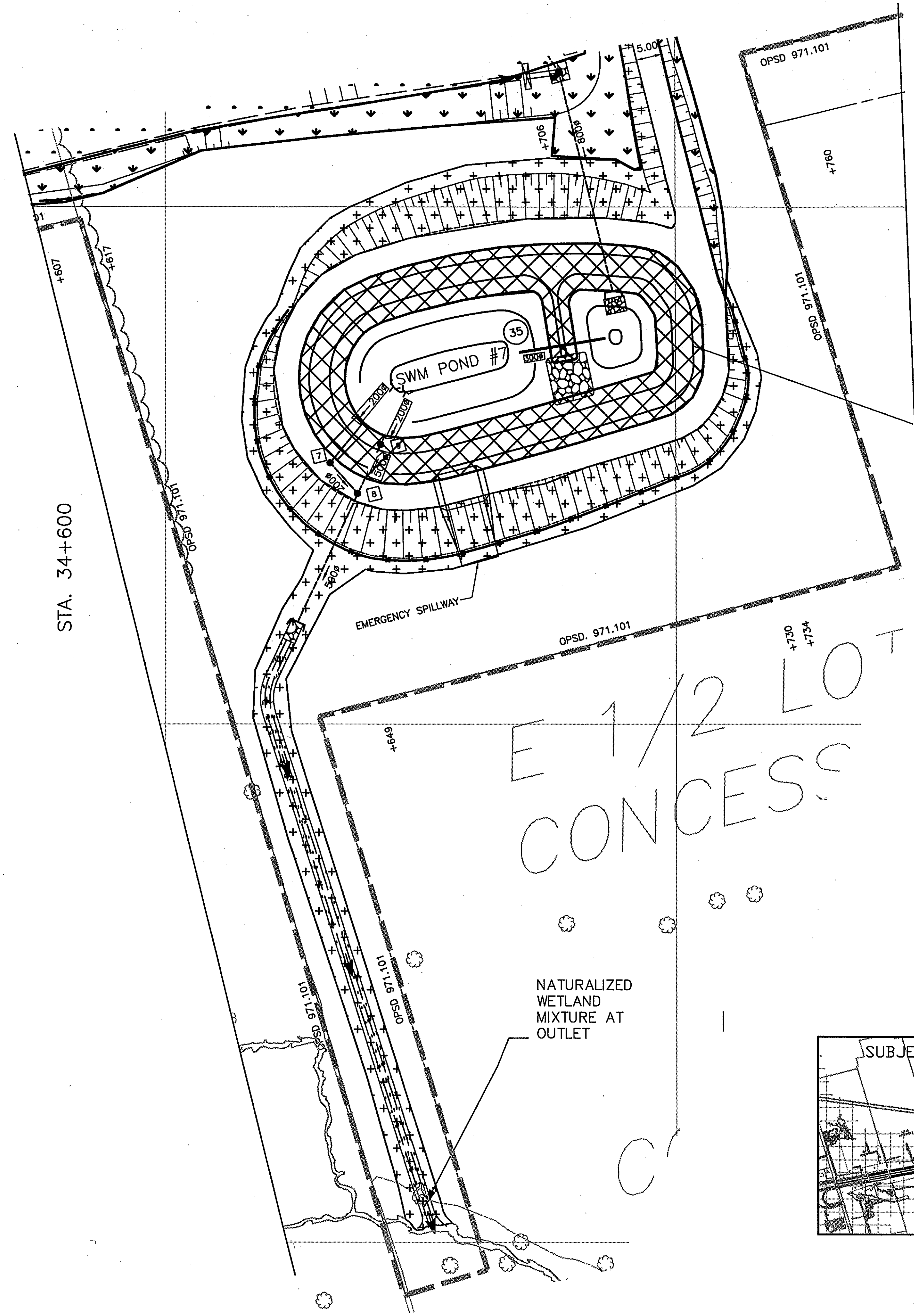
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 34+600 TO STA 34+750

Survey ________ Revised ________

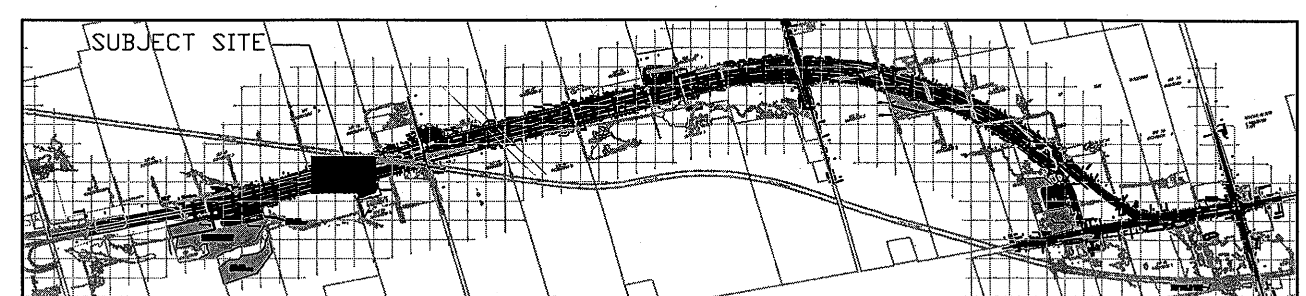
AECOM

SHEET
L6



LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY — PLANT KEY



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SAVE DATE: 9/29/2010 1:13 PM
PLOT DATE: 9/29/2010 1:24 PM

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH —SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH —SWM POND
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- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY PLANT KEY

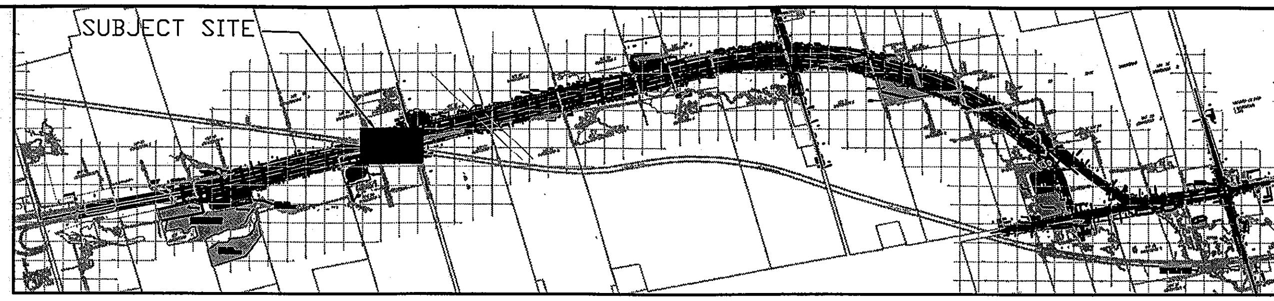

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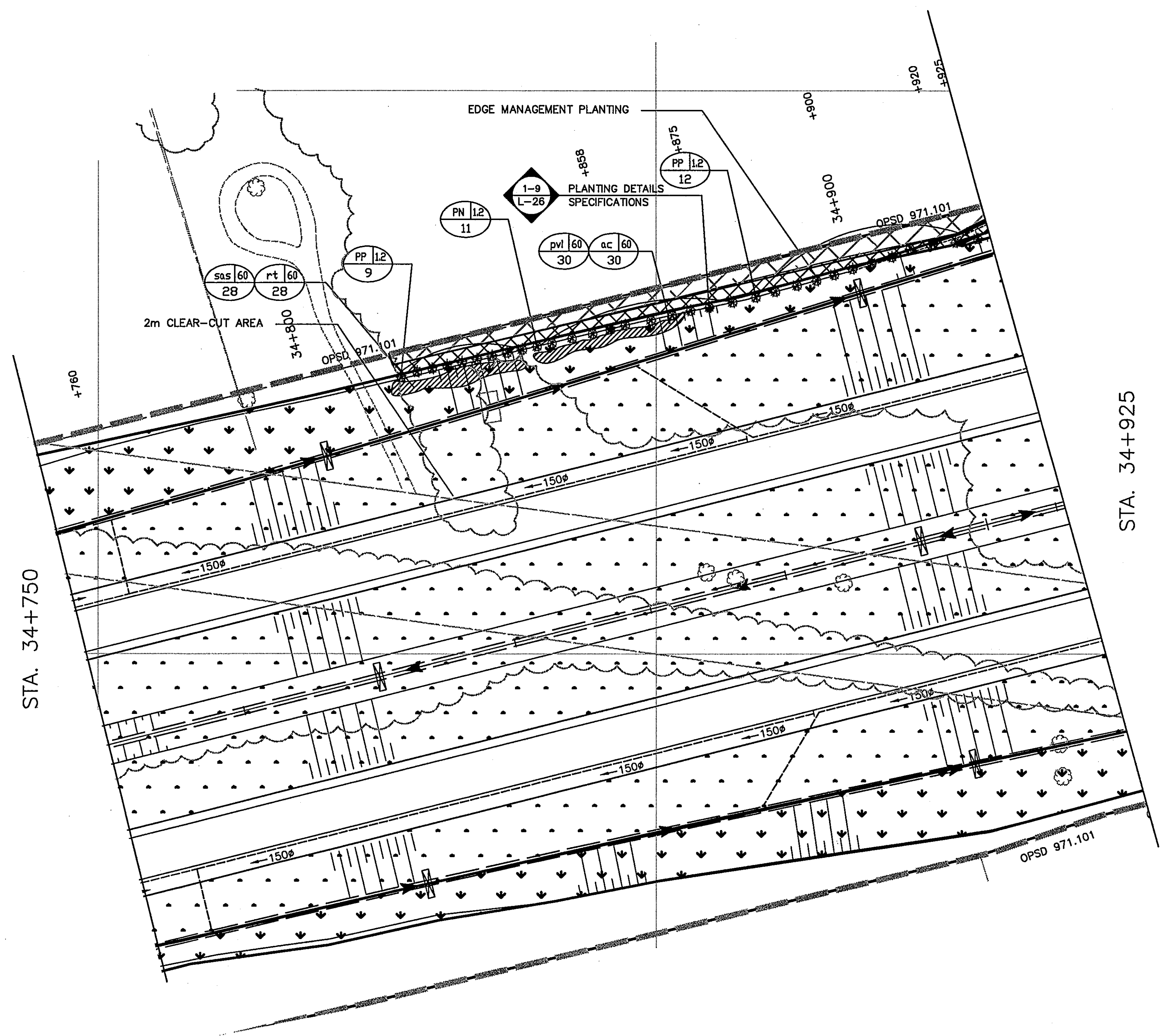
PLATE No	
CONT	
WP	2005-07-00
LANDSCAPE PLANTING	
STA 34+750 TO STA 34+925	
Survey	Revised
AECOM	
SHEET	L7



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
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- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY

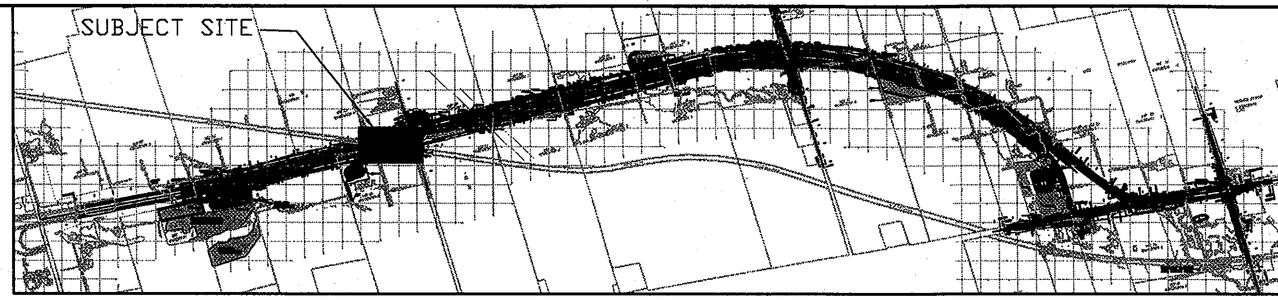

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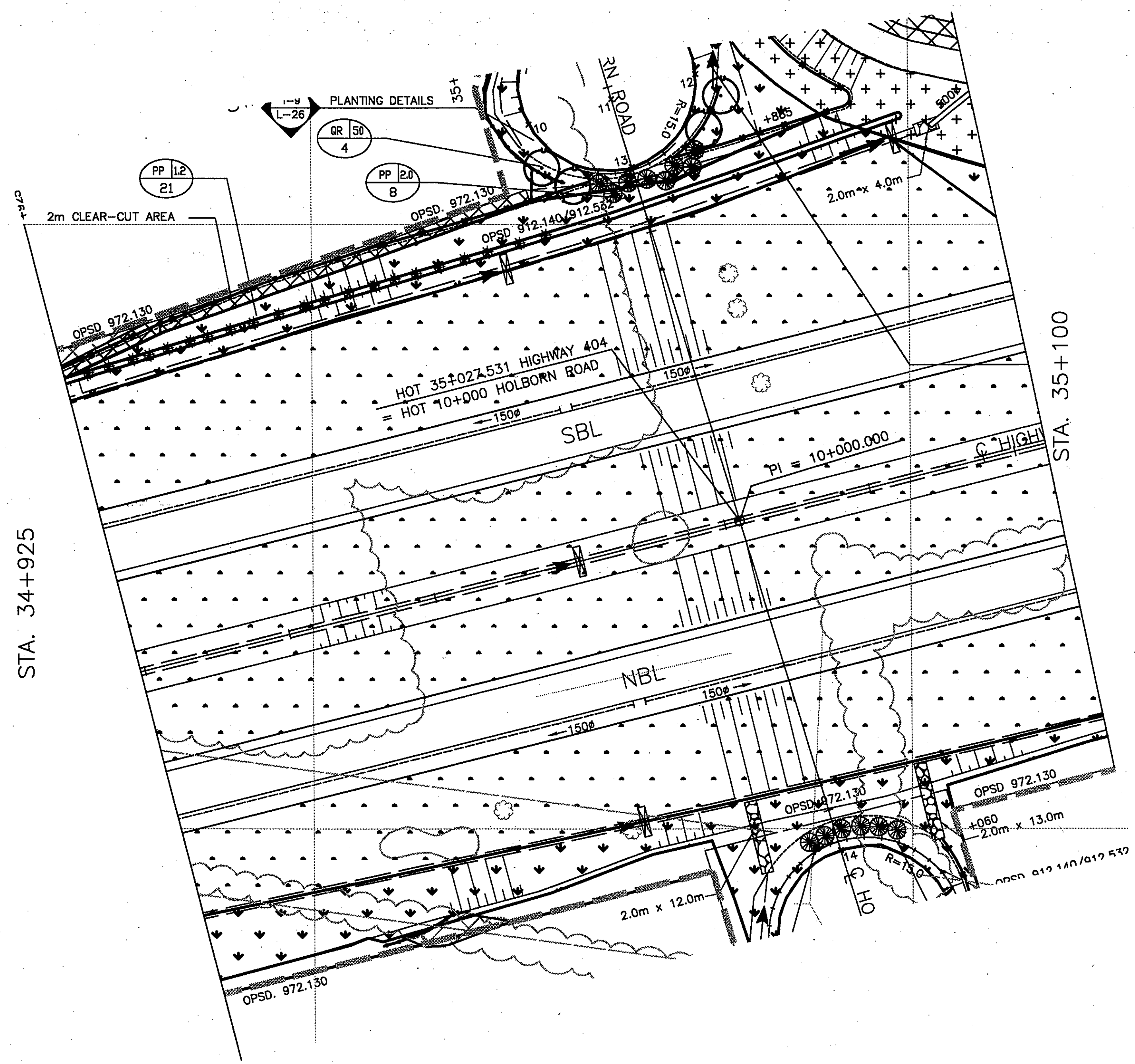
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 34+925 TO STA 35+100
Survey ______ Revised ______

AECOM

SHEET
L8



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PR-D-707 88-05

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SAVED BY: L.R.

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH —SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH —SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY PLANT KEY

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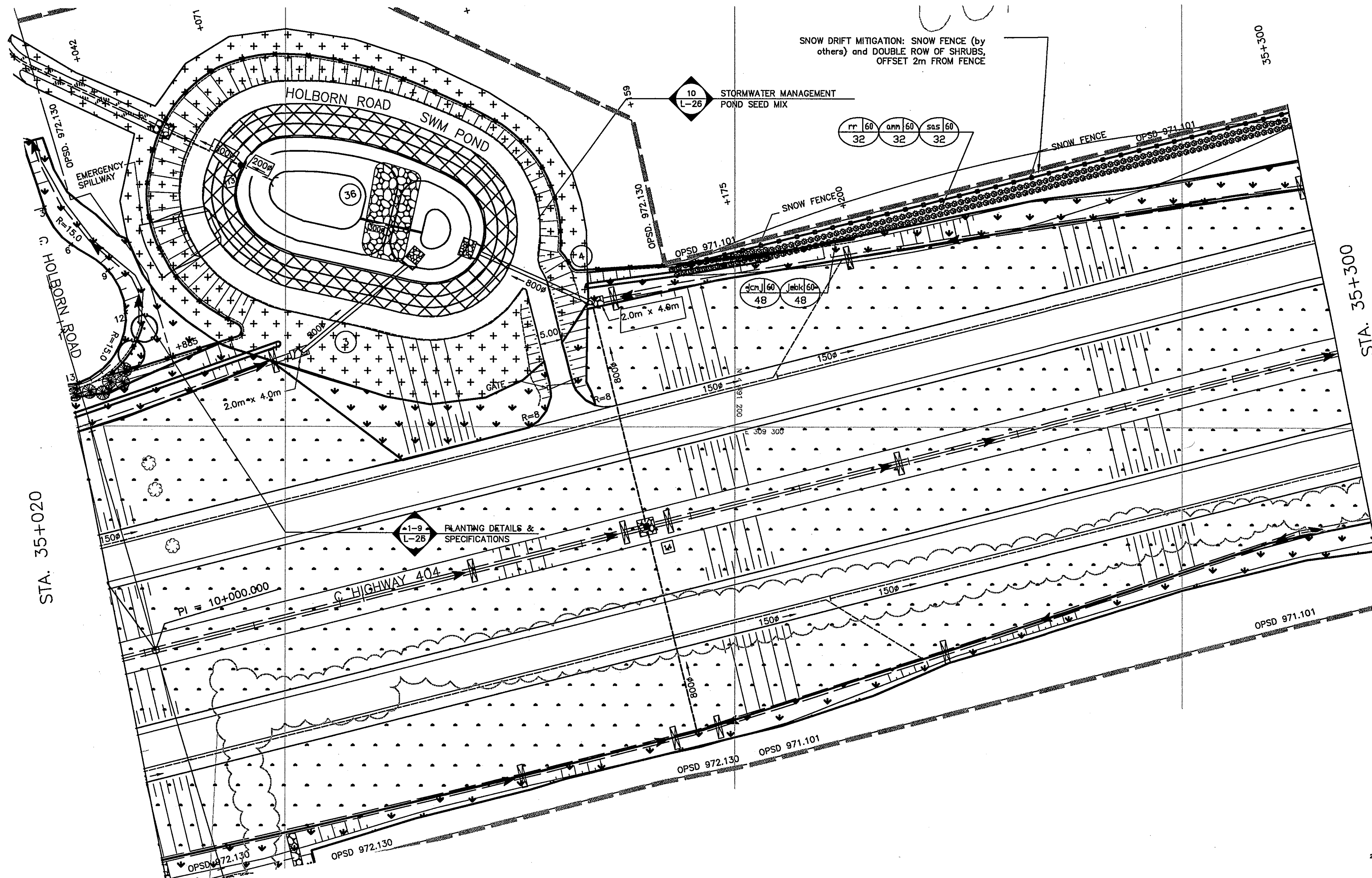
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 35+020 TO STA 35+300
Survey ________ Revised ________

AECOM

SHEET
L9



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LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
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- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY

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PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 9+885 TO STA 10+111
Survey Revised

AECOM

SHEET L10

SCALE
2.5m 0 5m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 86-05

DRAWING NAME: 09-221-proj_L9-16.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 11:24 AM PLOT DATE: 9/29/2010 1:22 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
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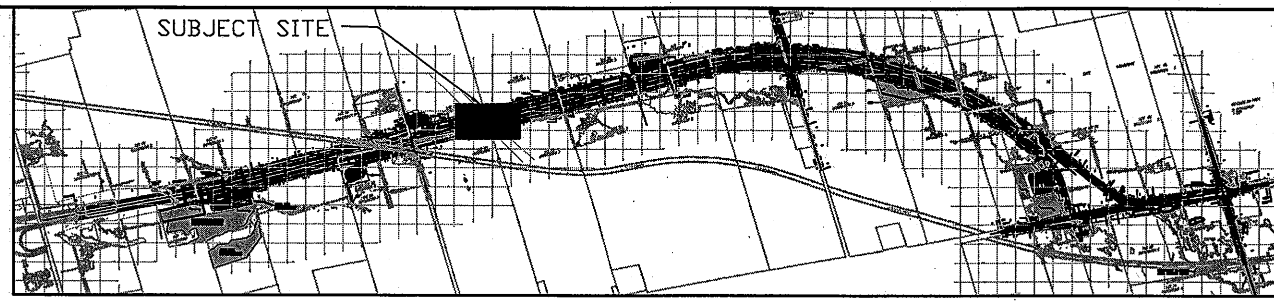
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY



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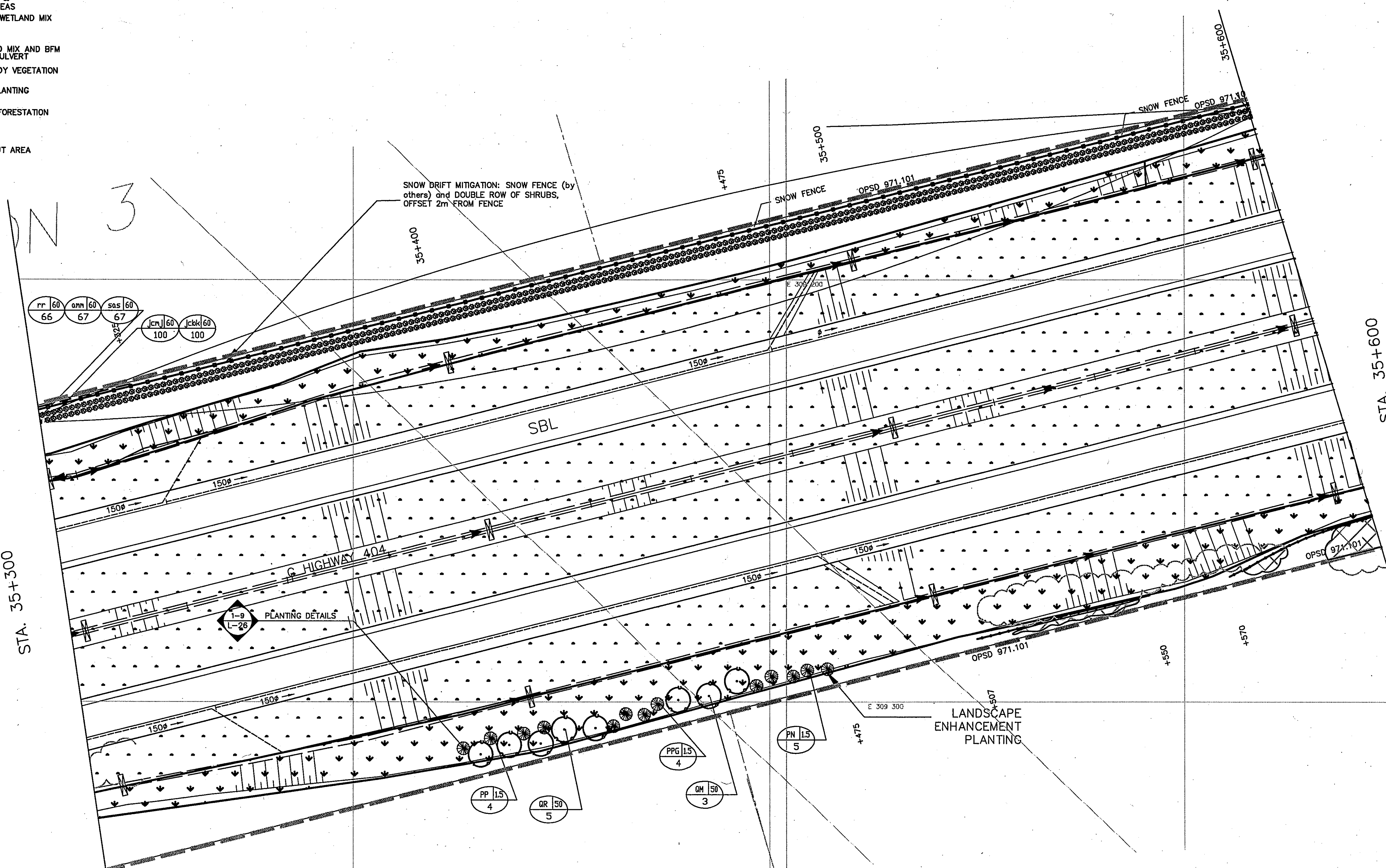
Email:terraplan@terraplan.ca

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 35+300 TO STA 35+600
Survey ____ Revised ____

AECOM

SHEET
L11



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LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
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- NATURALIZED WETLAND MIX AND MULCH --SWM POND
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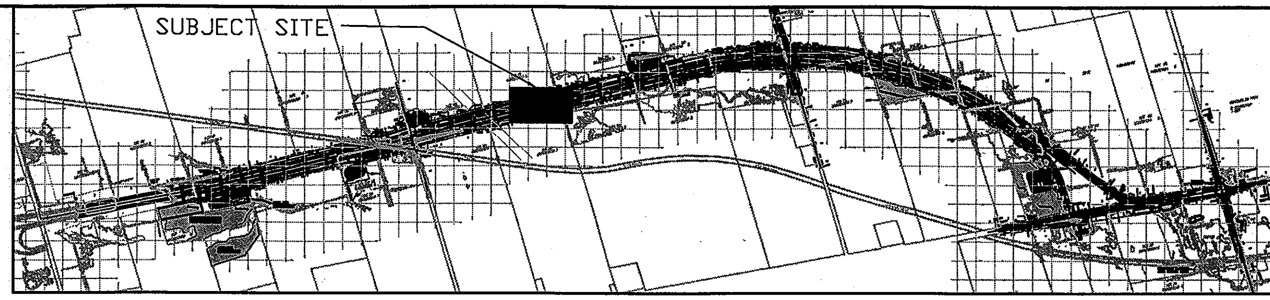
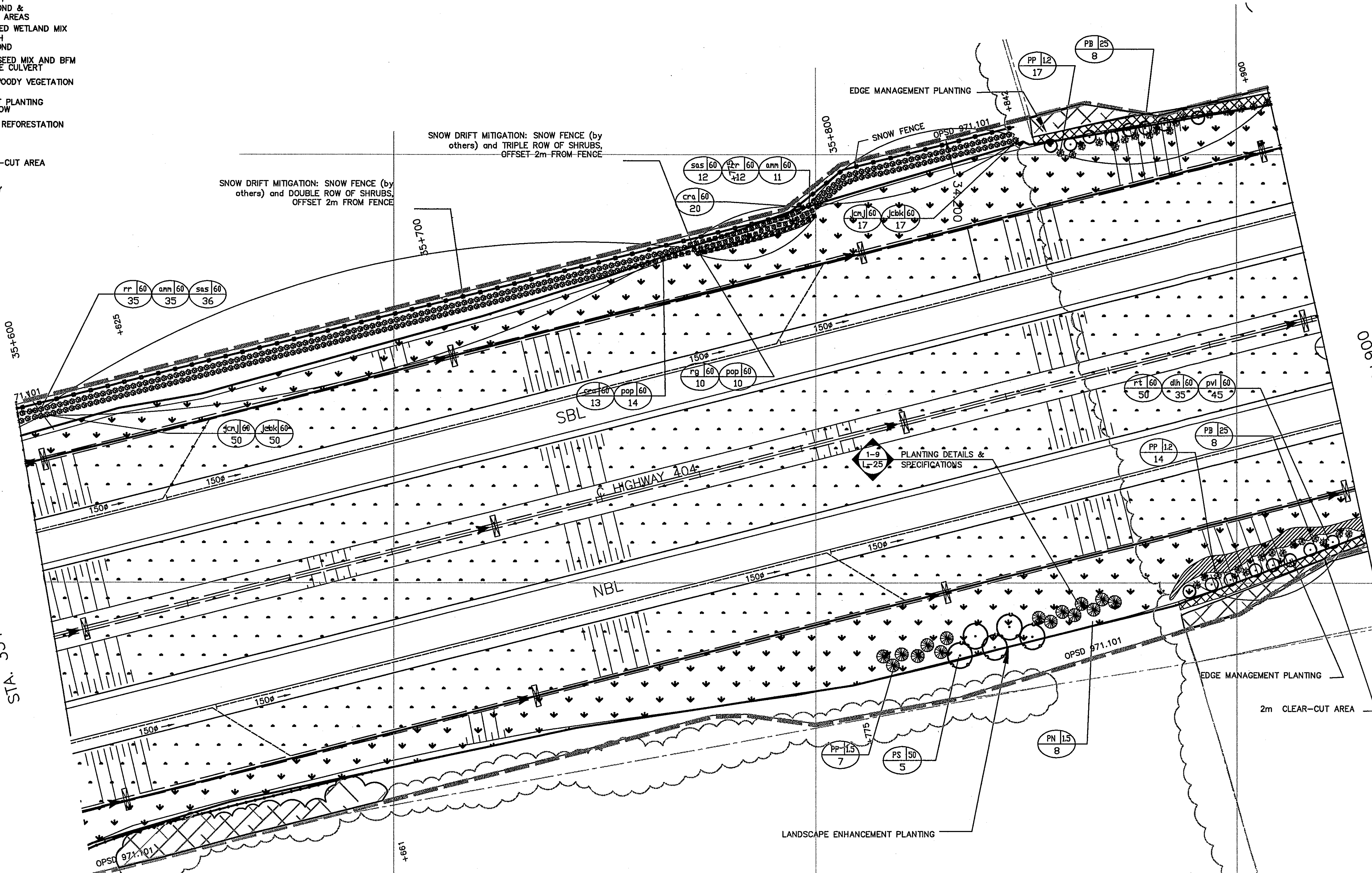
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY



OALA MEMBER	METRIC terraplan LANDSCAPE ARCHITECTS 20 Champlain Blvd., Suite 102 Toronto, Ontario, M3H 2Z1, Canada Tel:(416)638-4911 Fax:(416)638-4261 Email:terraplan@terraplan.ca	PLATE No CONT WP 2005–07–00 LANDSCAPE PLANTING STA 35+600 TO STA 35+900 Survey ____ Revised ____ AECOM	SHEET L12



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SAVED BY: L.R.
SAVE DATE: 9/29/2010 11:24 AM PLOT DATE: 9/29/2010 1:24 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
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- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
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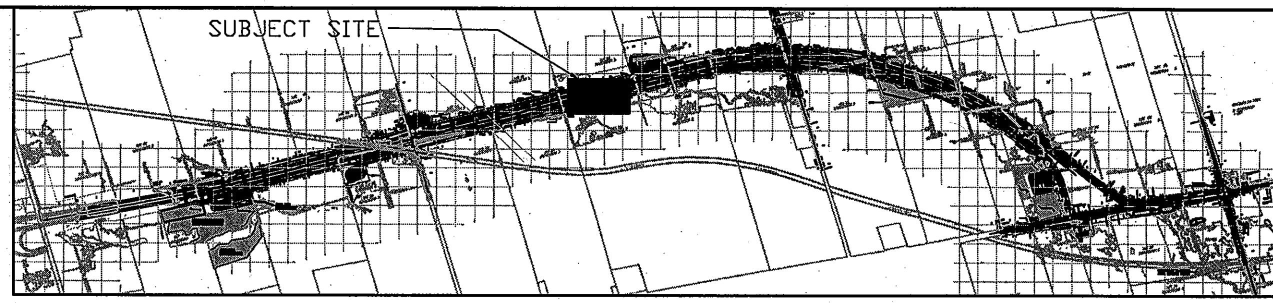
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY — PLANT KEY



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Toronto, Ontario, M3H 2Z1, Canada
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Fax:(416)638-4261
Email:terraplan@terraplan.ca

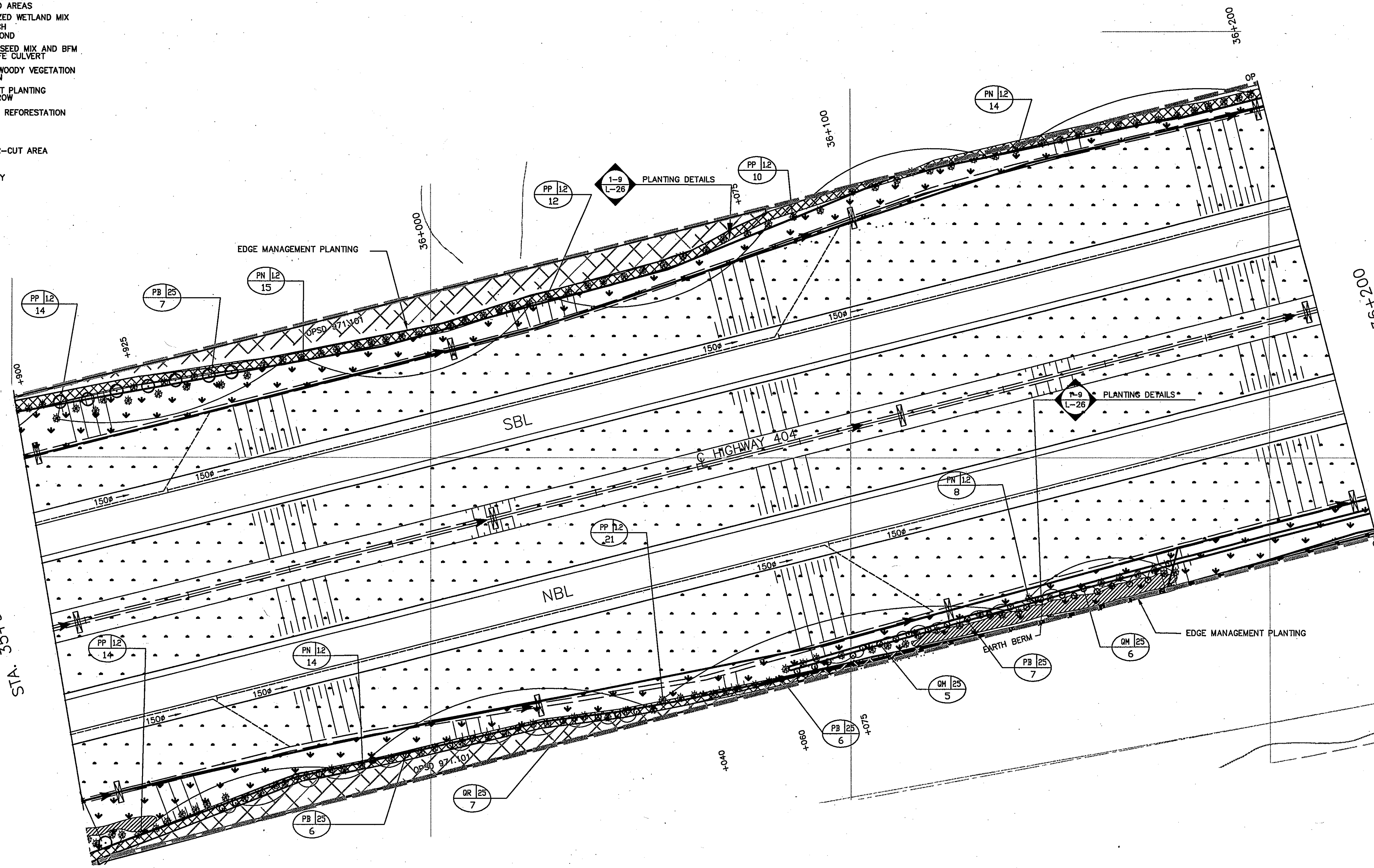
OALA — ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — PAUL MASSALE — MEMBER

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 35+900 TO STA 36+200
Survey ____ Revised ____

AECOM

SHEET
L13



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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

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LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
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- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

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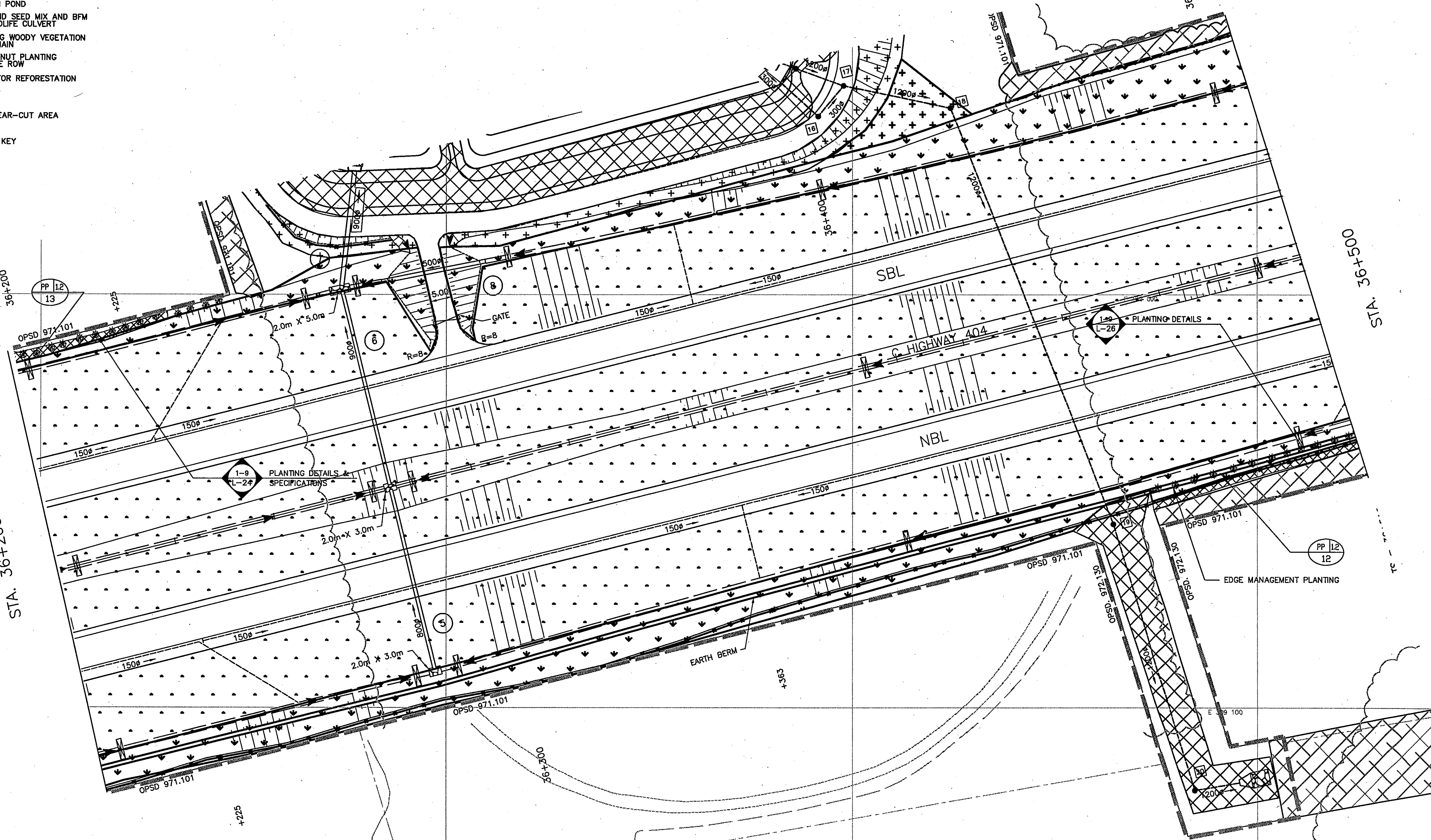
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 36+200 TO STA 36+500
Survey Revised

AECOM

SHEET
L14



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MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

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SAVED BY: L.R. SAVE DATE: 9/29/2010 11:24 AM PLOT DATE: 9/29/2010 1:26 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
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- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

METRIC	PLATE No CONT WP 2005-07-00
terraplan LANDSCAPE ARCHITECTS	LANDSCAPE PLANTING STA 36+240 TO STA 36+550
	Survey Revised
	AECOM
	SHEET L15

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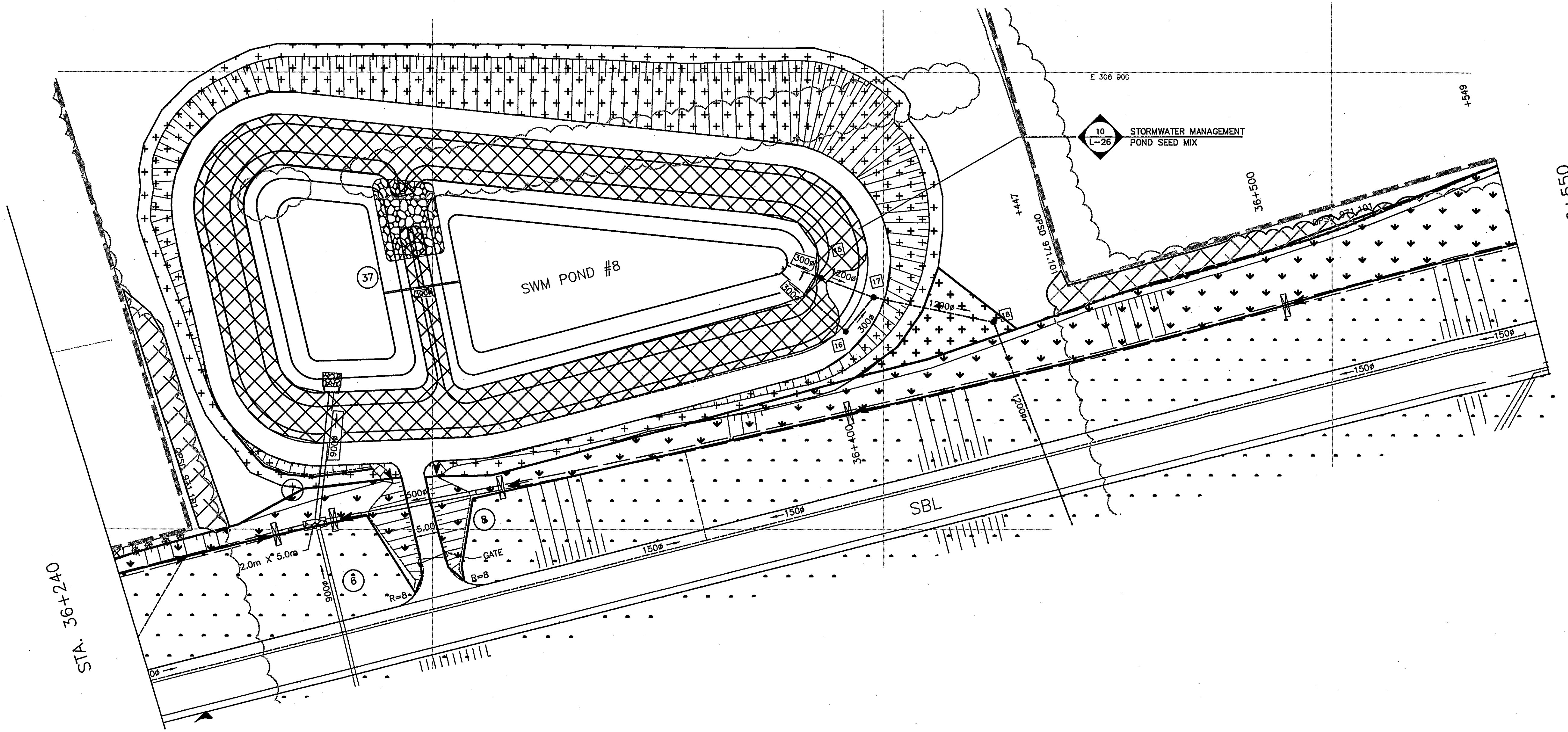
20 Champlain Blvd., Suite 102 Toronto, Ontario, M3H 2Z1, Canada Tel:(416)638-4911 Fax:(416)638-4261

Email:terraplan@terraplan.ca



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DRAWING NAME: 09-221-proj_L9-16.dwg
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LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
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- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY — PLANT KEY

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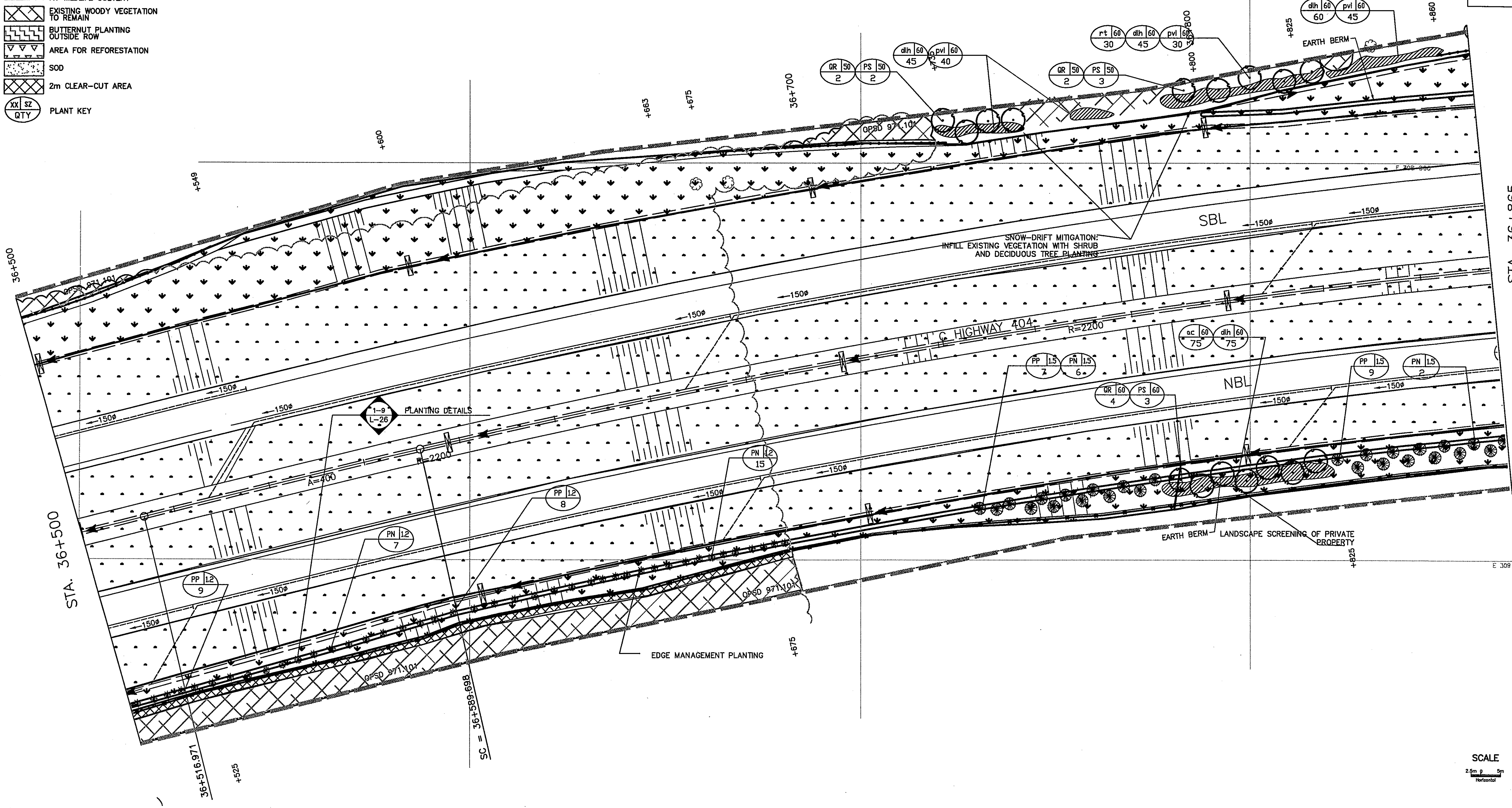
PLATE No
CONT WP 2005-07-00

LANDSCAPE PLANTING
STA 36+500 TO STA 36+865
Survey Revised

AECOM

SHEET L16



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PR-D-707 86-05
DRAWING NAME: 09-221-proj_L9-16.dwg
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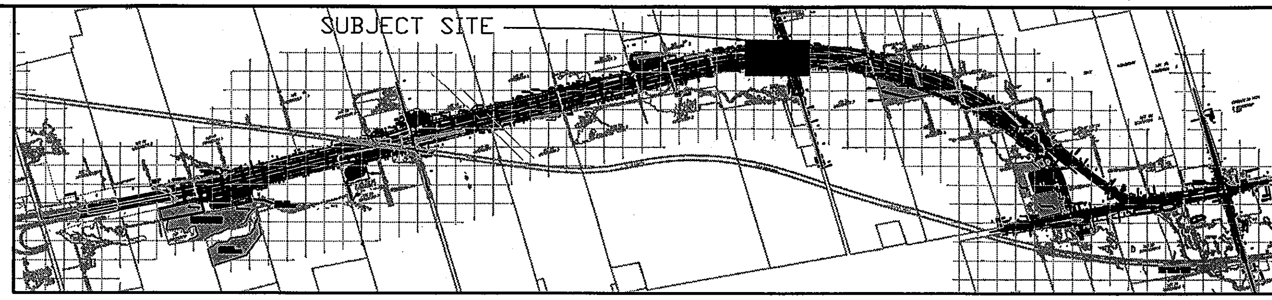
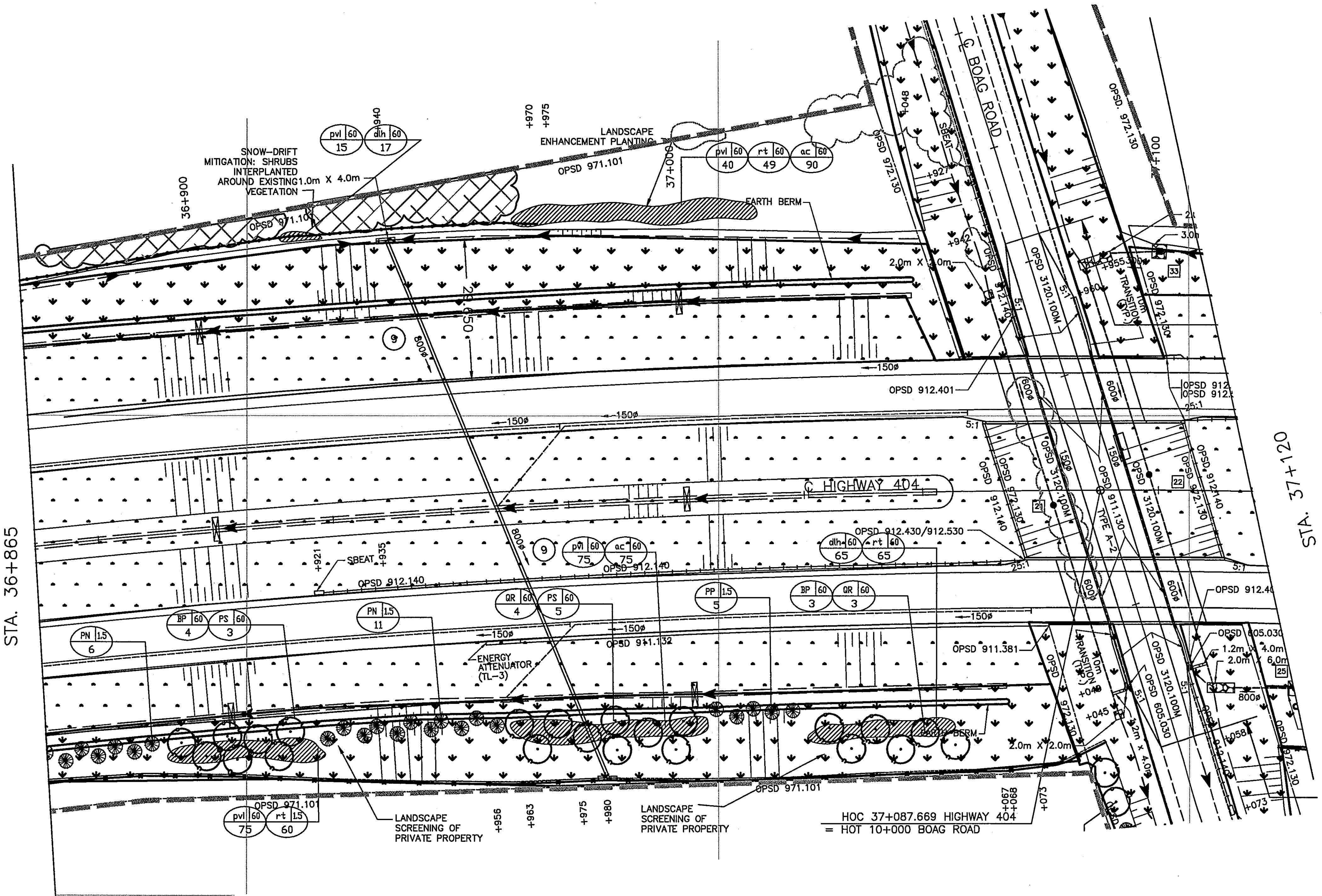
LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY





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terraplan LANDSCAPE ARCHITECTS
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Fax:(416)638-4261
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ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — OALA MEMBER

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING

STA 36+865 TO STA 37+120

Survey ____ Revised ____

AECOM

SHEET L17

SCALE
2.5m 0 5m
Horizontal

DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 11:34 AM PLOT DATE: 9/29/2010 1:33 PM

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- PLANT KEY

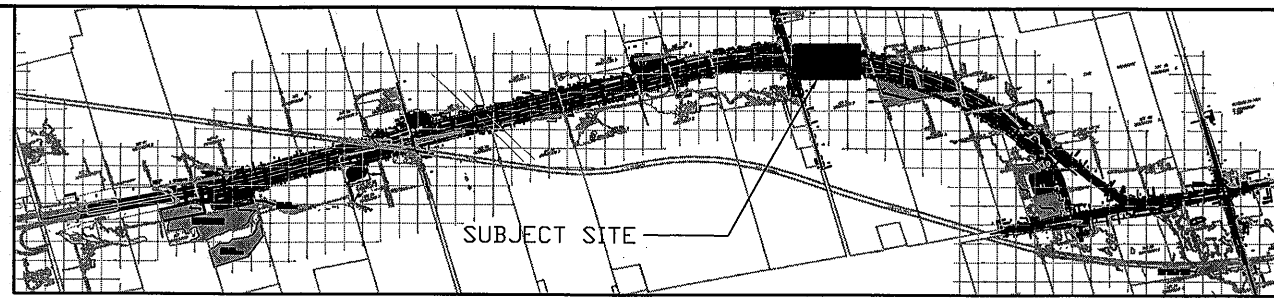

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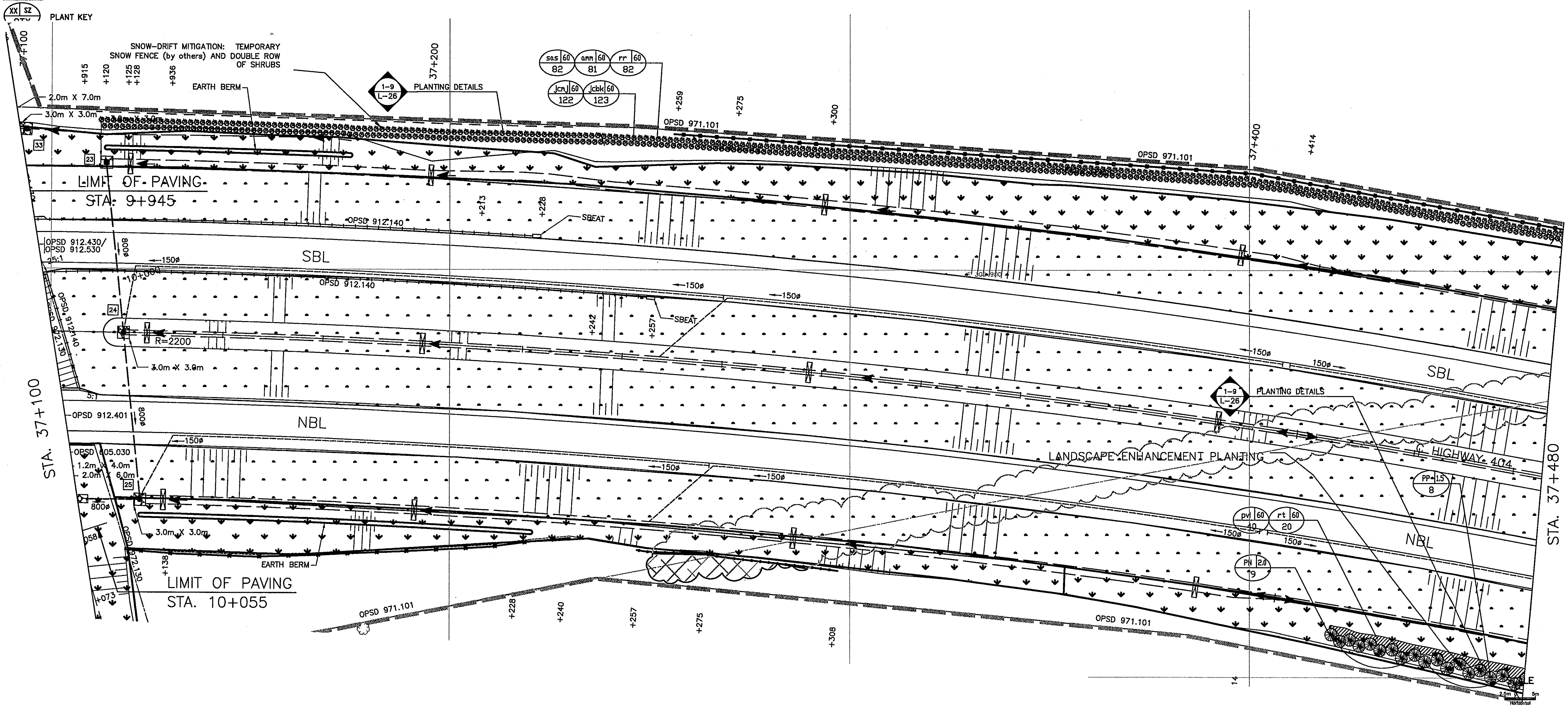
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 37+100 TO STA 37+480
Survey Revised

AECOM

SHEET
L18



MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R.
SAVE DATE: 9/29/2010 11:34 AM PLOT DATE: 9/29/2010 1:34 PM

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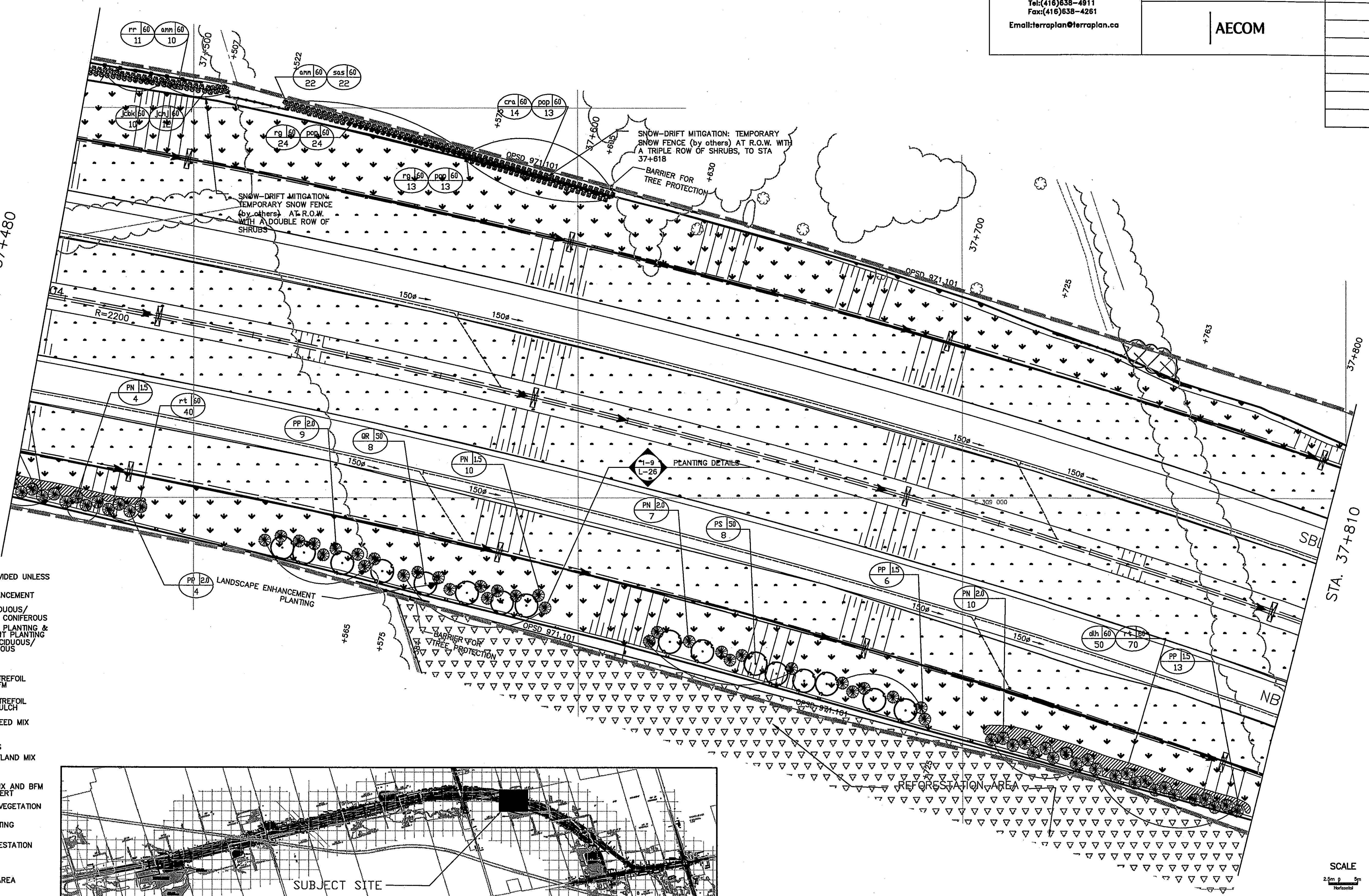
ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — OALA — MEMBER

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 37+480 TO STA 37+810
Survey ______ Revised ______

AECOM

SHEET
L19



LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m-1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY — PLANT KEY

SCALE
2.5m 0 5m
Horizontal

DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 11:34 AM PLOT DATE: 9/29/2010 1:34 PM

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

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Email:terraplan@terraplan.ca

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — OALA — PAUL MARSALA — MEMBER

PLATE No
CONT WP 2005-07-00

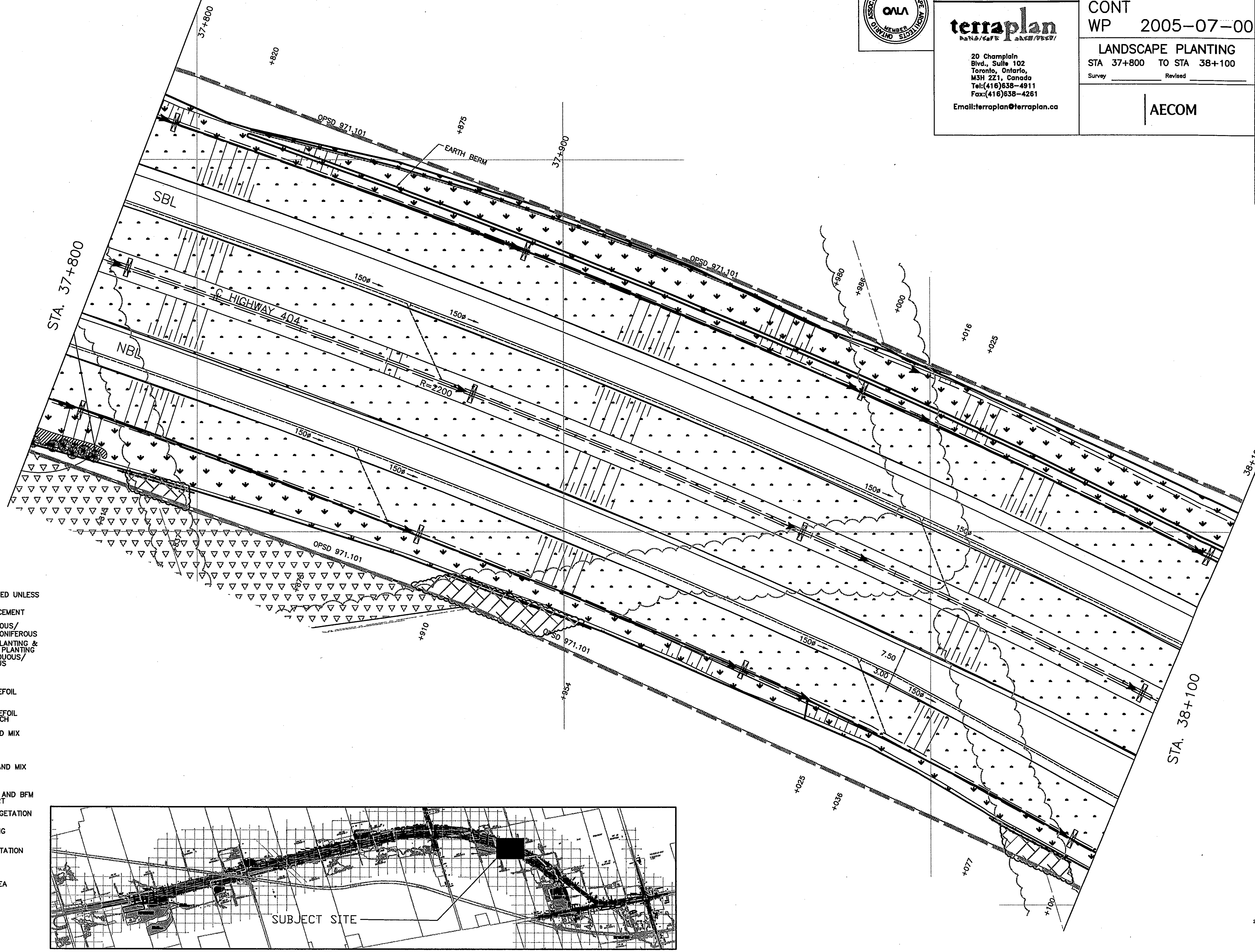
LANDSCAPE PLANTING

STA 37+800 TO STA 38+100

Survey ____ Revised ____

AECOM

SHEET L20



LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m-1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY — PLANT KEY

SCALE
2.5m 0 5m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

DRAWING NAME: 09-221-proj_L17-24.dwg SAVE DATE: 9/29/2010 1:40 PM PLOT DATE: 9/29/2010 1:41 PM
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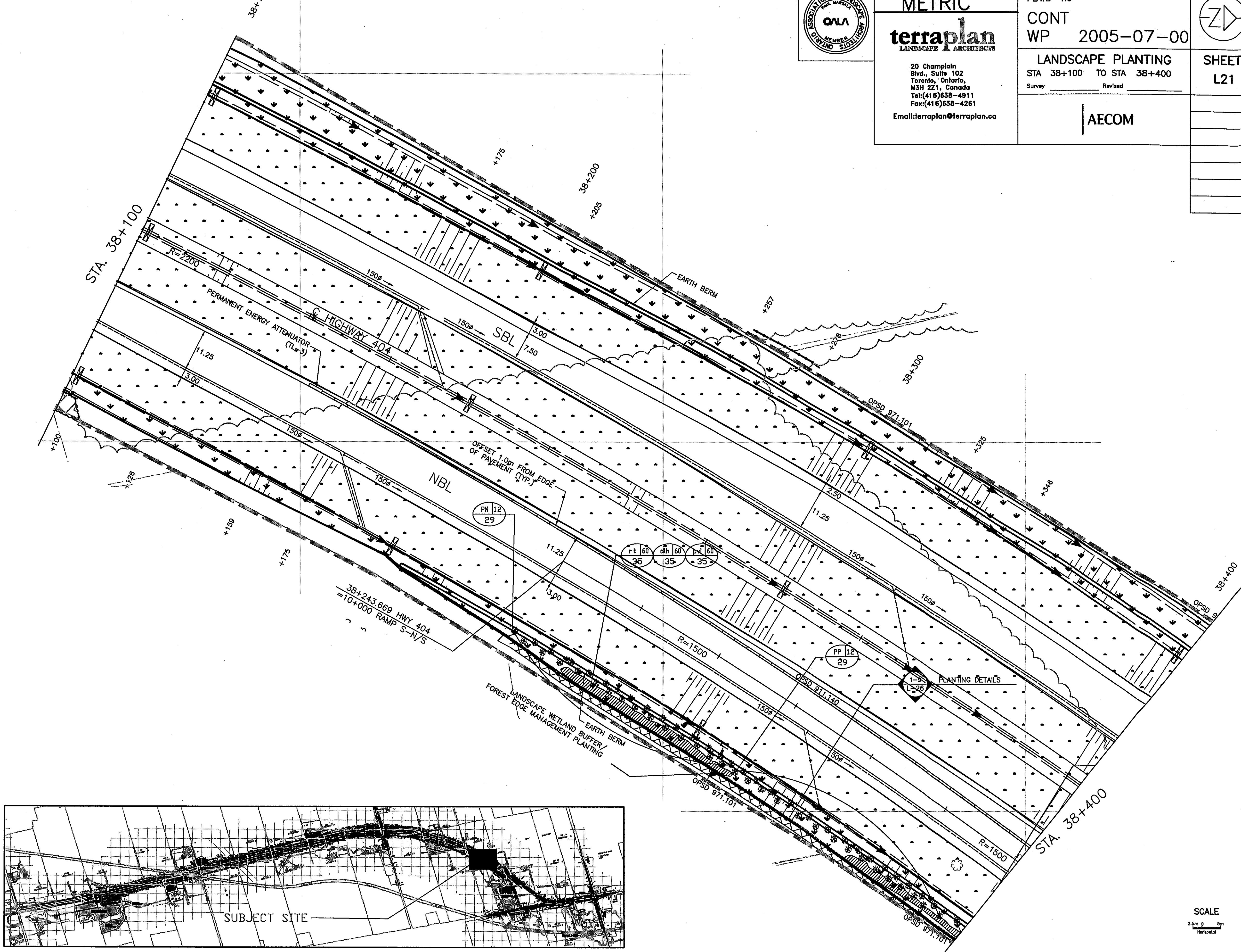
ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO — OALA — MEMBER

PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 38+100 TO STA 38+400
Survey ________ Revised ________

AECOM

SHEET
L21



LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m-1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY — PLANT KEY

SCALE
2.5m 0 5m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-03

DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 1:40 PM PLOT DATE: 9/29/2010 1:41 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
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- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
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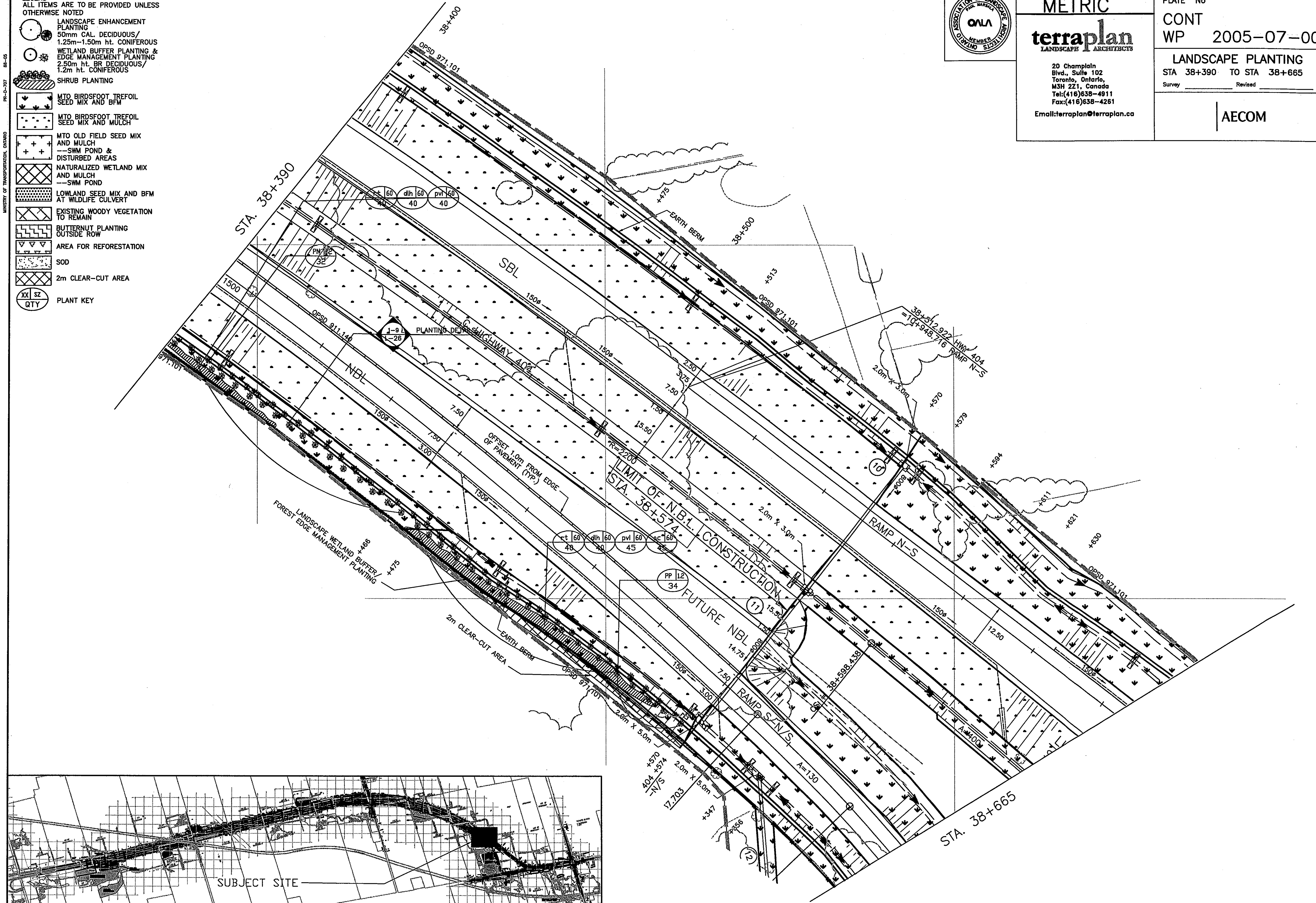
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY



SCALE
2.5m 0 5m
Horizontal

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — OALA — MEMBER

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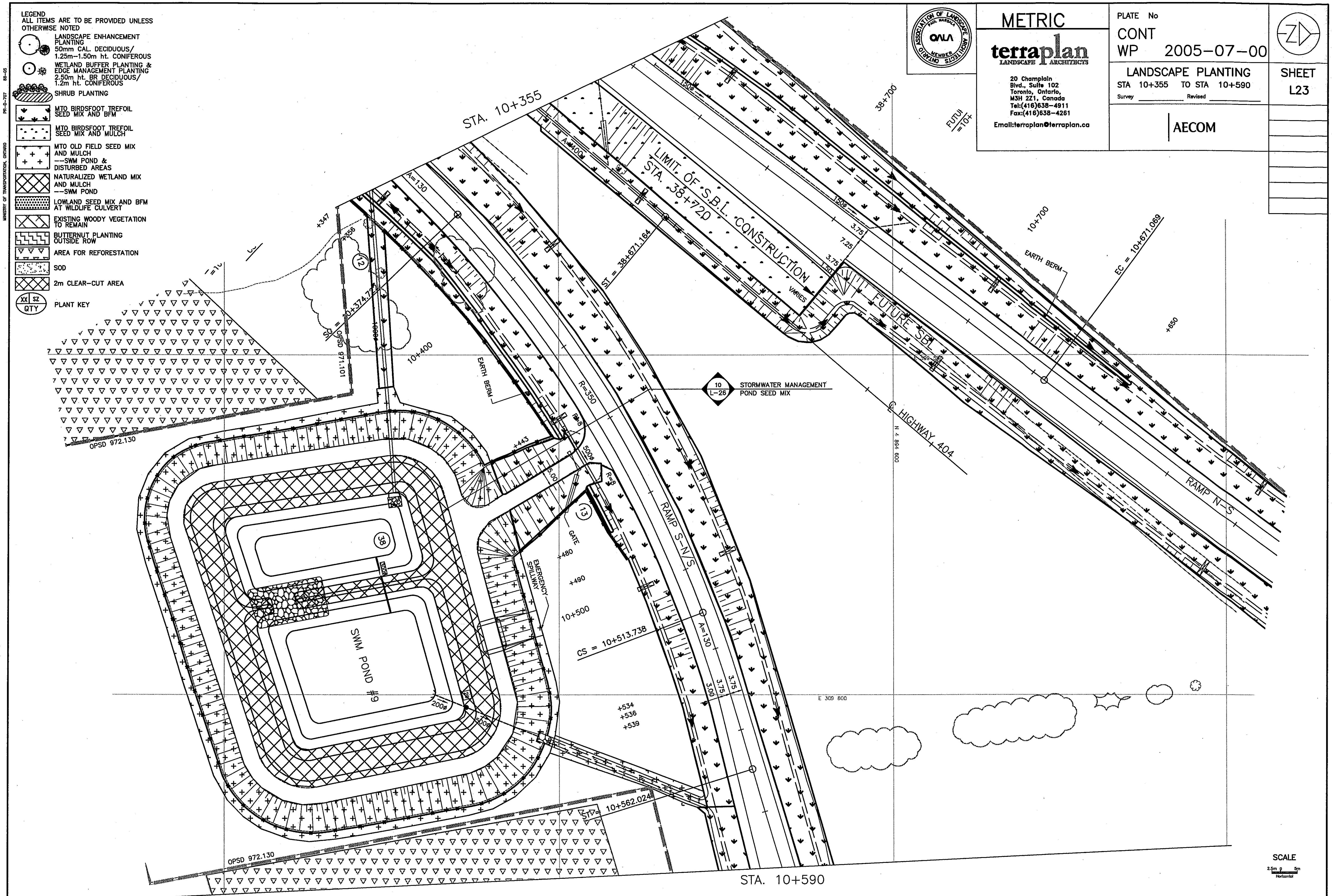
PLATE No	CONT WP 2005-07-00	
LANDSCAPE PLANTING STA 38+390 TO STA 38+665		SHEET L22
Survey ______ Revised ______		
AECOM		

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 1:40 PM PLOT DATE: 9/29/2010 1:42 PM



LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED
LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
SHRUB PLANTING
MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
NATURALIZED WETLAND MIX AND MULCH --SWM POND
LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
EXISTING WOODY VEGETATION TO REMAIN
BUTTERNUT PLANTING OUTSIDE ROW
AREA FOR REFORESTATION
SOD
2m CLEAR-CUT AREA
XX SZ QTY
PLANT KEY
METRIC
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OALA
PLATE No
CONT
WP 2005-07-00
LANDSCAPE PLANTING
STA 10+355 TO STA 10+590
Survey
Revised
SHEET
L23
AECOM
STA. 10+355
STA. 10+590
LIMIT OF S.B.L. CONSTRUCTION
STA. 38+720
FUTURE SBL
℄ HIGHWAY 404
RAMP S-N/S
RAMP N-S
SWM POND #9
EARTH BERM
EMERGENCY SPILLWAY
GATE
STORMWATER MANAGEMENT POND SEED MIX
10
L-26
ST = 38+671.164
EC = 10+671.069
CS = 10+513.738
10+562.024
OPSD 971.101
OPSD 972.130
R=350
A=130
10+400
10+500
10+700
38+700
SCALE
2.5m 0 5m
Horizontal
DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 1:40 PM PLOT DATE: 9/29/2010 1:42 PM
MINISTRY OF TRANSPORTATION, ONTARIO

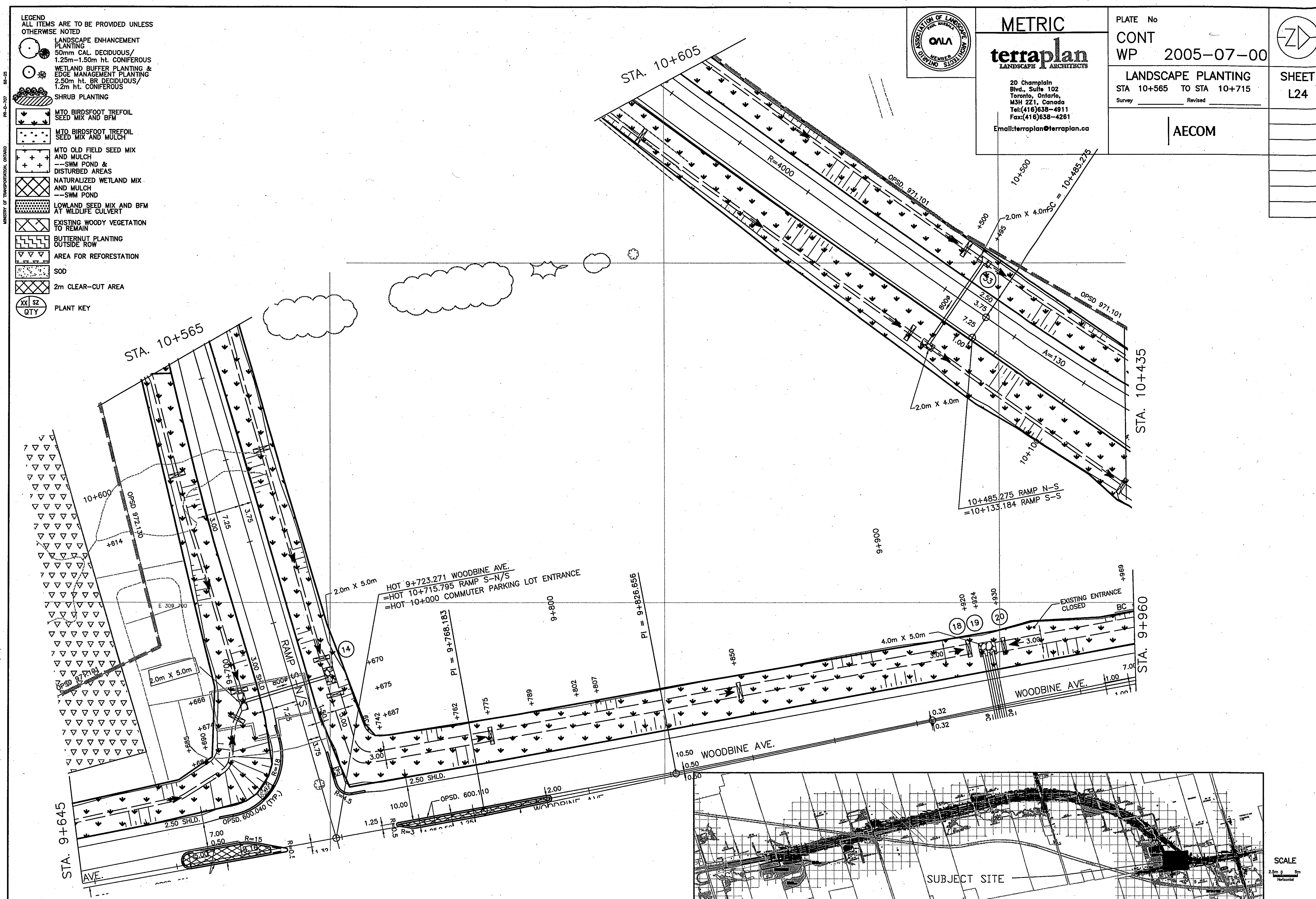
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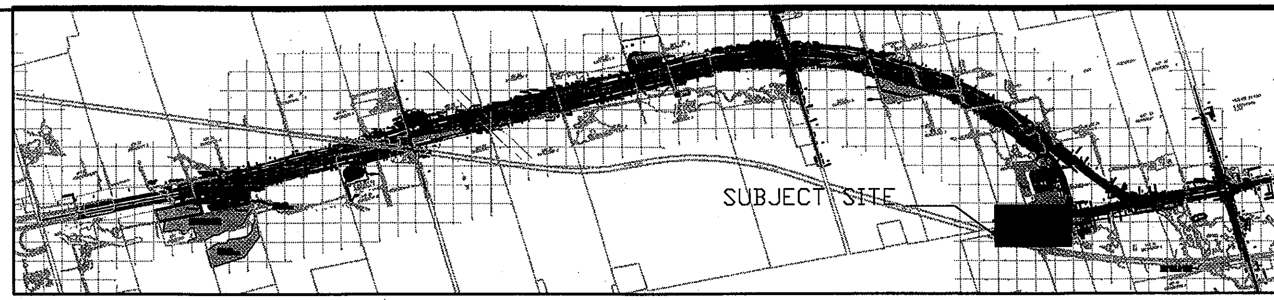
PLATE No
CONT
WP 2005-07-00
LANDSCAPE PLANTING
STA 10+565 TO STA 10+715
Survey
Revised
AECOM
SHEET
L24
LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED
LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m-1.50m ht. CONIFEROUS
WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
SHRUB PLANTING
MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
NATURALIZED WETLAND MIX AND MULCH --SWM POND
LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
EXISTING WOODY VEGETATION TO REMAIN
BUTTERNUT PLANTING OUTSIDE ROW
AREA FOR REFORESTATION
SOD
2m CLEAR-CUT AREA
PLANT KEY
STA. 10+605
STA. 10+565
STA. 10+435
STA. 9+960
STA. 9+645
R=4000
A=130
OPSD 971.101
OPSD 972.130
OPSD. 600.110
OPSD. 600.040 (TYP.)
2.0m X 4.0m
2.0m X 5.0m
4.0m X 5.0m
10+485.275 RAMP N-S =10+133.184 RAMP S-S
HOT 9+723.271 WOODBINE AVE. =HOT 10+715.795 RAMP S-N/S =HOT 10+000 COMMUTER PARKING LOT ENTRANCE
PI = 9+768.183
PI = 9+826.656
RAMP S-N/S
WOODBINE AVE.
EXISTING ENTRANCE CLOSED
2.50 SHLD.
3.00 SHLD.
SUBJECT SITE
SCALE
DRAWING NAME: 09-221-proj_L17-24.dwg
SAVED BY: L.R.
SAVE DATE: 9/29/2010 1:40 PM
PLOT DATE: 9/29/2010 1:43 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY



OALA
METRIC
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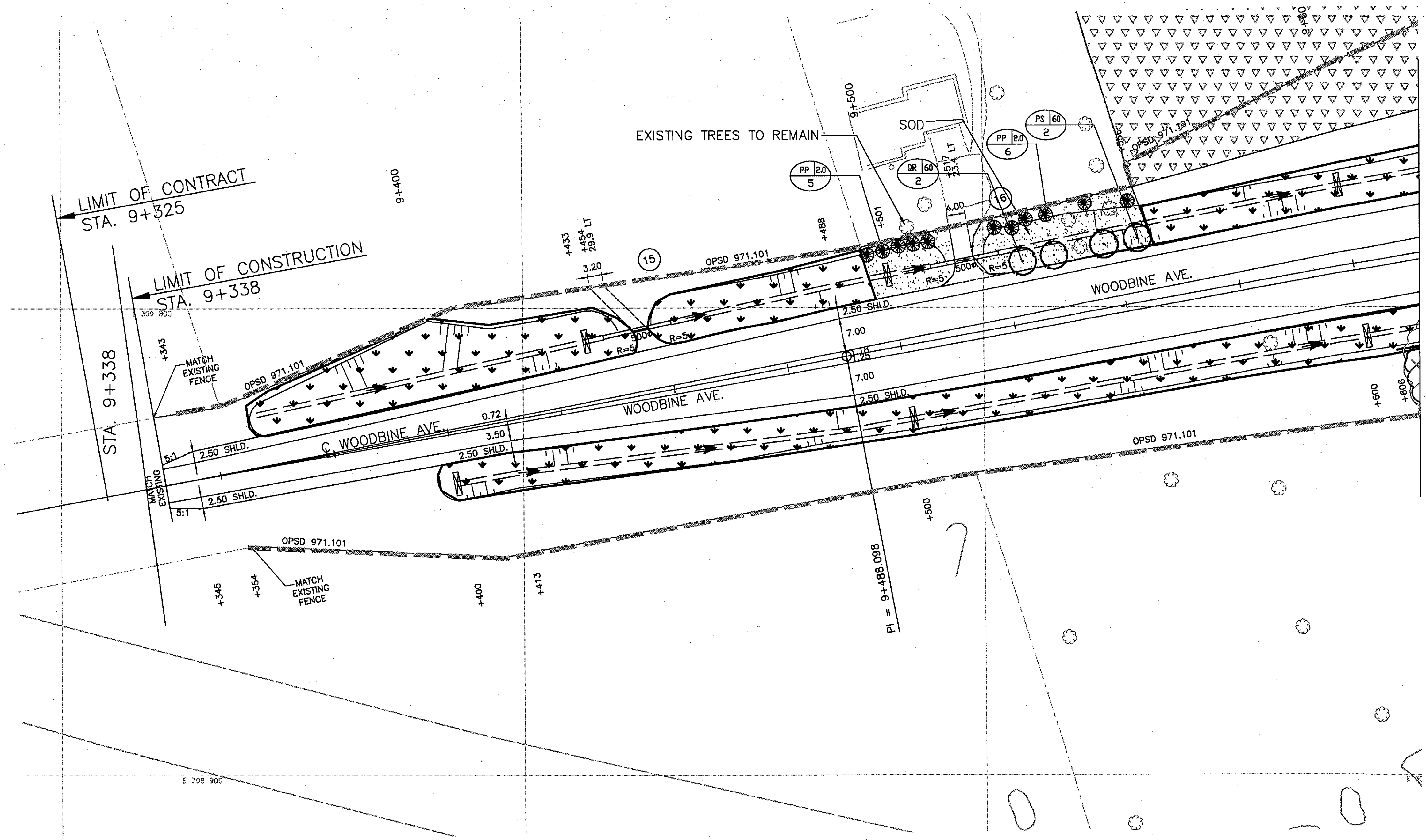
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 9+338 TO STA 9+625
Survey ______ Revised ______

AECOM

SHEET
L25



SCALE
2.5m 0 5m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-prop_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:47 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ / QTY — PLANT KEY

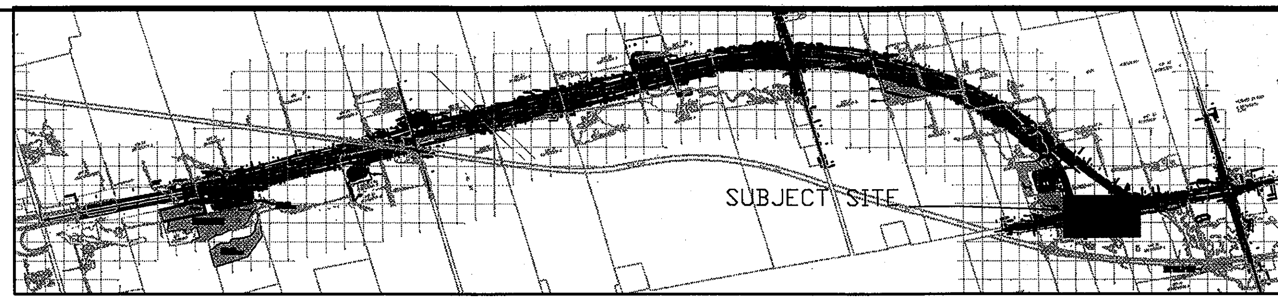


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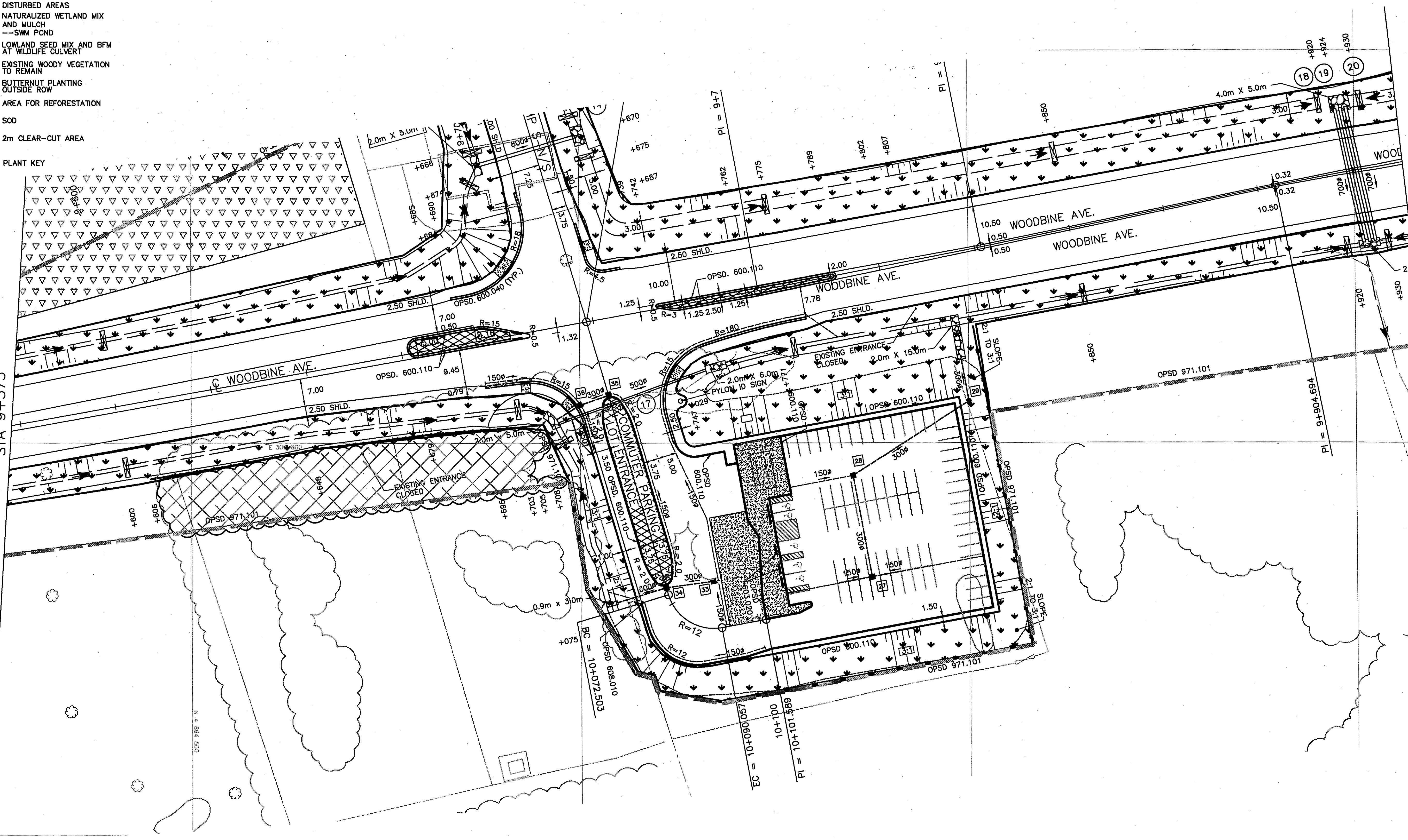
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 9+575 TO STA 9+940
Survey ____ Revised ____

SHEET
L26

AECOM



SCALE
2.5m 0 5m
Horizontal

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05
DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R.
SAVE DATE: 9/28/2010 10:59 AM PLOT DATE: 9/29/2010 1:47 PM

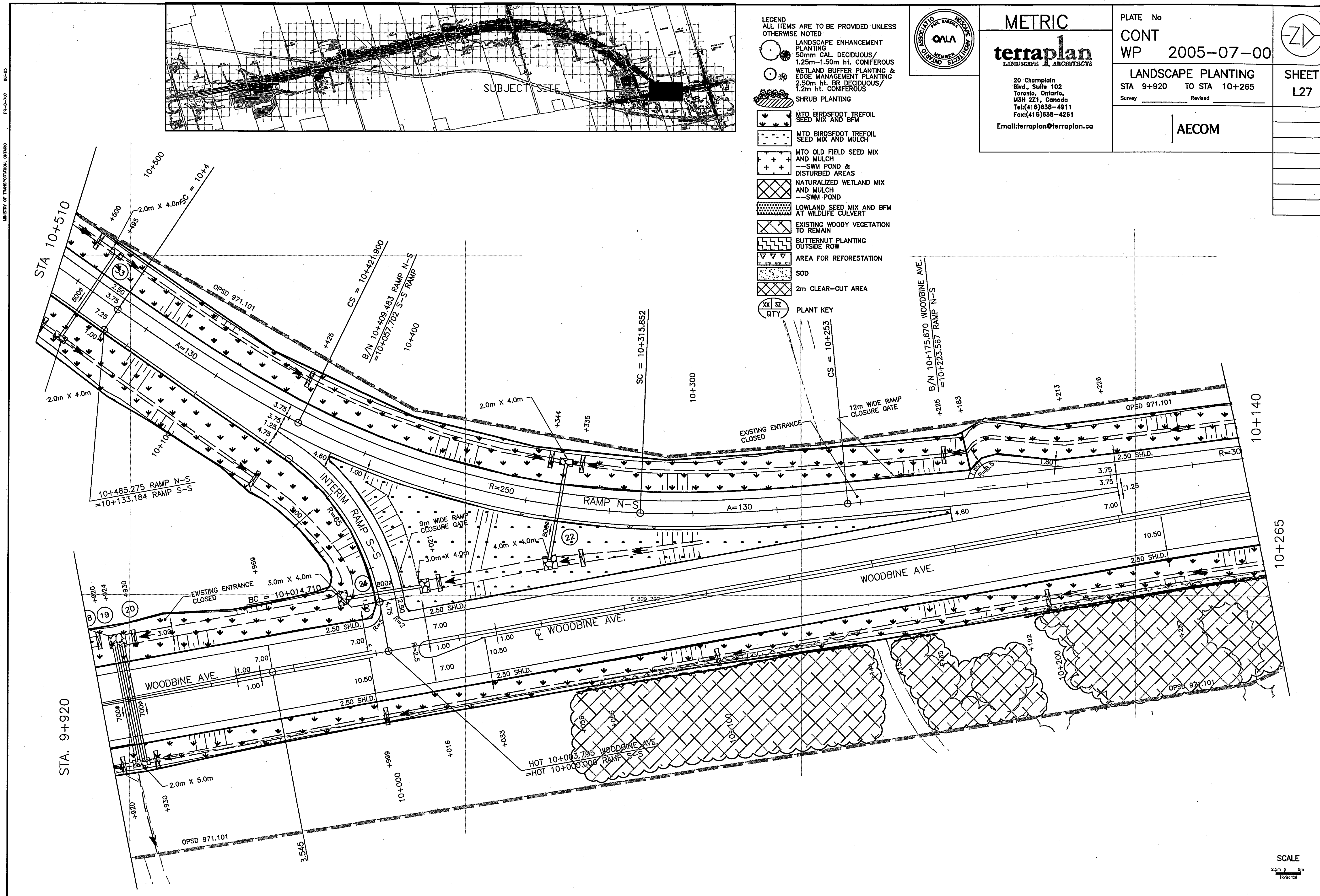


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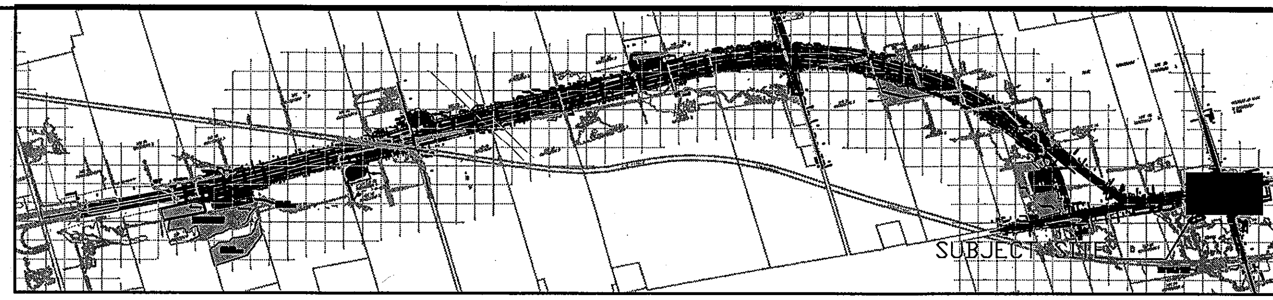
PLATE No
CONT
WP 2005-07-00
LANDSCAPE PLANTING
STA 9+920 TO STA 10+265
Survey
Revised
SHEET
L27
AECOM
LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED
LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
SHRUB PLANTING
MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
NATURALIZED WETLAND MIX AND MULCH --SWM POND
LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
EXISTING WOODY VEGETATION TO REMAIN
BUTTERNUT PLANTING OUTSIDE ROW
AREA FOR REFORESTATION
SOD
2m CLEAR-CUT AREA
PLANT KEY
SUBJECT SITE
STA 10+510
STA. 9+920
10+140
10+265
RAMP N-S
INTERIM RAMP S-S
WOODBINE AVE.
℄ WOODBINE AVE.
OPSD 971.101
EXISTING ENTRANCE CLOSED
12m WIDE RAMP CLOSURE GATE
9m WIDE RAMP CLOSURE GATE
CS = 10+421.900
SC = 10+315.852
CS = 10+253
BC = 10+014.710
B/N 10+409.483 RAMP N-S =10+057.702 S-S RAMP
B/N 10+175.670 WOODBINE AVE. =10+223.567 RAMP N-S
10+485.275 RAMP N-S =10+133.184 RAMP S-S
HOT 10+003.705 WOODBINE AVE. =HOT 10+000.000 RAMP S-S
2.50 SHLD.
SCALE
DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:53 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH —SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH —SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR–CUT AREA
- XX SZ QTY PLANT KEY



MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

METRIC

terraplan LANDSCAPE ARCHITECTS

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ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS MEMBER OALA

PLATE No

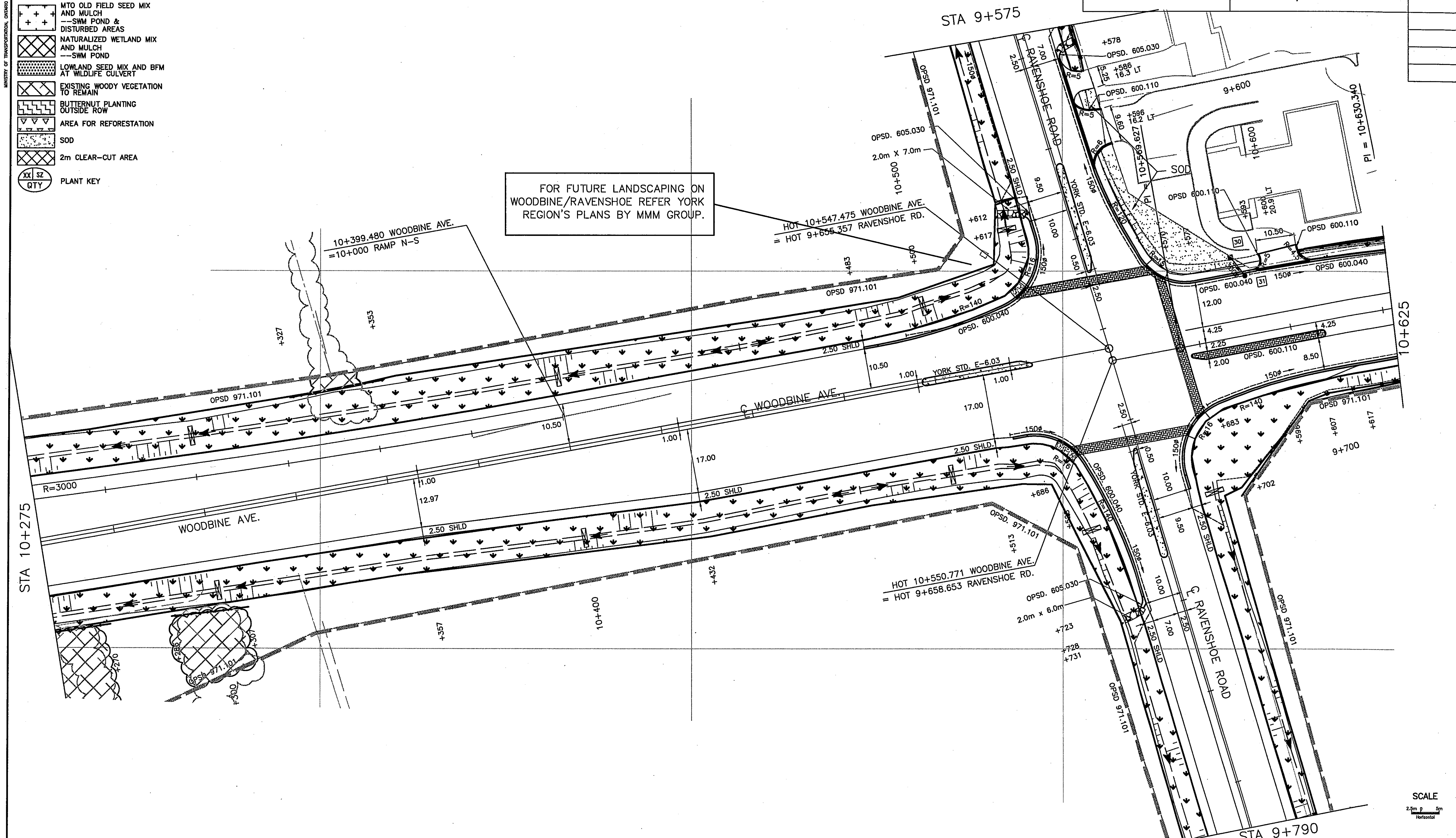
CONT WP 2005–07–00

LANDSCAPE PLANTING
STA 10+275 TO STA 10+625

Survey ______ Revised ______

AECOM

SHEET L28

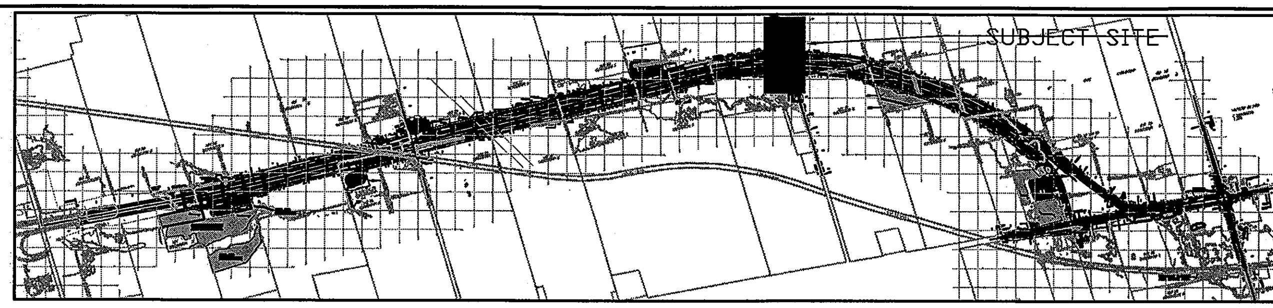


SCALE

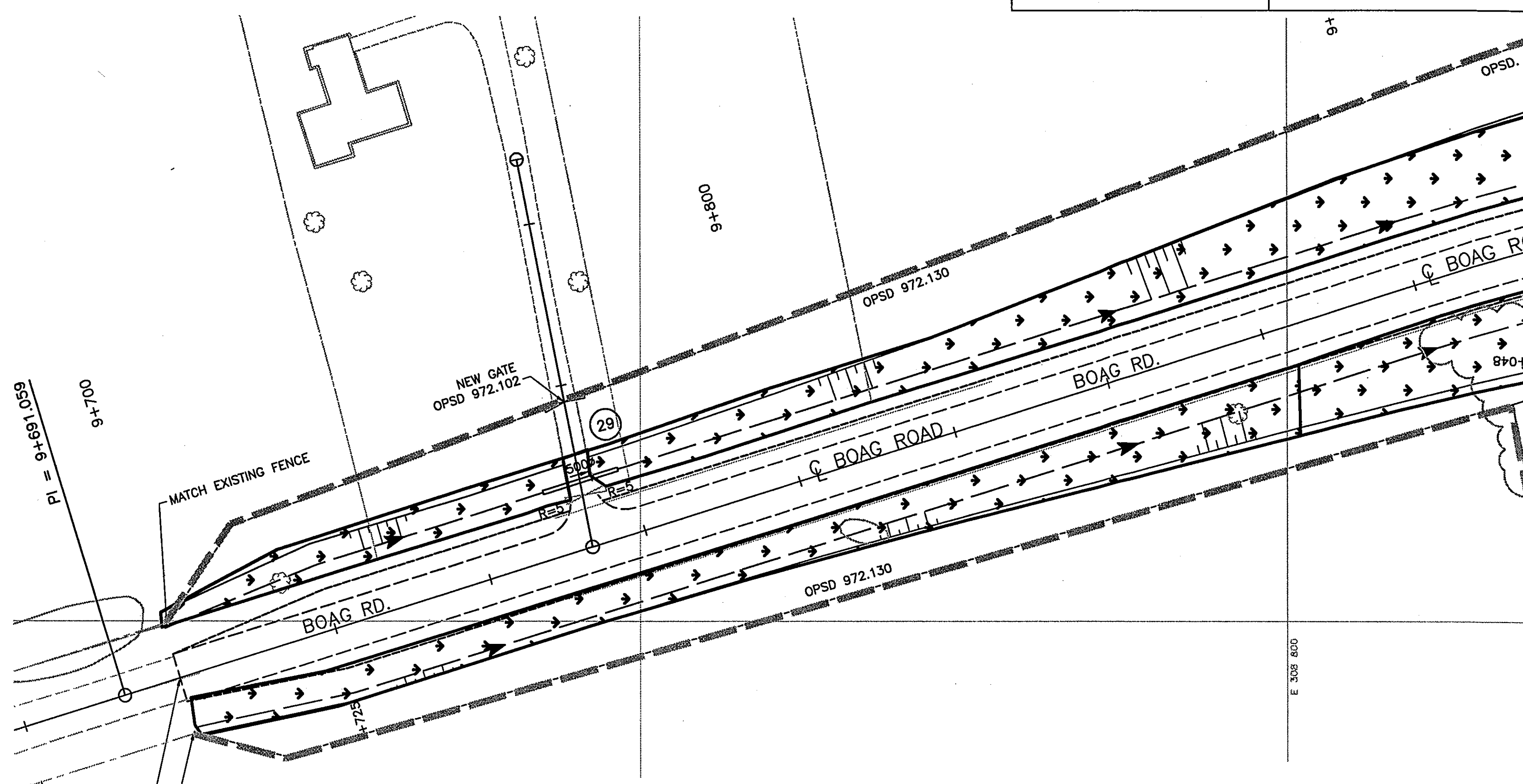
DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 1:58 PM PLOT DATE: 9/29/2010 2:07 PM

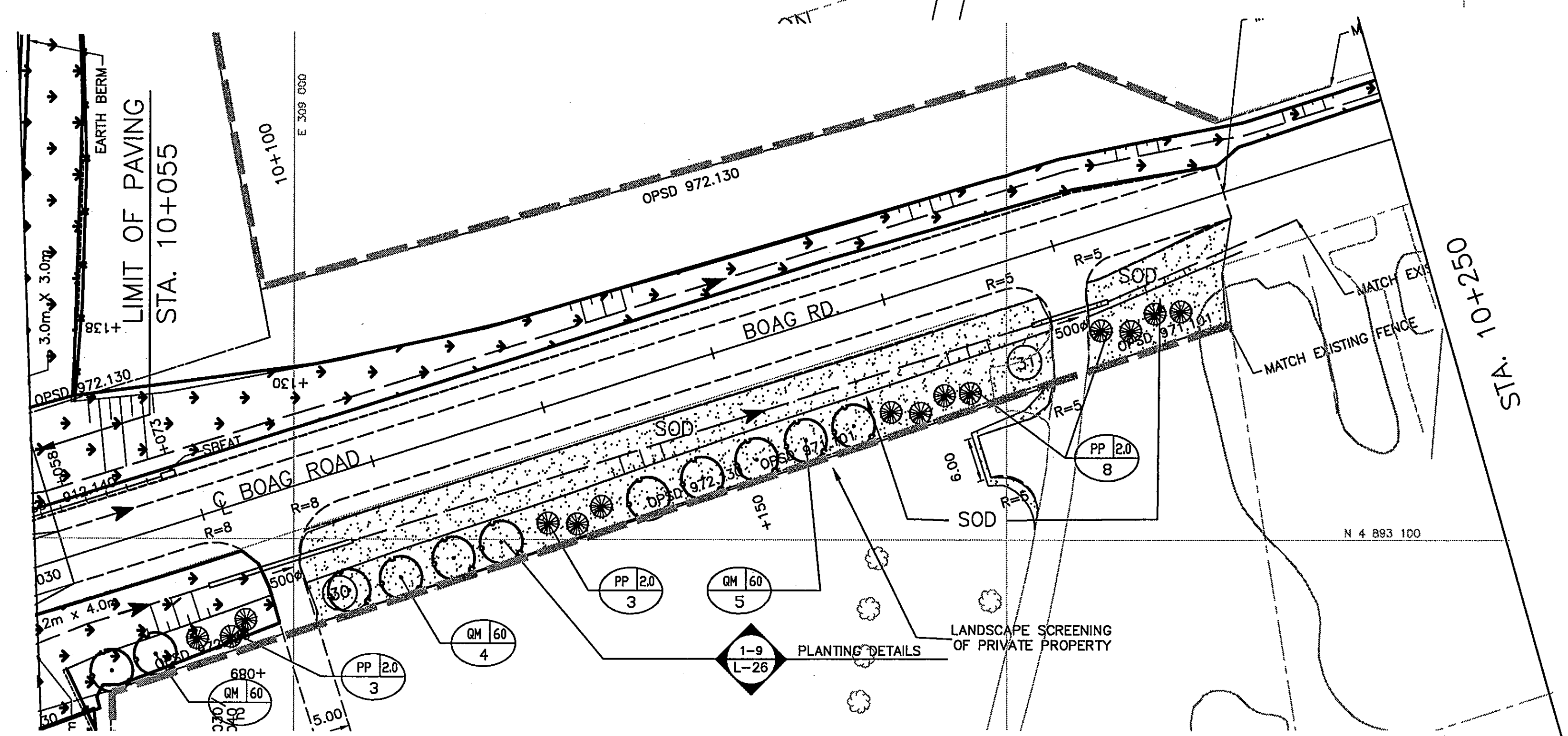
LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY — PLANT KEY



METRIC	PLATE No	
terraplan LANDSCAPE ARCHITECTS	CONT	
	WP 2005-07-00	
20 Champlain Blvd., Suite 102 Toronto, Ontario, M3H 2Z1, Canada Tel:(416)638-4911 Fax:(416)638-4261 Email:terraplan@terraplan.ca	LANDSCAPE PLANTING STA 9+624 TO STA 10+250	SHEET L29
	Survey ______ Revised ______	
	AECOM	





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DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:55 PM
MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
- MTO OLD FIELD SEED MIX AND MULCH --SWM POND & DISTURBED AREAS
- NATURALIZED WETLAND MIX AND MULCH --SWM POND
- LOWLAND SEED MIX AND BFM AT WILDLIFE CULVERT
- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX | SZ / QTY — PLANT KEY

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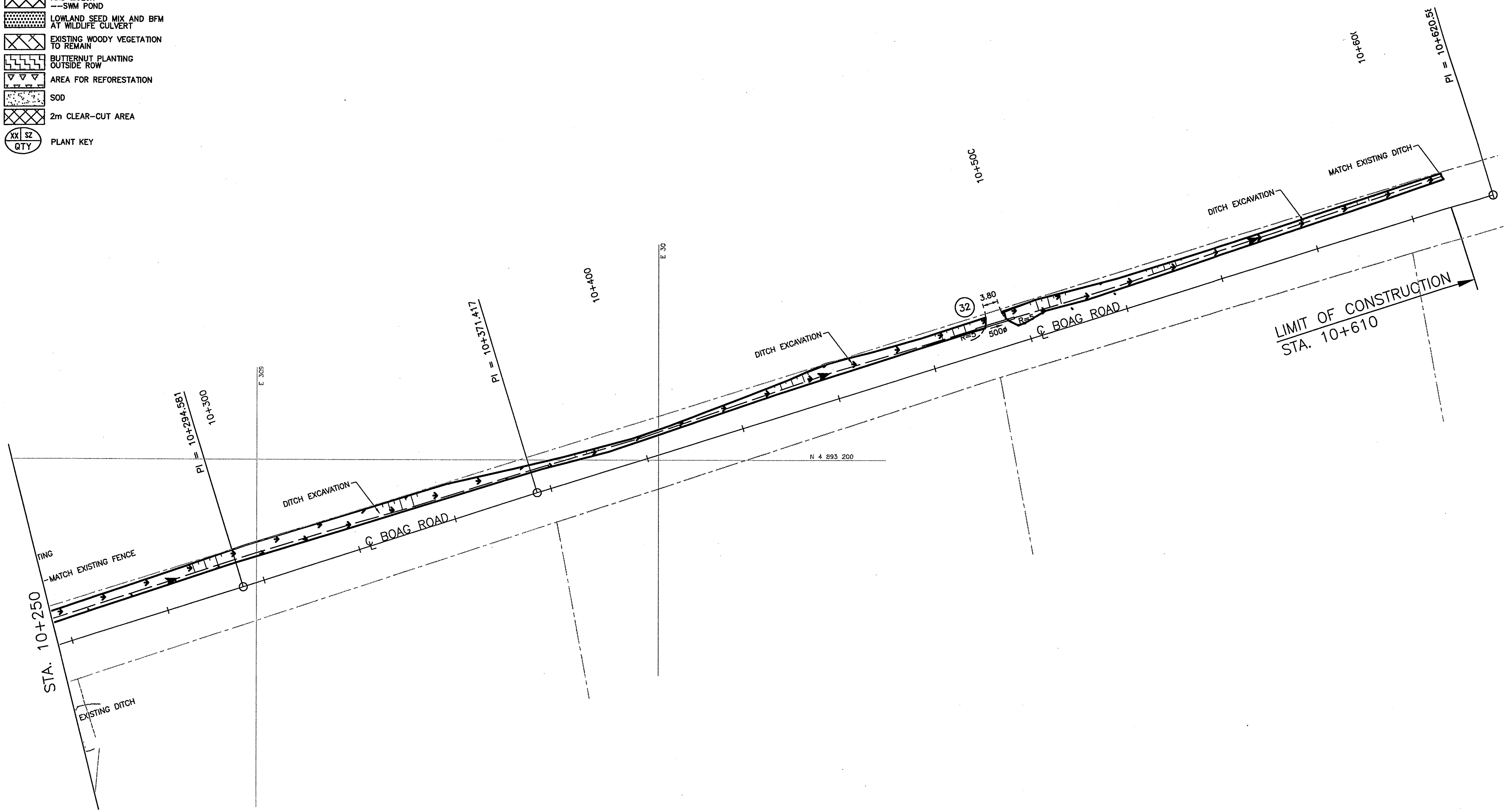
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 10+250 TO STA 10+610
Survey ________ Revised ________

AECOM

SHEET
L30



SCALE
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DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:55 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
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- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

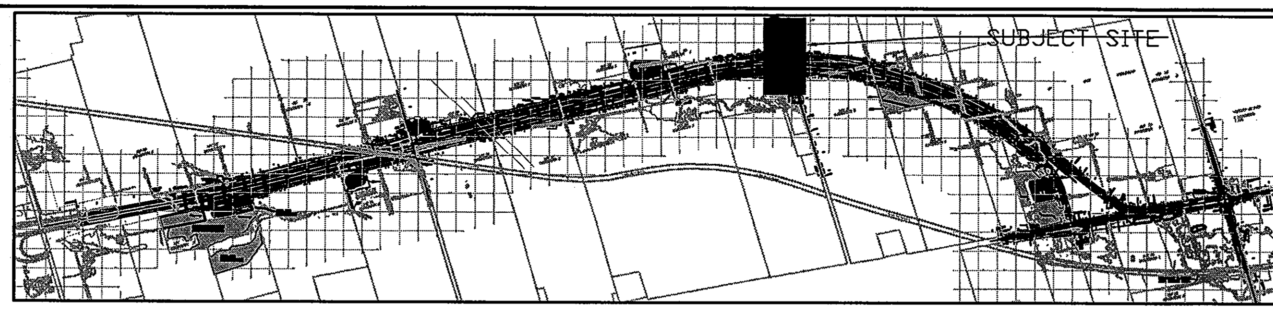

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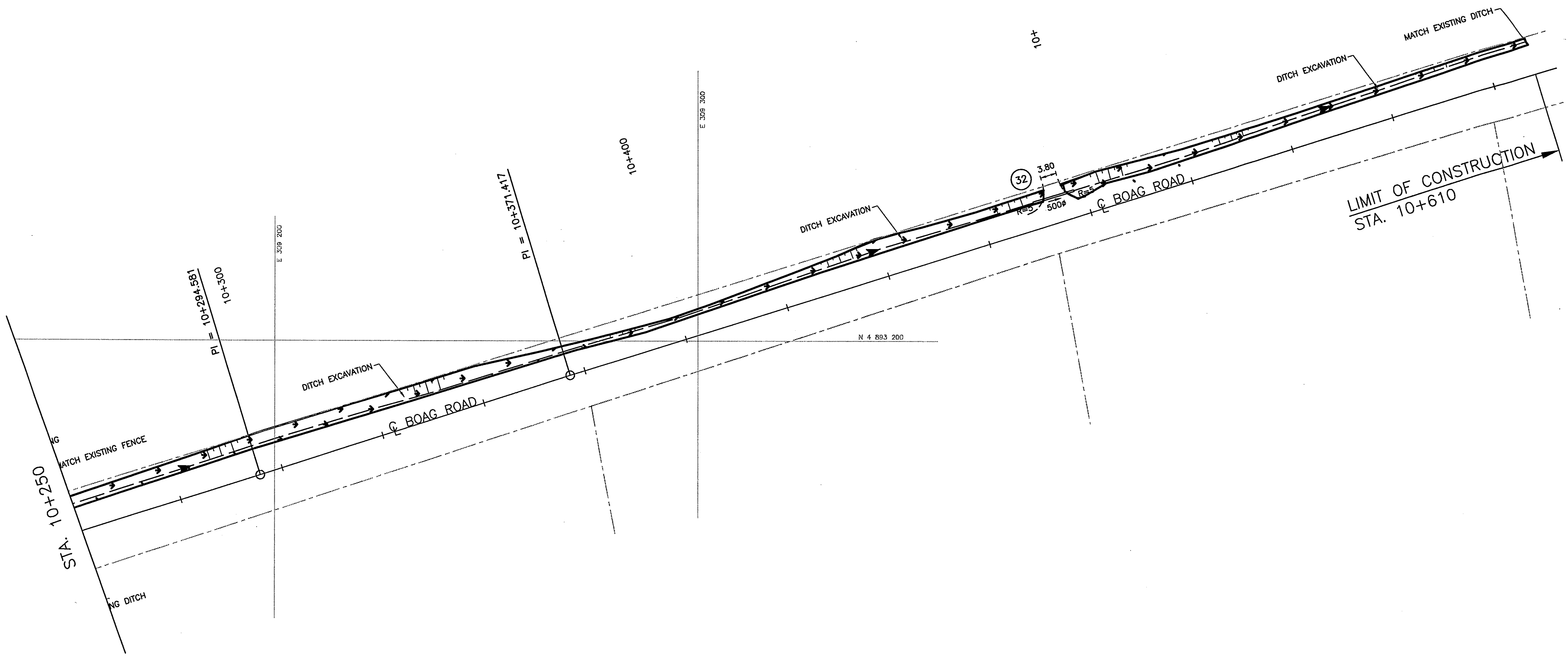
PLATE No
CONT WP 2005-07-00

LANDSCAPE PLANTING
STA 10+250 TO STA 10+610
Survey ______ Revised ______

AECOM

SHEET L31



SCALE
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MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:56 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m–1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
- MTO BIRDSFOOT TREFOIL SEED MIX AND MULCH
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- EXISTING WOODY VEGETATION TO REMAIN
- BUTTERNUT PLANTING OUTSIDE ROW
- AREA FOR REFORESTATION
- SOD
- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

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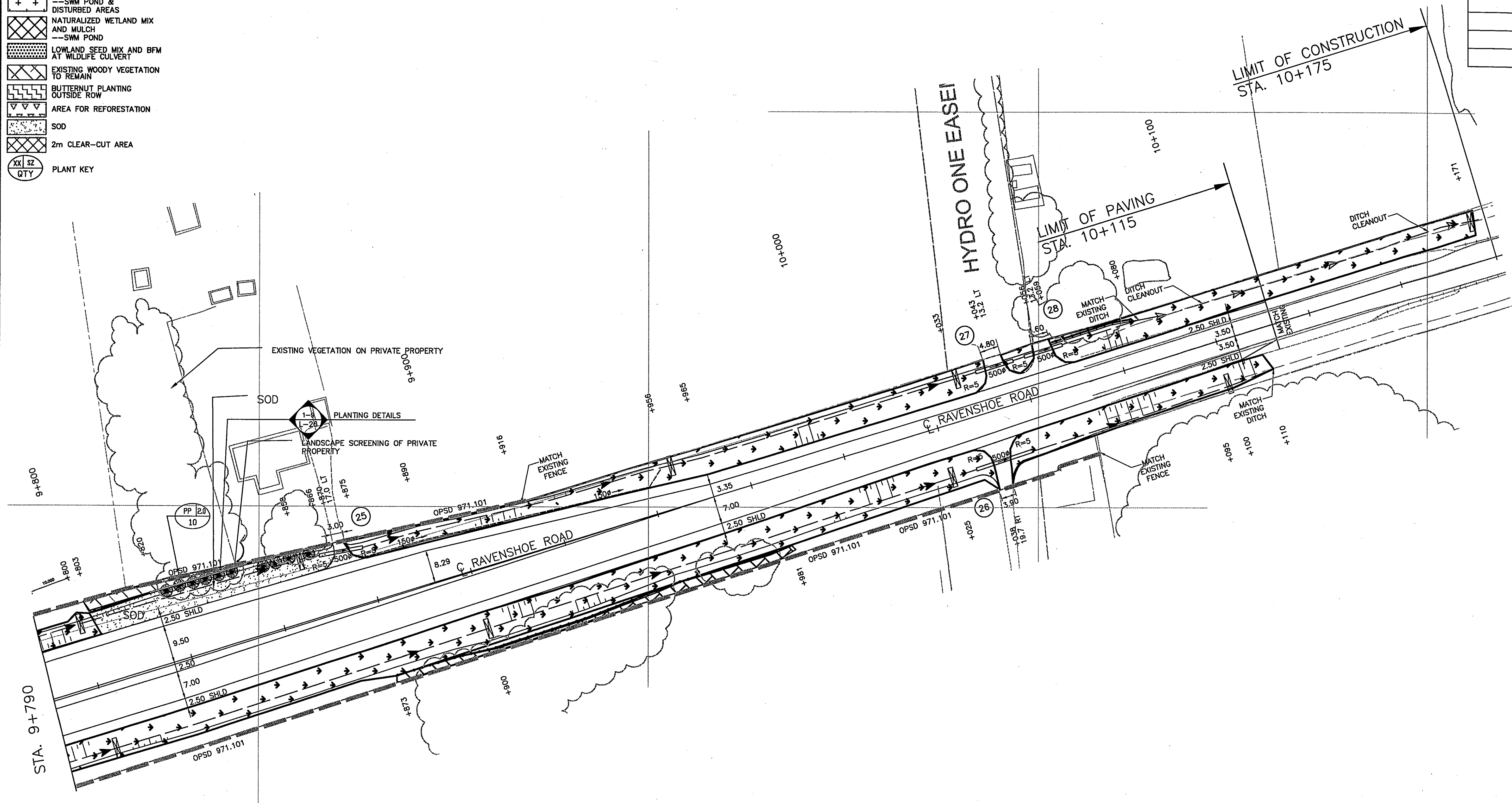
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 9+790 TO STA 10+175
Survey Revised

AECOM

SHEET
L32



SCALE
NTS

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-proj_L25-33.dwg
SAVED BY: L.R. SAVE DATE: 9/29/2010 10:59 AM PLOT DATE: 9/29/2010 1:57 PM

LEGEND
ALL ITEMS ARE TO BE PROVIDED UNLESS OTHERWISE NOTED

- LANDSCAPE ENHANCEMENT PLANTING 50mm CAL. DECIDUOUS/ 1.25m-1.50m ht. CONIFEROUS
- WETLAND BUFFER PLANTING & EDGE MANAGEMENT PLANTING 2.50m ht. BR DECIDUOUS/ 1.2m ht. CONIFEROUS
- SHRUB PLANTING
- MTO BIRDSFOOT TREFOIL SEED MIX AND BFM
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- 2m CLEAR-CUT AREA
- XX SZ QTY PLANT KEY

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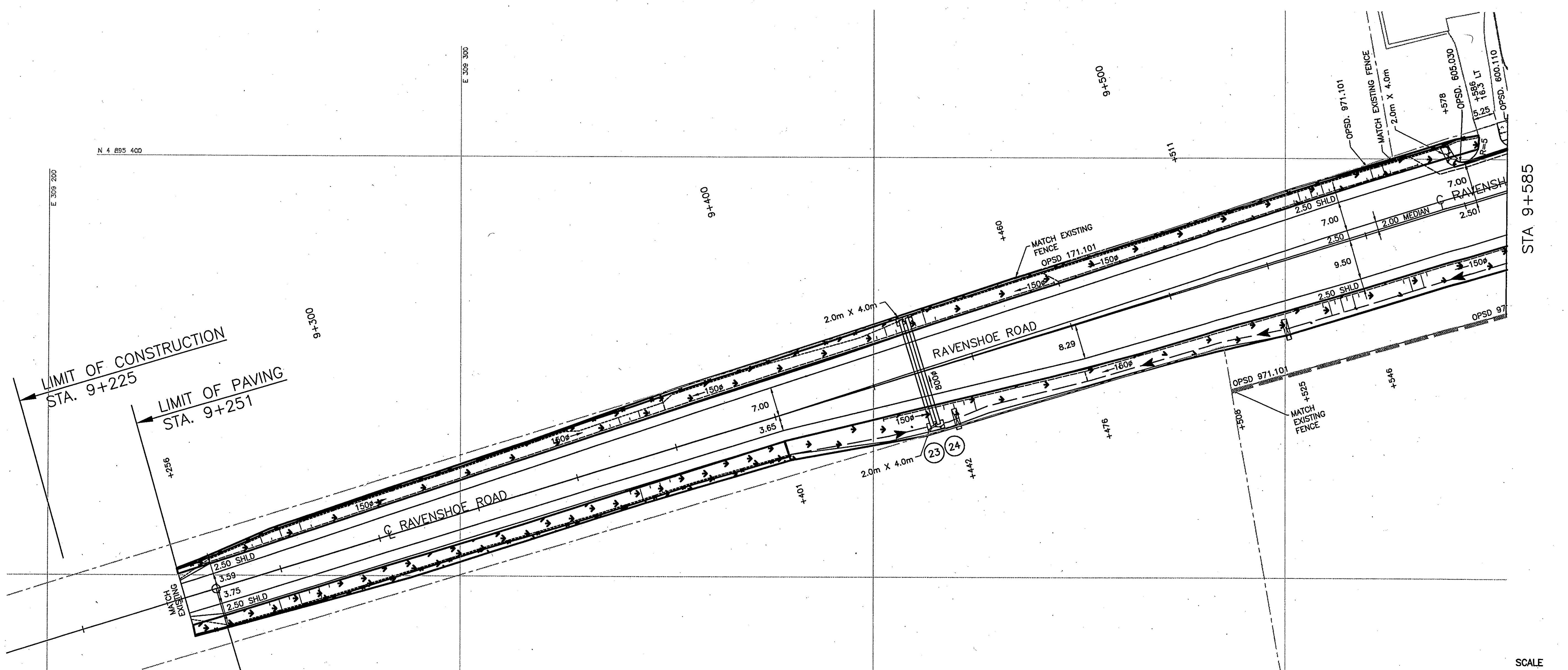
PLATE No
CONT
WP 2005-07-00

LANDSCAPE PLANTING
STA 9+251 TO STA 9+585
Survey Revised

AECOM

SHEET L33



SCALE
2.5m 0 5m
Horizontal
NTS

MINISTRY OF TRANSPORTATION, ONTARIO PH-D-707 88-05
DRAWING NAME: 09-221-proj...-33.dwg
SAVED BY: L.R. SAVE DATE: 9/28/2010 10:59 AM PLOT DATE: 9/28/2010 4:56 PM

PLATE No
CONT
WP 2005-07-00

LANDSCAPE DETAILS
STA TO STA
Survey ________ Revised ________

SHEET
L34

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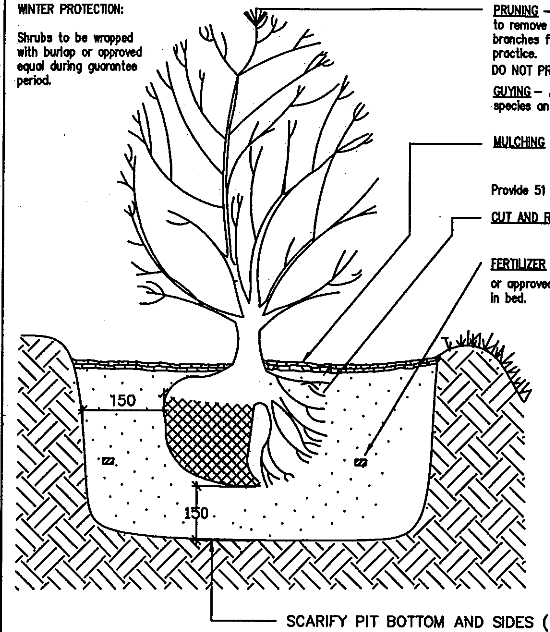
AECOM



WINTER PROTECTION:
Shrubs to be wrapped with burlap or approved equal during guarantee period.

PRUNING – (To suit species) – Prune to remove dead, damaged or objectionable branches following proper horticultural practice.
DO NOT PRUNE LEADERS.

GUYING – As directed; appropriate to species and size of shrub.

MULCHING –100mm WOOD CHIP MULCH

Provide 51 (2") saucer.

CUT AND REMOVE – CONTAINER

FERTILIZER – Two 21 gram Agriform tablets or approved equivalent for each shrub in bed.

SCARIFY PIT BOTTOM AND SIDES (150mm)

PLANTING SOIL MIXTURE: (mix thoroughly)

Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

ALL GIVEN DIMENSIONS ARE IN MILLIMETRES AND METRES

PREPARATION OF BED
Excavate entire shrub bed to size outlined on drawings, minimum 600 (2.0') depth.
Remove any subsoil or rubbish off site unless otherwise directed.
Water throughly after installation

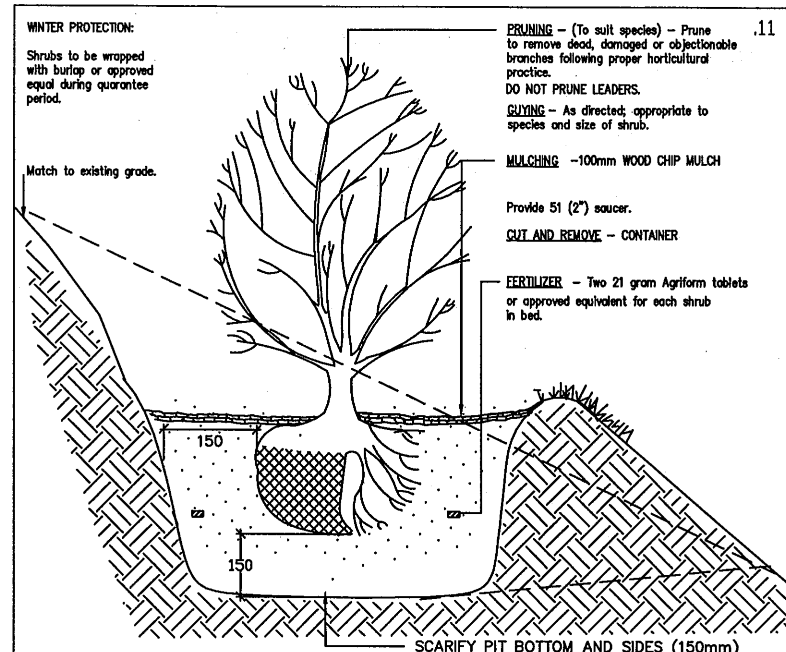
SPACING
See plant list for spacing. Space shrubs in staggered rows.

FOR RODENT CONTROL
See landscape specifications or apply "Skoot" at end of October.

Drawing Title:
SHRUB PLANTING DETAIL (CONTAINER)

Scale:	Drawn:
N.T.S.	B.W.
Date:	Checked:
1993	D.J./P.M.

1



WINTER PROTECTION:
Shrubs to be wrapped with burlap or approved equal during guarantee period.

Match to existing grade.

PRUNING – (To suit species) – Prune to remove dead, damaged or objectionable branches following proper horticultural practice.
DO NOT PRUNE LEADERS.

GUYING – As directed; appropriate to species and size of shrub.

MULCHING –100mm WOOD CHIP MULCH

Provide 51 (2") saucer.

CUT AND REMOVE – CONTAINER

FERTILIZER – Two 21 gram Agriform tablets or approved equivalent for each shrub in bed.

SCARIFY PIT BOTTOM AND SIDES (150mm)

PLANTING SOIL MIXTURE: (mix thoroughly)

Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

ALL GIVEN DIMENSIONS ARE IN MILLIMETRES AND METRES

PREPARATION OF BED
Excavate entire shrub bed to size outlined on drawings, minimum 600 (2.0') depth.
Remove any subsoil or rubbish off site unless otherwise directed.
Water thoroughly after installation

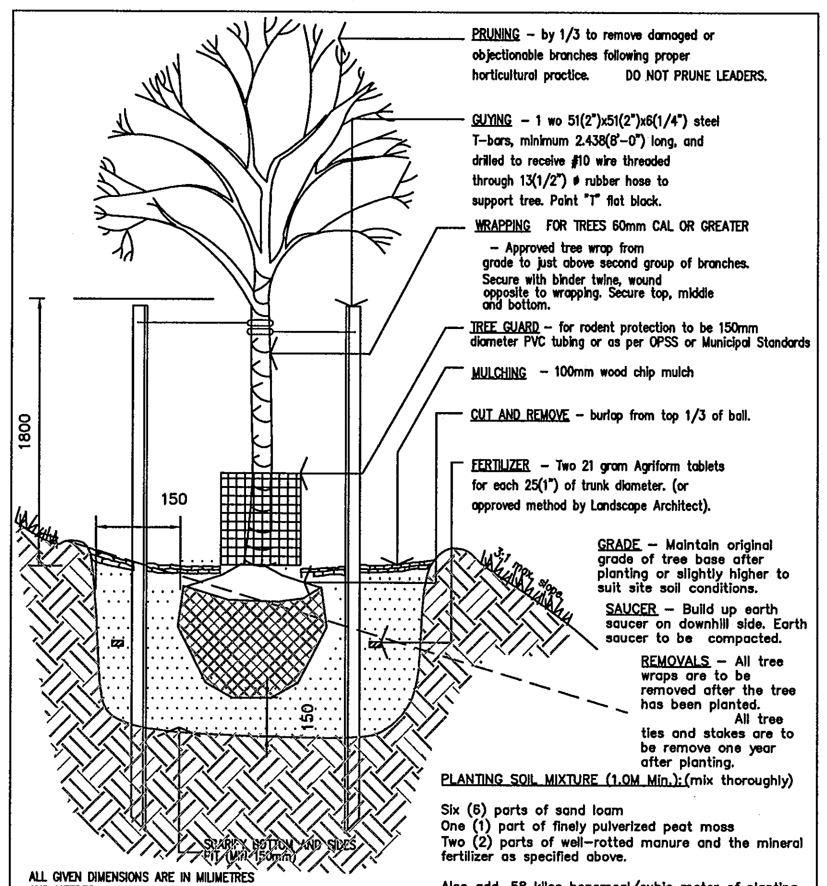
SPACING
See plant list for spacing. Space shrubs in staggered rows.

FOR RODENT CONTROL
See landscape specifications or apply "Skoot" at end of October.

Drawing Title:
SHRUB PLANTING DETAIL ON SLOPES (CONTAINER)

Scale:	Drawn:
N.T.S.	B.W.
Date:	Checked:
1993	D.J./P.M.

2



PRUNING – by 1/3 to remove damaged or objectionable branches following proper horticultural practice. DO NOT PRUNE LEADERS.

GUYING – 1 wo 51(2")x51(2")x6(1/4") steel T-bars, minimum 2.438(8'-0") long, and drilled to receive #10 wire threaded through 13(1/2") # rubber hose to support tree. Paint "T" flat black.

WRAPPING FOR TREES 60mm CAL OR GREATER
– Approved tree wrap from grade to just above second group of branches.
Secure with binder twine, wound opposite to wrapping. Secure top, middle and bottom.

TREE GUARD – for rodent protection to be 150mm diameter PVC tubing or as per OPSS or Municipal Standards

MULCHING – 100mm wood chip mulch

CUT AND REMOVE – burlap from top 1/3 of ball.

FERTILIZER – Two 21 gram Agriform tablets for each 25(1") of trunk diameter. (or approved method by Landscape Architect).

GRADE – Maintain original grade of tree base after planting or slightly higher to suit site soil conditions.

SAUCER – Build up earth saucer on downhill side. Earth saucer to be compacted.

REMOVALS – All tree wraps are to be removed after the tree has been planted.
All tree ties and stakes are to be remove one year after planting.

PLANTING SOIL MIXTURE (1.0M Min.):(mix thoroughly)

Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

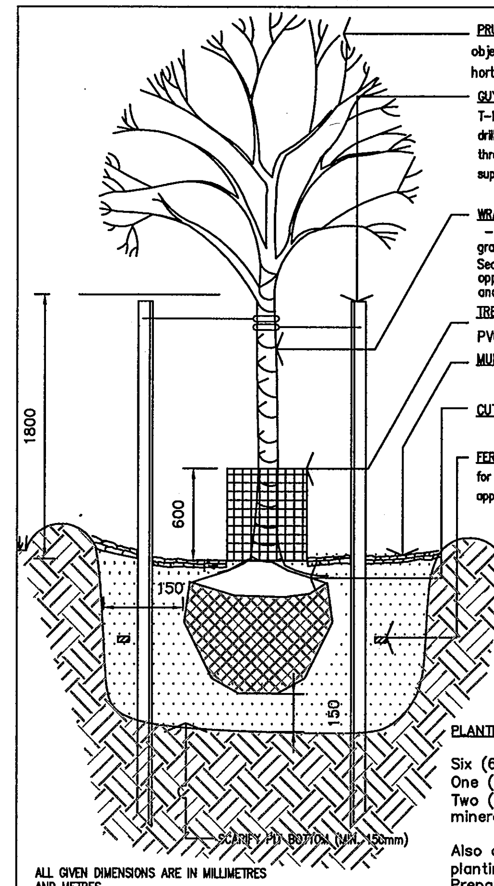
ALL GIVEN DIMENSIONS ARE IN MILLIMETRES AND METRES

WIRE BASKET OR STRING ON ROOT BALL
– CUT AND REMOVE TOP 2/3 OR FOLD DOWN TO AT LEAST 100mm INTO EXCAVATED PIT

Drawing Title:
STANDARD DECIDUOUS TREE PLANTING DETAIL
ON SLOPES FOR 64 (2 1/2") – 76 (3") CALIPER

Scale:	Drawn:
N.T.S.	B.W.
Date:	Checked:
1993	D.J./P.M.

4



PRUNING – by 1/3 to remove damaged or objectionable branches following proper horticultural practice. DO NOT PRUNE LEADERS.

GUYING – 51(2")x51(2")x6(1/4") steel T-bars, minimum 2.438(8'-0") long, and drilled to receive #10 wire threaded through 13(1/2") # rubber hose to support tree. Paint "T" flat block.

WRAPPING FOR TREES 60mm CAL OR GREATER
– Approved tree wrap from grade to just above second group of branches.
Secure with binder twine, wound opposite to wrapping. Secure top, middle and bottom.

TREE GUARD – for rodent protection to be 150mm dia. PVC tubing or as per OPSS or Municipal Standards

MULCHING – 100mm wood chip mulch

CUT AND REMOVE – burlap from top 1/3 of ball.

FERTILIZER – Two 21 gram Agriform tablets for each 25(1") of trunk diameter. (or approved method by Landscape Architect).

GRADE – Maintain original grade of tree base after planting or slightly higher to suit site soil conditions.

SAUCER – Build up earth saucer on downhill side. Earth saucer to be compacted.

REMOVALS – All tree wraps are to be removed after the tree has been planted.
All tree ties and stakes are to be remove one year after planting.

PLANTING SOIL MIXTURE (1.0M Min.):(mix thoroughly)

Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

ALL GIVEN DIMENSIONS ARE IN MILLIMETRES AND METRES

WIRE BASKET OR STRING ON ROOT BALL
– CUT AND REMOVE TOP 2/3 OR FOLD DOWN TO AT LEAST 100mm INTO EXCAVATED PIT

Drawing Title:
STANDARD DECIDUOUS TREE PLANTING DETAIL
FOR 64 (2 1/2") – 76 (3") CALIPER

Scale:	Drawn:
N.T.S.	B.W.
Date:	Checked:
1993	D.J./P.M.

3

NTS

METRIC

terraplan LANDSCAPE ARCHITECTS

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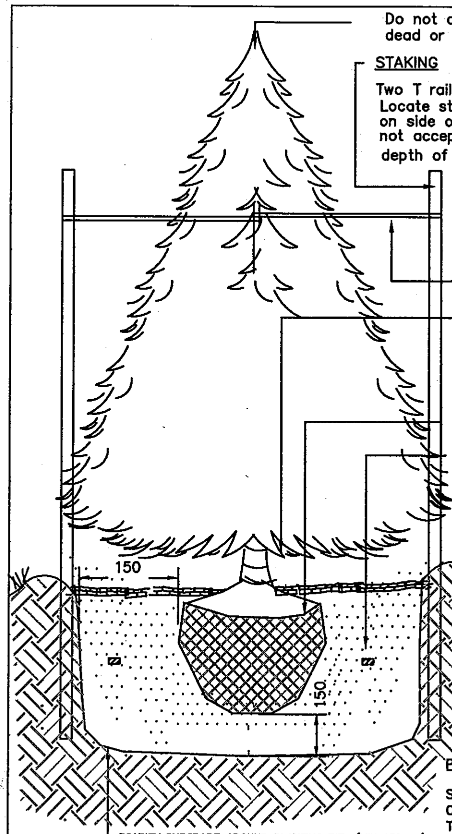
PLATE No
CONT
WP 2005-07-00

LANDSCAPE DETAILS
STA TO STA
Survey Revised

AECOM

SHEET L35



Do not damage or cut leader. Any tree with dead or damaged leader will not be accepted.

STAKING
Two T rail iron stakes 38x38x5x2400mm length Locate stake 200mm away from tree trunk on side of prevailing wind. Wood stakes are not acceptable. Secure into ground, minimum depth of 450 (1'-6")

Wire to be 1.5mm dia. galv. wire threaded through 12.7 dia black rubber hose.

MULCHING – 100mm wood chip mulch

CUT AND REMOVE – burlap from top 1/3 of ball.

FERTILIZER – Two 21 gram Agriform tablets for each 25(1") of trunk diameter. (or approved method by Landscape Architect).

GRADE – Maintain original grade of tree base after planting or slightly higher to suit site soil conditions.

SAUCER – Build up earth saucer on downhill side. Earth saucer to be compacted.

REMOVALS – All tree wraps are to be removed after the tree has been planted. All tree ties and stakes are to be remove one year after planting.

150

150

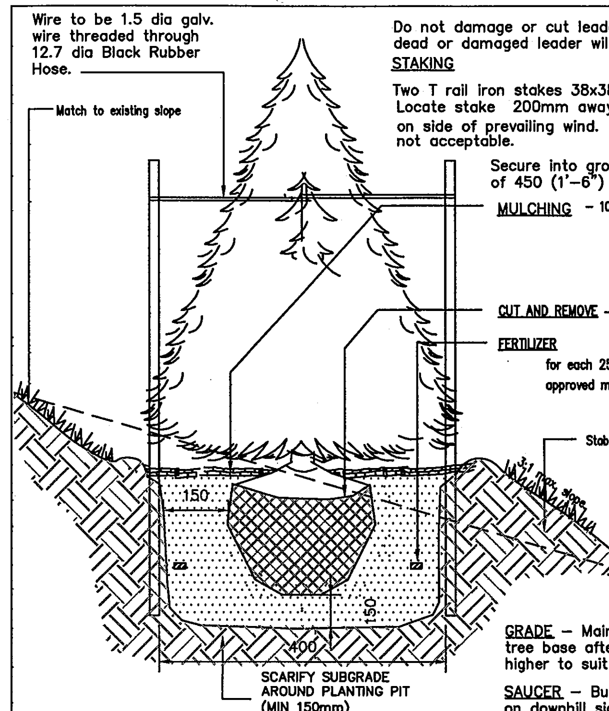
SCARIFY SUBGRADE AROUND PLANTING PIT (MIN 150mm)

PLANTING SOIL MIXTURE (1.0M Min.):(mix thoroughly)
Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

ALL GIVEN DIMENSIONS ARE IN MILLIMETRES AND METRES
WIRE BASKET OR STRING ON ROOT BALL
– CUT AND REMOVE TOP 2/3 OR FOLD DOWN TO AT LEAST 100mm INTO EXCAVATED PIT

Drawing Title: STANDARD CONIFEROUS TREE DETAIL FOR 1200 (4'-0") -2400 (8'-0") HEIGHT	Scale: N.T.S.	Drawn: B.W.	5
	Date: 1993	Checked: D.J./P.M.	



Wire to be 1.5 dia galv. wire threaded through 12.7 dia Black Rubber Hose.

Match to existing slope

Do not damage or cut leader. Any tree with dead or damaged leader will not be accepted.

STAKING
Two T rail iron stakes 38x38x5x2400mm length Locate stake 200mm away from tree trunk on side of prevailing wind. Wood stakes are not acceptable.

Secure into ground, minimum depth of 450 (1'-6")

MULCHING – 100mm wood chip mulch

CUT AND REMOVE – burlap from top 1/3 of ball.

FERTILIZER – Two 21 gram Agriform tablets for each 25(1") of trunk diameter. (or approved method by Landscape Architect).

Stable slope

3:1 max. slope

150

400

150

SCARIFY SUBGRADE AROUND PLANTING PIT (MIN 150mm)

GRADE – Maintain original grade of tree base after planting or slightly higher to suit site soil conditions.

SAUCER – Build up earth saucer on downhill side. Earth saucer to be compacted.

REMOVALS – All tree wraps are to be removed after the tree has been planted. All tree ties and stakes are to be remove one year after planting.

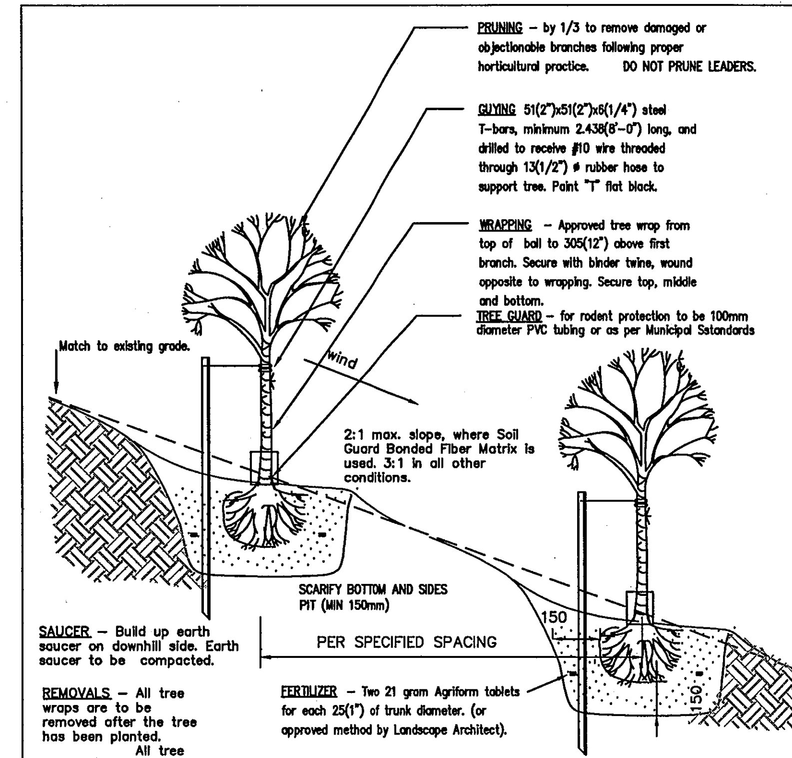
ALL GIVEN DIMENSIONS ARE IN MILIMETRES AND METRES

WIRE BASKET OR STRING ON ROOT BALL
– CUT AND REMOVE TOP 2/3 OR FOLD DOWN TO AT LEAST 100mm INTO EXCAVATED PIT

PLANTING SOIL MIXTURE (1.0M Min.):(mix thoroughly)
Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

Drawing Title: STANDARD CONIFEROUS TREE DETAIL ON SLOPES FOR 1200 (4'-0") -2400 (8'-0") HEIGHT	Scale: N.T.S.	Drawn: B.W.	6
	Date: 1993	Checked: D.J./P.M.	



PRUNING – by 1/3 to remove damaged or objectionable branches following proper horticultural practice. DO NOT PRUNE LEADERS.

GUYING 51(2")x51(2")x6(1/4") steel T-bars, minimum 2.438(8'-0") long, and drilled to receive #10 wire threaded through 13(1/2") ø rubber hose to support tree. Paint "T" flat black.

WRAPPING – Approved tree wrap from top of ball to 305(12") above first branch. Secure with binder twine, wound opposite to wrapping. Secure top, middle and bottom.

TREE GUARD – for rodent protection to be 100mm diameter PVC tubing or as per Municipal Sstandards

Match to existing grade.

wind

2:1 max. slope, where Soil Guard Bonded Fiber Matrix is used. 3:1 in all other conditions.

SCARIFY BOTTOM AND SIDES PIT (MIN 150mm)

PER SPECIFIED SPACING

150

150

SAUCER – Build up earth saucer on downhill side. Earth saucer to be compacted.

REMOVALS – All tree wraps are to be removed after the tree has been planted. All tree ties and stakes are to be remove one year after planting.

FERTILIZER – Two 21 gram Agriform tablets for each 25(1") of trunk diameter. (or approved method by Landscape Architect).

ALL GIVEN DIMENSIONS ARE IN MILIMETRES AND METRES

PLANTING SOIL MIXTURE (1.0M Min.):(mix thoroughly)
Six (6) parts of sand loam
One (1) part of finely pulverized peat moss
Two (2) parts of well-rotted manure and the mineral fertilizer as specified above.

Also add .58 kilos bonemeal/cubic meter of planting soil (1 lb./cubic yard).
Prepare the planting beds for planting before the delivery of the plant material to the job site.
Soil mixture should be firmly compacted to eliminate air pockets and prevent settlement.

Drawing Title: BARE ROOT DECIDUOUS TREE PLANTING DETAIL ON SLOPES FOR 25 (1 ") - 64 (2 1/2") CALIPER	Scale: N.T.S.	Drawn: B.W.	7
	Date: 1993	Checked: D.J./P.M.	

NAME: NATURALIZED WETLAND MIXTURE.
PRODUCT CODE: 7109
Contains:
1/2% Swamp Milkweed (Asclepias incarnata)
5% Nodding Bur Marigold (Bidens ceruna)
1/2% Canada Bluejoint (Calamagrostis canadensis)
12% Fringed Sedge (Carex crinata)
6% Awl Sedge (Carex stipata)
35% Fox Sedge (Carex vulpinoidea)
1/2% Spotted Joe Pye Weed (Eupatorium maculatum)
1/2% Bonset (Eupatorium perfoliatum)
18% Soft Rush (Juncus effusus)
3% Rice Cutgrass (Leersia orysoides)
1/2% Hard Stem Bulrush (Scipus acutus)
18% Green Bulrush (Scirpus atrivirens)
8 1/2% Soft Stem Bulrush (Scirpus validus)

Application Rate:
Seed rate to be 14kg per hectare

--by OSC (Tel: 519-886-0557) or approved equal.

STORMWATER POND SEED MIXTURES SPECIFICATIONS	Scale: N.T.S.	Drawn: B.J.K.	8
	Date:	Checked:	

NTS

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05

DRAWING NAME: 09-221-proj.dwg SAVE DATE: 2/18/2010 11:31 AM PLOT DATE: 2/16/2010 4:40 PM
SAVED BY: L.R.