THE CITY OF WINNIPEG

APPENDIX ‘D’

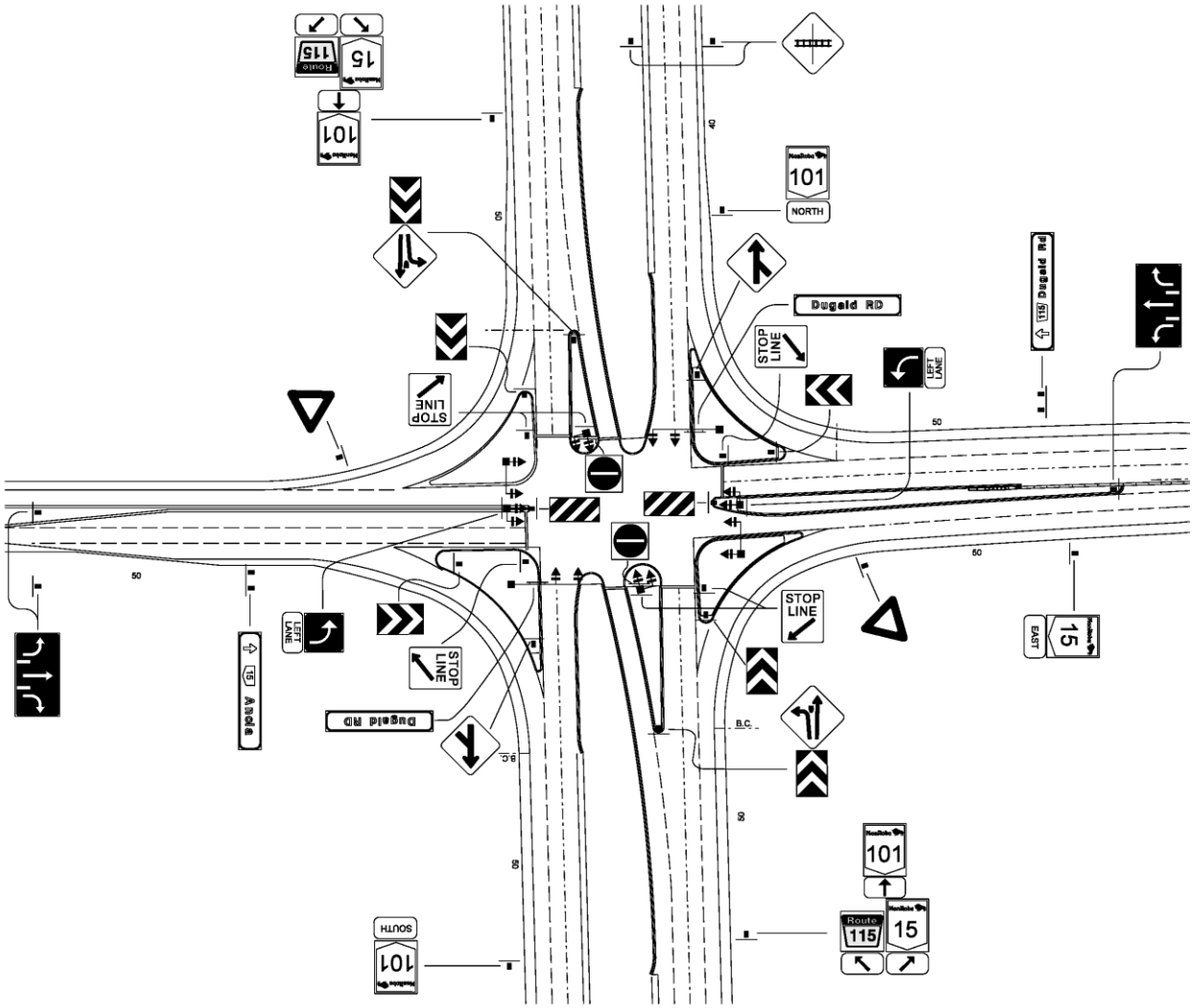
MI THE TRAFFIC SIGNING MANUAL

BID OPPORTUNITY NO. 9-2018

SHOAL LAKE AQUEDUCT CROSSING AND ASSOCIATED ROADWORKS

The
Traffic Signing Manual
for
Permanent Traffic Signs

The Blue Manual
2012



Manitoba
Infrastructure and Transportation
Traffic Engineering

Traffic Sign Pamphlet

2012 PAGE 1 OF 4

REGULATORY

Manitoba Infrastructure and Transportation
Traffic Engineering
Office 420
215 Garry Street
Winnipeg
Manitoba
R3C 3P3
Canada

RA-1

RA-2

750 X 750 — 13.7
1200 X 1200 — 7.9

RA-1 T
600 X 300 — 13.7

RB-21
900 X 300 — 7.4

RB-1

RB-5

600 X 750 — 5.3
900 X 1200 — 7.6

RB-11 L

RB-11 R

RB-14 L

RB-14 R

RB-15

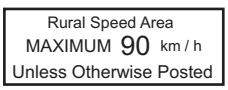
RB-16

600 X 600 — 5.1
900 X 900 — 5.1

RB-17 R — 600 X 900 — 5.1

RB-17 T — 600 X 300 — 5.1

MR-10 (U) — 2700 X 1070



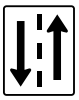
MR-10 (R) — 2700 X 1070 — 1.2

RB-23

RB-22

600 X 600 — 13.7
900 X 900 — 13.7

RB-2223 — 900 X 1350 — 7.9



RB-24

RB-25

600 X 750 — 5.1
900 X 1200 — 7.4
1200 X 1500 — 7.4

RB-61

RB-62

600 X 600 — 5.1

RB-31

RB-32

900 X 900 — 5.1

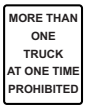
RB-34

RB-35

600 X 750 — 5.1
900 X 1200 — 7.4
1200 X 1500 — 7.4

RB-63

600 X 600 — 5.3
900 X 900 — 5.3



MR-23
600 X 750 — 5.1

MR-23 T
600 X 300 — 5.1

RB-69

RB-70

600 X 600 — 5.1
900 X 900 — 5.1

RB-69 T

RB-70 T
600 X 300 — 5.1
900 X 450 — 5.1

MR-4

MR-81 *

600 X 750 — 5.1 — *5.3

MR-82

MR-83

300 X 450 — 5.1

MR-98

900 X 1200
1200 X 1500 — 7.4

RB-41 L

RB-41 R

600 X 600 — 5.1

RB-41 RT
600 X 300 — 5.1

RB-51 L

RB-51

RB-51 R

RB-55 L

RB-55

RB-55 R

300 X 300 — 5.1
600 X 600 — 5.1

RB-66
600 X 600 — 5.1

RC-1

RC-2

450 X 600 — 5.1

RC-4 L

RC-4 R

MR-100
600 X 750 — 5.1

RA-3 L

RA-3 R

RA-4 L

RA-4 R

600 X 750 — 5.1
900 X 1200 — 7.4

MR-102
750 X 750 — 5.1

RC-6
600 X 600 — 5.1
900 X 900 — 5.1
1200 X 1200 — 7.4

E4 1200 X 1200
E2 1200 X 450
E3 1200 X 600

MR-120 U — 7.4

Traffic Sign Pamphlet

2012

WARNING

Manitoba Infrastructure and Transportation
Traffic Engineering
Office 420
215 Garry Street
Winnipeg
Manitoba
R3C 3P3
Canada


WA-1L


WA-1R


WA-2L


WA-2R


WA-3L


WA-3R


WA-4L


WA-4R


WA-5L


WA-5R


WA-6L


WA-6R

600 X 600 5.1
750 X 750 5.1
900 X 900 5.1

WA-7 S

600 X 600 5.3
750 X 750 5.3

MW-1

600 X 750 5.3
900 X 1200 7.6


WA-8


WA-8 L/R


WA-8 B

1200 X 1200 7.4


WA-9 600 X 750 13.3


WA-11


WA-12 R


WA-13 L


WA-14


WA-16 R


WA-18 L*


WA-18*


WA-18 R*


WA-21


WA-22


WA-23

750 X 750 5.1 *13.3
900 X 900 5.1 *13.3


WA-24


WA-25

WA-26*


WA-31


WA-32


WA-33 L


WA-33 R


WA-34

750 X 750 5.1 *5.3
900 X 900 5.1 *5.3

WA-27

900 X 600 5.3


WB-1


WB-4

900 X 900 13.3
1200 X 1200 7.8

WB-3

WC-5

WC-6

WC-7

WC-10

WC-12 R

WC-13

WC-15

WC-23

750 X 750 5.1
900 X 900 5.1

WC-1 750 X 750 13.3

WC-16 R

750 X 750 13.3
900 X 900 13.3

WC-2 R

WC-3

MW-95

750 X 750 5.1
900 X 900 5.1

WC-9 900 X 900 5.1

WC-9 T

MW-89

MW-132

900 X 450 5.1

WA-30 S

WA-28 S

600 X 300 5.3
900 X 450 5.3

MW-82

MW-86

MW-87

MW-88

MW-90

MW-94

MW-99

MW-107

900 X 900 5.1

WA-36

400 X 900 13.3
600 X 1350 7.8

WA-36 L

WA-36 R

H-315 T

300 X 900 13.3

H-320 100 X 200 5.1

SHEETING ONLY (FOR POLYPOSTS)
H-319 S 300 X 200 10.6

SHEETING ON ALUMINUM
H-319 100 X 200 13.3

DOUBLE-SIDED
H-323 DS 450 X 450 13.5

SINGLE-SIDED
H-323 SS 600 X 600 13.6

Traffic Sign Pamphlet

2012 PAGE 3 OF 4

INFORMATION

Manitoba Infrastructure and Transportation
Traffic Engineering

Office 420
215 Garry Street
Winnipeg
Manitoba
R3C 3P3
Canada

D-321 90 X 900 | D-322 90 X 450 — 13.7

ID-21 R 130 X 200 — 5.1

Anthony ST — IDM-1 ? X 150 — 12.2

Darren RD — IDM-2 ? X 230 — 12.3

Cantilever BLVD — IDM-3 ? X 305 — 2.5

MI-53 CITI 92.1 FM CKXL 91.1 FM Winnipeg 1800 X 1200 — 7.5

MI-54 CFCW 750 AM Portage la Prairie 1200 X 1200 — 7.5

MI-87 ADOPT-A-HIGHWAY LITTER CONTROL NEXT 8 km 1500 X 750 — 7.4

MI-87 T Manitoba Infrastructure and Transportation Thanks The Clean Team

MI-87 TB Site Available

1500 X 600 — 7.4

IB-1* | M-2A* | M-2B

M-2G | M-2J | M-2Q

600 X 750 — 5.1 — *5.3
900 X 1200 — 7.4 — *7.6

M-2C* | M-2H | M-2K

M-2N | M-2P* | M-2S#

M-2R 600 X 600 — 5.1 — *5.3
900 X 900# — 5.1 — *5.3

M-2F 1200 X 900 — 7.4

M-2M 600 X 600 | M-2MB 600 X 750 — 5.1

M-2V | M-2L 600 X 900 — 5.1

M-2K T | M-2K TB | M-2H T

M-2J T | M-2Q T | M-2R T

600 X 300 — 5.1
900 X 450 — 5.1

MI-116 600 X 600 — 16.2
900 X 900 — 16.2

IB-3 | IS-5 L | IS-6 R | IS-7 | IS-8 | IS-9 R

MM-4 L | MM-5 | MM-18

IS-10 NORTH | IS-11 EAST | IS-12 SOUTH | IS-13 WEST | IS-14 BY-PASS | IS-15 ENDS

MM-17 TO | MM-19 CITY ROUTE | MM-20 2 km | MM-23 LEFT LANE | MM-24 EXIT 2 km | MM-25 NEXT LEFT

MM-26 LEFT AT 304
600 X 600

600 X 300 — 5.1
900 X 450 — 5.1

IB-4 JUNCTION | MM-8

1240 X 300 — 7.4
1840 X 450 — 7.4

IC-1 | IC-2 | IC-3 | IC-4 | IC-5 | IC-6

IC-7 | IC-8 | IC-9 | IC-15 | IC-20 | IC-21

IC-10 | IC-11 | IC-12 | IC-13 | IC-14 | IC-16

MI-22 SERVICE ROAD | MI-50 BUSINESS SECTION | MI-49 Historic Site | MI-21 | MI-26 | MI-27

MI-29 | MI-30 | MI-31 | MI-33 | MI-34 | MI-37

MI-38 | MI-39 | MI-41 | MI-42 | MI-46 | MI-47

MI-64 | MI-90

600 X 600 — 5.1
900 X 900 — 5.1

OTHER SERVICE SYMBOLS ARE AVAILABLE;
CONTACT THE TRAFFIC SIGNING TECHNICIAN.

Traffic Sign Pamphlet

2012 PAGE 4 OF 4

CONSTRUCTION

Manitoba Infrastructure and Transportation
Traffic Engineering

Office 420
215 Garry Street
Winnipeg
Manitoba
R3C 3P3
Canada

MC-1 1200 X 1200 **7.4**

TC-2

TC-3

TC-4

TC-5 R

TC-10

TC-13 R

TC-21

TC-47

TC-48

TC-49

TC-51

TC-54 R

MC-4

MC-6

MC-31

MC-32

MC-33

MC-36

MC-37

MC-51

MC-53

MC-55

900 X 900 **5.1**

WD-A44

TC-49 T

600 X 300 **5.1**

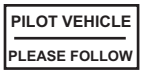
900 X 450 **5.1**

MC-9

1200 X 750 **7.4**

MC-41 900 X 600 **5.1**

FRONT



BACK

MC-42 1200 X 600 **15.1**

MR-96

TC-17

MR-136

750 X 1200 **7.4**

H-316 R

1800 X 200

H-316 L

1800 X 200

H-317

1800 X 400 **4.1**

FRONT

BACK

H-318 R / L 1800 X 200 **11.1**

GATEWAY ASSEMBLY BOARDS

COST TAB $44 COST TAB $4.2

MI-180 T
(ONLY 2 DIGITS ALLOWED)
675 X 300

MI-180 1800 X 2440 **1.2**

MC-44

MC-44 B

TRAFFIC CONTROL PADDLES 450 X 450 **13.9**

This **Traffic Signing Manual**, (the Blue Manual), is intended as a **field guide** to permanent **sign installation.**

This is an active, growing manual, and will change to reflect ongoing improvements in hardware, new signs, or new sign installation formats.

This is a companion manual to the following publications:

Traffic Engineering Policy / Standards Manual (the Grey Manual)

Traffic Engineering Work Zone Traffic Control Manual (the Orange Manual)

Manual of Uniform Traffic Control Devices for Canada (the White Manual)

You should refer to either of these companion manuals for more information on signs and other devices, and their applications.

- Traffic Engineering Branch, April 2004

Traffic Engineering

TRAFFIC SIGNING MANUAL

TABLE OF CONTENTS

(GENERAL)

TABLE OF CONTENTS

(DETAILED)

INDEX OF TOPICS
ALPHABETICAL LISTING

TRAFFIC SIGNING MANUAL

SECTION SA NOTES

GENERAL SIGN INFORMATION

Permanent traffic signs generally fall into three groups, prioritised as follows:

A. Regulatory Signs
B. Warning Signs
C. Information Signs

Some factors which may affect sign placement are:

a) roadway geometry (curves, hills, intersections, right-turn cut-offs (SA-7 page 2), etc.)
b) other signing of higher priority or importance, e.g. regulatory or warning signs which take priority over guide signs.

Except as otherwise shown in this manual, all signs should be spaced at least 150 metres apart. If a specific sign is not to be installed for a certain reason, all other signs shall remain in their respective positions. For example, if the 'Stop Ahead' sign (WB-1) is not to be installed, or if it is removed, the advance junction marker shall remain in its normal position.

Sign locations shown are typical. For consistency throughout the highway system, stay as close as possible to measurements shown in the drawings. (Route numbers shown are not meant to portray actual highways; they are only representative of route number formats.)

TYPICAL SIGN SIZE APPLICATIONS

Road Type	Regulatory	Warning	Information	Construction
PR Gravel	600 x 600 600 x 750 750 x 750	750 x 750	600 x 600 600 x 750	900 x 900
PR Paved or PTH	600 x 600 600 x 750 750 x 750	750 x 750	600 x 600 600 x 750	900 x 900
PTH Divided	900 x 900 900 x 1200	900 x 900 1200 x 1200	900 x 900 900 x 1200	900 x 900

A. REGULATORY SIGNS

COLOURS:

Regulatory signs and their supplementary tabs:

Black and White, or Red and White.

INSTALLATION NOTES:

Regulatory signs must be placed at the point of their specific commands (e.g. stop signs, speed limit signs, pedestrian crosswalk signs).

ADVANCE SPEED LIMIT SIGN (RB-5) PLACEMENT		
Higher Speed Limit	**Lower Speed Limit**	**Spacing (m) Between RB-5 & RB-1**
100	90	100
100	80	120
100	70	160
100	60	200
100	50	240
90	80	100
90	70	120
90	60	160
90	50	200
80	70	100
80	60	120
80	50	160
70	60	100
70	50	120
60	50	100

page revised
2009-09-11

B. WARNING SIGNS

COLOURS:

Warning Signs and their supplementary tabs:

Black on Yellow.

INSTALLATION NOTES:

Warning signs are usually placed 50 m to 150 m in advance of the hazard that they are describing.

CURVE SIGNING PROCEDURES

1. All curves with a radius of 3500 metres or less will be marked with the appropriate version of the curve sign WA-1 through WA-6.

2. Curve signs and their supplementary tabs for permanent installations shall be Black on Yellow.

3. No other sign should normally be placed between the curve sign and the beginning of curve. Any exceptions should be approved by the Technical Services Engineer.

4 WA-1, WA-2 and WA-3 turn and curve signs shall be used for single turns or curves.

   WA-4 and WA-5 turn and curve signs shall be used where two turns or curves in the opposite direction are separated by a tangent (straight stretch) of less than 120 metres.

   WA-6 signs shall be used where there is a series of five or more turns or curves separated by tangents of less than 120 metres. (See MUTCD, Manual for Uniform Traffic Control Devices for more detail.)

5. Curve signs may need to be supplemented by advisory speed signs (WA-7 S). The appropriate advisory speed, (safe speed) for the specific curve, shall always be determined with a Ball Bank Indicator. DO NOT GUESS what the advisory speed should be. (Refer to the Policy/Standard 100-B-1, article 3 of Traffic Engineering Manual (Grey Manual) for more information on correct determination of advisory speeds.)

6. Curve sign placement distance in advance of beginning of curve shall be determined by the following chart.

CURVE SIGN PLACEMENT CHART			
Posted Speed Limit (km/h)	***Advance Distance (m) of Curve Signs**		
	Minimum	**Ideal**	**Maximum**
50	50	70	150
60 - 70	70	100	150
80 - 110	100	150	150

* in advance of beginning of curve.

7. Once the appropriate advisory speed has been determined, the appropriate curve sign for the specific curve will be determined using Table A.3.10 of MUTCD .

Table A3.10 (Modified)
Turn and Curve Warning Signs To Be Used Under Various Conditions

Legal Limit (km/h)	**Safe Speed (km/h) on Turn or Curve which is shown on the WA-7 S which shall accompany each curve sign.**							
	90	**80**	**70**	**60**	**50**	**40**	**30**	**20**
100	WA-3*	WA-3	WA-3	WA-2	WA-2	WA-2	WA-2	WA-2
90		WA-3*	WA-3	WA-3	WA-2	WA-2	WA-2	WA-2
80			WA-3*	WA-3	WA-2	WA-2	WA-2	WA-2
70				WA-3*	WA-2	WA-2	WA-2	WA-2
60					WA-2	WA-2	WA-2	WA-2
50					WA-2	WA-2	WA-2	WA-2

* The WA-7 S sign is NOT needed in these cases.
The WA-4 may be used in place of WA-2.
The WA-1 may be used where safe speeds are less than shown (Include WA-7 S).
The WA-5 or WA-6 may be used in place of WA-3 in all cases.

8. The appropriate size of curve signs should be determined by the following table.

TYPE OF ROAD	SIGN SIZES[2] (millimetres)	
	CURVE SIGN (WA-?)	ADVISORY SPEED TAB (WA-7 S)
Provincial Roads and Two-Lane Trunk Highways	750 x 750	600 x 600
Multi Lane Roads	900 x 900	750 x 750

[2] larger signs may be required for curves with a history of run-off-road accidents; consult the Technical Services Engineer.

9. Curve signs should be installed in accordance with specifications shown on Page SB-2 (Typical Sheet Sign Installation) of the Traffic Signing Manual ("Blue Manual").

10. Additional visual definition of sharp curves may be provided by delineation markers or chevron alignment signs. (Refer to Policy/Standard 700-A-1 of Traffic Engineering Manual for criteria for installing delineator posts.) The Technical Services Engineer should be consulted in these cases. Refer to Section SB-9 of the "Blue Manual" for installation details.

C. INFORMATION SIGNS

COLOURS: **Information Signs** and their supplementary tabs:

White on Green, White on Blue, White on Brown.

INSTALLATION NOTES:

Information signs should not be placed in locations that conflict with Regulatory or Warning signs. Except as otherwise shown in this manual, all information signs should be spaced at least 150 metres apart.

All sign clusters shall display compatible colours, i.e., Trans-Canada route markers shall have a White on Green directional tab.

Proper orientation of symbolic signs should be maintained. For example, the "Airport" symbol (IC-11, IC-12) should always point straight up.

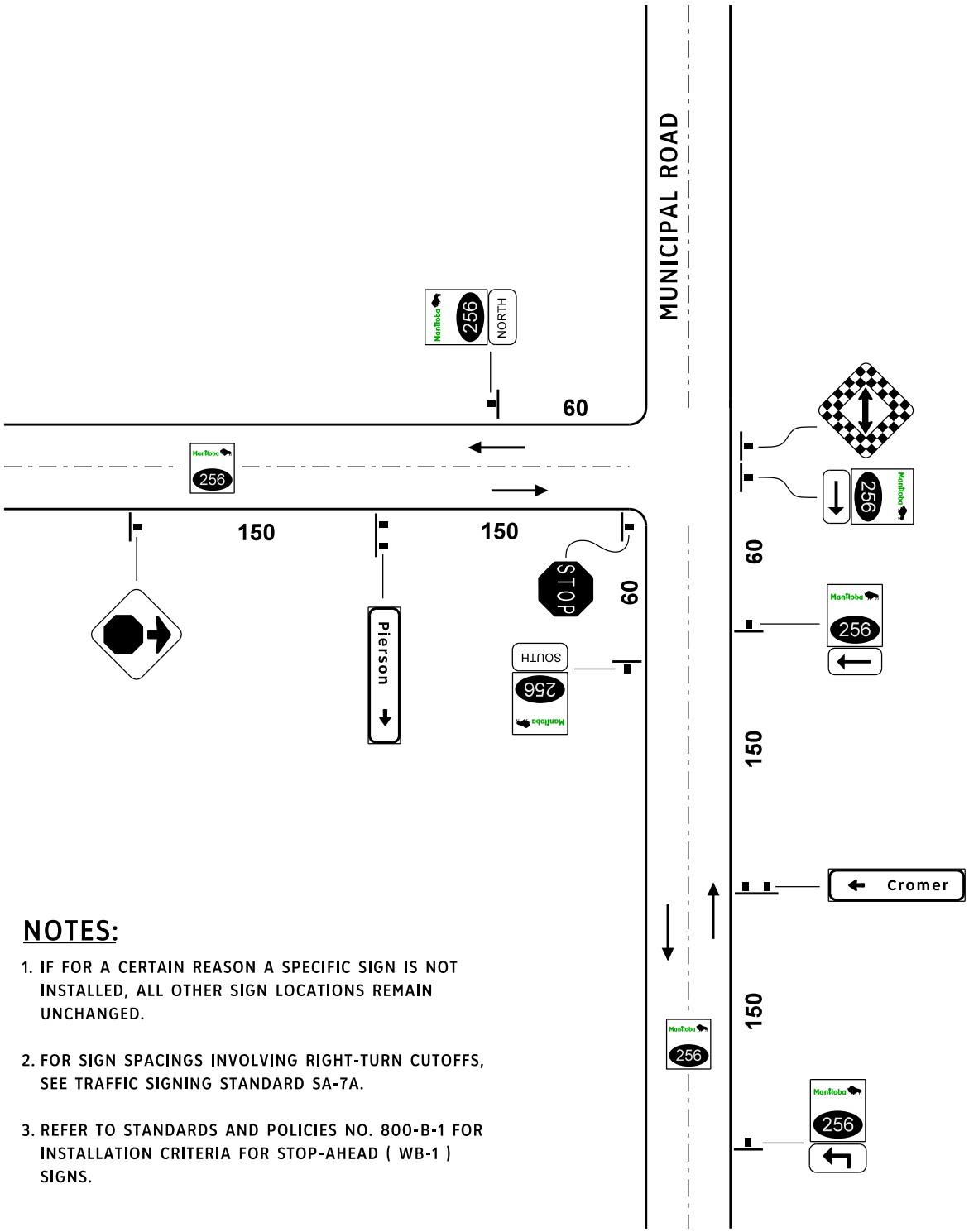
SECTION SA

STANDARD TRAFFIC SIGN LOCATIONS AT TYPICAL INTERSECTIONS

TYPICAL T-INTERSECTION PROVINCIAL ROAD AND MUNICIPAL ROAD

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-1



NOTES:

1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.

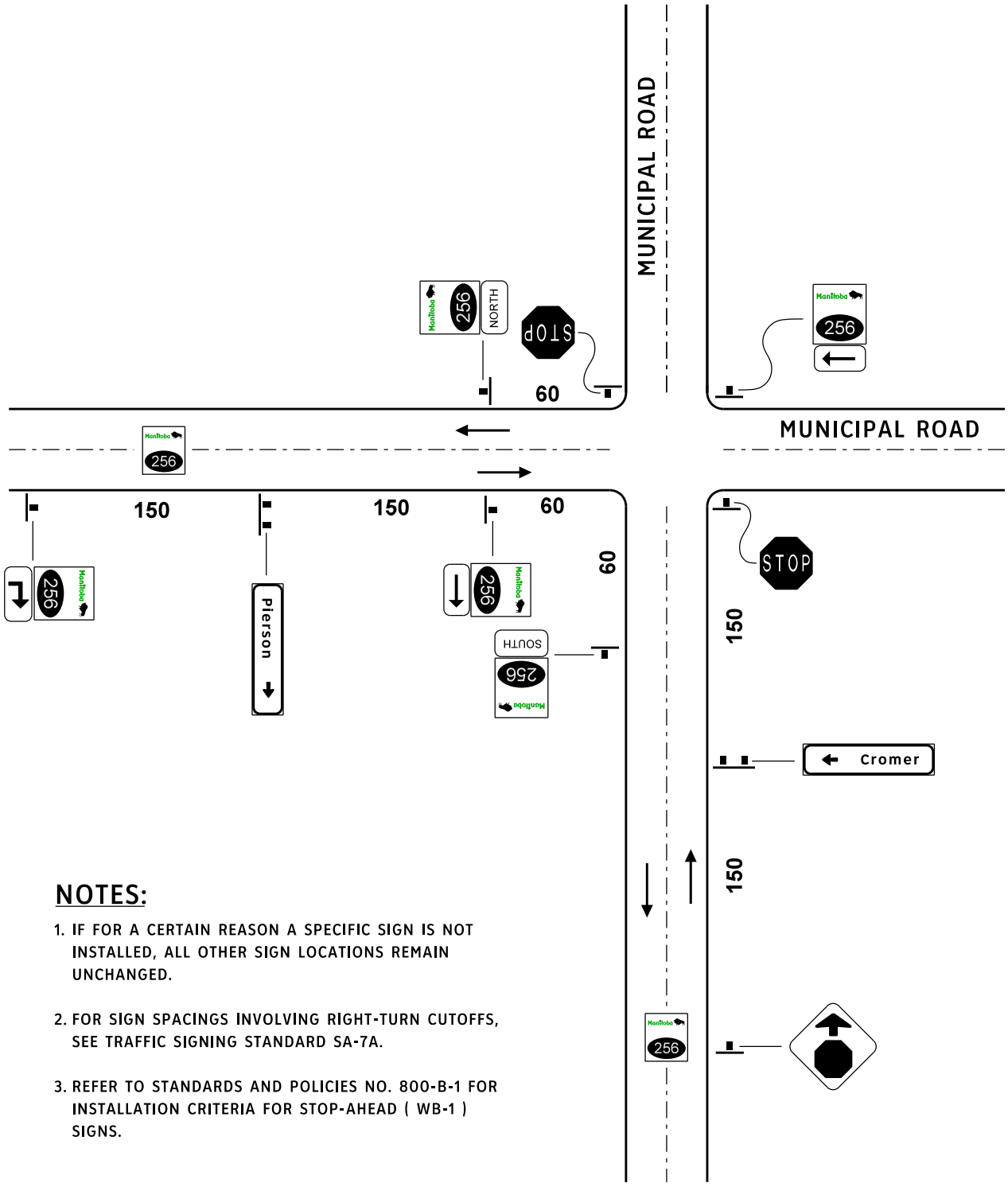
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.

3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL INTERSECTION PROVINCIAL ROAD AND MUNICIPAL ROAD

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-2



NOTES:

1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.

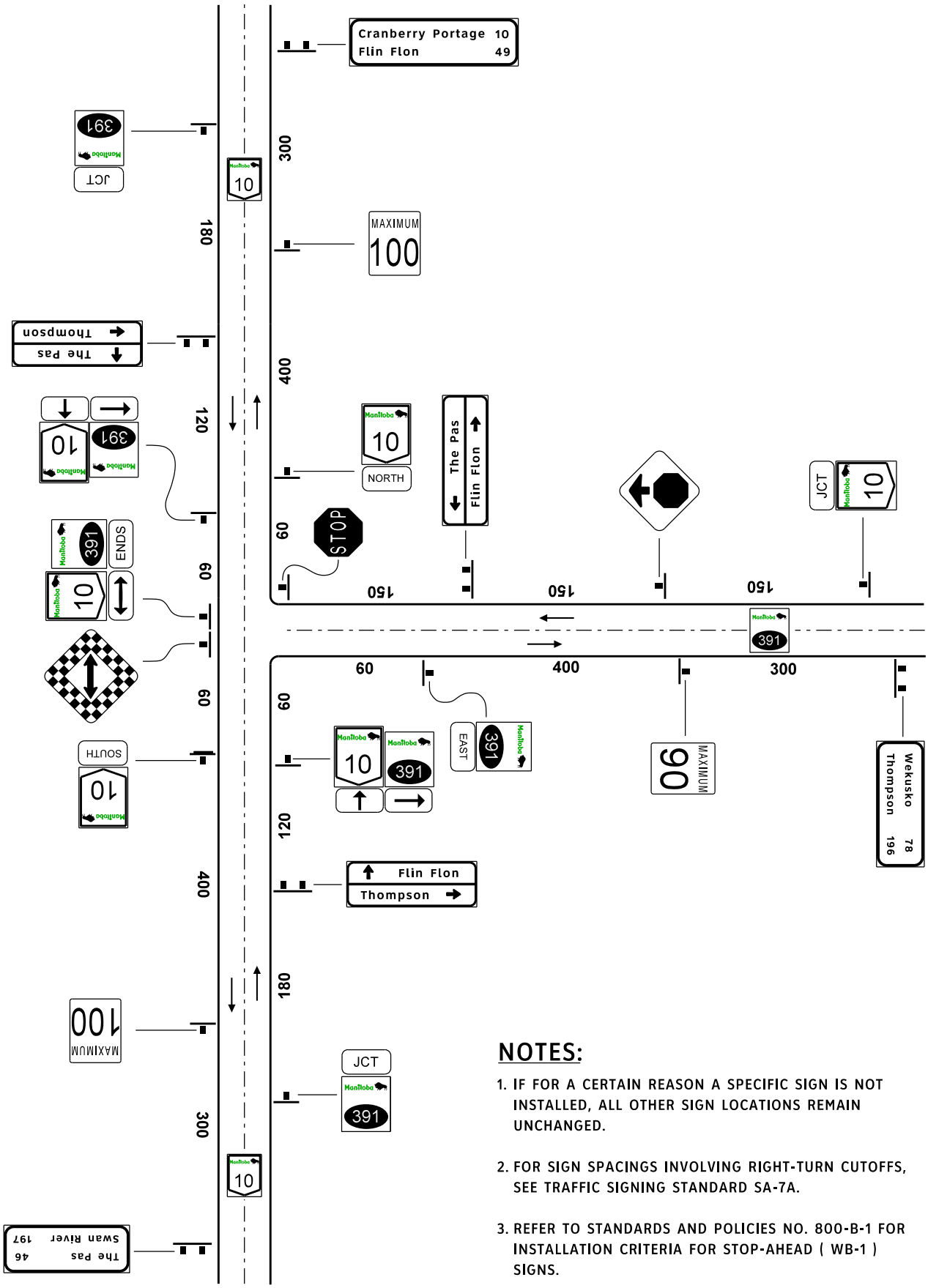
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.

3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL T-INTERSECTION
PROVINCIAL TRUNK HIGHWAY
PROVINCIAL ROAD

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-3



NOTES:

1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.

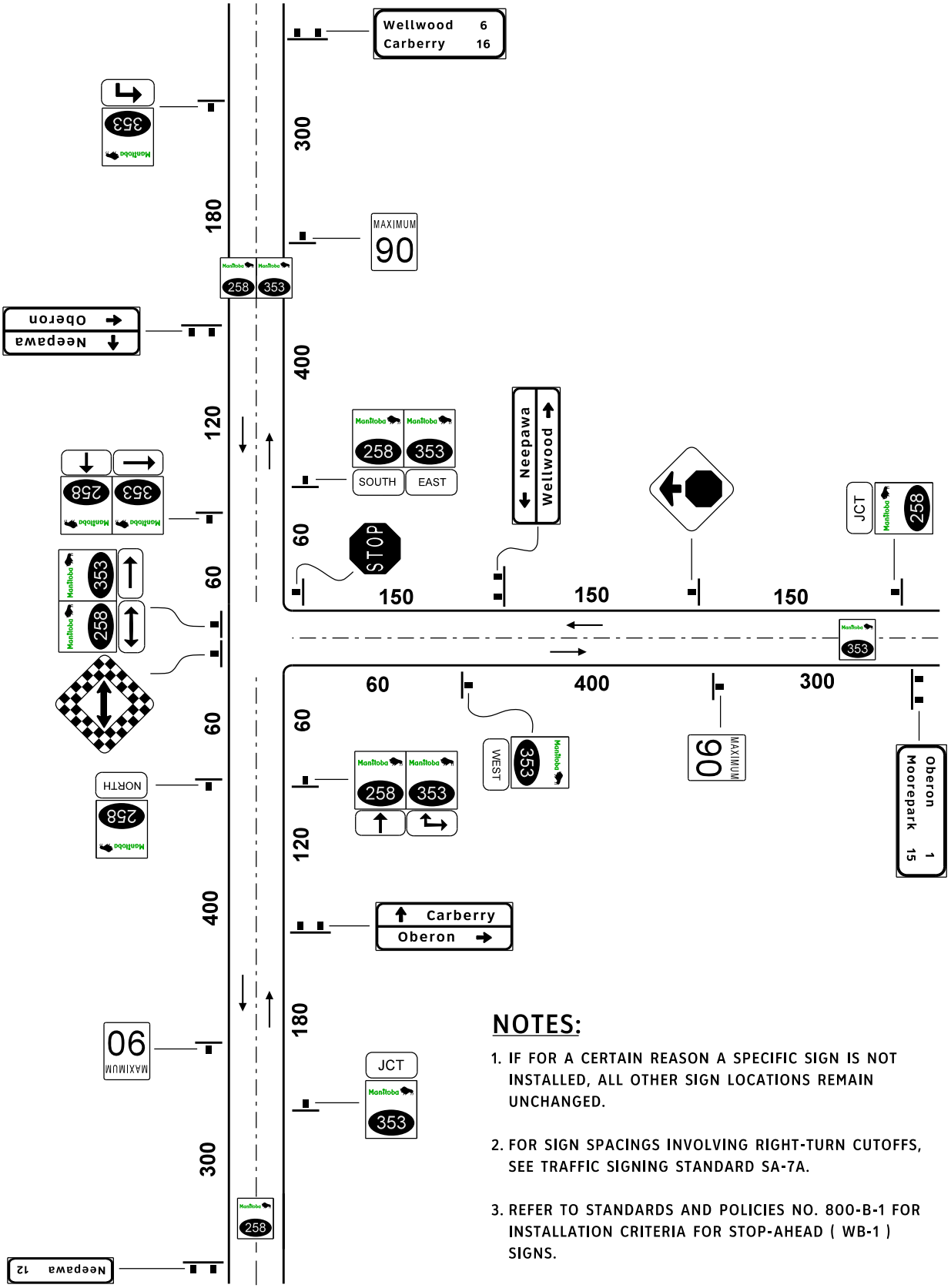
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.

3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL T-INTERSECTION
DOUBLE NUMBERED ROUTE

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-4



NOTES:

1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.

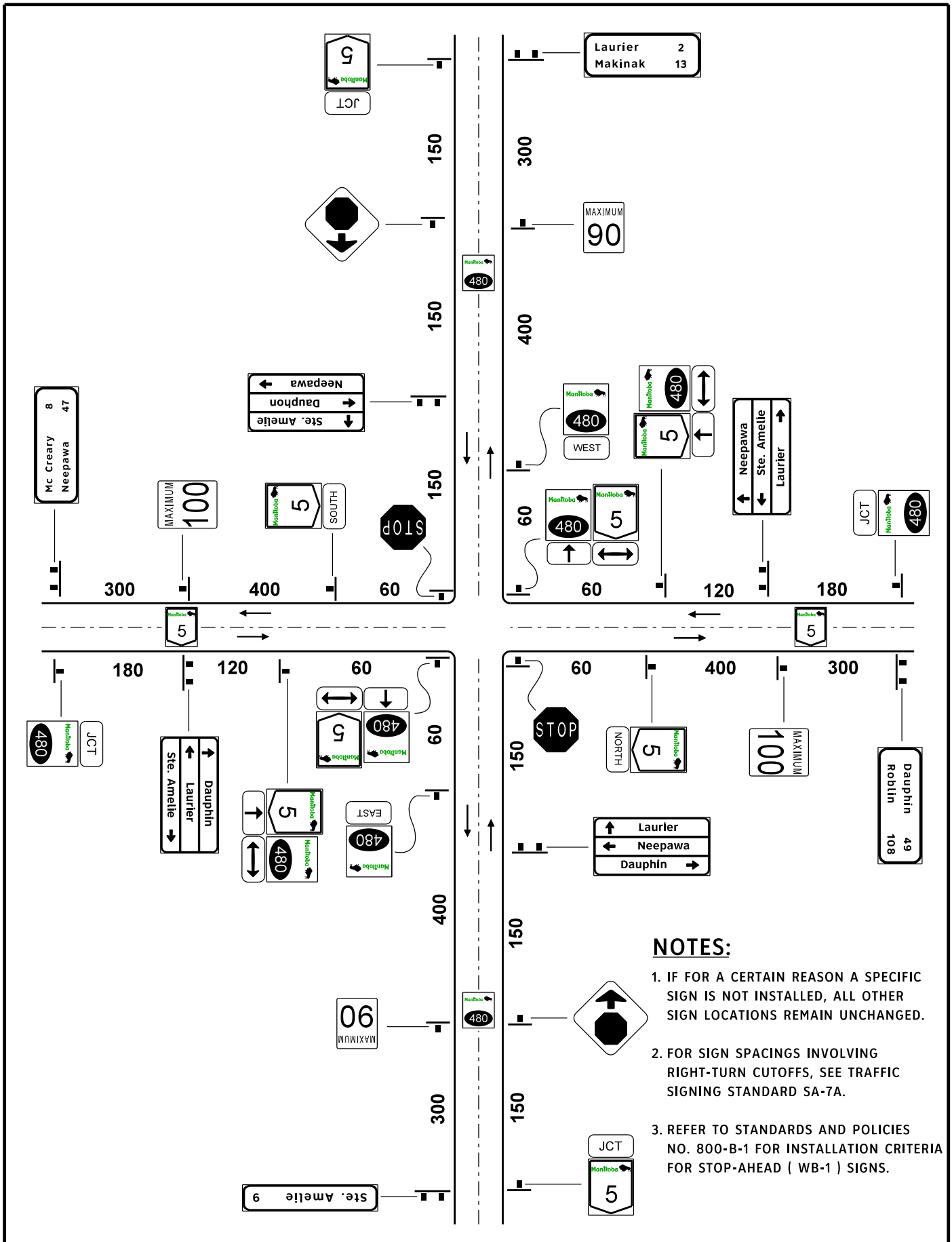
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.

3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL INTERSECTION PROVINCIAL TRUNK HIGHWAY AND PROVINCIAL ROAD

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-5



NOTES:

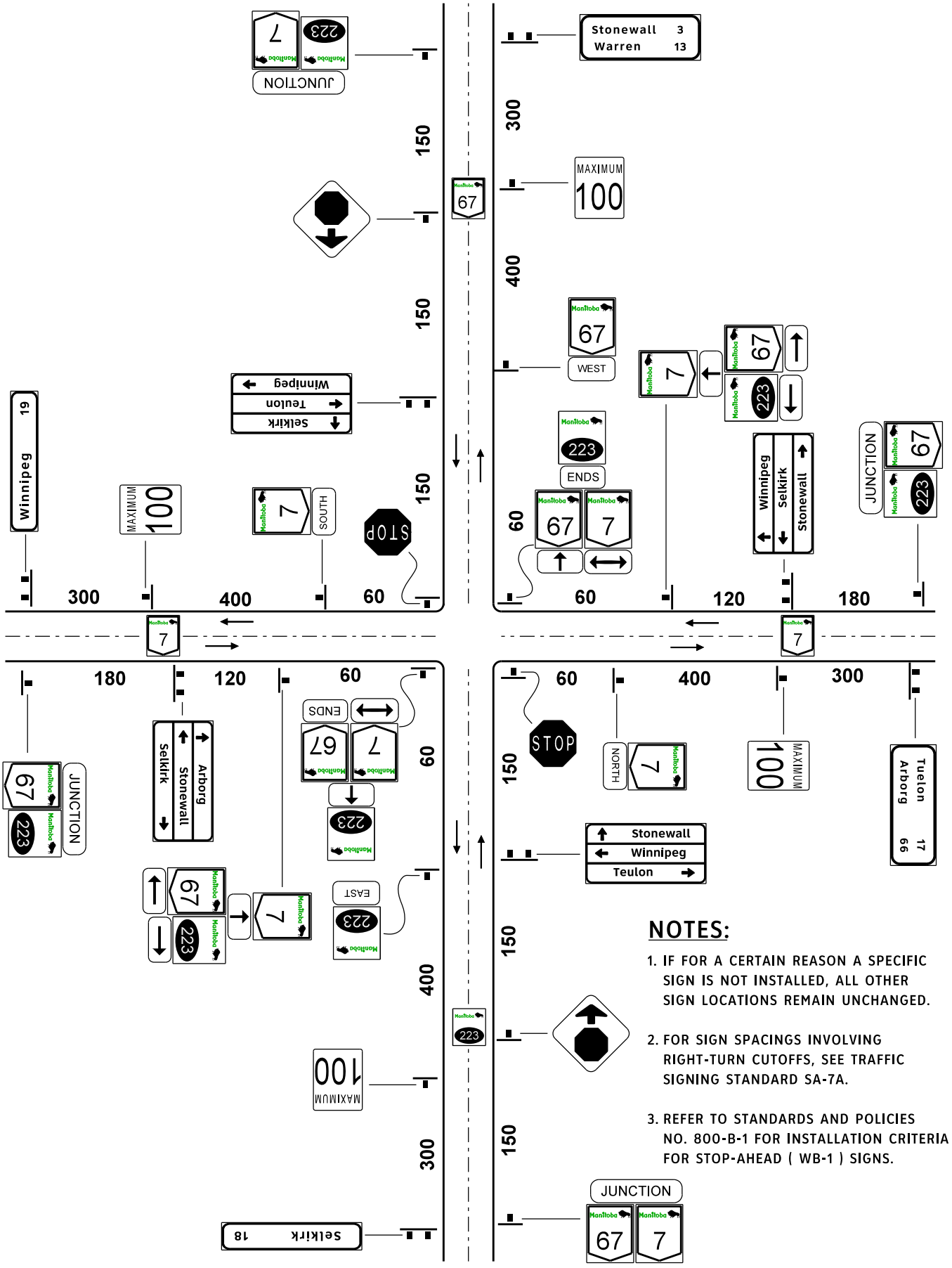
1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.
3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL INTERSECTION WITH A CHANGE OF ROUTE NUMBER

Traffic Engineering

ISSUE DATE: APRIL 1993

SA-6



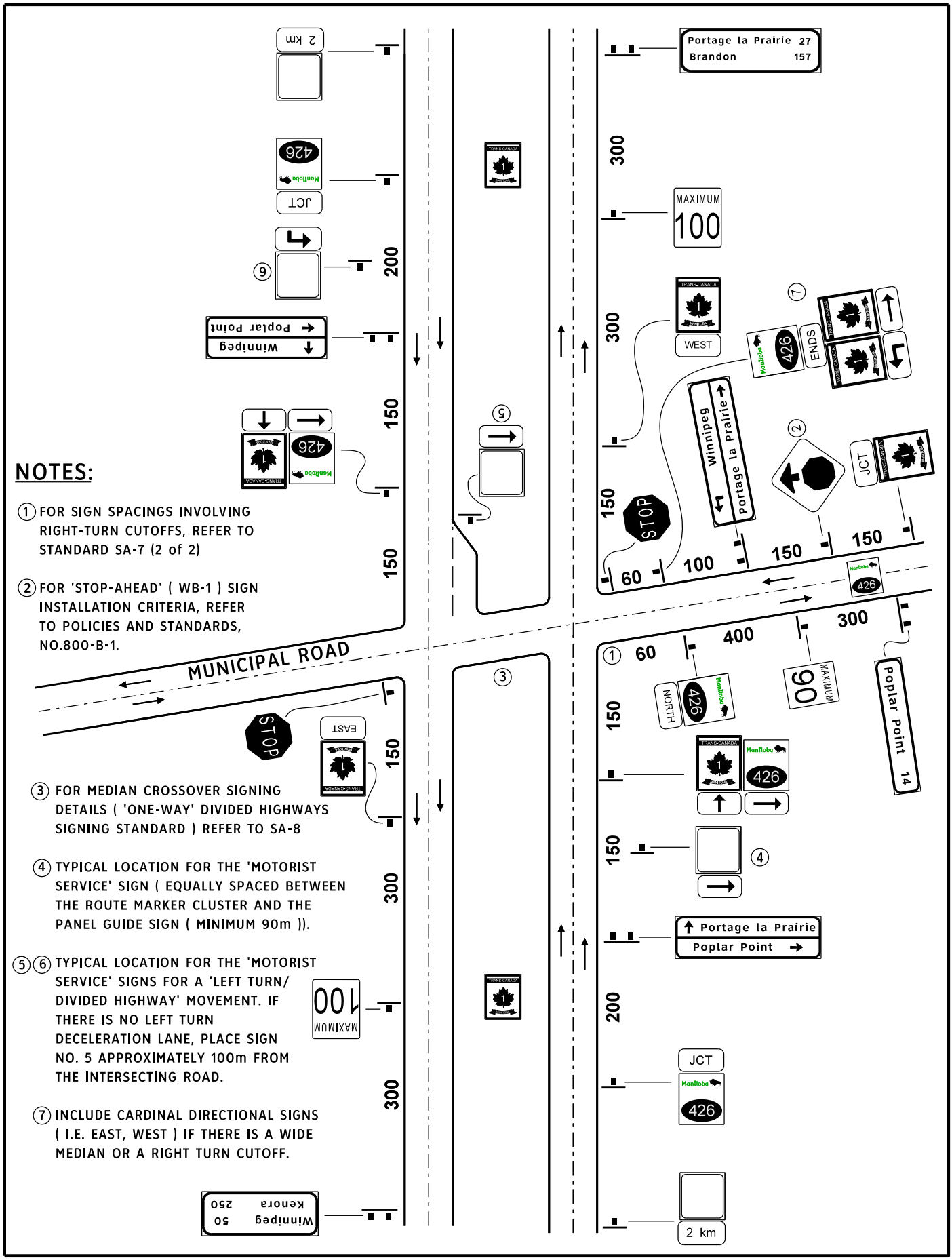
NOTES:

1. IF FOR A CERTAIN REASON A SPECIFIC SIGN IS NOT INSTALLED, ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.
2. FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, SEE TRAFFIC SIGNING STANDARD SA-7A.
3. REFER TO STANDARDS AND POLICIES NO. 800-B-1 FOR INSTALLATION CRITERIA FOR STOP-AHEAD (WB-1) SIGNS.

TYPICAL INTERSECTION DIVIDED AND TWO-LANE HIGHWAY
Page 1 of 2

Traffic Engineering
ISSUE DATE: REV. FEB 1999

SA-7



NOTES:

(1) FOR SIGN SPACINGS INVOLVING RIGHT-TURN CUTOFFS, REFER TO STANDARD SA-7 (2 of 2)

(2) FOR 'STOP-AHEAD' (WB-1) SIGN INSTALLATION CRITERIA, REFER TO POLICIES AND STANDARDS, NO.800-B-1.

(3) FOR MEDIAN CROSSOVER SIGNING DETAILS ('ONE-WAY' DIVIDED HIGHWAYS SIGNING STANDARD) REFER TO SA-8

(4) TYPICAL LOCATION FOR THE 'MOTORIST SERVICE' SIGN (EQUALLY SPACED BETWEEN THE ROUTE MARKER CLUSTER AND THE PANEL GUIDE SIGN (MINIMUM 90m)).

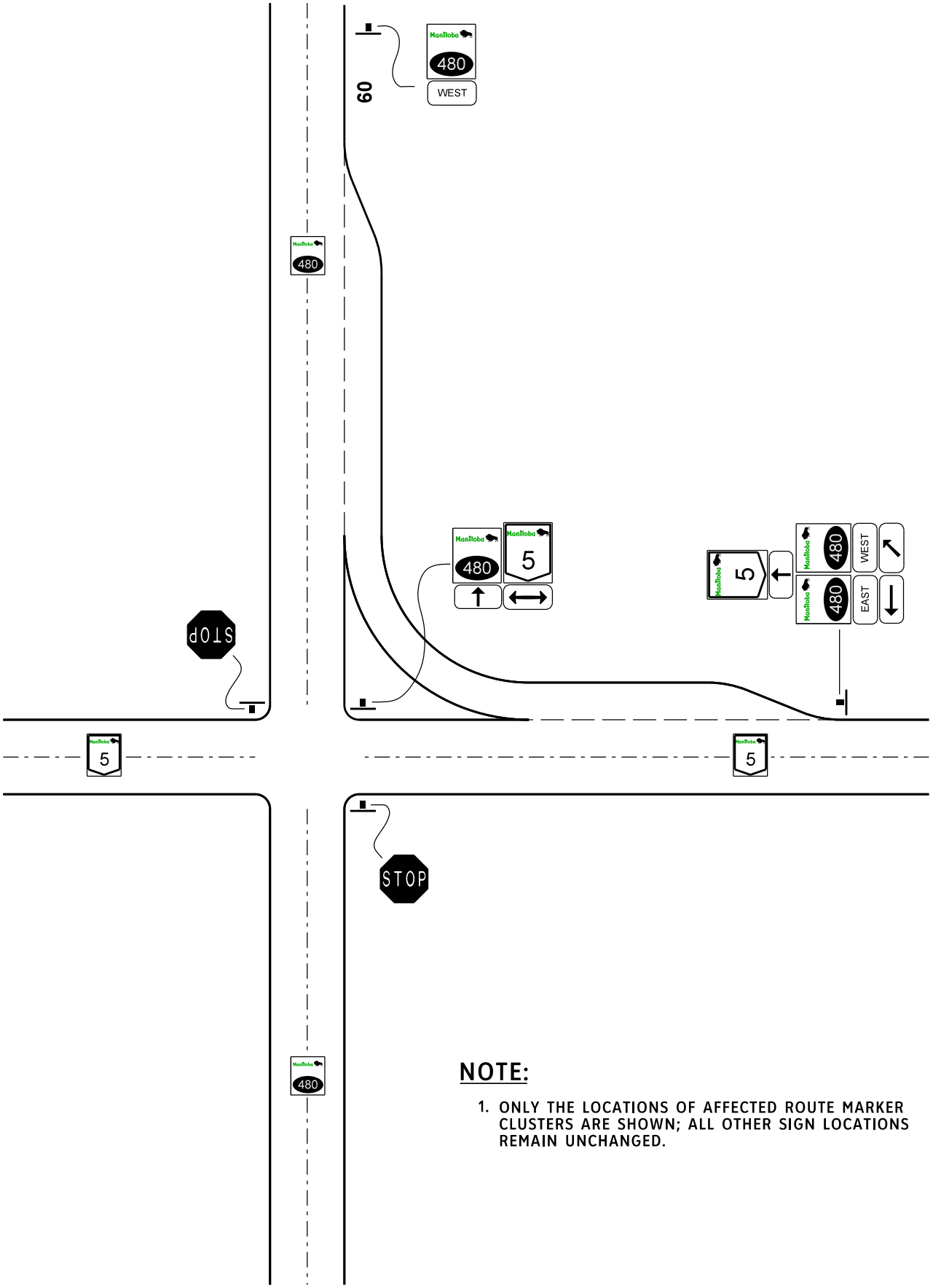
(5)(6) TYPICAL LOCATION FOR THE 'MOTORIST SERVICE' SIGNS FOR A 'LEFT TURN/ DIVIDED HIGHWAY' MOVEMENT. IF THERE IS NO LEFT TURN DECELERATION LANE, PLACE SIGN NO. 5 APPROXIMATELY 100m FROM THE INTERSECTING ROAD.

(7) INCLUDE CARDINAL DIRECTIONAL SIGNS (I.E. EAST, WEST) IF THERE IS A WIDE MEDIAN OR A RIGHT TURN CUTOFF.

TYPICAL INTERSECTION WITH RIGHT TURN CUT-OFFS
Page 2 of 2

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-7



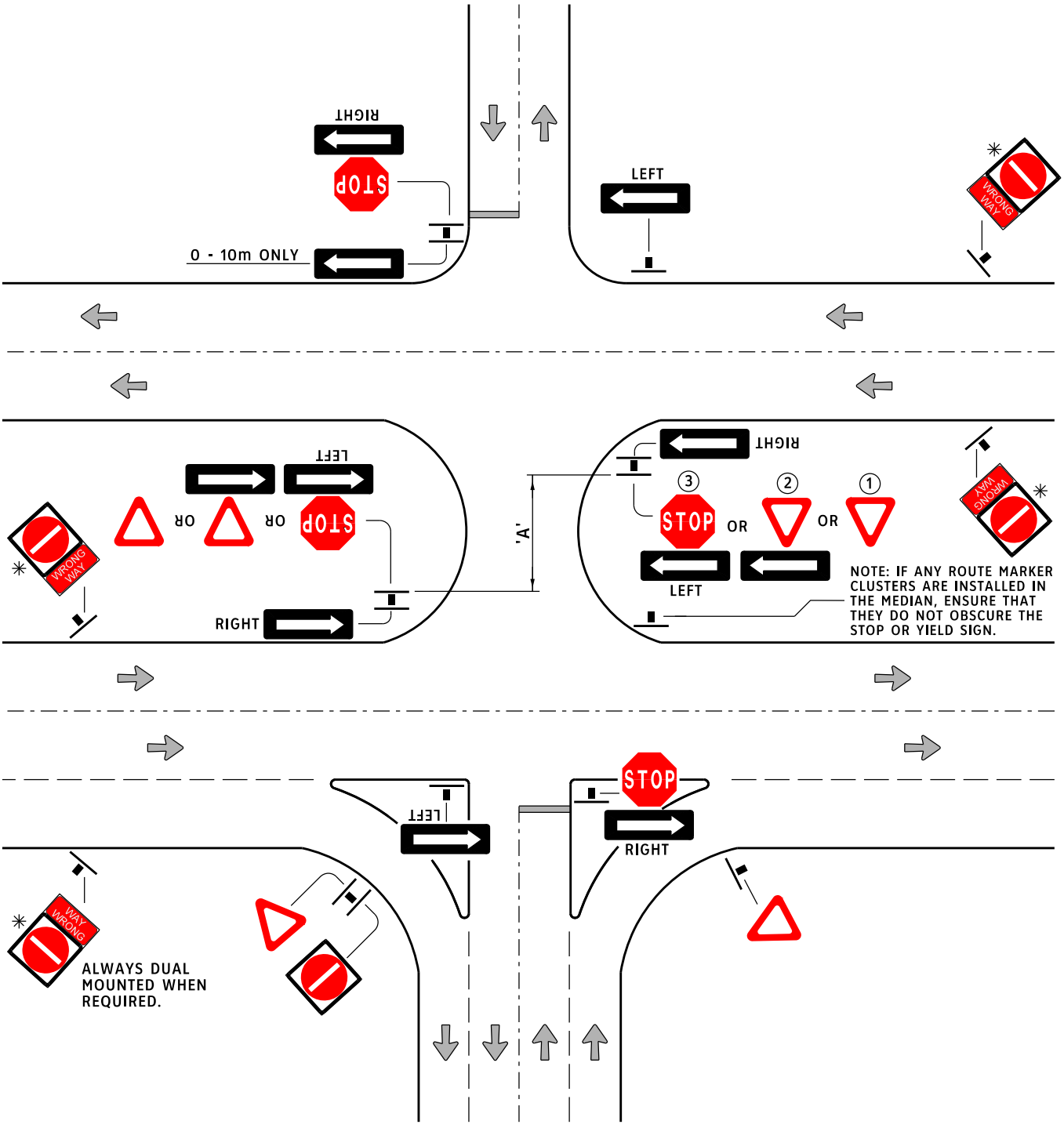
NOTE:

1. ONLY THE LOCATIONS OF AFFECTED ROUTE MARKER CLUSTERS ARE SHOWN; ALL OTHER SIGN LOCATIONS REMAIN UNCHANGED.

"ONE-WAY" SIGNING STANDARD
DIVIDED HIGHWAY INTERSECTIONS
Page 1 of 2

Traffic Engineering
ISSUE DATE: REV. JAN 2006

SA-8



DISTANCE 'A' (m)	MEDIAN CONTROL
0 - 10	'YIELD SIGN' ONLY (1)
11 - 31	'YIELD SIGN' WITH 'ONE WAY ARROW' (2)
32 - 36	'YIELD SIGN' WITH 'ONE WAY ARROW' OR (2)(3) 'STOP SIGN' WITH 'ONE WAY ARROW' NOTE: PREFERRED OPTION IS THE STOP SIGN BUT A YIELD CAN BE USED FOR CONSISTENCY.
36 +	'STOP SIGN' WITH 'ONE WAY ARROW' (3)

SEE POLICY/STANDARD NO. 800-B-1 FOR ADDITIONAL INFORMATION

✳ **NOTE:**

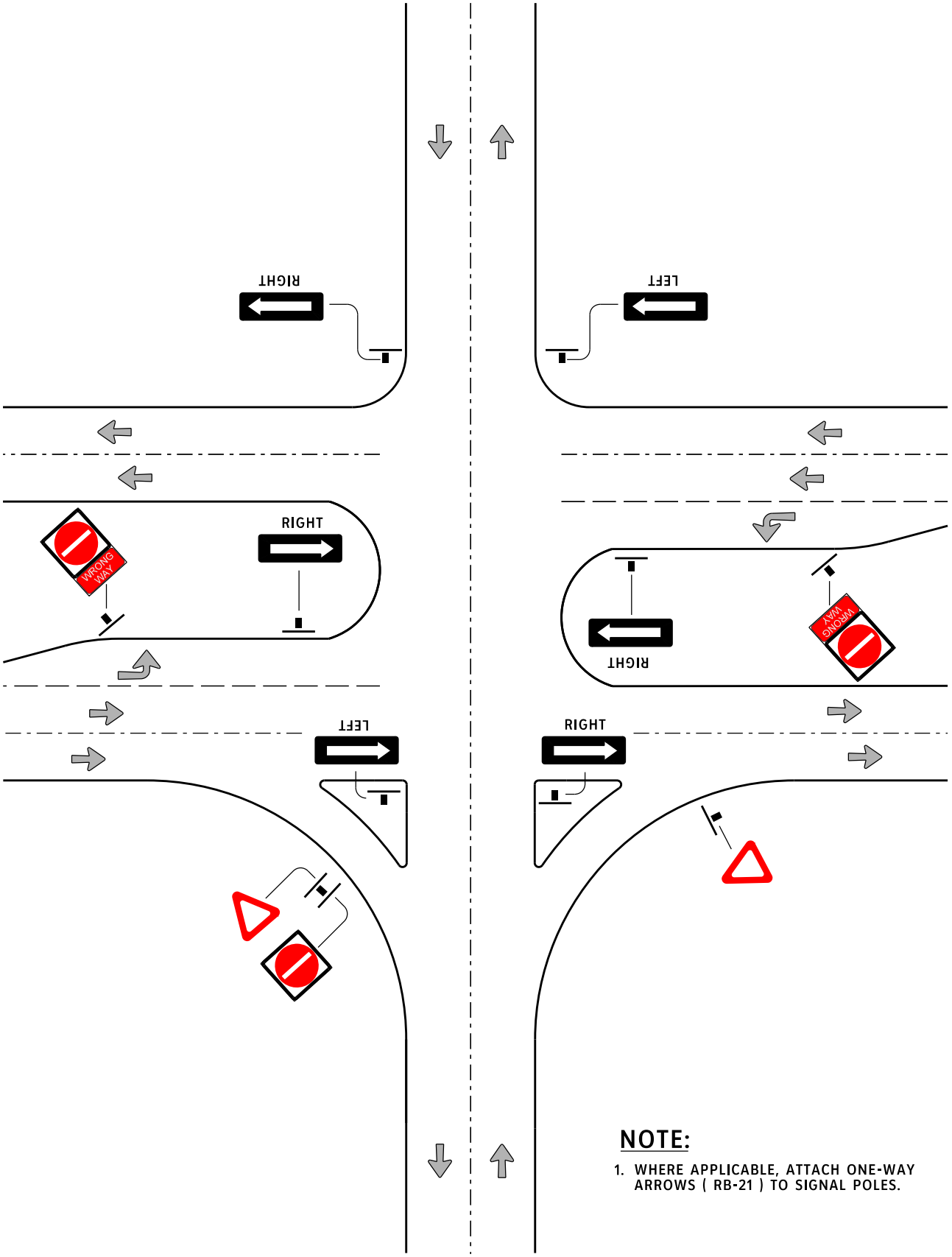
1. INSTALL DUAL MOUNTED 'DO NOT ENTER / WRONG WAY' SIGNS IN THE MEDIAN AT INTERSECTIONS WITH A PROVINCIAL TRUNK HIGHWAY OR A PROVINCIAL ROAD OR A MAJOR LOCAL ROAD. (SEE POLICY/STANDARD 100-C-12)

"ONE-WAY" SIGNING STANDARD DIVIDED HIGHWAY INTERSECTIONS WITH TRAFFIC SIGNALS - Page 2 of 2

Traffic Engineering

ISSUE DATE: REV. NOV 2004

SA-8



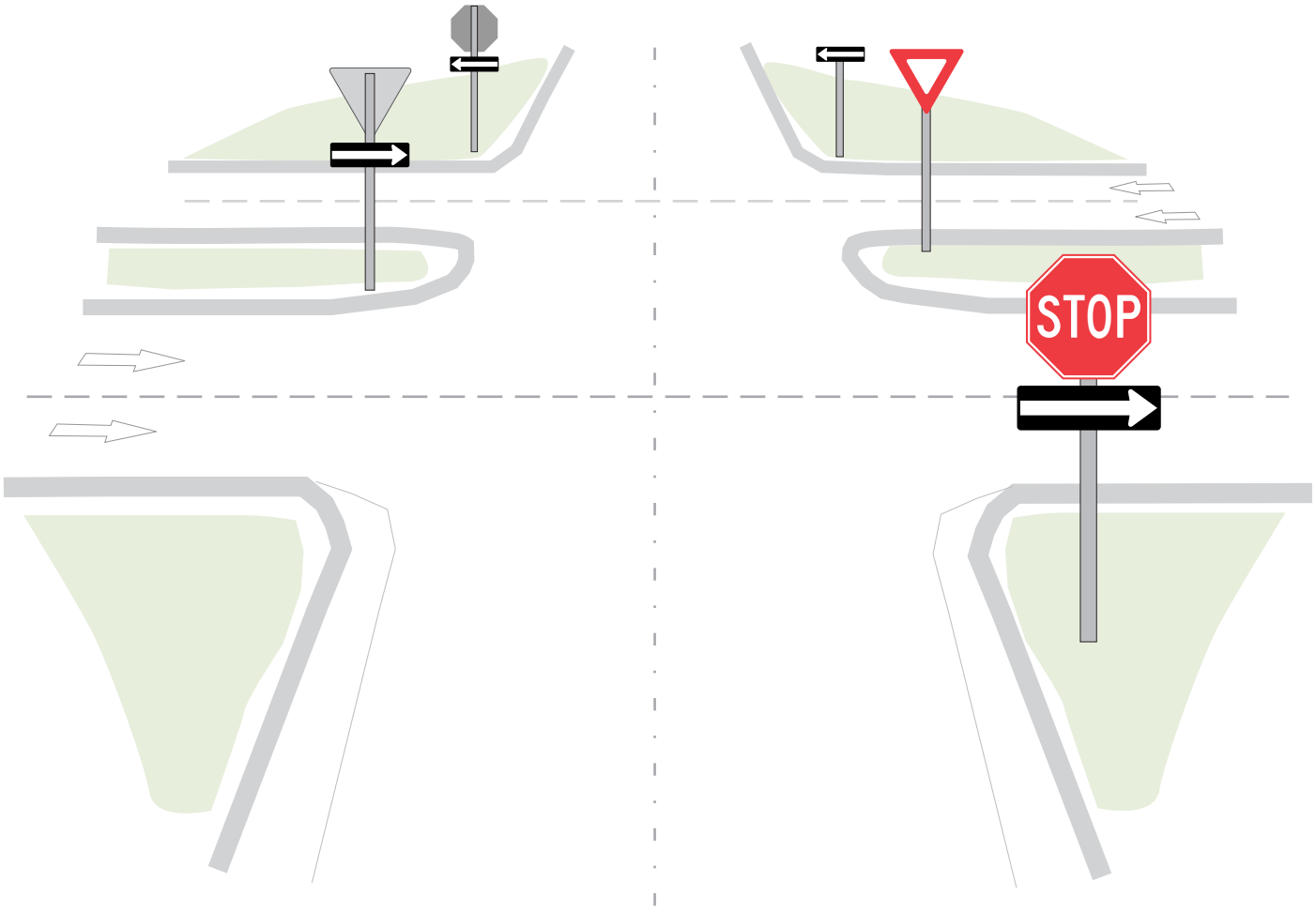
NOTE:

1. WHERE APPLICABLE, ATTACH ONE-WAY ARROWS (RB-21) TO SIGNAL POLES.

“ONE-WAY” SIGNING STANDARDS :
DIVIDED HIGHWAY INTERSECTIONS
SHOWING CONFIGURATION OF “ONE-WAY” ARROWS
FOR ONE DIRECTION ONLY

Traffic Engineering
ISSUE DATE: November 2005

SA-8.0



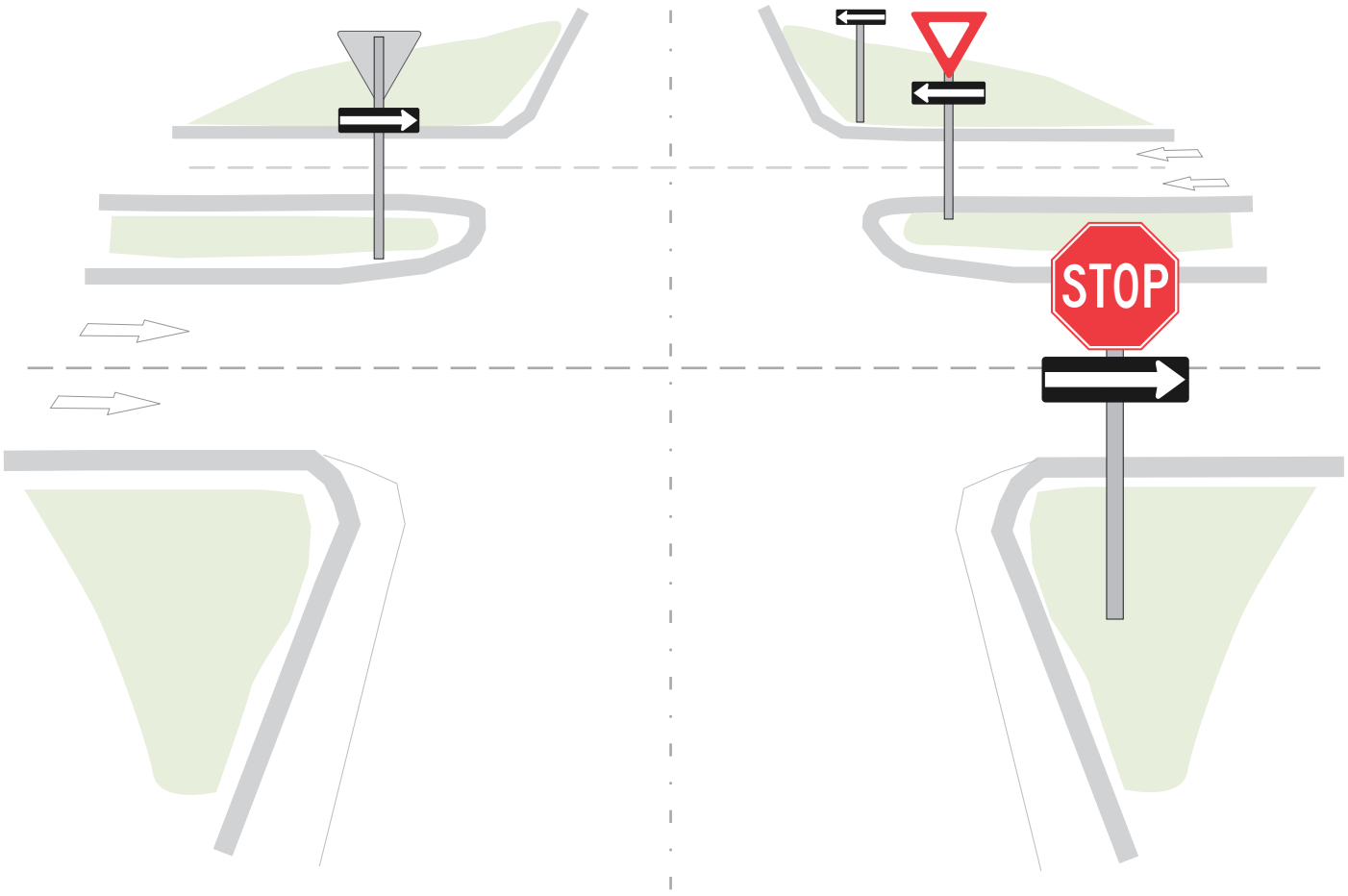
“ONE-WAY” SIGNING STANDARD FOR DIVIDED HIGHWAY INTERSECTIONS
SHOWING CONFIGURATION OF “ONE-WAY” ARROWS FOR ONE DIRECTION ONLY

WHERE DISTANCE BETWEEN YIELD SIGNS IN THE MEDIAN IS LESS THAN 10 m
(DISTANCE ‘A’ IN STANDARD SA-8)

“ONE-WAY” SIGNING STANDARDS :
DIVIDED HIGHWAY INTERSECTIONS
SHOWING CONFIGURATION OF “ONE-WAY” ARROWS
FOR ONE DIRECTION ONLY

Traffic Engineering
ISSUE DATE: November 2005

SA-8.1



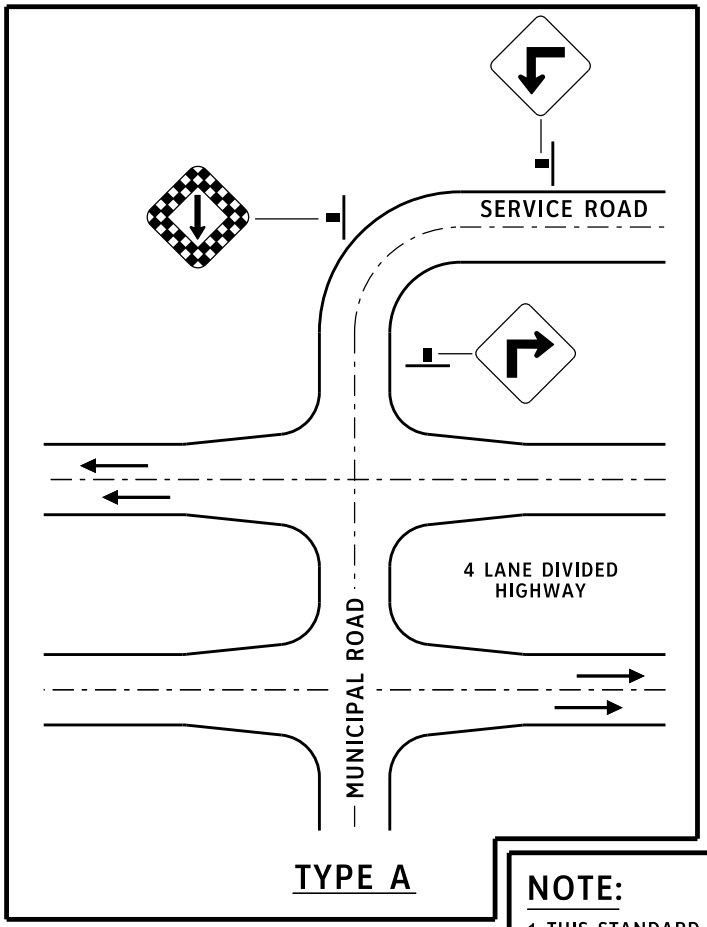
“ONE-WAY” SIGNING STANDARD FOR DIVIDED HIGHWAY INTERSECTIONS
SHOWING CONFIGURATION OF “ONE-WAY” ARROWS FOR ONE DIRECTION ONLY

WHERE DISTANCE BETWEEN YIELD SIGNS IN THE MEDIAN IS GREATER THAN 10 m
(DISTANCE ‘A’ IN STANDARD SA-8)

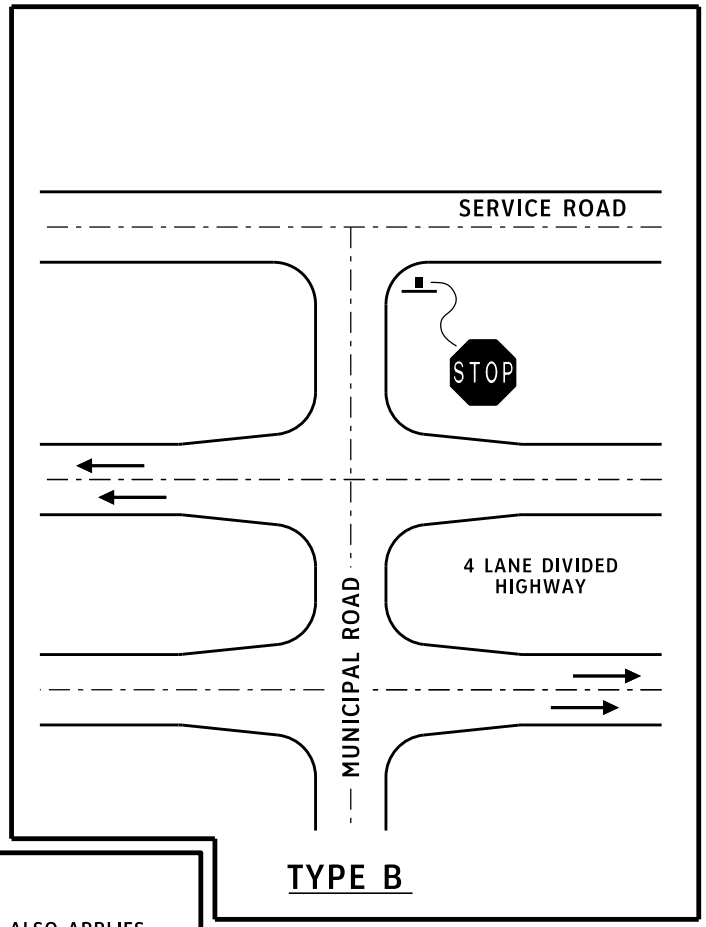
SERVICE ROAD INTERSECTION

Traffic Engineering
ISSUE DATE: APRIL 1993

SA-9



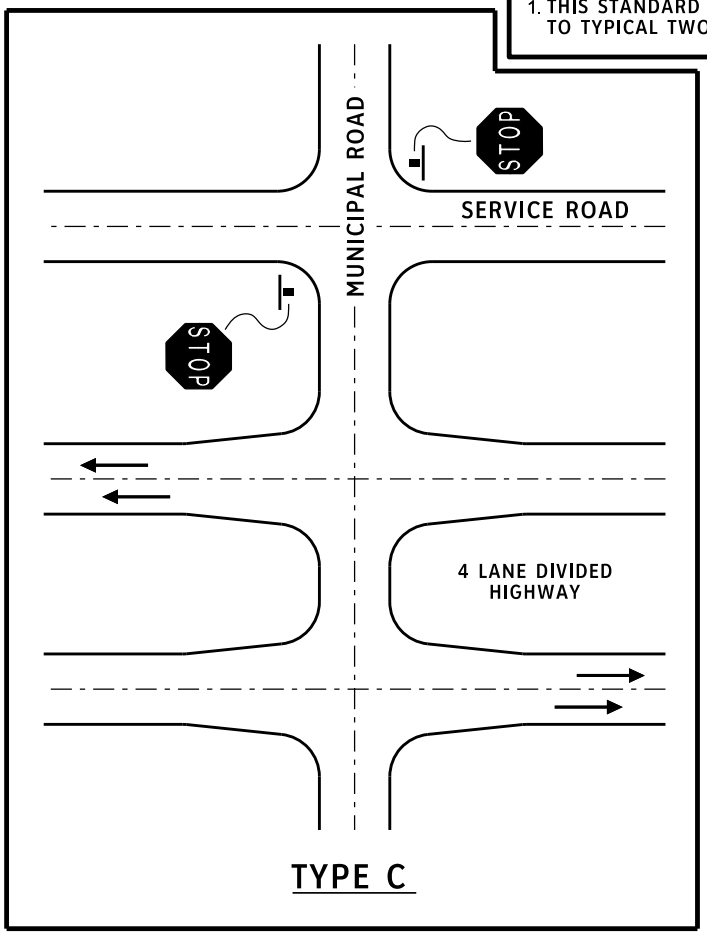
TYPE A



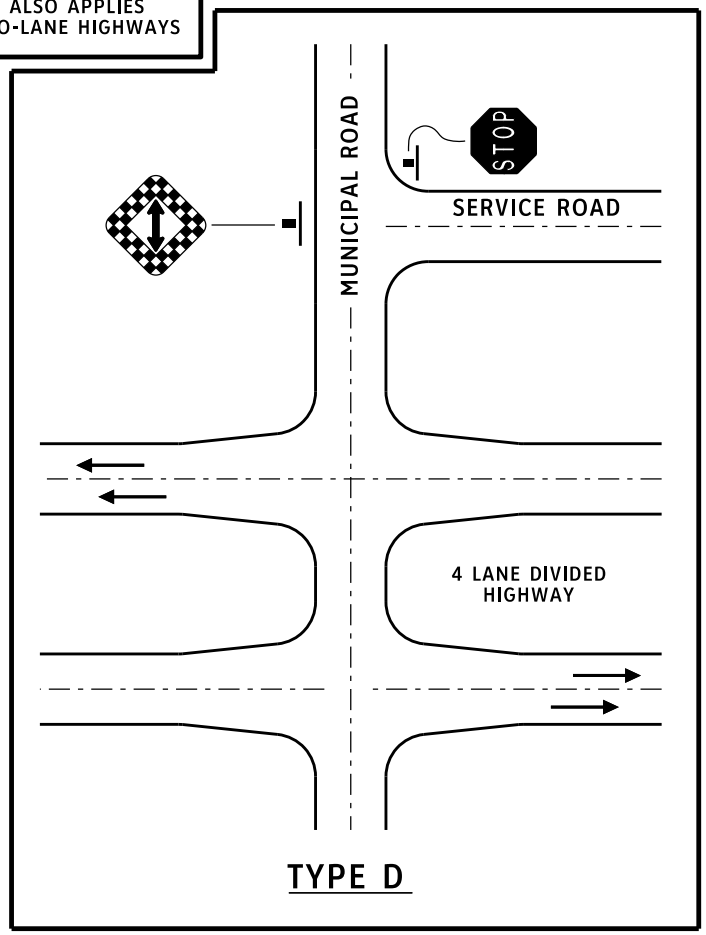
TYPE B

NOTE:

1. THIS STANDARD ALSO APPLIES TO TYPICAL TWO-LANE HIGHWAYS



TYPE C



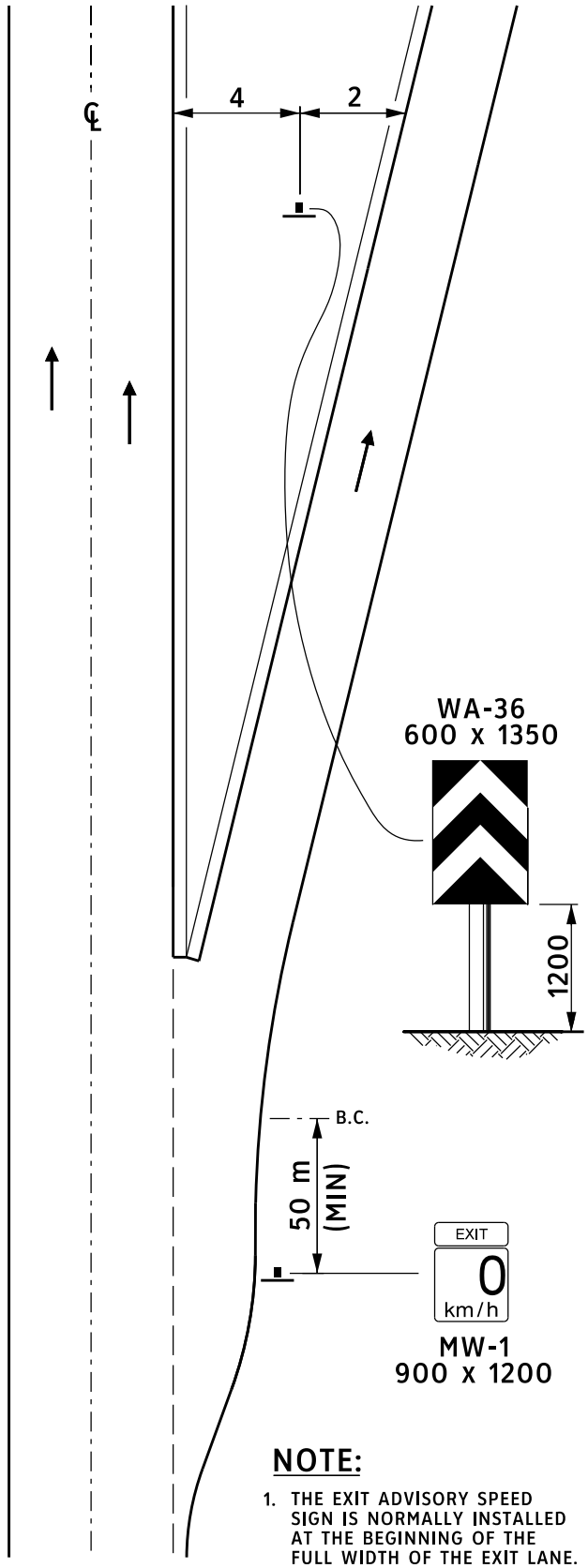
TYPE D

GORE MARKER, EXIT SIGN & EXIT ADVISORY SPEED SIGN PLACEMENT

Traffic Engineering
ISSUE DATE: REV. JAN 2004

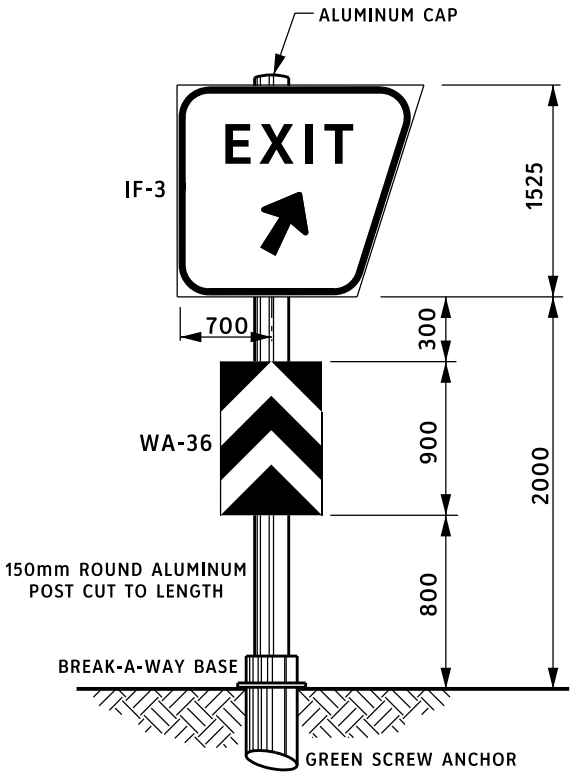
SA-10

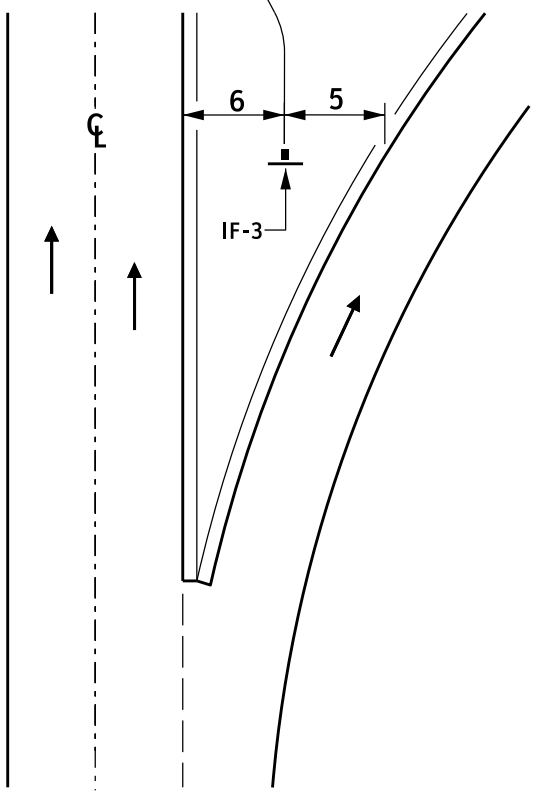
GORE MARKER



NOTE:

1. THE EXIT ADVISORY SPEED SIGN IS NORMALLY INSTALLED AT THE BEGINNING OF THE FULL WIDTH OF THE EXIT LANE.



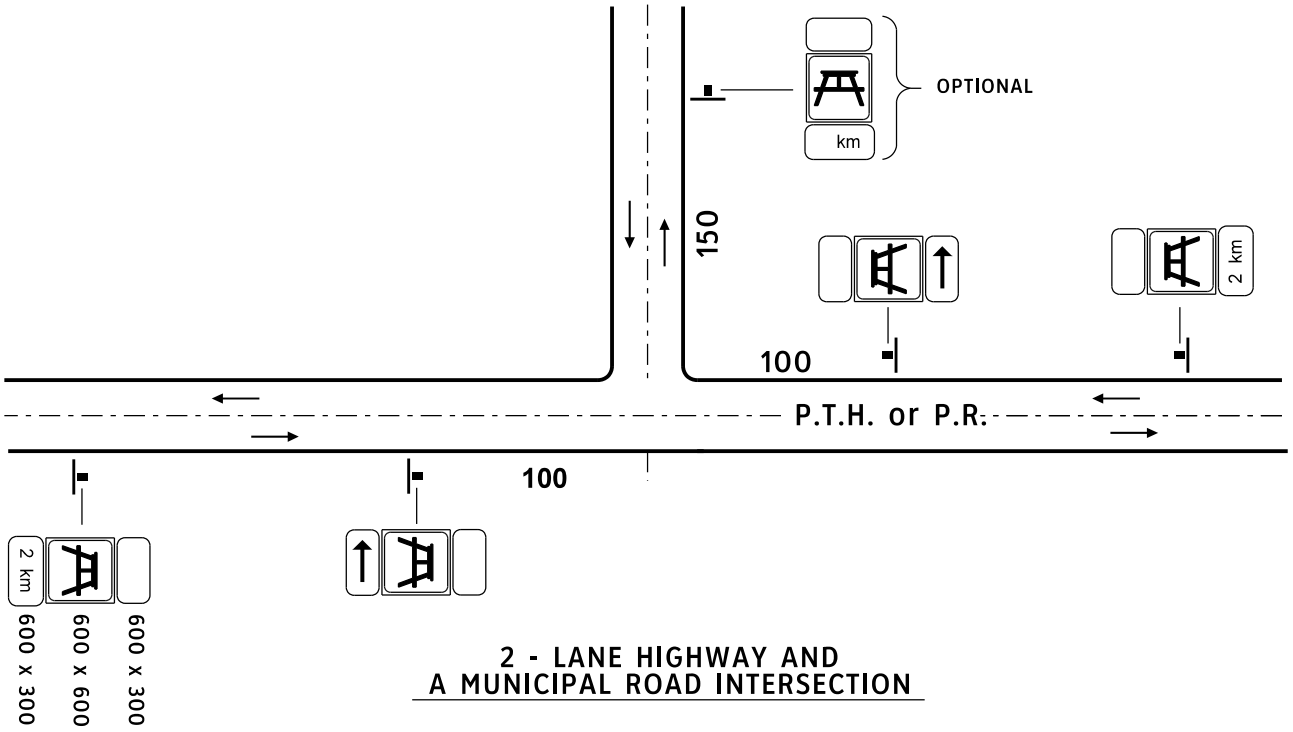


PLAN

MOTORIST SERVICE SIGNING STANDARD

Traffic Engineering
ISSUE DATE: REV. FEB 1999

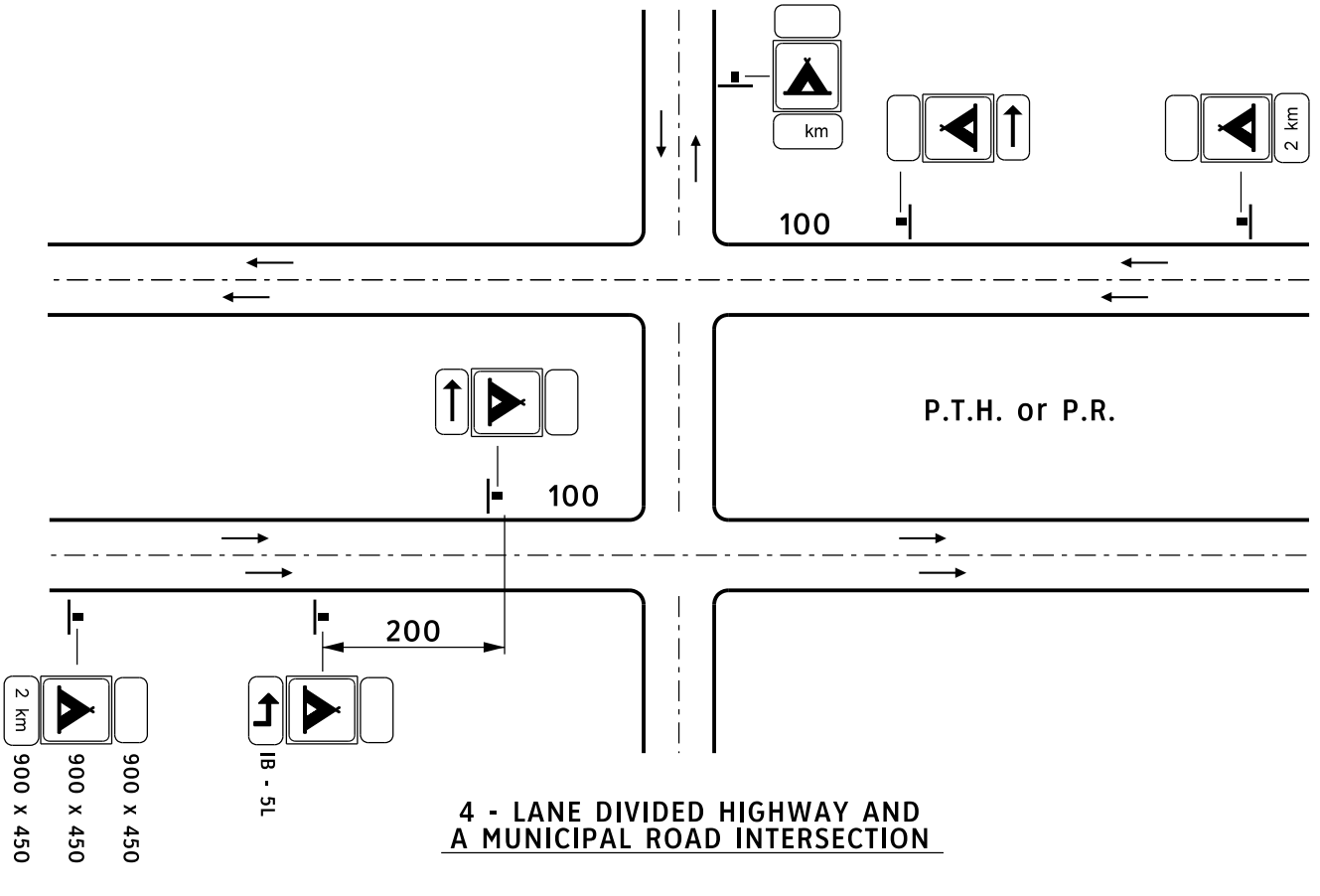
SA-11



2 - LANE HIGHWAY AND
A MUNICIPAL ROAD INTERSECTION

NOTES:

1. FOR INSTALLATION STANDARDS AT AN INTERSECTION WITH A PROVINCIAL ROAD OR PROVINCIAL TRUNK HIGHWAY, REFER TO SA-7.

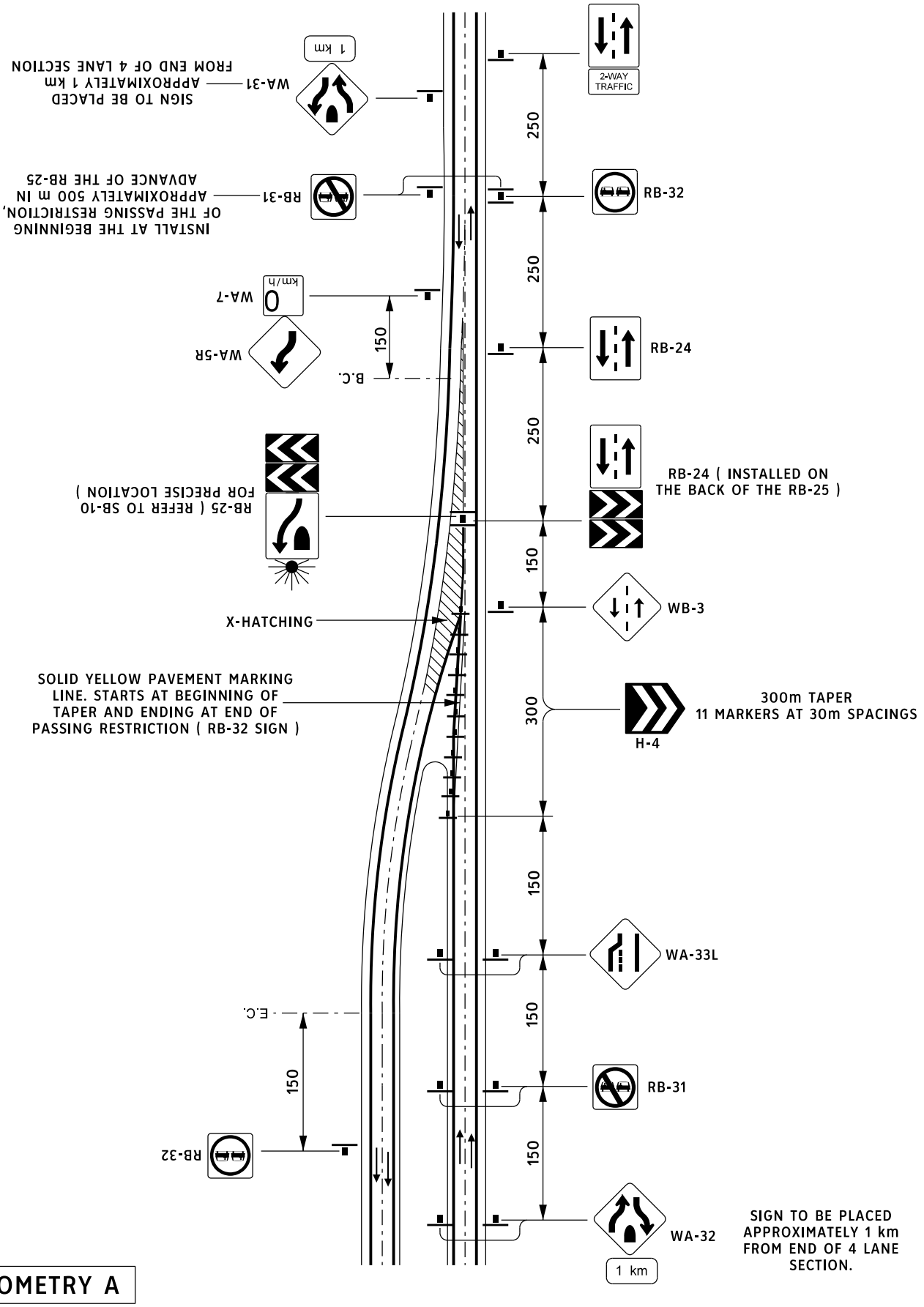


4 - LANE DIVIDED HIGHWAY AND
A MUNICIPAL ROAD INTERSECTION

FOUR-LANE DIVIDED HIGHWAY TO TWO-LANE HIGHWAY TRANSITION
Page 1 of 2

Traffic Engineering
ISSUE DATE: REV. JAN 2004

SA-12

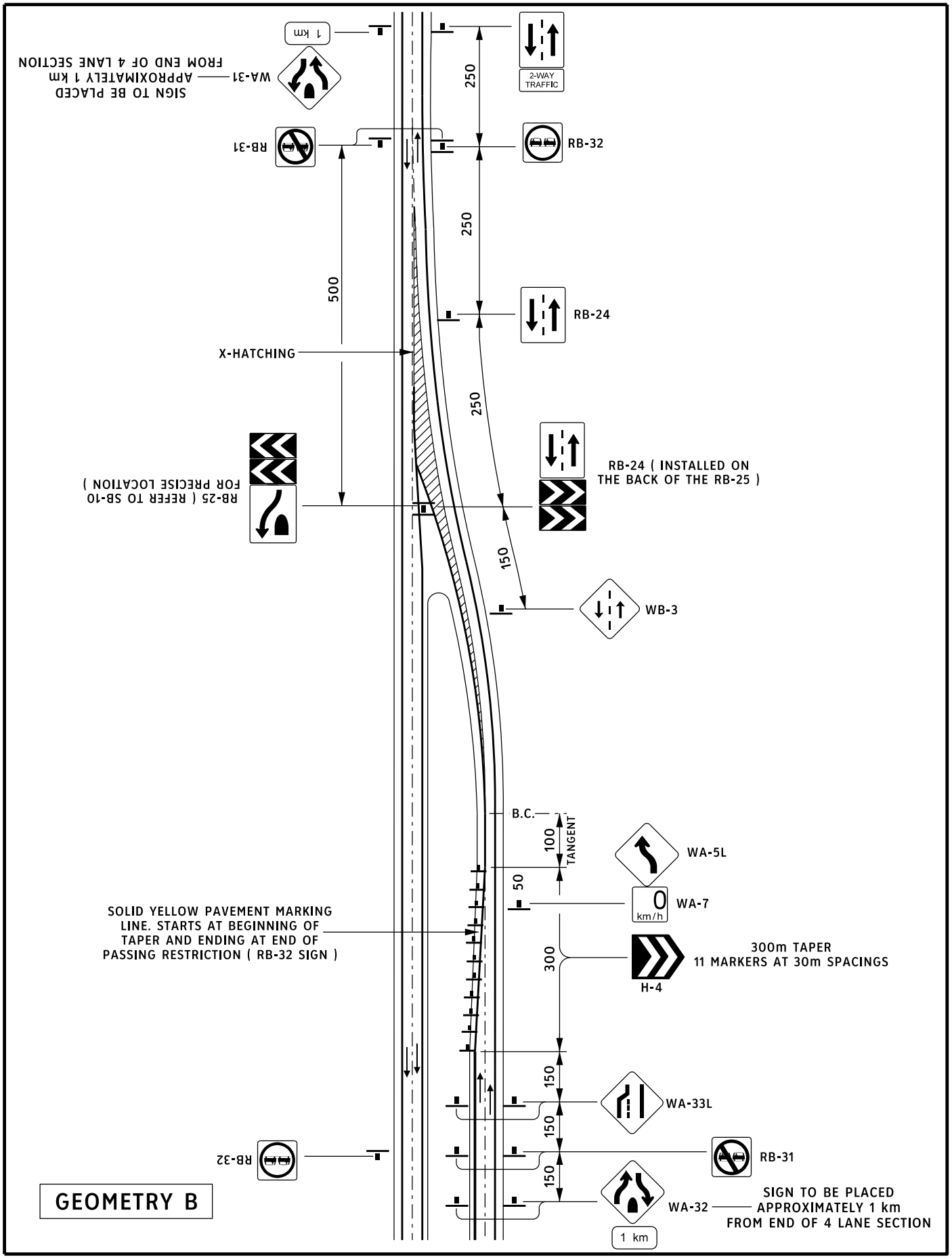


GEOMETRY A

FOUR-LANE DIVIDED HIGHWAY TO TWO-LANE HIGHWAY TRANSITION
Page 2 of 2

Traffic Engineering
ISSUE DATE: REV. JAN 2004

SA-12

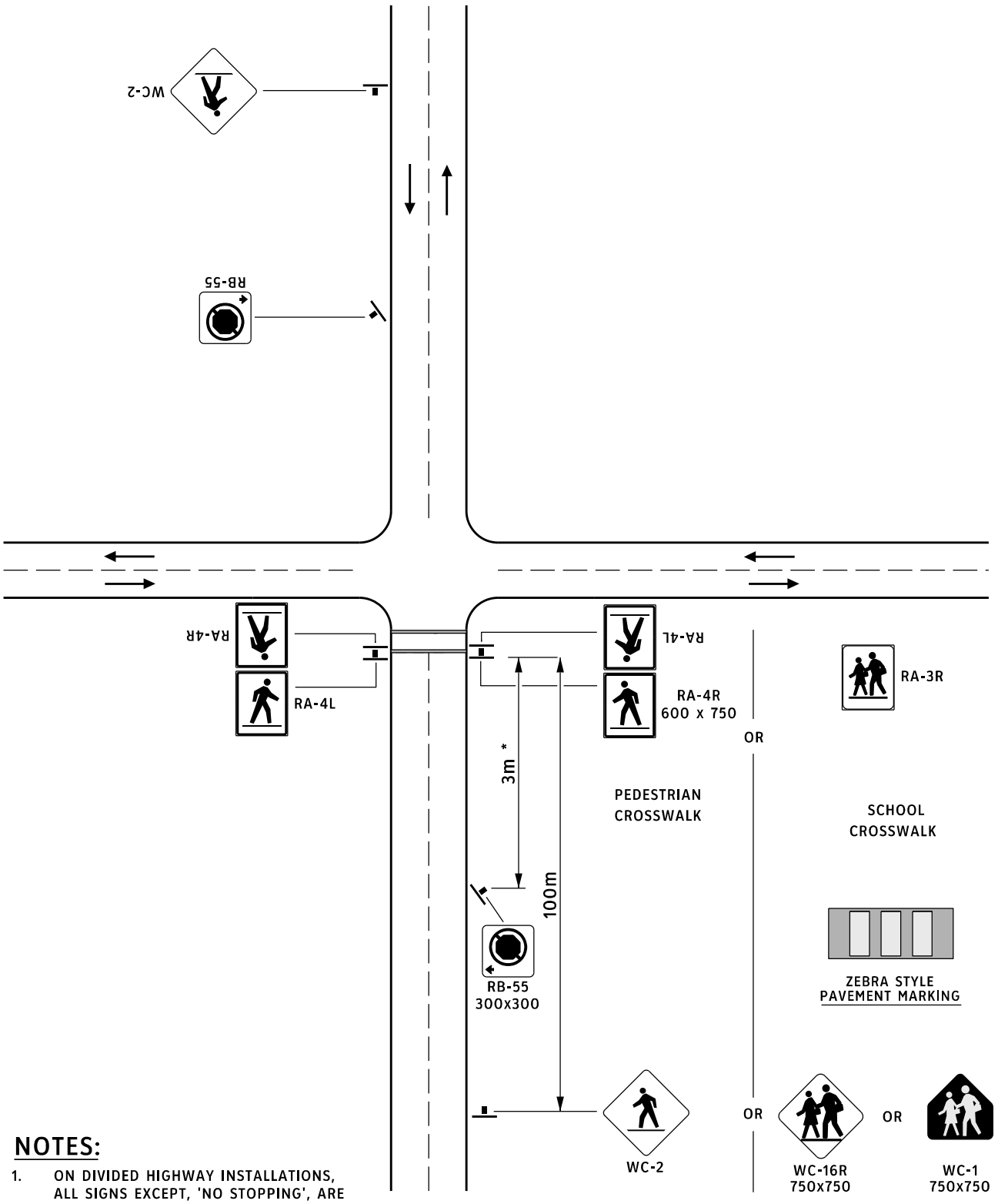


GEOMETRY B

CROSSWALK
TWO-LANE HIGHWAY
Page 1 of 4

Traffic Engineering
ISSUE DATE: FEB 1999
REV. JULY 2011

SA-13



NOTES:

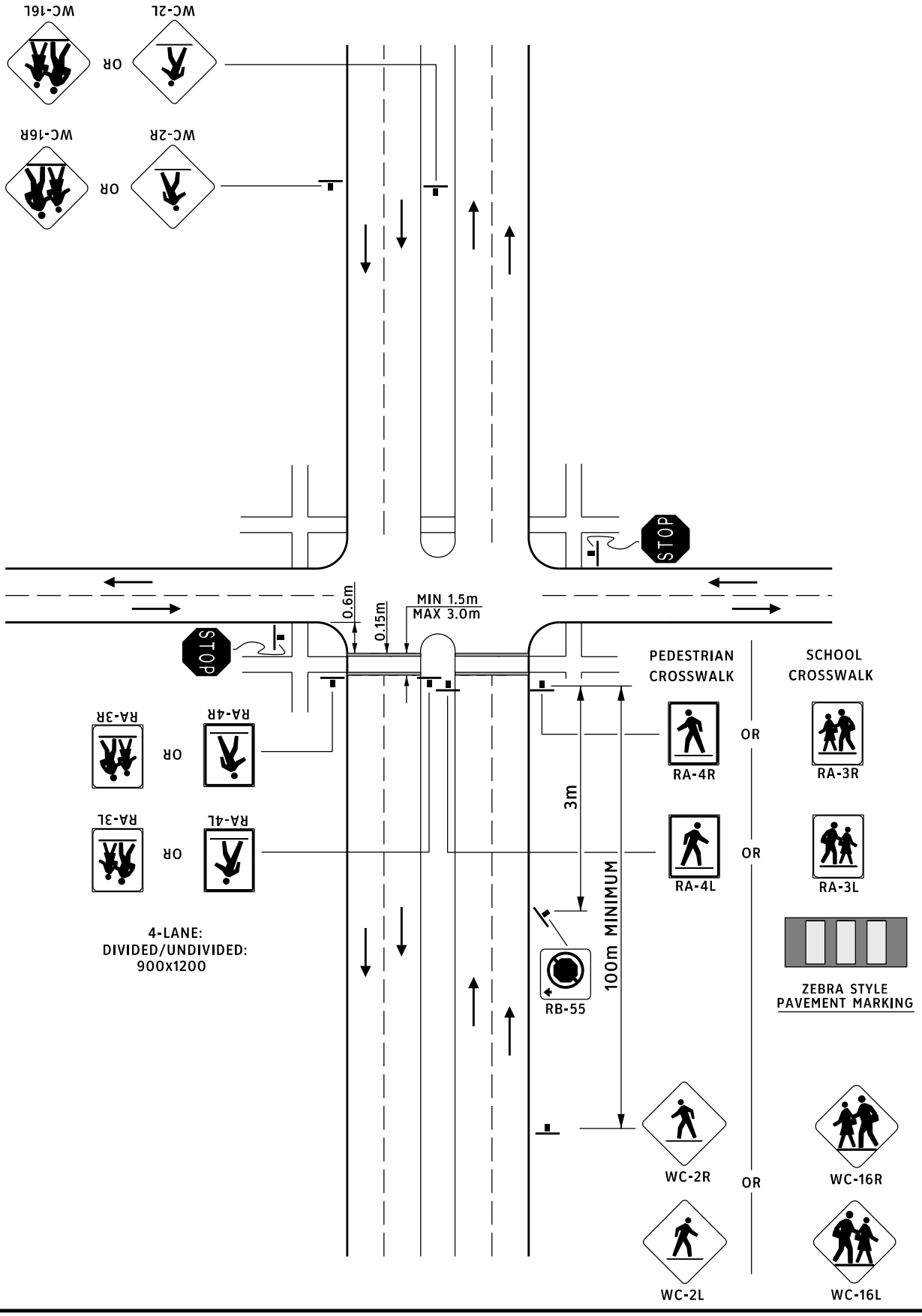
1. ON DIVIDED HIGHWAY INSTALLATIONS, ALL SIGNS EXCEPT, 'NO STOPPING', ARE TO BE DUAL MOUNTED (RIGHT SIDE AND MEDIAN) USING 'LEFT SIDE' ORIENTATION SIGNS IN THE MEDIAN.

* UNLESS EXTENDED BY THE TRAFFIC AUTHORITY

CROSSWALK
FOUR-LANE DIVIDED HIGHWAY
Page 2 of 4

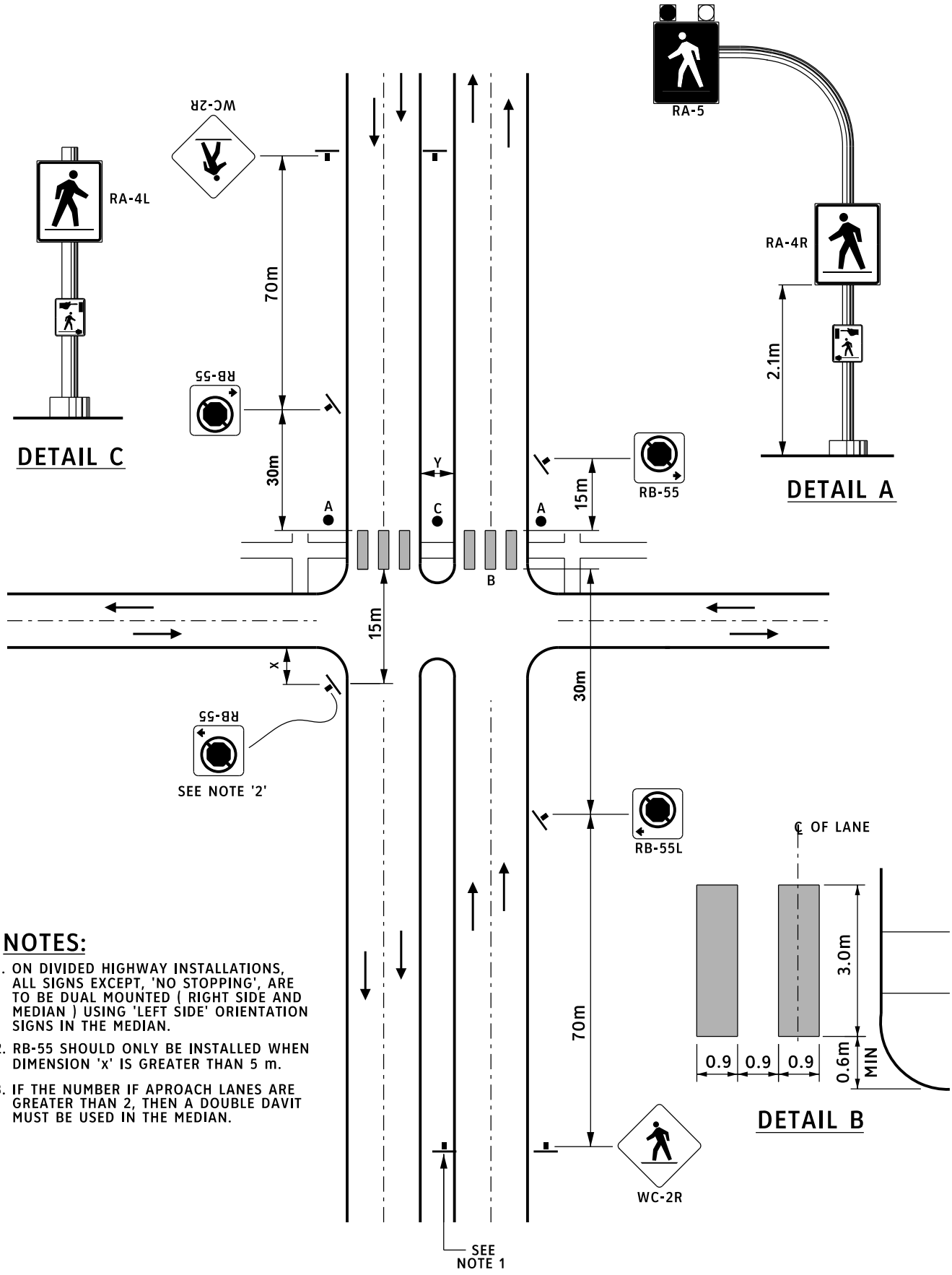
Traffic Engineering
ISSUE DATE: FEB 1999
REV. JULY 2011

SA-13



Traffic Engineering
ISSUE DATE: FEB 1999

SA-13



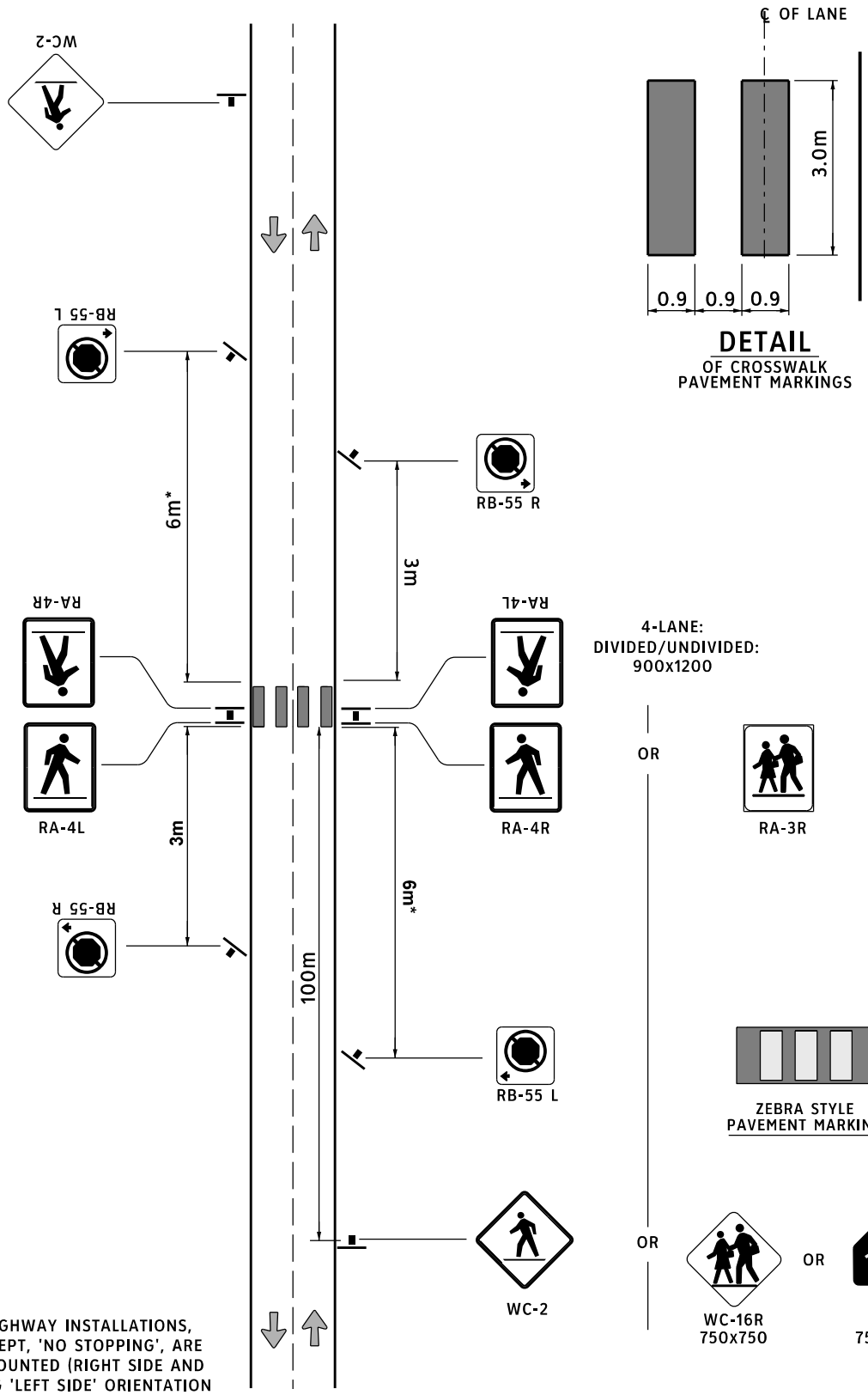
NOTES:

1. ON DIVIDED HIGHWAY INSTALLATIONS, ALL SIGNS EXCEPT, 'NO STOPPING', ARE TO BE DUAL MOUNTED (RIGHT SIDE AND MEDIAN) USING 'LEFT SIDE' ORIENTATION SIGNS IN THE MEDIAN.
2. RB-55 SHOULD ONLY BE INSTALLED WHEN DIMENSION 'x' IS GREATER THAN 5 m.
3. IF THE NUMBER IF APROACH LANES ARE GREATER THAN 2, THEN A DOUBLE DAVIT MUST BE USED IN THE MEDIAN.

MID-BLOCK CROSSWALK
TWO-LANE HIGHWAY
Page 4 of 4

Traffic Engineering
ISSUE DATE: OCT 2006
REV. JULY 2011

SA-13



NOTES:

1. ON DIVIDED HIGHWAY INSTALLATIONS, ALL SIGNS EXCEPT, 'NO STOPPING', ARE TO BE DUAL MOUNTED (RIGHT SIDE AND MEDIAN) USING 'LEFT SIDE' ORIENTATION SIGNS IN THE MEDIAN.

* UNLESS EXTENDED BY THE TRAFFIC AUTHORITY

Traffic Engineering

TRAFFIC SIGNING MANUAL

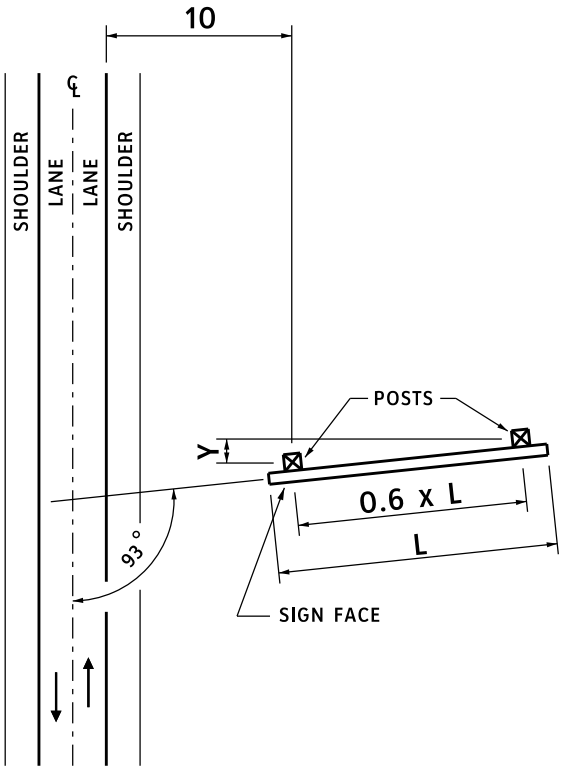
SECTION SB

SIGN INSTALLATION DETAILS

PLACEMENT AND INSTALLATION OF PANEL SIGNS

Traffic Engineering
ISSUE DATE: APRIL 1993

SB-1

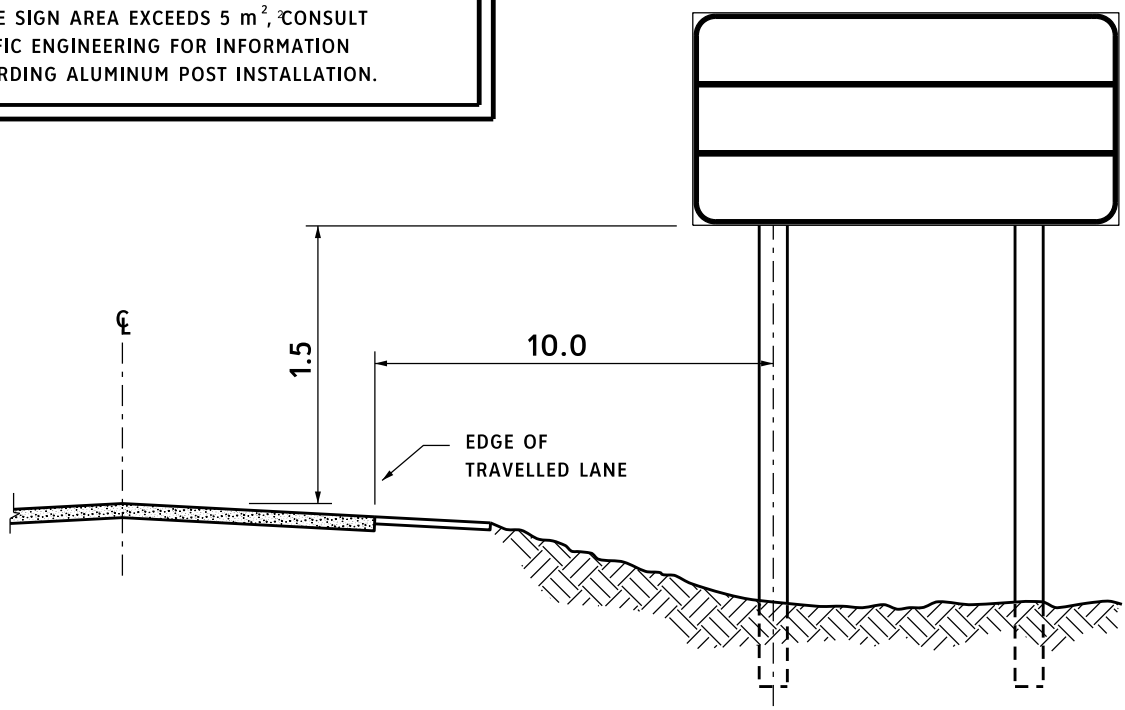


POST SPACING 0.6 x L (m)	POST OFFSET Y (cm)
1.0	5
1.2	6
1.4	7
1.6	8
1.8	9
2.0	10
2.2	12
2.4	13
2.6	14
2.8	15
3.0	16
3.2	17
3.4	18
3.6	19
3.8	20
4.0	21

PANEL SIGN PLACEMENT

NOTES:

1. STANDARD SIGN SUPPORTS ARE 100 x 100 mm OR 100 x 150 mm WOOD POSTS.
2. IF THE SIGN AREA EXCEEDS 5 m^2, CONSULT TRAFFIC ENGINEERING FOR INFORMATION REGARDING ALUMINUM POST INSTALLATION.

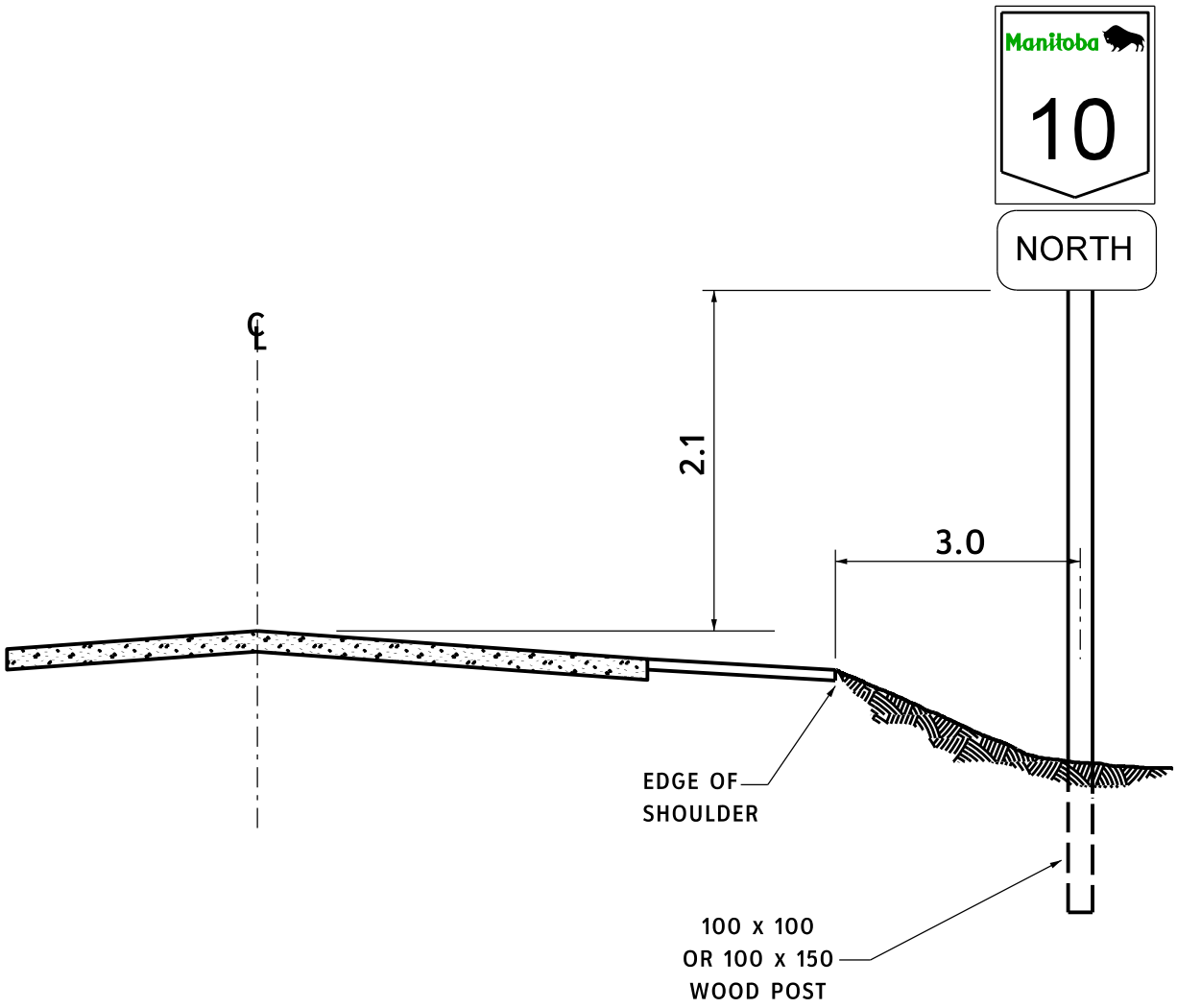


PANEL SIGN INSTALLATION

TYPICAL SHEET
SIGN INSTALLATION

Traffic Engineering
ISSUE DATE: REV. MAY 1996

SB-2



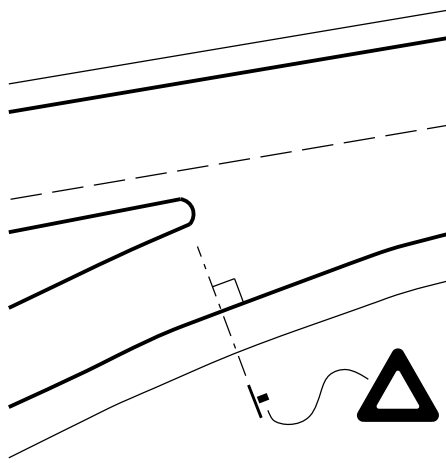
NOTES:

1. THE 3.0 m SHEET SIGN OFFSET OCCASIONALLY EXCEEDS THE REQUIREMENTS OF SECTION A.2 OF THE UTCD MANUAL.

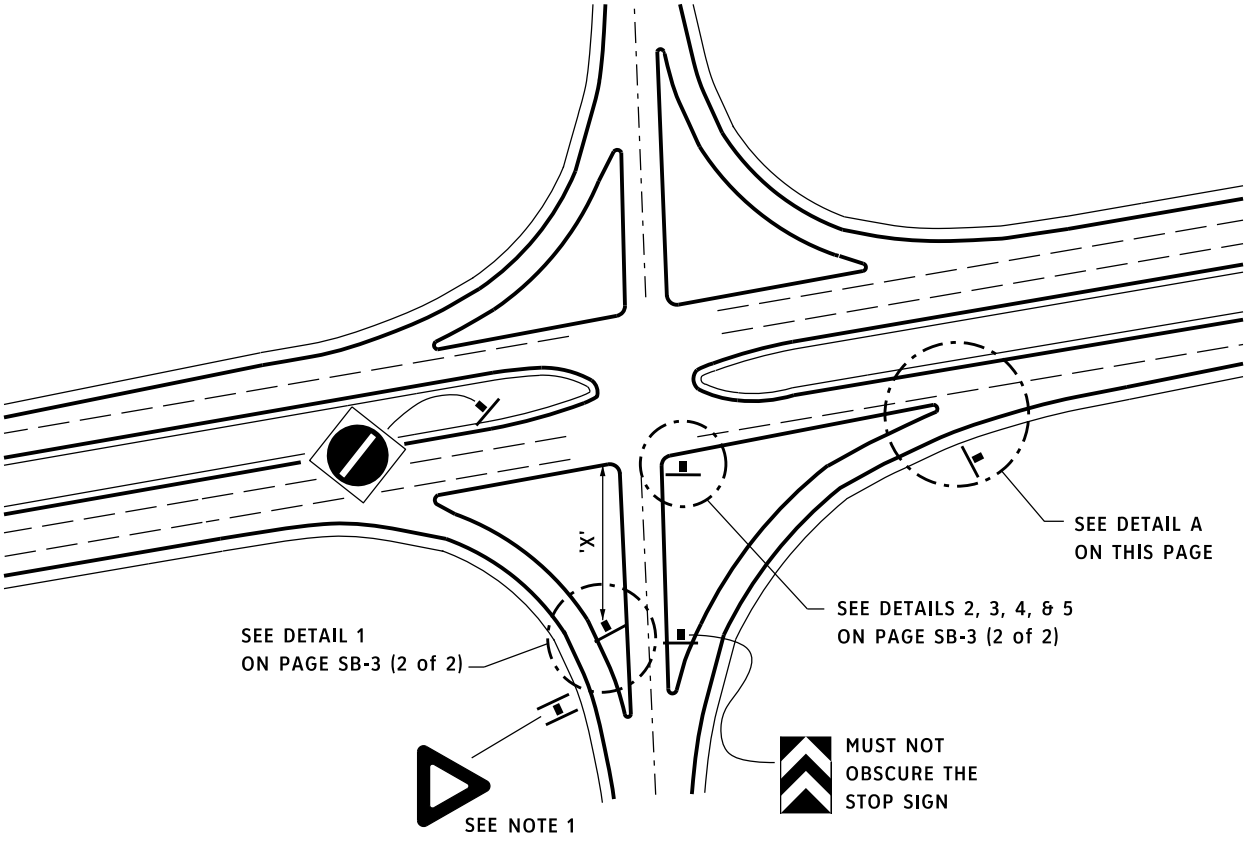
STOP SIGN, YIELD SIGN, DO NOT ENTER SIGN PLACEMENT
Page 1 of 2

Traffic Engineering
ISSUE DATE: REV. JAN 2004

SB-3



DETAIL A



NOTES:

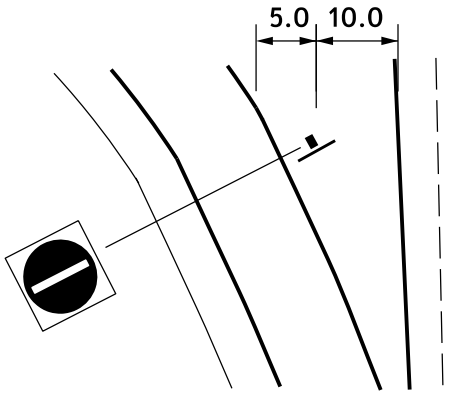
1. IF DIMENSION 'X' IS LESS THAN 10 m, THE 'DO NOT ENTER' SIGN SHOULD BE INSTALLED BEHIND THE 'YIELD' SIGN, NOT IN THE ISLAND.
2. TRAFFIC CONTROL DEVICES ARE SHOWN FOR ONE DIRECTION ONLY

ANY VISIBILITY CONFLICTS CONCERNING STOP SIGN PLACEMENT SHOULD BE BROUGHT TO THE ATTENTION OF TRAFFIC ENGINEERING

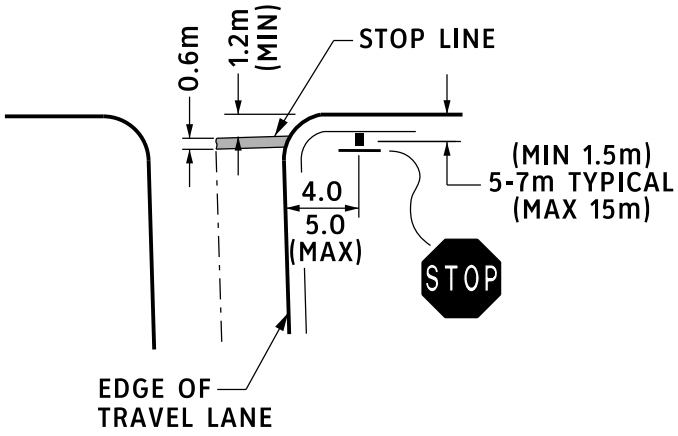
STOP SIGN, YIELD SIGN, DO NOT ENTER SIGN PLACEMENT
Page 2 of 2

Traffic Engineering
ISSUE DATE: REV. JAN 2004

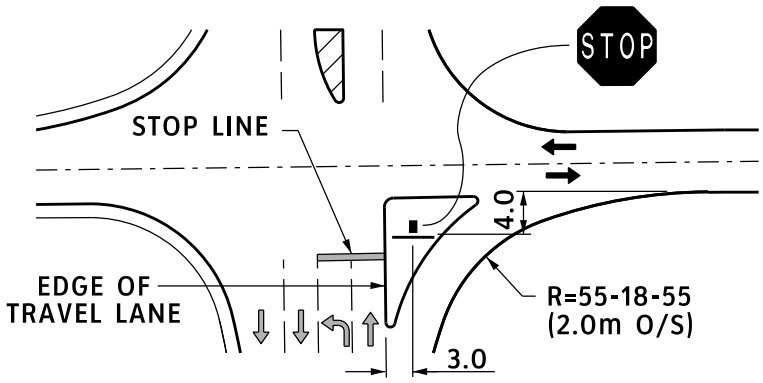
SB-3



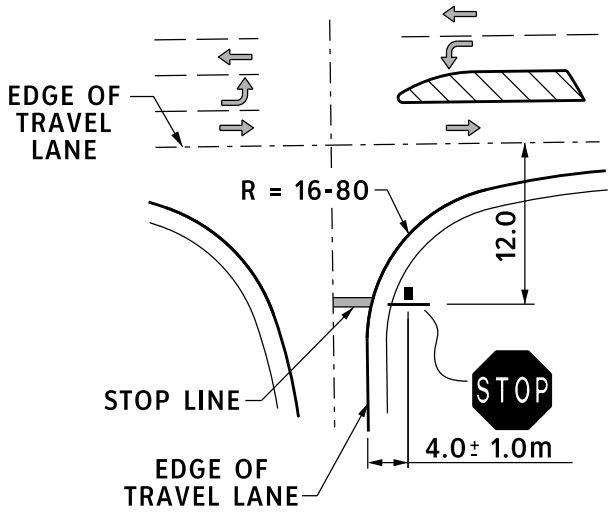
DETAIL 1



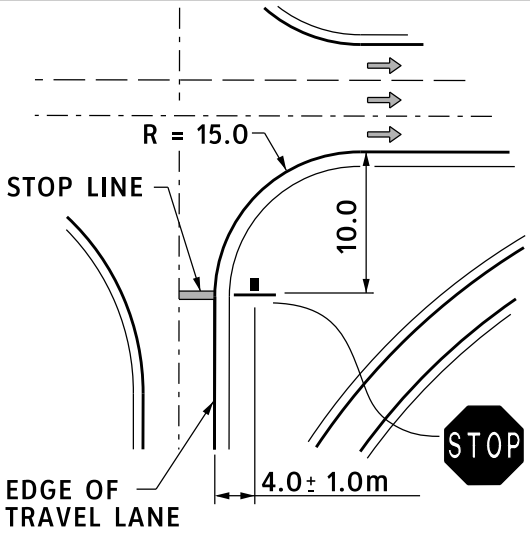
DETAIL 2: TYPICAL INTERSECTION GEOMETRY



DETAIL 3: R=55-18-55 GEOMETRY



DETAIL 4: 16-80 GEOMETRY



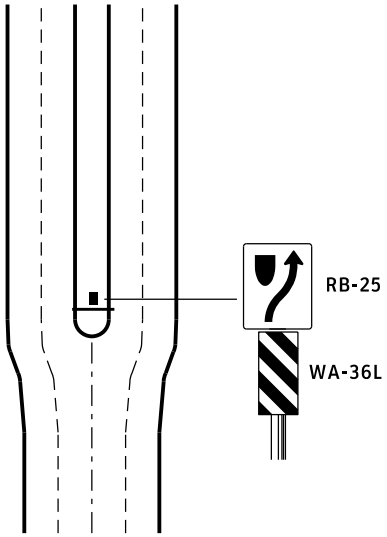
DETAIL 5: 15.0 GEOMETRY

ANY VISIBILITY CONFLICTS CONCERNING
STOP SIGN PLACEMENT SHOULD BE
BROUGHT TO THE ATTENTION OF
TRAFFIC ENGINEERING

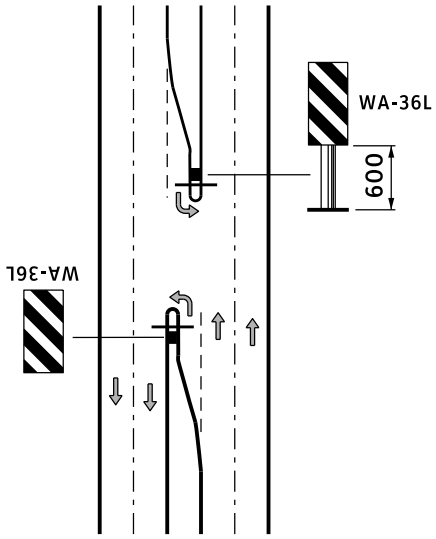
HAZARD SIGN PLACEMENT

Traffic Engineering
ISSUE DATE: REV. OCT 2006

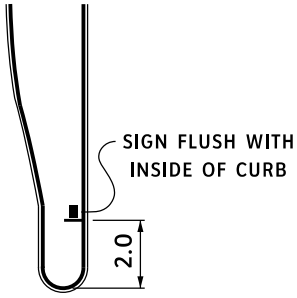
SB-4



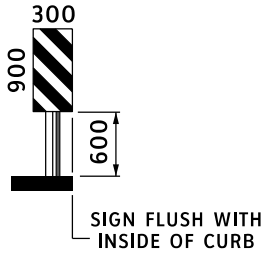
BEGINNING OF RAISED MEDIAN (URBAN LOCATION SPEED LIMIT $\leq$ 50 km/h)

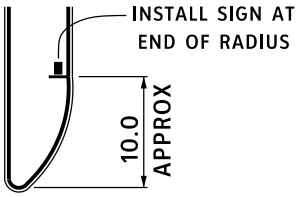


RAISED CENTRE MEDIAN WITH LEFT TURN LANE



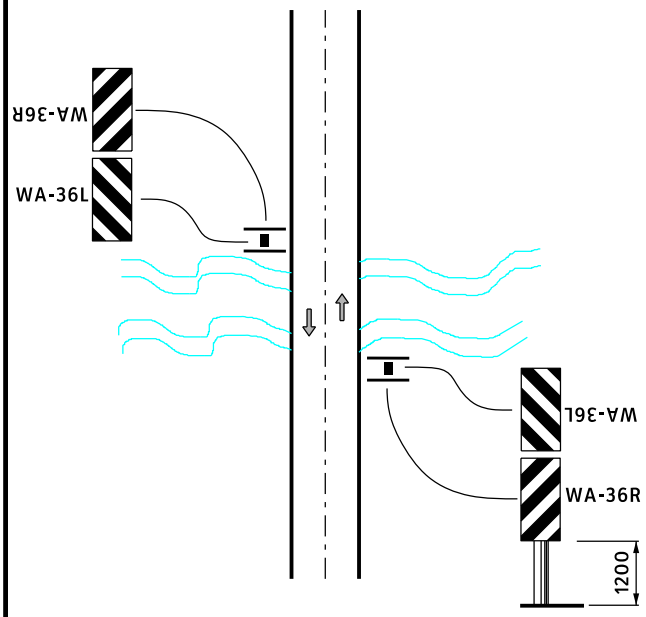
GEOMETRY 'A'



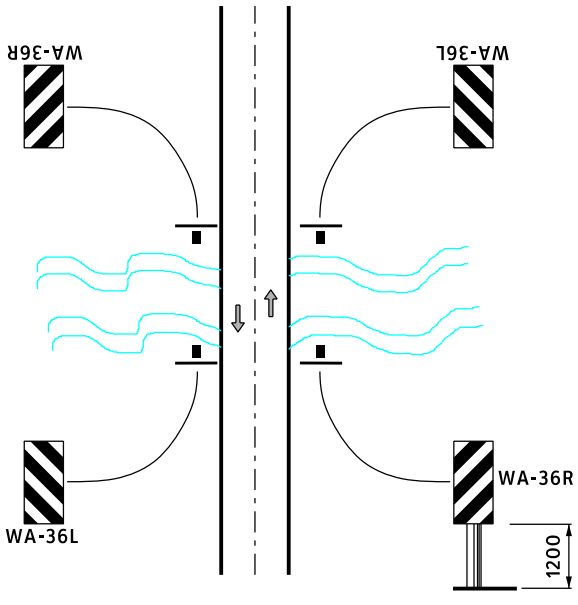


GEOMETRY 'B'

MEDIAN TREATMENTS



BRIDGES LESS THAN 5 m LONG



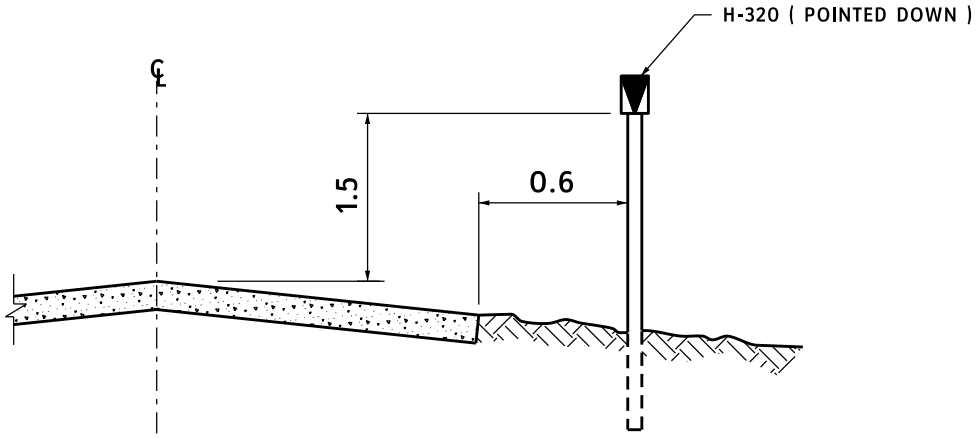
BRIDGES GREATER THAN 5 m LONG

BRIDGE-END TREATMENTS

OBSTRUCTION DELINEATOR PLACEMENT

Traffic Engineering
ISSUE DATE: APRIL 1993

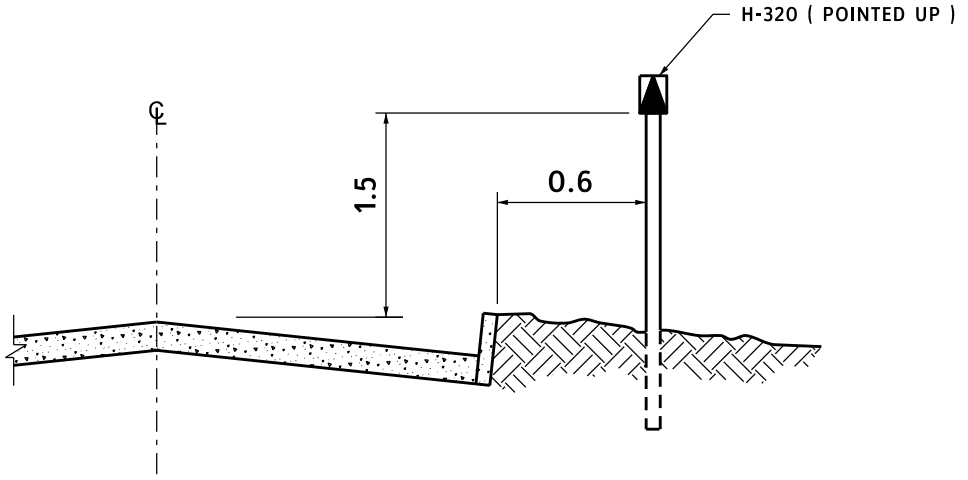
SB-5



DOWN BLADE
END OF CURB

NOTES:

1. SIGN H-320 IS USED TO DESIGNATE AN OBSTRUCTION AS A CURB, GUARDRAIL, ETC.

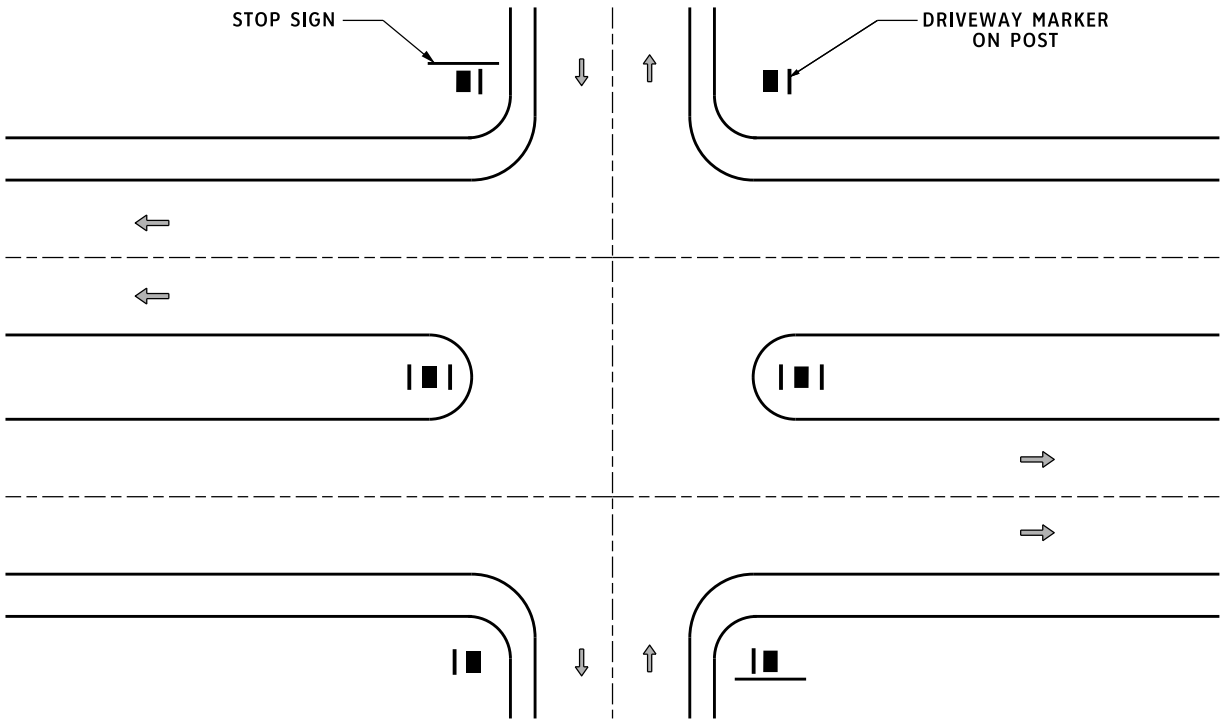


UP BLADE
BEGINNING OF CURB

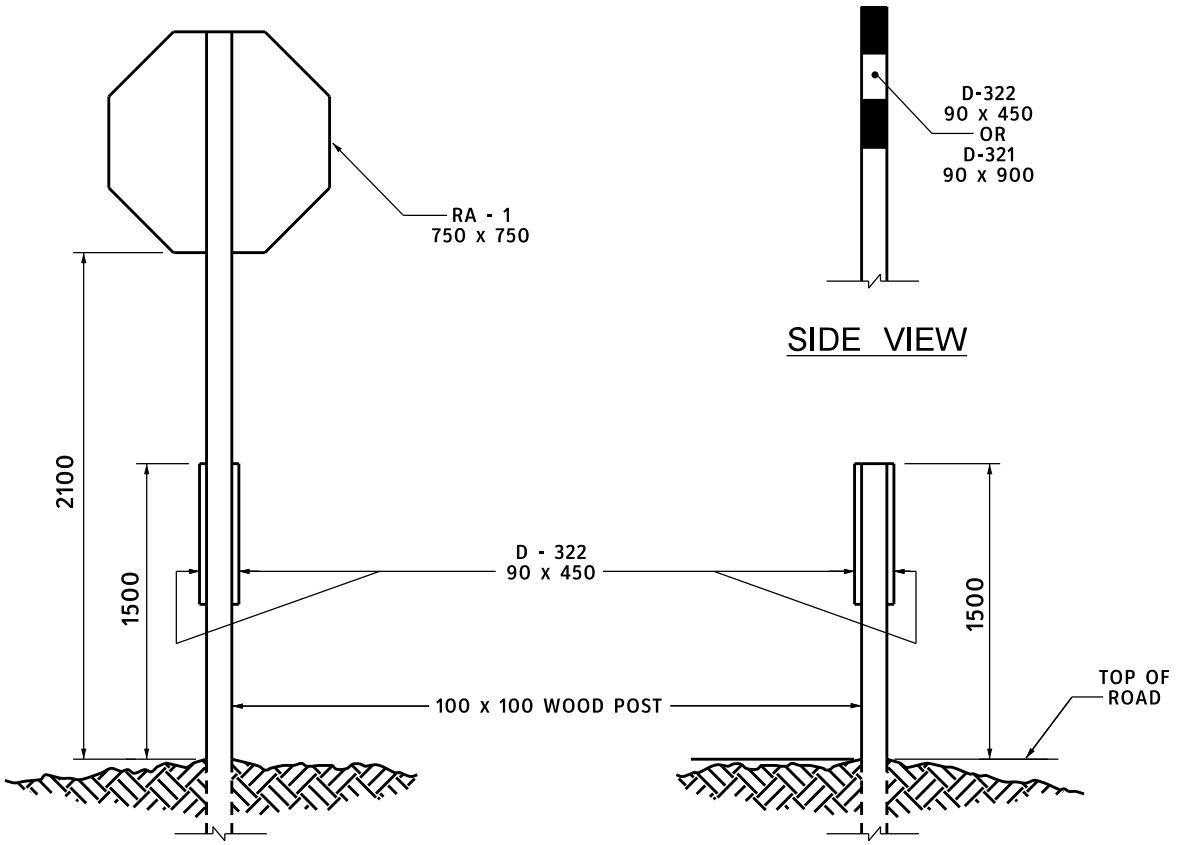
DRIVEWAY MARKER

Traffic Engineering
ISSUE DATE: REV. JAN 2004

SB-6



PLAN VIEW



SIDE VIEW

STOP SIGN DETAIL

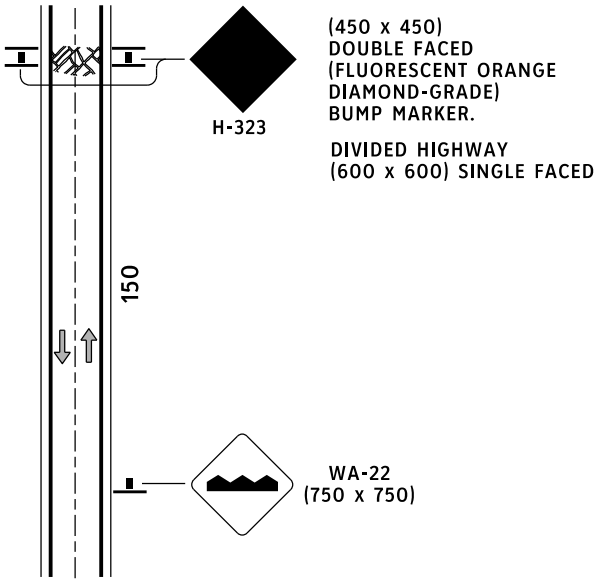
POST DETAIL

TRAFFIC SIGNING STANDARDS FOR: SURFACE BREAKS, UNEVEN SURFACE, AND BUMPS

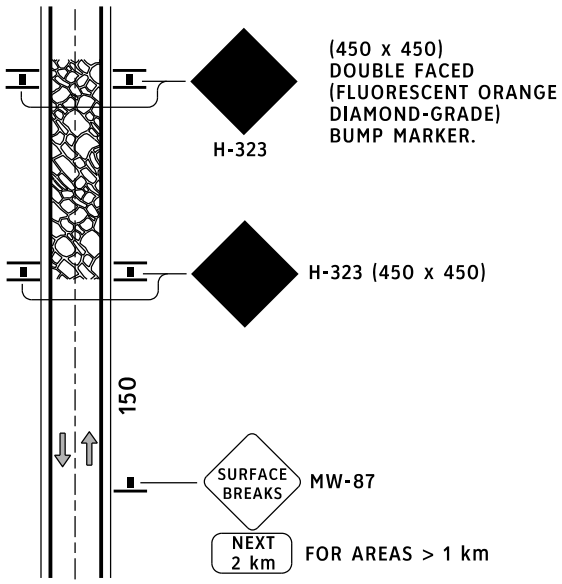
Traffic Engineering

ISSUE DATE: REV. MAY 1997

SB-7



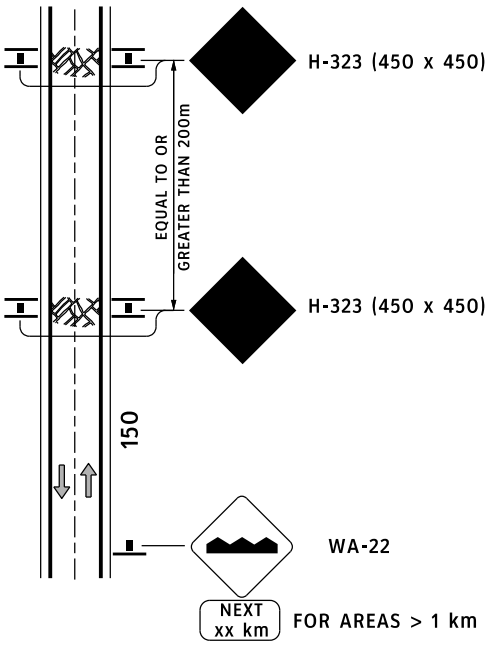
A. ISOLATED BUMPS



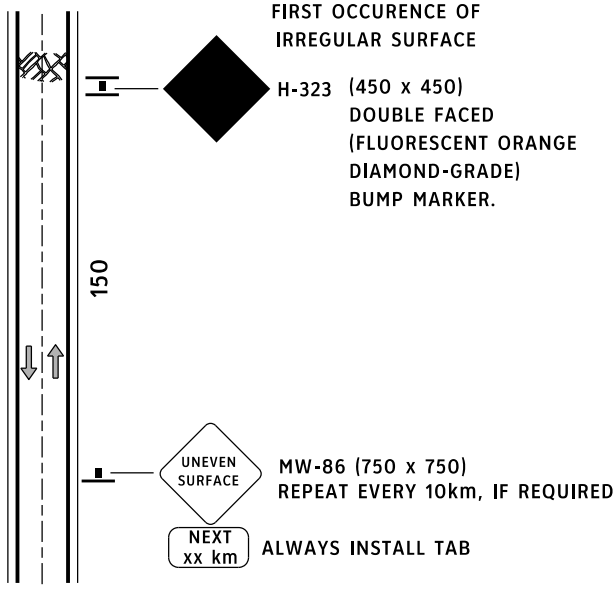
B. SURFACE BREAKS

NOTES:

1. REFER TO THE FOLLOWING POLICIES FROM THE "TRAFFIC ENGINEERING POLICIES AND STANDARDS" MANUAL FOR SPECIFIC BUMP SIGN APPLICATIONS: 100-B-2 : A ('BUMP' SIGNS), B (SURFACE BREAKS), AND C (UNEVEN SURFACES)



A. SERIES OF BUMPS

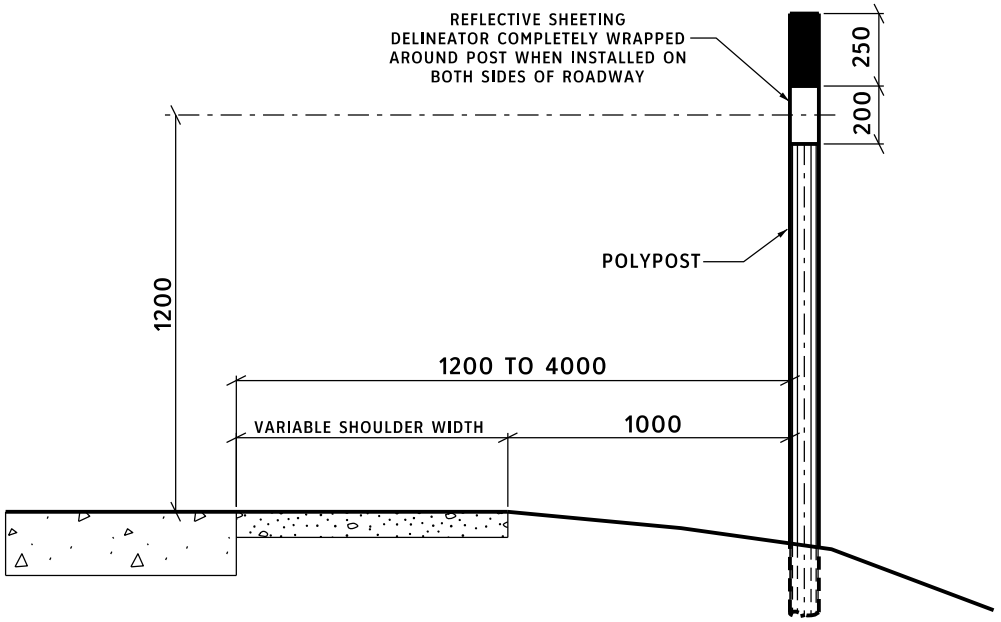


C. UNEVEN SURFACE

POLYPOST DELINEATOR

Traffic Engineering
ISSUE DATE: REV. JUNE 1996

SB-9



TYPICAL INSTALLATION DETAIL

TABLE C3.31

SPACING OF DELINEATORS ON HORIZONTAL CURVES

DEGREE OF CURVE	RADIUS	SPACING (a) ON A CURVE	SPACING IN ADVANCE OF AND BEYOND CURVE		
			1st SPACE (b)	2nd SPACE (c)	3rd SPACE (d)
(DEGREES)	(m)	(m)	(m)	(m)	(m)
1	1747	46	60	60	60
3	582	26	47	60	60
5	349	20	36	60	60
7	249	16	30	50	60
9	194	14	26	44	60
12	145	12	22	37	60
15	116	10	19	33	60
18	97	10	17	30	60
25	70	8	15	26	51
30	58	7	13	22	44
40	43	5	10	17	35

NOTE:(a) SPACING ON CURVE=$2x\sqrt{0.3R}$ WHERE R= RADIUS IN METRES.

(b) SPACING TO 1st DELINEATOR= 1.85S

(c) SPACING TO 2nd DELINEATOR= 3S

(d) SPACING TO 3rd DELINEATOR= 6S

(e) MAXIMUM SPACING NOT TO EXCEED 60m

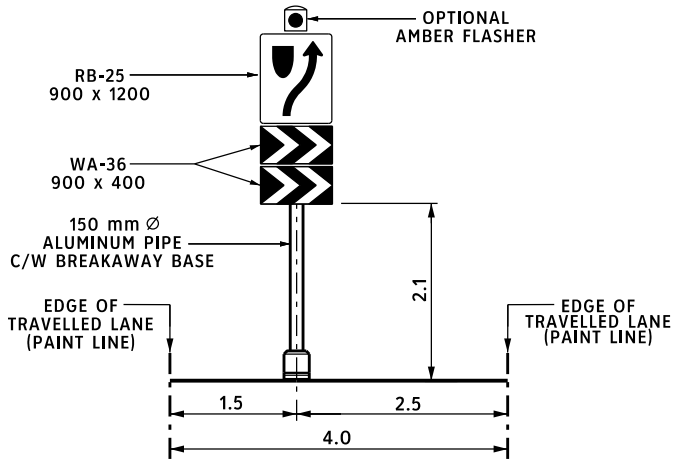
(f) MINIMUM SPACING NOT LESS THAN 5m

NOTE: THIS TABLE IS FOUND IN THE
MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA

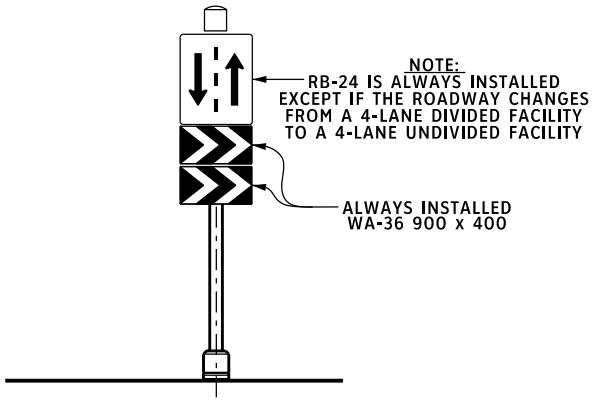
"KEEP RIGHT" SIGN (RB-25) LOCATION AND POSITION

Traffic Engineering
ISSUE DATE: REV. OCT. 2002

SB-10

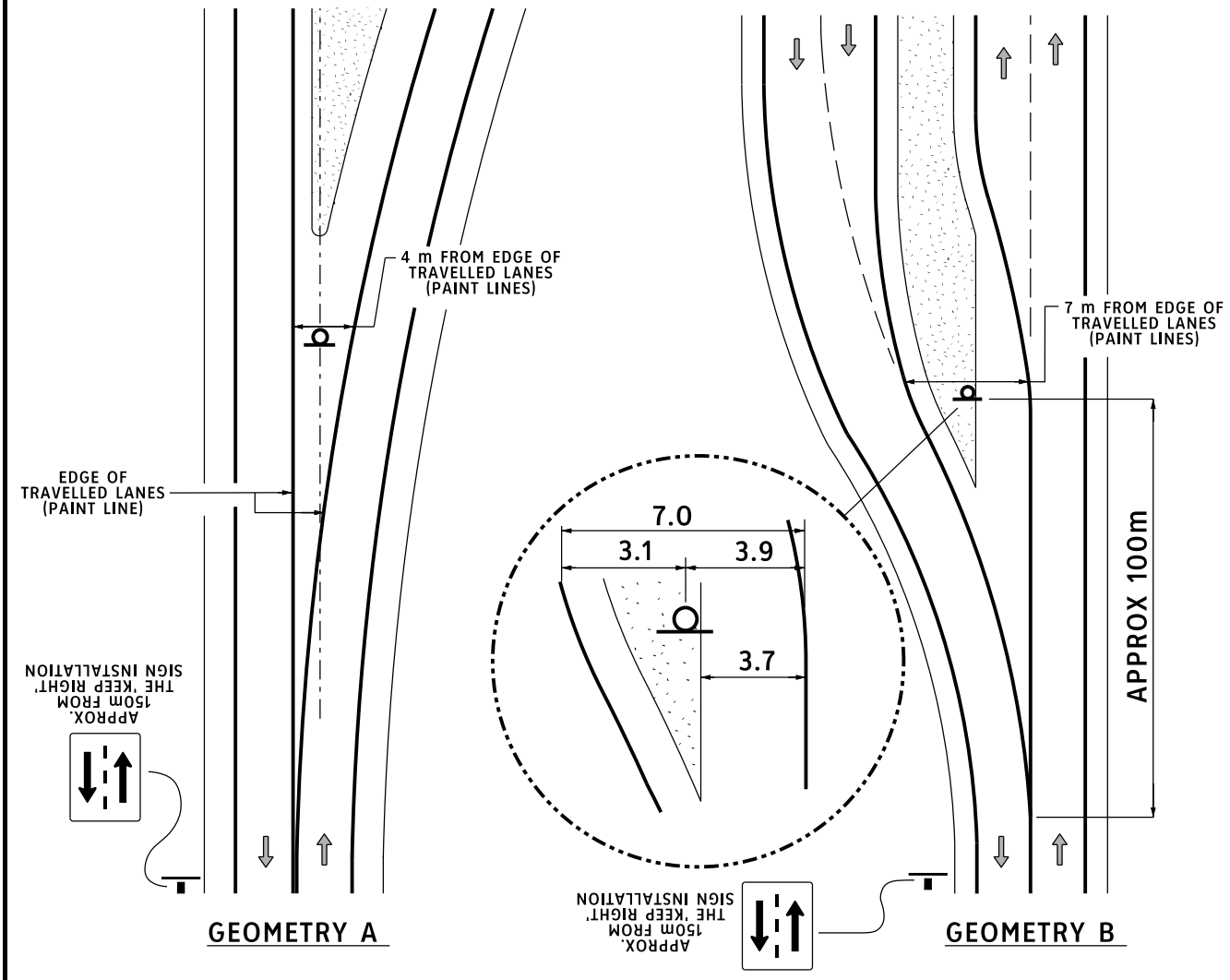


FRONT VIEW



REAR VIEW

KEEP RIGHT SIGN (RB-25) FOR A "GEOMETRY A" GORE LOCATION



GEOMETRY A

GEOMETRY B

STREET NAME BLADE MANUFACTURE AND INSTALLATION DETAILS
Page 1 of 2

Traffic Engineering
ISSUE DATE: FEB 1999

SB-11

REFER TO POLICY No. 100-E-4 FOR CURRENT STREET NAME BLADE STANDARDS

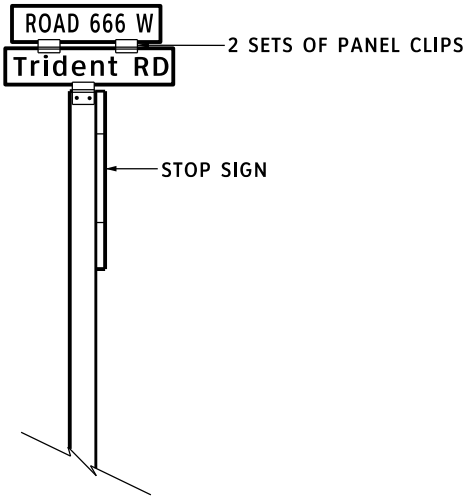


FIGURE 1

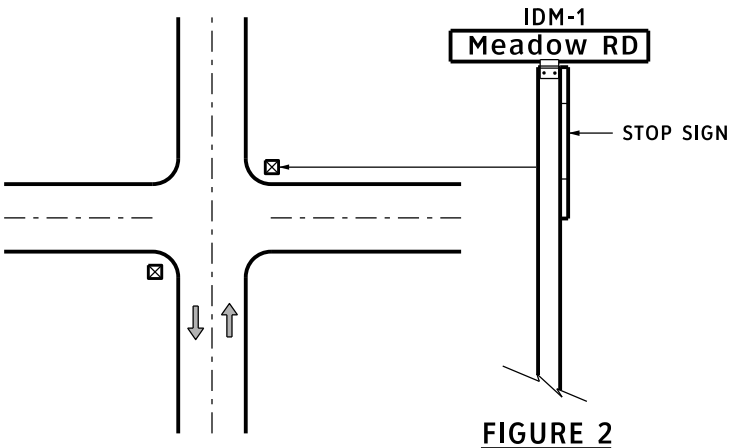


FIGURE 2

TYPICAL INSTALLATION
AT A NAMED PTH / PR
(MAXIMUM 2 BLADES PER POST)

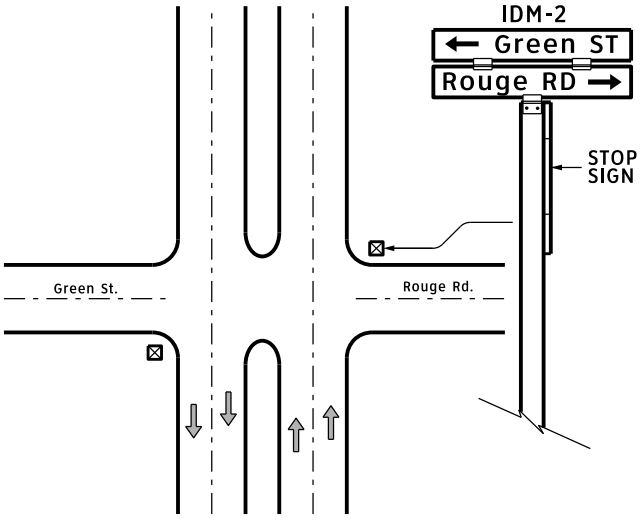


FIGURE 3

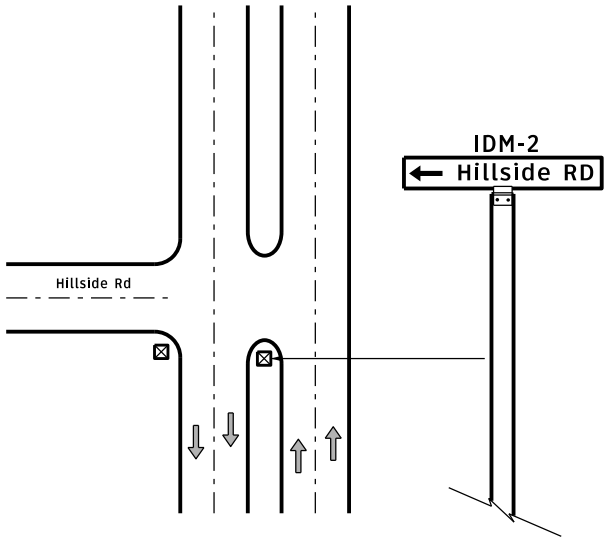


FIGURE 4

Street name blade specifications

	Typical 2-lane highway	Divided Highway
REFER TO: - The 'Traffic Engineering Policies and Standards' manual Standard 100-E-4.	**IDM-1** 1000 mm (minimum) x 150 mm Colours: White on Green Font: ClearviewHwy-5-W	**IDM-2** 1000 mm (minimum) x 230 mm Colours: White on Green Font: ClearviewHwy-5-W
6th Road E EXAMPLE 1	**100 mm number** **100 mm upper case** **75 mm lower case** **100 mm upper case**	**150 mm number** **150 mm upper case** **100 mm lower case** **150 mm upper case**
Regular RD EXAMPLE 2	**100 mm upper case** **75 mm lower case** **75 mm upper case**	**150 mm upper case** **100 mm lower case** **100 mm upper case**
Road 444 W EXAMPLE 3	**100 mm upper case** **75 mm lower case** **100 mm numbers** **100 mm upper case**	**150 mm upper case** **100 mm lower case** **150 mm numbers** **150 mm upper case**

EXAMPLES OF BILINGUAL BLADES

EXAMPLE 2

EXAMPLE 2, BILINGUAL

EXAMPLE 3

EXAMPLE 3, BILINGUAL

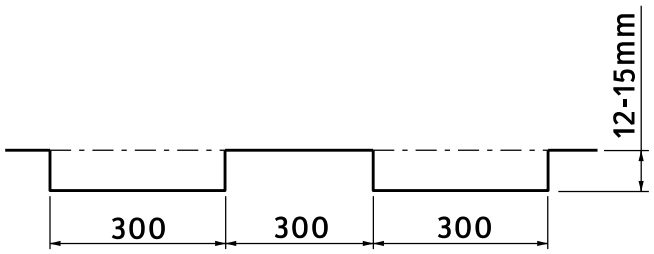
RUMBLE STIP INSTALLATION
Page 1 of 2

Traffic Engineering
ISSUE DATE: OCT 1998

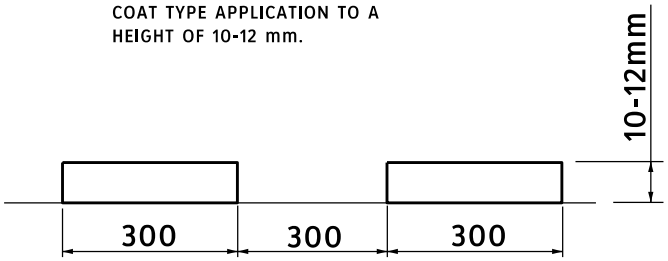
SB-12

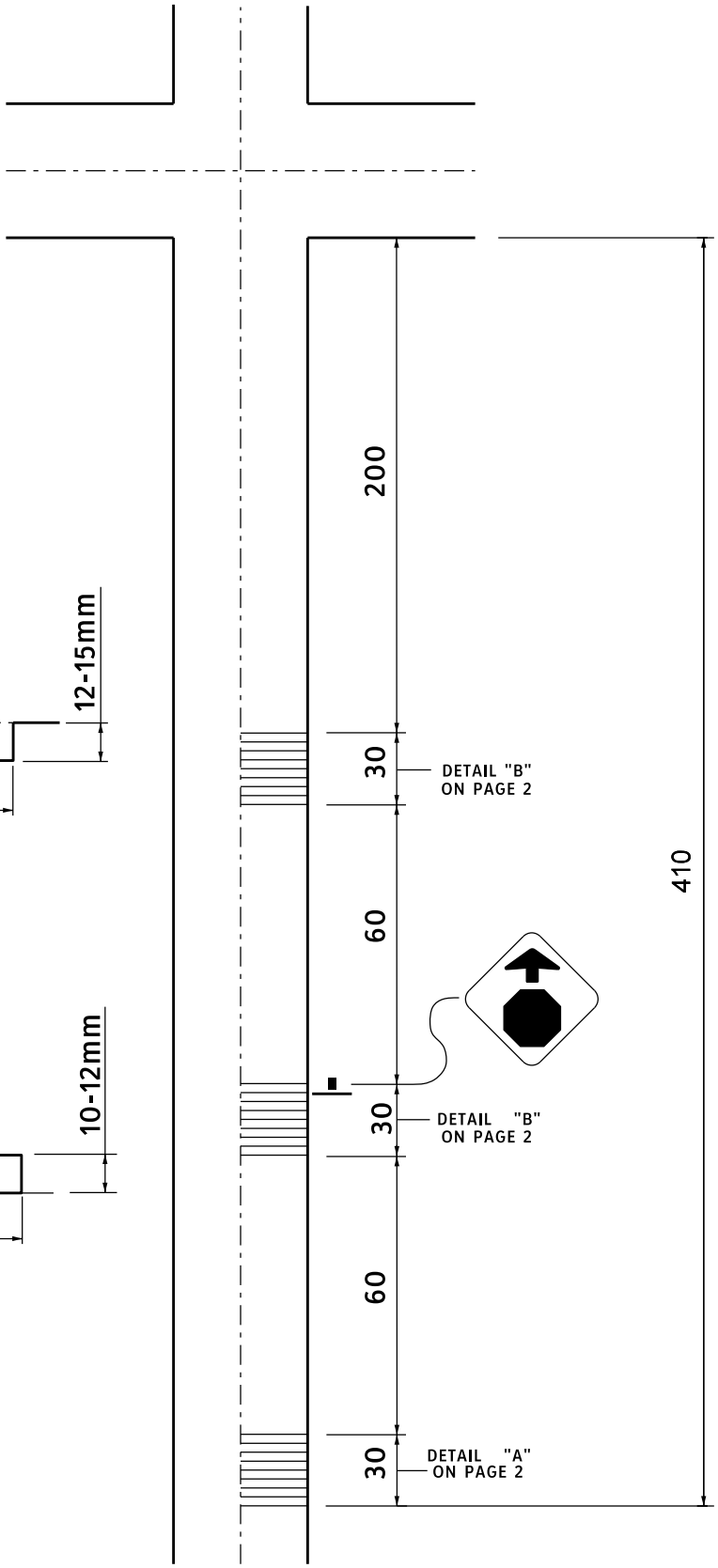
RUMBLE STRIP CROSS SECTIONS

1.) WHEN THE ROAD IS CONSTRUCTED OF BITUMINOUS OR CONCRETE PAVEMENT AND IS IN GOOD REPAIR, THE SURFACE MAY BE GROOVED TO A DEPTH OF 12-15 mm USING A SUITABLE GRINDING/CUTTING SAW.



2.) WHEN THE ROAD SURFACE IS ASPHALT OR HAS MULTIPLE PATCHES, IT IS NECESSARY TO APPLY A SEAL COAT TYPE APPLICATION TO A HEIGHT OF 10-12 mm.

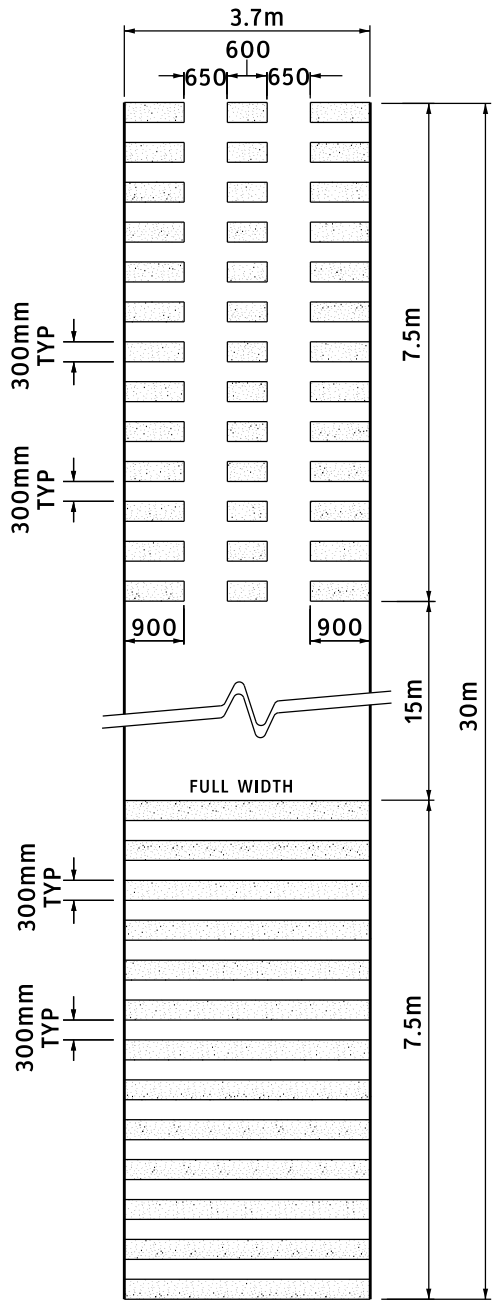




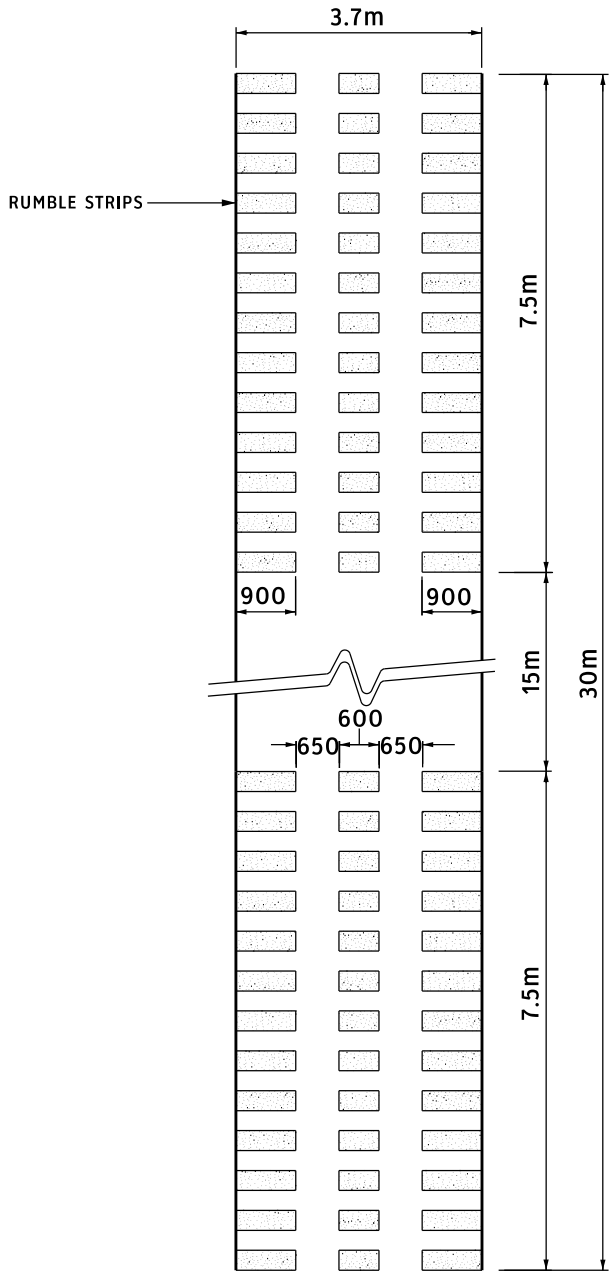
GEOMETRIC LAYOUT

Traffic Engineering
ISSUE DATE: OCT 1998

SB-12



DETAIL "A"



DETAIL "B"

Traffic Engineering

TRAFFIC SIGNING MANUAL

SECTION SC

SIGN HARDWARE INFORMATION

BREAKAWAY DETAILS FOR I-BEAM SIGN POSTS (WITH SCREW ANCHOR FOUNDATIONS)

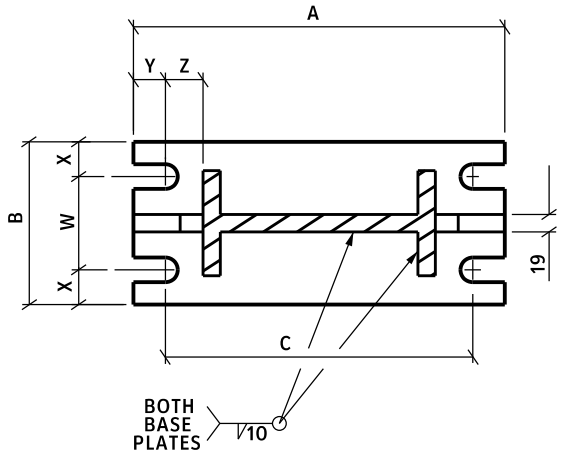
Traffic Engineering

ISSUE DATE: REV. FEB 2009

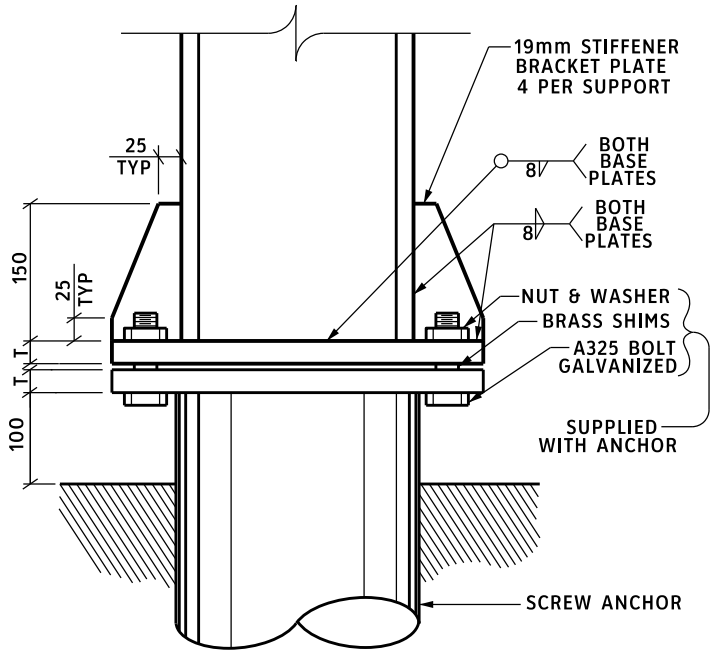
SC-1

Aluminum Post Foundation Data													
Post Size (mm)	Screw Anchor Colour Code	Hole Diameter (mm)	Bolt Diameter (mm)	Bolt Length (mm)	Bolt Torque (Nxm)	Baseplate Data							
						T (mm)	W (mm)	X (mm)	Y (mm)	Z (mm)	A (mm)	B (mm)	C (mm)
178	Yellow	27	25	90	1200	25	102	38	35	79	406	178	336
254	Yellow	27	25	90	1200	25	102	38	35	41	406	178	336
305	Orange	30	29	90	1500	25	115	44	41	48	483	203	401

NOTE: Aluminum shall conform to A.S.T.M. specification 6351-T6. (welded members)

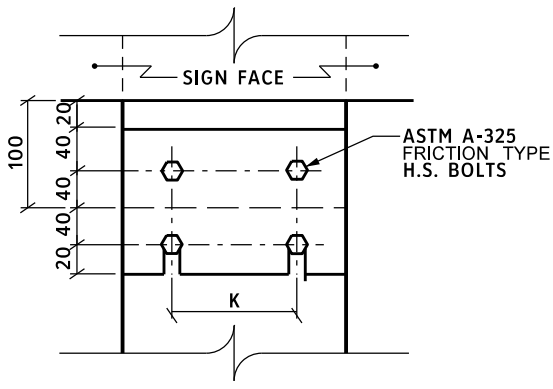


PLAN VIEW

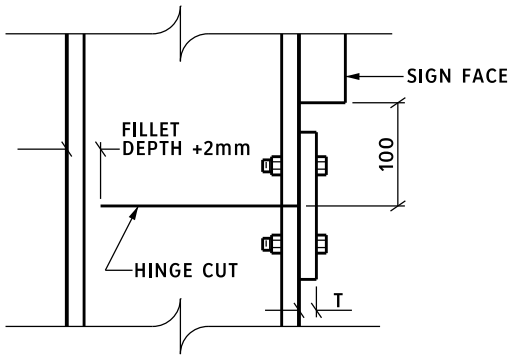


SIDE VIEW

Aluminum Post Hinge Data					
Post Size (mm)	Hole Diameter (mm)	Bolt Diameter (mm)	Bolt Torque (Nxm)	Hinge Data	
				T (mm)	K (mm)
178	18	16	285	10	50
254	18	16	285	10	65
305	22	20	500	11	75



FRONT VIEW

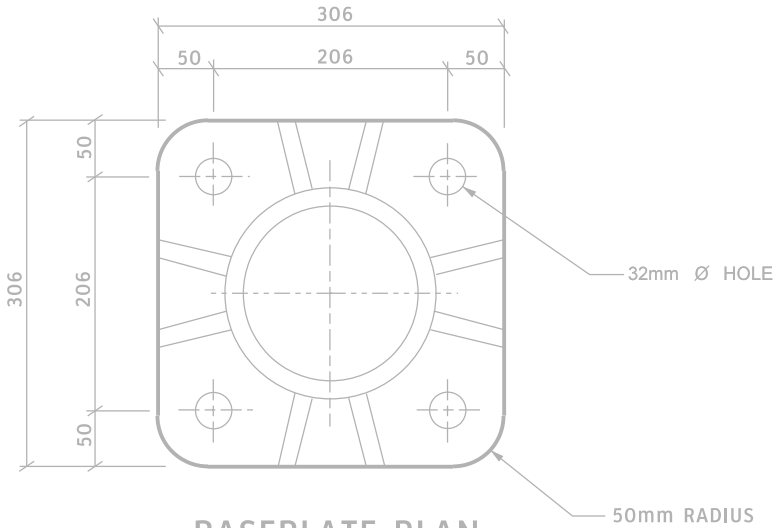


SIDE VIEW

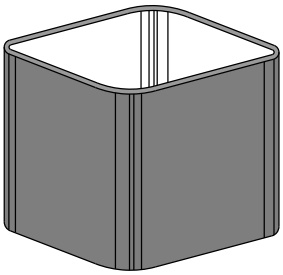
BREAKAWAY DETAILS FOR ROUND ALUMINUM SIGN POST (WITH SCREW ANCHOR FOUNDATIONS)

Traffic Engineering
ISSUE DATE: FEB 2009

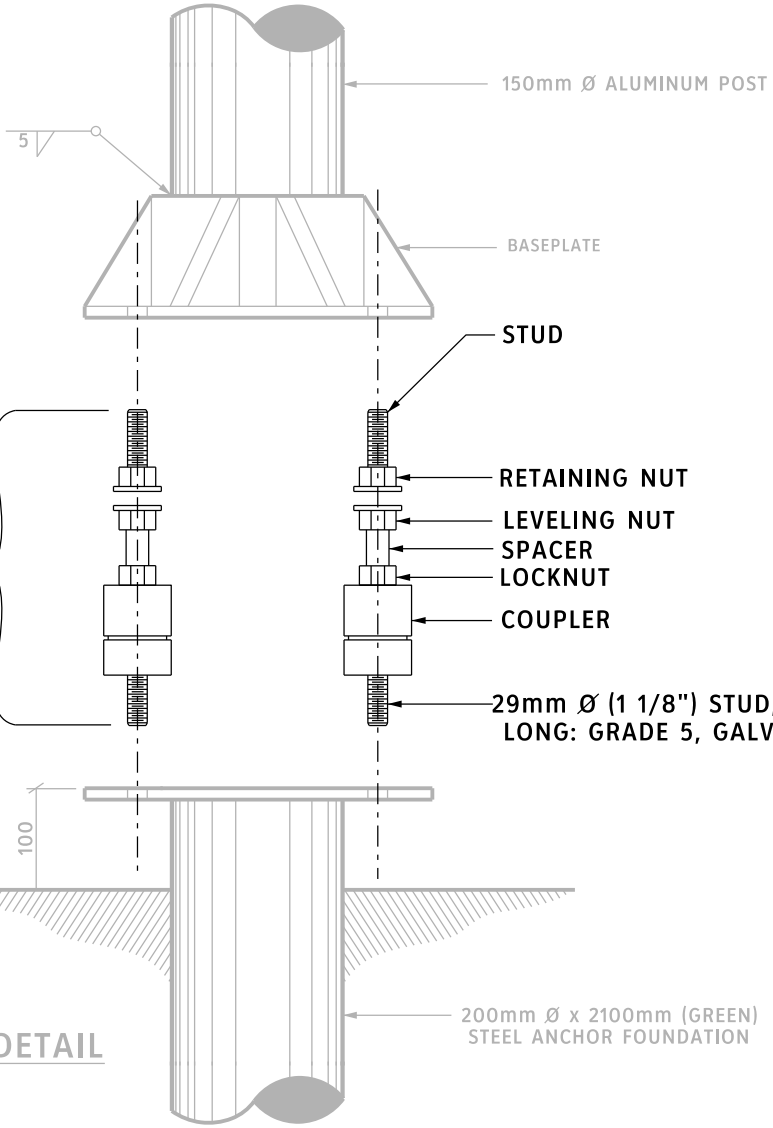
SC-2



BASEPLATE PLAN



SHROUD
(BKEAK-AWAY COVER)



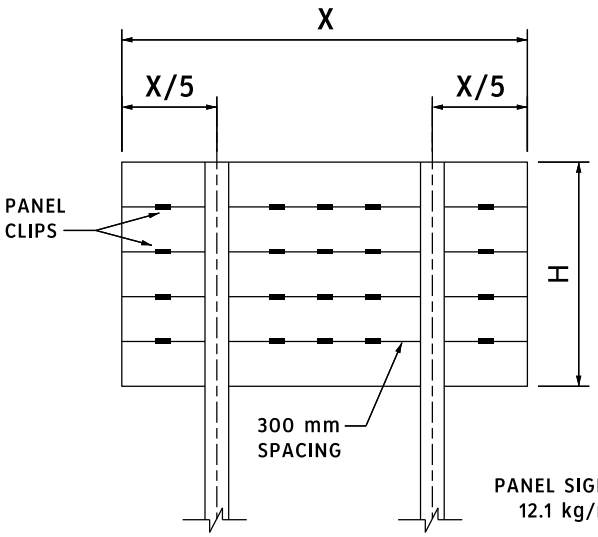
NOTE: Nuts tightened to "Turn-of-Nut Method"

CONNECTION DETAIL

PANEL CLIP & POST CLIP ASSEMBLY DETAILS ON ALUMINUM POST

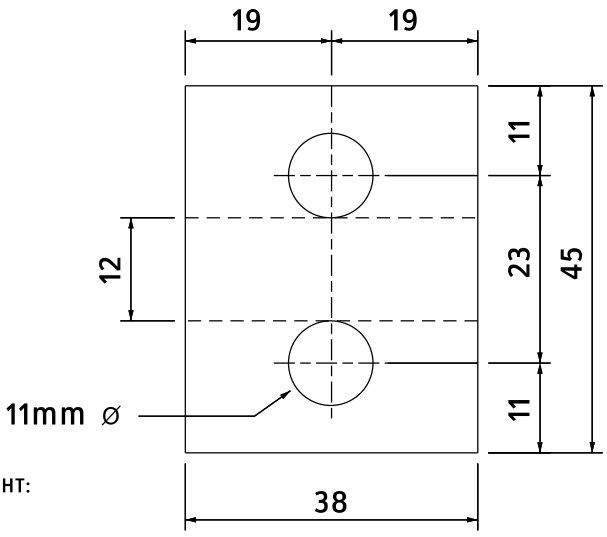
Traffic Engineering
ISSUE DATE: APRIL 1993

SC-3

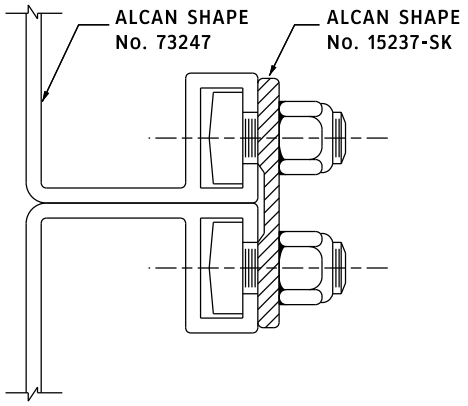


PANEL SIGN WEIGHT: 12.1 kg/m²

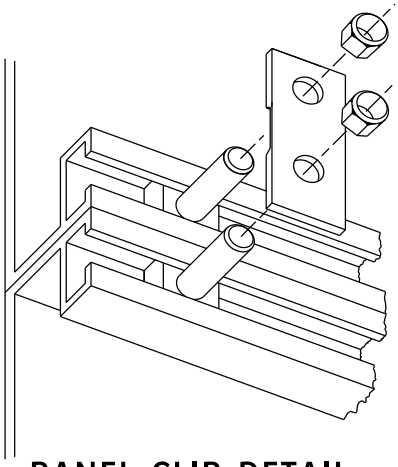
PANEL SIGN
SHOWING PANEL CLIP SPACINGS



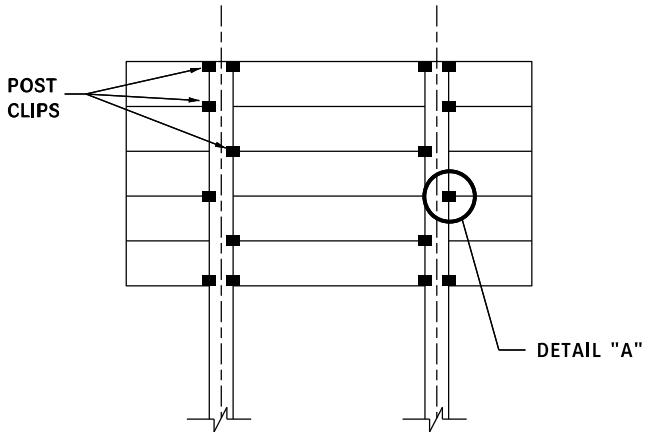
PANEL CLIP



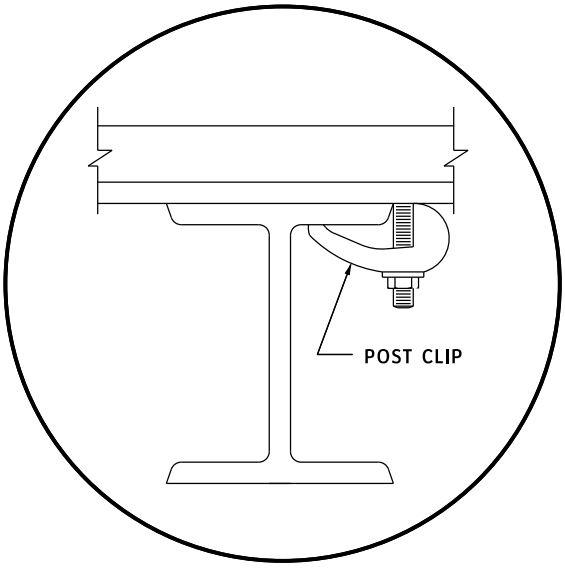
PANEL CLIP SIDE VIEW



PANEL CLIP DETAIL



PANEL SIGN
SHOWING POST CLIP SPACINGS

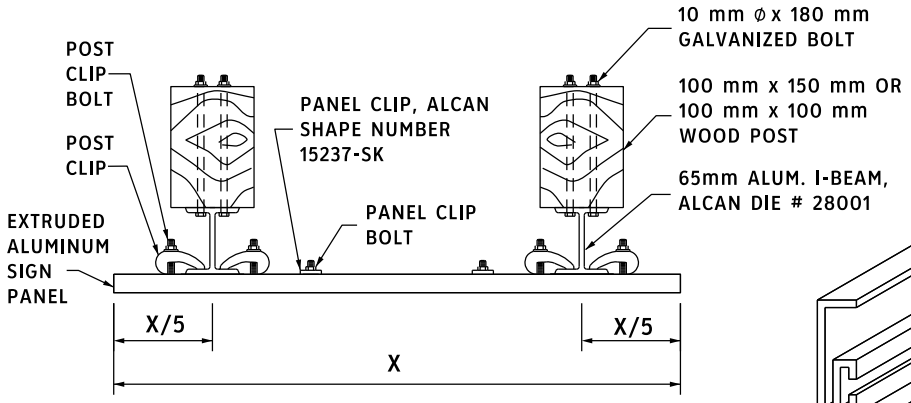


DETAIL "A" TOP VIEW

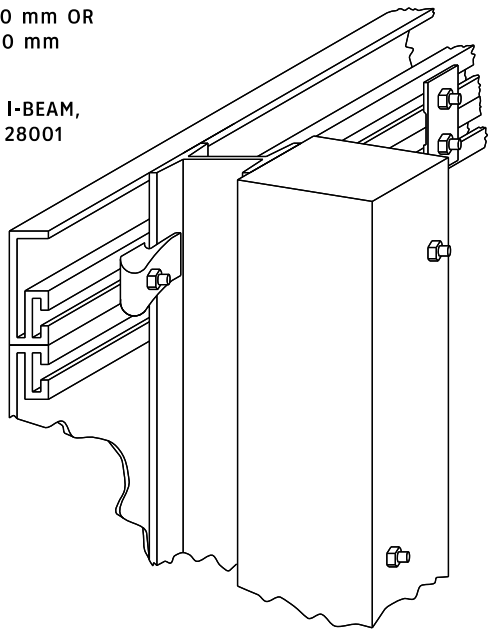
PANEL SIGN INSTALLATION ON WOOD POST

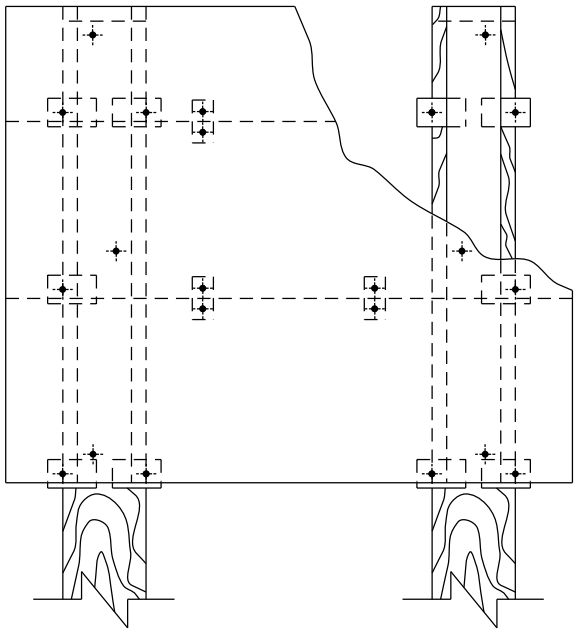
Traffic Engineering
ISSUE DATE: APRIL 1993

SC-4

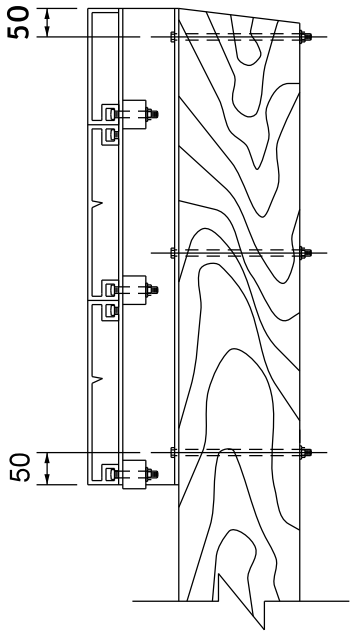


TOP VIEW





FRONT VIEW

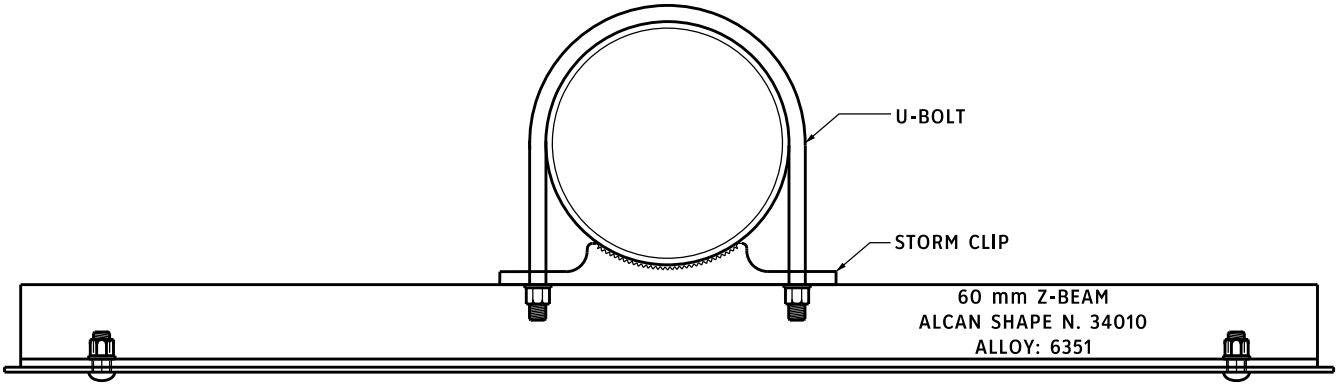


SIDE VIEW

TYPICAL SIGN INSTALLATION USING Z-BEAM

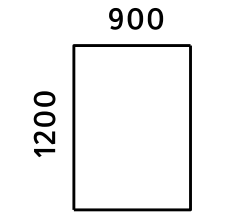
Traffic Engineering
ISSUE DATE: REV. MAY 1996

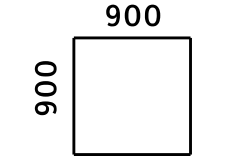
SC-5

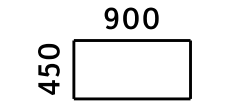


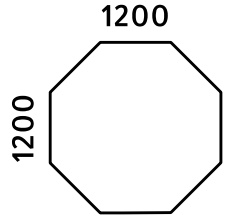
TOP VIEW

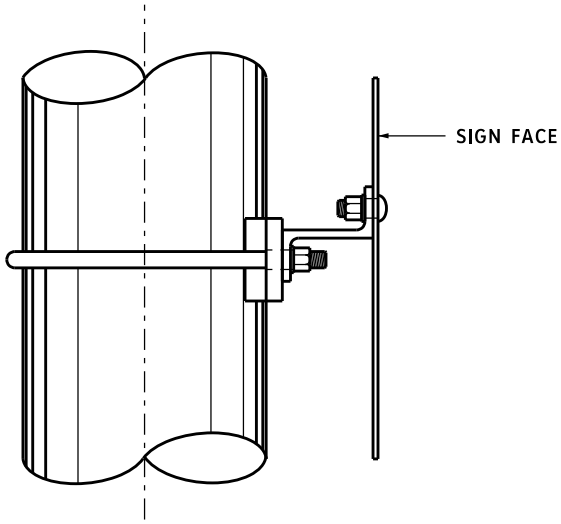
SHAPES AND SIZES OF SIGNS
FOR 800 mm Z-BEAM









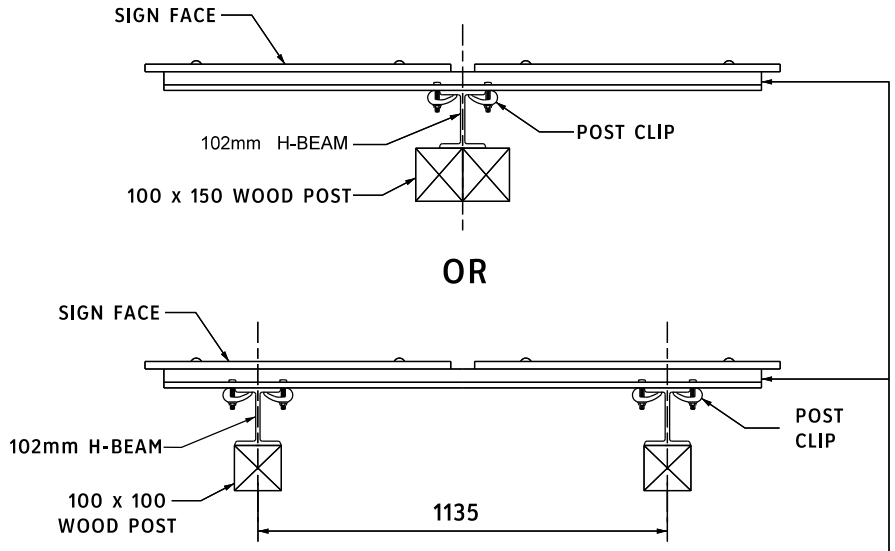


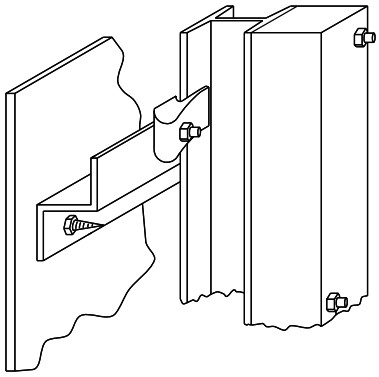
ELEVATION

INSTALLATION OF TWO 900 x 1200 SIGNS ON WOOD POSTS

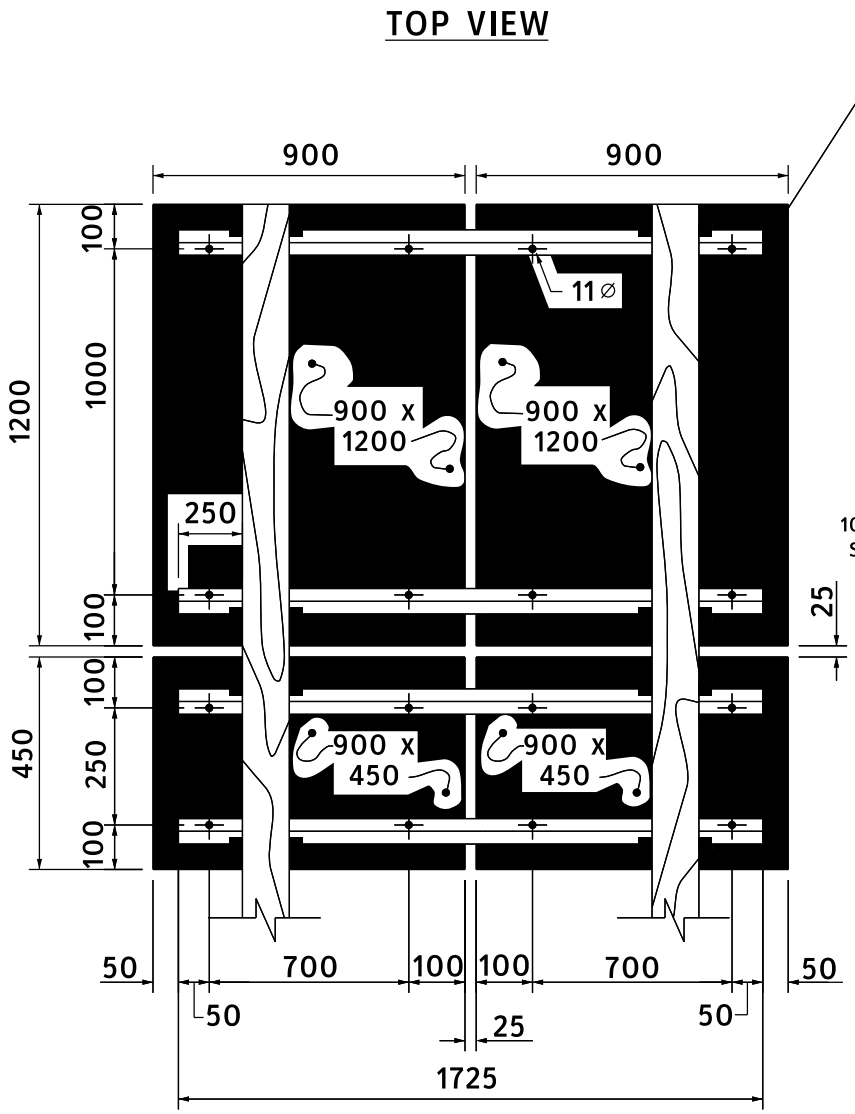
Traffic Engineering
ISSUE DATE: REV. JAN 2004

SC-6

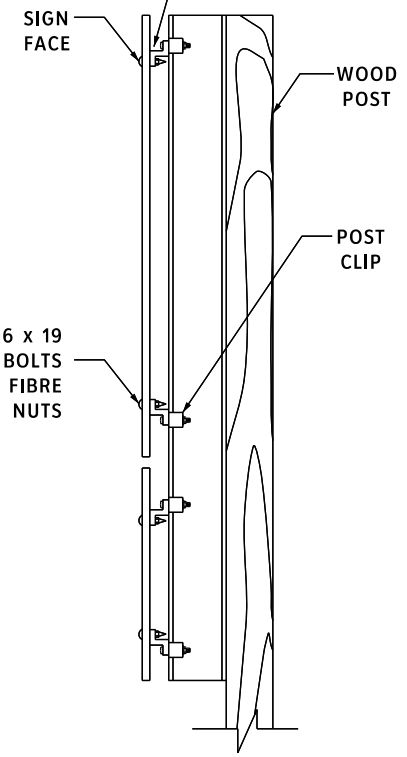




TOP VIEW



REAR VIEW



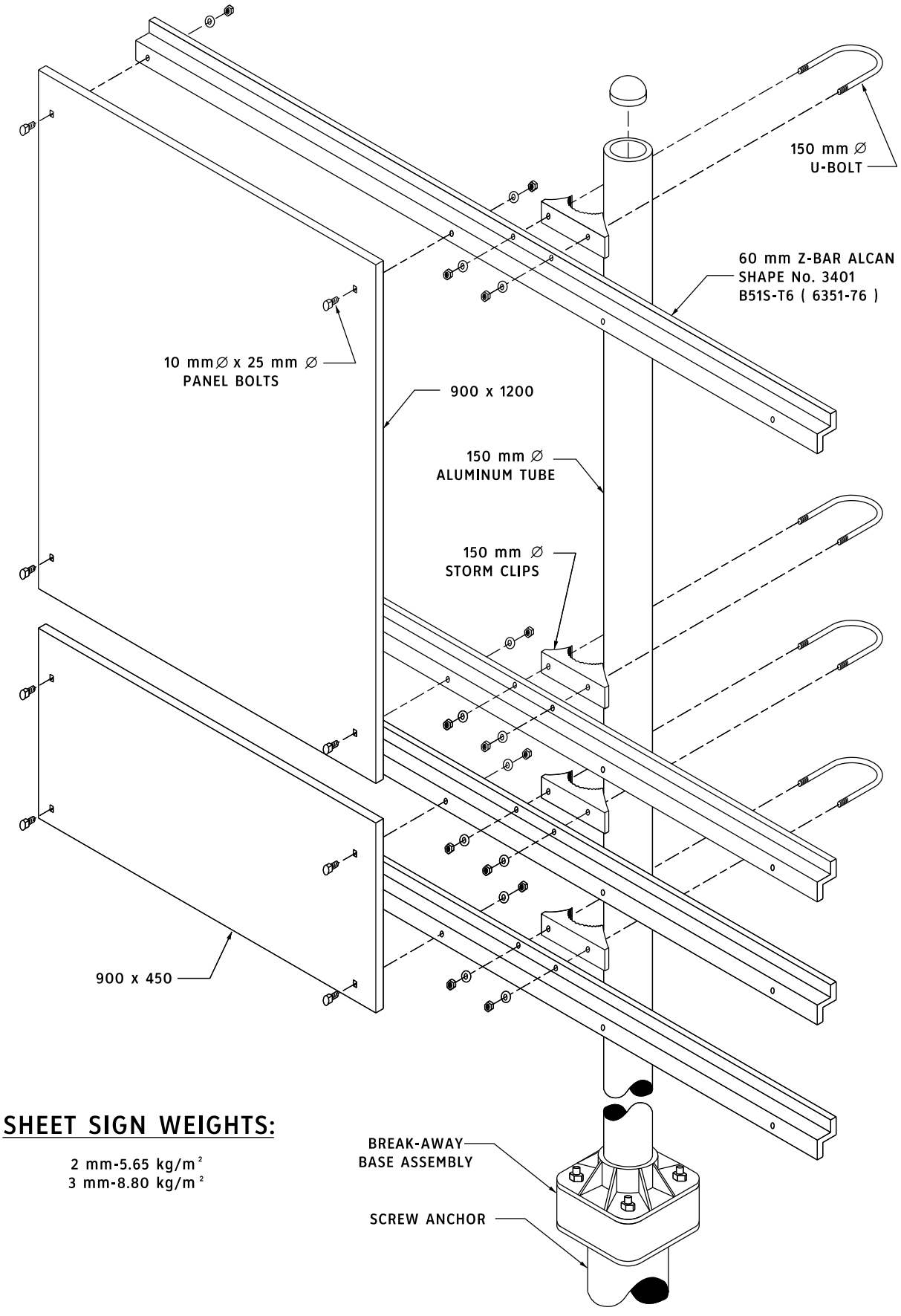
SIDE VIEW

INSTALLATION OF TWO 900 x 1200 SIGNS ON A SINGLE ALUMINUM POST

Traffic Engineering

ISSUE DATE: REV. JAN 2004

SC-7



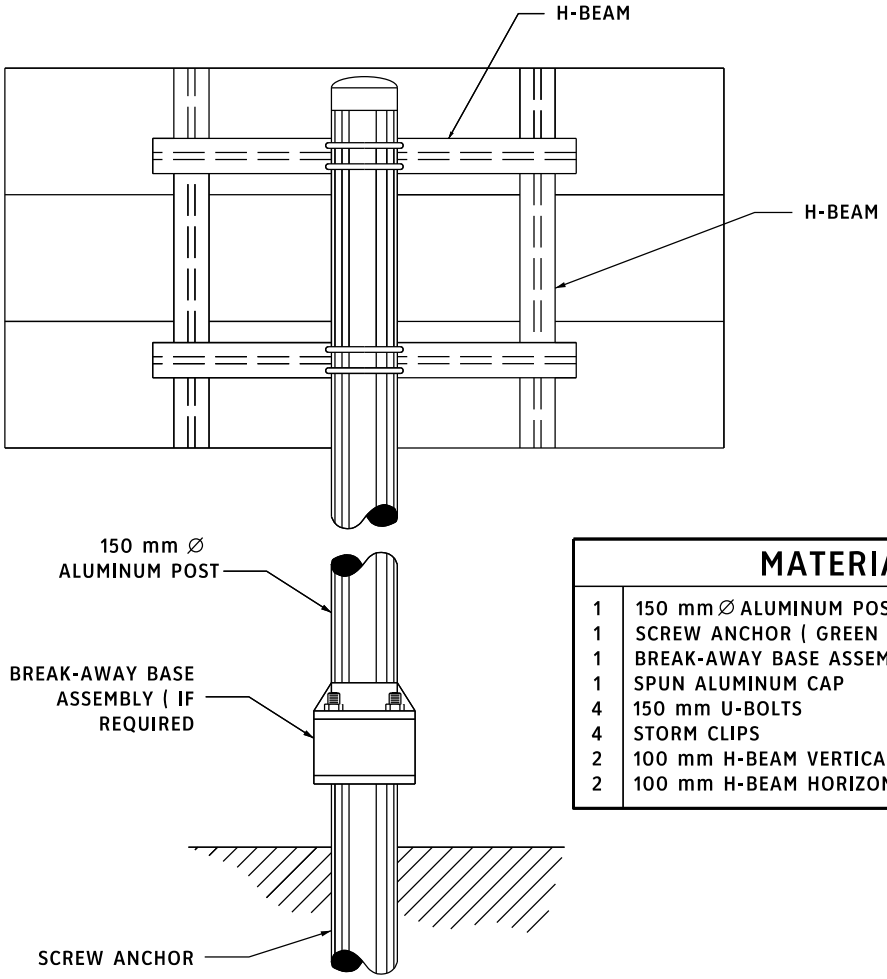
SHEET SIGN WEIGHTS:

2 mm-5.65 kg/m^2
3 mm-8.80 kg/m^2

PANEL SIGN INSTALLATION ON A SINGLE ALUMINUM POST

Traffic Engineering
ISSUE DATE: APRIL 1993

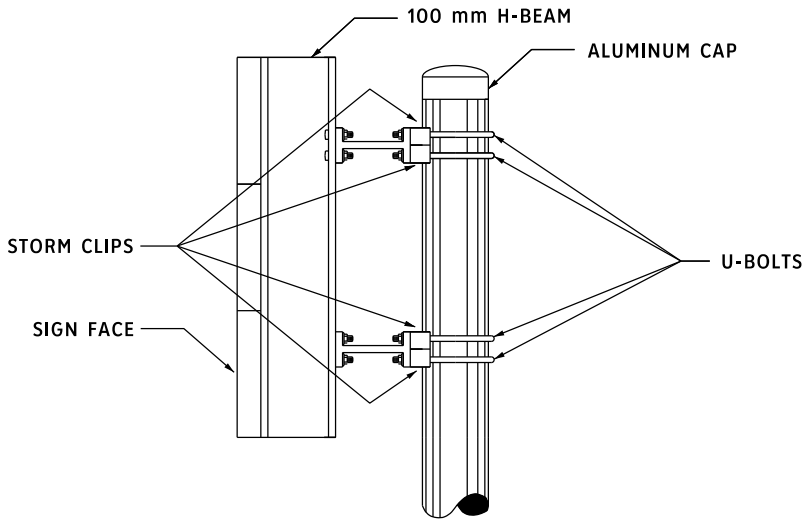
SC-8



MATERIAL LIST

1	150 mm ∅ ALUMINUM POST C/W CAST BASEPLATE
1	SCREW ANCHOR (GREEN)
1	BREAK-AWAY BASE ASSEMBLY (IF REQUIRED)
1	SPUN ALUMINUM CAP
4	150 mm U-BOLTS
4	STORM CLIPS
2	100 mm H-BEAM VERTICAL LENGTHS
2	100 mm H-BEAM HORIZONTAL LENGTHS OR Z-BARS

REAR VIEW



SIDE VIEW