

Subject: Lane Use Signs and Pavement Markings at

Multi-lane Roundabouts

Date: 27 July 2005	Author: E. Miska			
Bulletin Number: TE-2005-5 Bulletin Type:	Action Required: Effective Date: Immediately			
Distribution	Standards Affected			
MoT Designers	New			
Design Consultants				

BACKGROUND

Lane use signs and markings are commonly used at intersections to provide positive guidance to motorists when the lane use is different from what normally would be expected. Multi-lane roundabouts are relatively new on Ministry roadways. Lane use signs and pavement markings intended specifically for roundabouts can provide positive guidance to drivers as they approach and navigate the multi-lane roundabout.

POLICY

Roundabout Lane Use signs

Roundabout Lane Use signs will be used in advance of multi-lane roundabouts to direct motorists into the appropriate lane. The sign record for Roundabout Lane Use signs (R-500 series) illustrates possible combinations of the lane use symbols that may be applied. The designer should select signs based on the lane use that applies to their design.

Pavement markings on the approach to the Roundabout

The symbols used in the roundabout lane use signs will also be installed as pavement markings in the appropriate lane on the approach to the roundabout. If space permits, a second set of confirmatory pavement lane use markings should also be used. The use of the same symbols will reinforce to drivers the indicated lane use. The layout and dimensioning of the roundabout approach lane markings is attached.



Pavement Markings within the Roundabout

To provide guidance to drivers within the roundabout, lane continuity lines will be used. Directional arrows may be placed within the roundabout to emphasize appropriate lane movements. The attached schematic drawing illustrates the application of continuity lines and pavement marking arrows. Note that the pavement marking arrows within the roundabout are of the conventional variety strategically positioned to provide additional guidance to drivers.

It is recognized that large trucks will over-track the markings on certain movements. The diameter of roundabouts is limited to improve the over-all safety for all vehicles. If the diameter of a roundabout was made so large as to eliminate any potential over-tracking of trucks then over-all safety performance would be diminished.

For further information or comment please contact:

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Ministry of Transportation Engineering Branch - Traffic & Electrical Engineering 4B 940 Blanshard St PO Box 9850 Stn Prov Govt Victoria BC V8W 9T5 Telephone 250 387-7583 Facsimile 250 387-7735



SIGN ITEM #

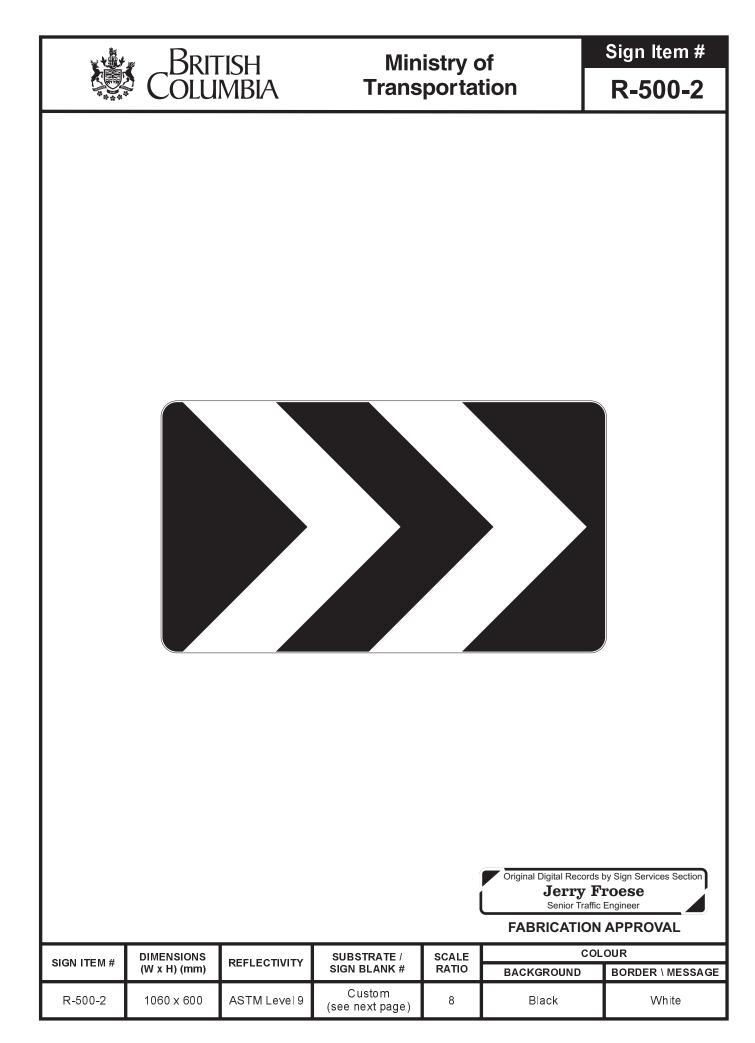
R-500-1

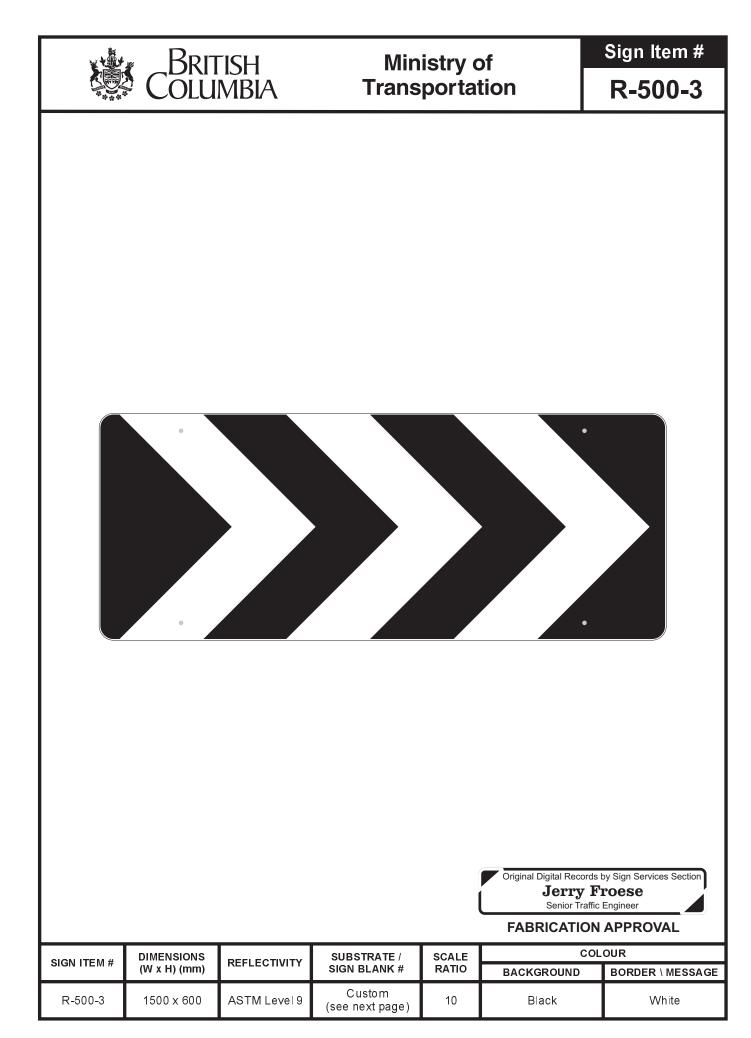
Ministry of Transportation

Sign Item #

R-500-1

				Original Digital Records Jerry F Senior Traffic FABRICATION	Engineer
DIMENSIONS	REFLECTIVITY	SUBSTRATE /	SCALE	COL	OUR
(W x H) (mm)	SIGN BLANK #		RATIO	BACKGROUND	BORDER \ MESSAGE
600 x 600	ASTM Level 9	AL SB-33	7	Black	White



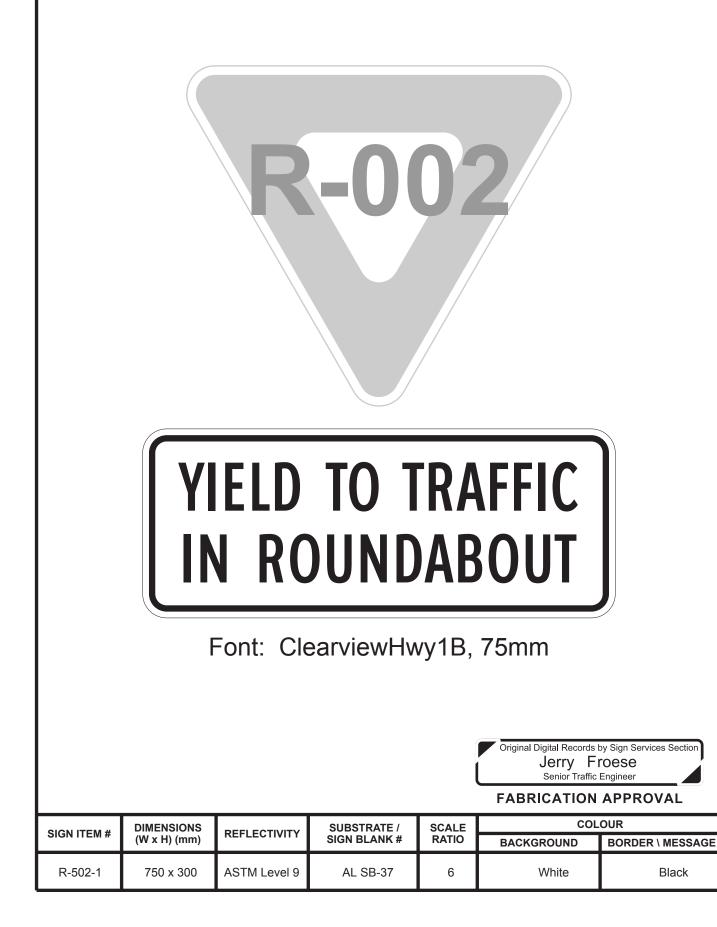






Sign Item #

R-502-1







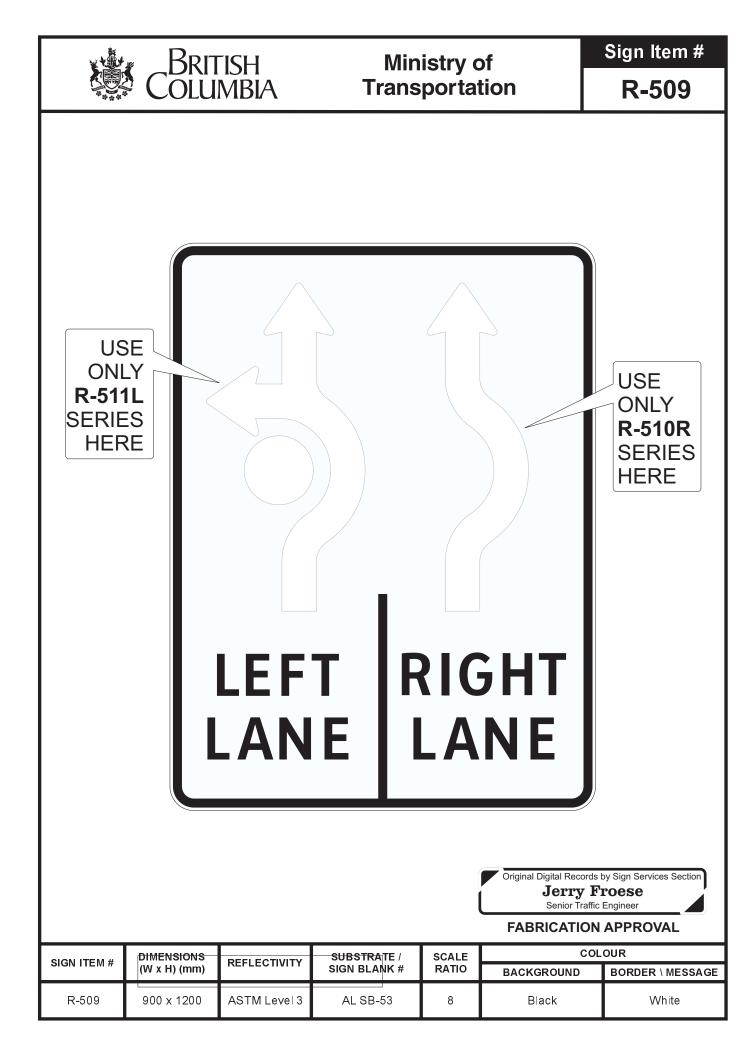
R-507

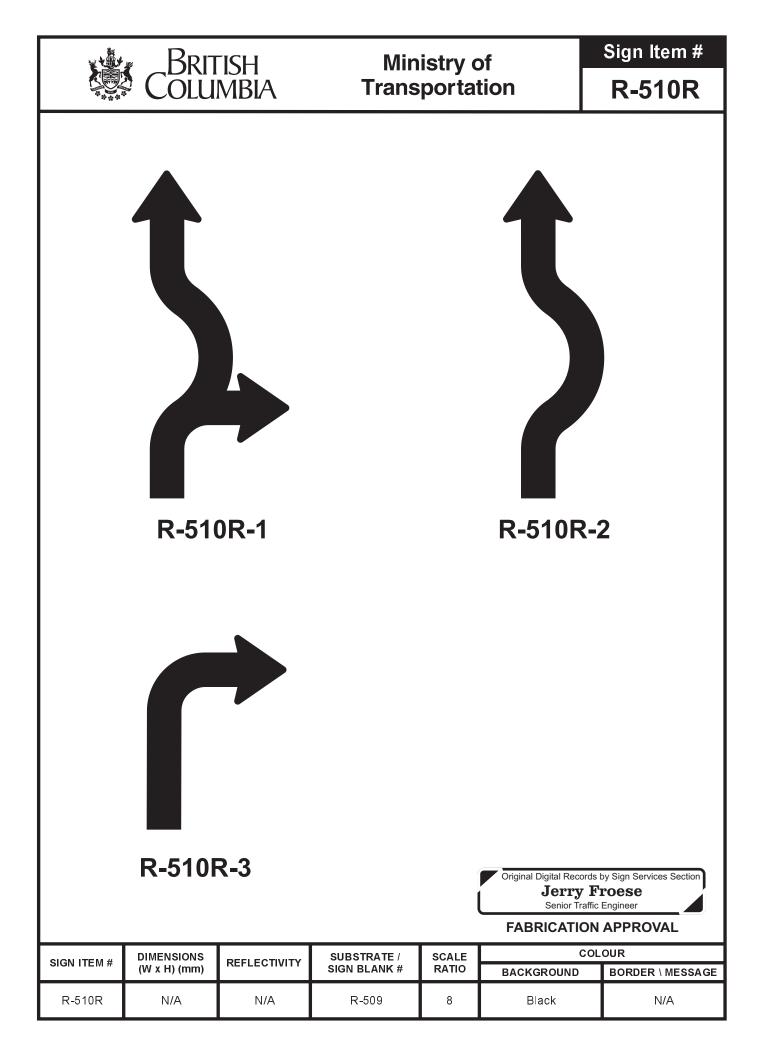
	R		NDA	BC	Original Digital Records	roese
					Senior Traffic	
SIGN ITEM #	DIMENSIONS (W x H) (mm)	REFLECTIVITY	SUBSTRATE / SIGN BLANK #	SCALE RATIO	COL BACKGROUND	OUR BORDER \ MESSAGE
R-507	900 x 300	ASTM Level 3	AL SB-49	8	Black	White

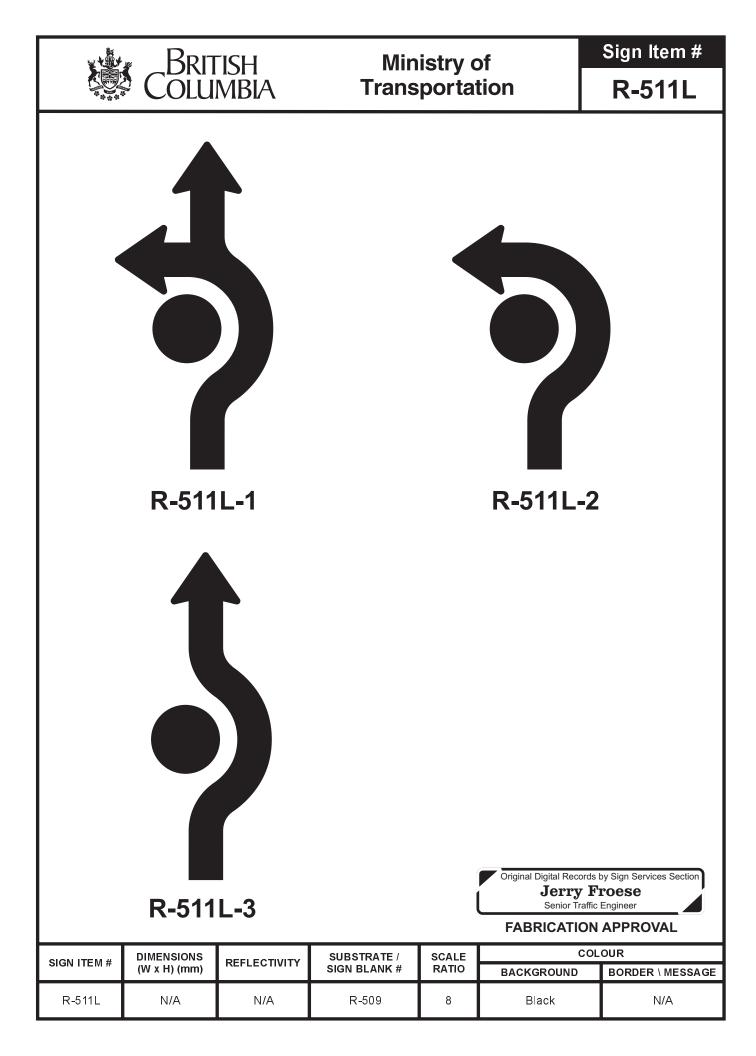


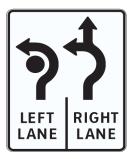
R-508

		GET	IN	LA	NE	
					Original Digital Records Jerry F: Senior Traffic FABRICATION	Engineer
SIGN ITEM #	DIMENSIONS (W x H) (mm)	REFLECTIVITY	SUBSTRATE / SIGN BLANK #	SCALE RATIO	COL	
R-508	900 x 300	ASTM Level 3	AL SB-49	8	Black	White









R-509-LN-1



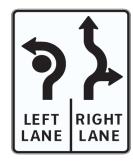
R-509-LN-5



R-509-LN-2

RIGHT

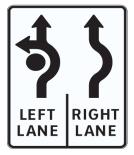
LANE



R-509-LN-3



R-509-LN-7



R-509-LN-4



R-509-LN-8



R-509-LN-9



R-509-LN-6

LEFT

LANE

R-509-LN-10



R-509-LN-11



R-509-LN-12



R-509-LN-13



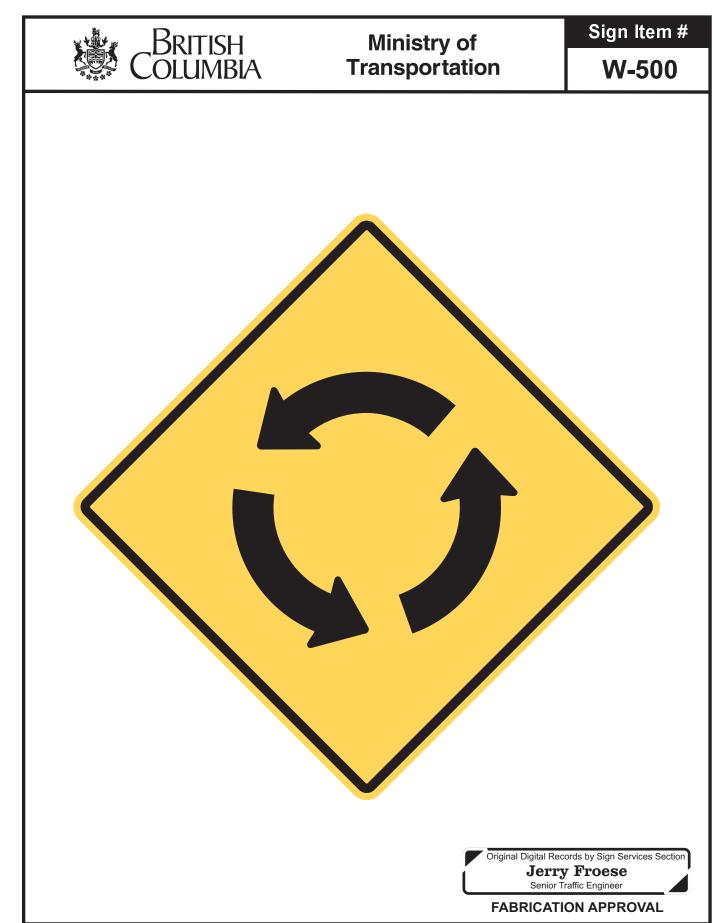
R-509-LN-XX-ONLY (Example: Right Lane)

ONLY

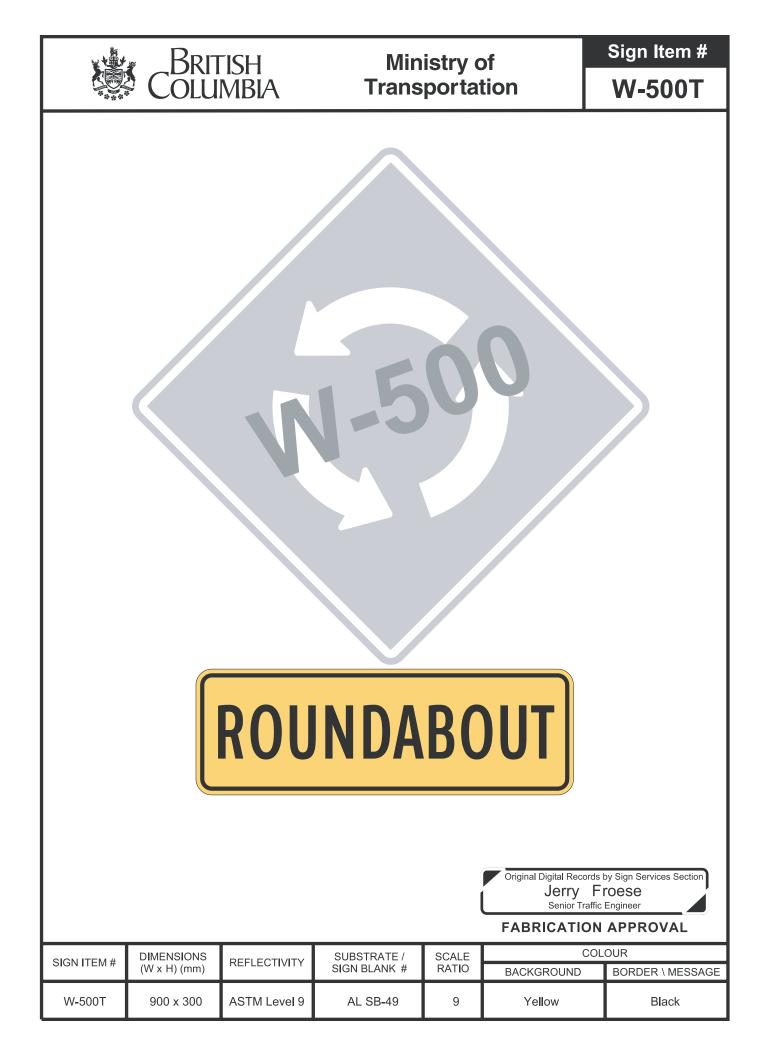
R-509-LN-XX-ONLY – (L or R Lane) The "ONLY" Text may be added to Lane Use Signs to improve driver compliance. The sign is "special" order requiring RTE, and/or STE approval.



This Lane Use Sign can be used with added "Tabs." The Tabs would typically be used in urban areas where advance guide signs did not exist. This sign indicates to approaching drivers of the existance of a multi-lane roundabout so they may get into the appropriate lane for their desired maneouver.



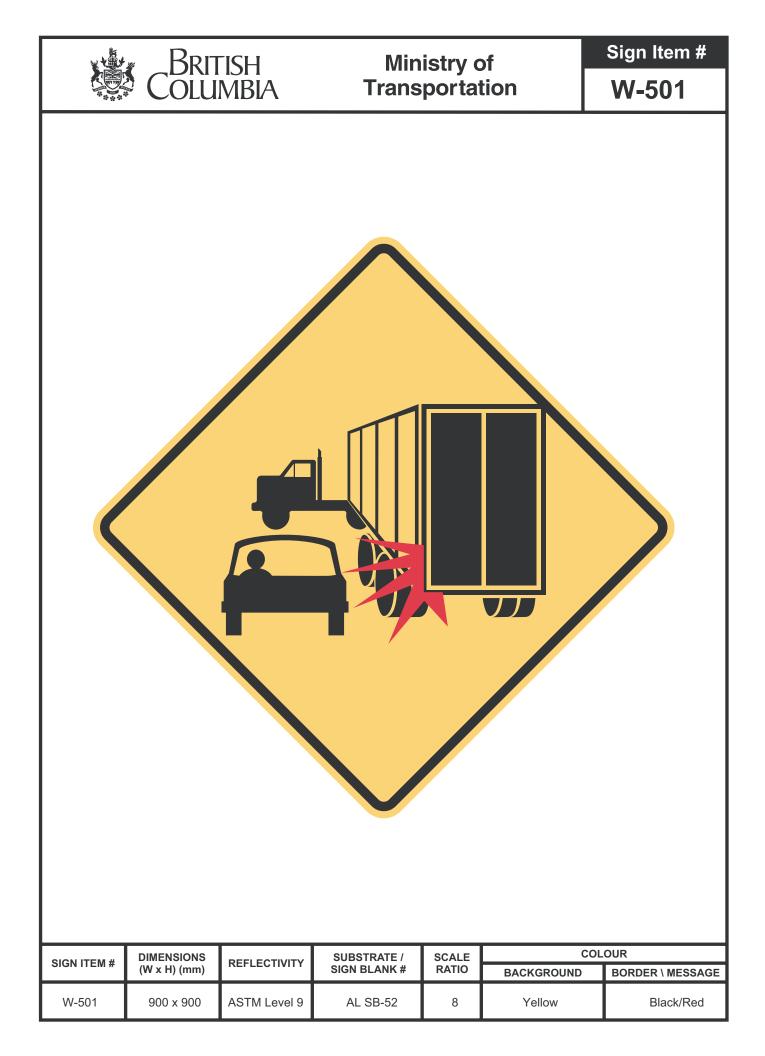
SIGN ITEM #	DIMENSIONS	REFLECTIVITY SUBSTRATE / SIGN BLANK #	SUBSTRATE /	SCALE	COLOUR		
SIGN TIEM #	(W x H) (mm)		RATIO	BACKGROUND	BORDER \ MESSAGE		
W-500	900 x 900	ASTM Level 9	AL SB-52D	8	Yellow	Black	





W-22 SPEED ADVISORY SIGN

May be used on the W-500 Roundabout Ahead Sign as requested by the Regional Traffic Engineer (RTE) or Senior Traffic Engineer (STE).

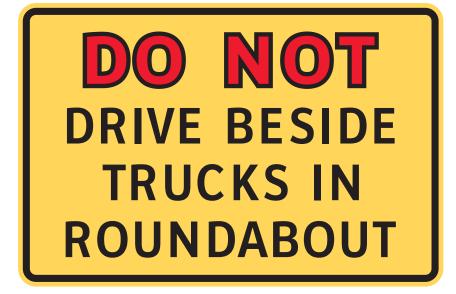






Ministry of Transportation Sign Item #

W-501T



SIGN ITEM #	M # DIMENSIONS REFLECTIVITY SUBSTRATE /		DIMENSIONS DEFLECTIVITY SUBSTRATE /		DIMENSIONS DEFLECTIVITY SUBSTRATE / SCALE	SCALE	COLOUR		
SIGN TIEW #	(W x H) (mm)	W x H) (mm) REFLECTIVITY SIGN BLANK #		RATIO	BACKGROUND	BORDER \ MESSAGE			
W-501t	900 X 600	ASTM Type 9	AL SB-51	8	Yellow	Black / Red			







Page 1 of 2

District: Vancouver Island Higi

Highway: 17

Design Speed: 60Km/h

PARENT SIGN SPECS				TAB SPECS						
Type:G-005Border:Inset 0.64 cmSign Size:3660 mm X 2135 mmWidth 2.54 cmSubstrate:Extruded AluminumInside Radius 15.24 cmReflectivity:ASTM Levels 9 / 3Font:ClearviewHwy 3W 200Color:Wht / GrnShield:RMG 150		Substrate:	G-00X 000.0 cm X 000.0 cm Extruded Aluminum ASTM Levels 3 / 3 Blk Vinyl / Wht / Grn	Font:						
	PARENT SIGN HARDWARE					TAB HARDWARE				
Sign Support J-Clip Assem			n Mount: face Area:	Wood Post 7.814 Sq-m	Sign Support			n Mount: face Area:	Wood Post 0.000 Sq-m	

MODIFIED RECORD FORMATS WILL NOT BE ACCEPTED!



Typical Roundabout Guide Signing used on BC MoT Roadways

Roundabout Signs:

R-500 - 1, 2, 3 series signs

Roundabout Directional Sign.

The roundabout Directional Sign indicates to approaching roadusers the "one-way" direction they must follow when traveling in a roundabout. The roundabout sign is placed on the centre island of the roundabout in a location such that it is directly "In The Line Of Sight" of approaching roadusers. Additional R-500 -1 & 2's may also be added to the approaching splitter islands as requested by the Regional Traffic Engineer (RTE), or Senior Traffic Engineer (STE). The standard sign size is the R-500-3 at 1520 X 600 mm and the reflectivity of the sheeting is "Type 9." On smaller diameter roundabouts, the R-500-1 or -2 may be used. On very large diameter roundabouts the directional signs may be combined longitudinally for more visible impact. Minimum height above ground to bottom of the sign is 600 mm. In areas impacted by snowfall, the height to bottom of the sign may be increased to a maximum of 1.2 metres above ground.





R-500-2



R-500-3



<u>R-502 -1 tab</u>

Yield To Traffic In Roundabout Tab Sign

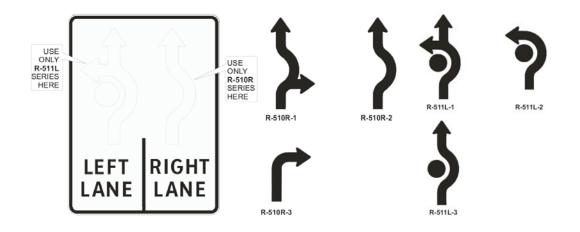
The "Yield To Traffic In Roundabout" Tab sign is used in conjunction with the R-002 Yield Sign to help familiarize roadusers as to their operational responsibilities at the entrance to a roundabout. The Roundabout R-502-1 tab sign is optional. The R-502-1 tab is placed below the R-002 sign.



R-509, (R-510R, R-511L)

Multi-Lane Roundabout Lane Use Sign

Roundabout Lane Use Signs are used on multi-lane roundabout approaches where the permitted movement in one or more approach lanes is indicated to approaching roadusers. Roundabout Lane Use signs shall be used on multi-lane roundabouts and may be installed overhead or on the right side of the road. Typically the roundabout lane use signs are positioned approximately 50 metres back from the **Yield Line** of the roundabout. Confirmatory roundabout lane use signs may be added to the roundabout and are located approximately 60 metres to 120 metres back from the primary roundabout lane use signs. Where a raised median exists, supplementary roundabout lane use signs may be placed on the left side of the road. Roundabout lane use signs are often supplemented by lane use pavement marking arrows.



R-507 name tab

Multi-Lane Roundabout Lane Use "Roundabout" Tab Sign

The Multi-Lane Roundabout Lane Use "Roundabout" Tab sign is used in conjunction with the R-509 Multilane Roundabout Lane Use sign to help roadusers associate the Diagrammatic R-509 Lane Use sign to multi-lane roundabouts. The Roundabout R-507 tab sign is optional and is used primarily in urban locations where the diagrammatic type advance direction guide sign and/or W-500 Roundabout Ahead sign is not provided. The R-507 "Roundabout" tab is placed above the R-509 Multi-lane Roundabout Lane Use sign.



R-508 name tab

Multi-Lane Roundabout Lane Use "Get In Lane" Tab Sign

The Multi-Lane Roundabout Lane Use "Get In Lane" Tab sign is used in conjunction with the R-509 Multilane Roundabout Lane Use sign to inform roadusers they must get into the appropriate lane to make their desired maneuver through a multi-lane roundabouts. The Roundabout R-508 tab sign is optional and is used primarily in urban locations where the diagrammatic type advance direction guide sign and/or W-500 Roundabout Ahead sign is not provided. The R-508 "Get In Lane" tab sign is placed above the R-509 Multilane Roundabout Lane Use sign and below the R-507 ""Roundabout" tab sign.





<u>W-500</u>

Roundabout Ahead Sign

The Roundabout Ahead Sign indicates to roadusers that they are approaching a Roundabout. The sign is placed in advance of a roundabout, and are generally necessary where the presence of the roundabout may be unexpected and where the diagrammatic type advance direction guide sign is not provided. They should be used where approach speeds are high (>= 70 km/hr), particularly where there is restricted sight distance to the roundabout to give added warning of the roundabout ahead. The Roundabout Ahead sign is optional in an urban residential environment for non-numbered highways/roads whose functional classification is similar to, or that of "Local Road" or "Collector." The Roundabout Ahead sign is optional <u>between</u> "back to back" roundabouts of <= 750 metres separation (Example: Diamond Interchanges). The roundabout ahead sign may be supplemented by the optional W-22 (30 km/hr) Speed Advisory Tab as specified by the Regional Traffic Engineer (RTE), or Senior Traffic Engineer (STE).



W-500T tab

Roundabout Tab Sign

The Roundabout Tab sign is used in conjunction with the W-500 Roundabout Ahead Sign to help familiarize roadusers as to what the Diagrammatic W-500 Roundabout Ahead Sign symbolizes. The Roundabout W-500T tab sign is optional. The W-500T tab is placed below the W-500 sign.



<u>W-501</u>

Do Not Drive Beside Trucks In Roundabout Sign

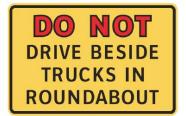
The Do Not Drive Beside Trucks In Roundabout Tab sign is used at multilane roundabouts as specified by the Regional Traffic Engineer (RTE), or Senior Traffic Engineer (STE). It is generally considered for use on the approach to smaller diameter multilane roundabouts where "over-tracking" by commercial truck traffic within the roundabout is common.

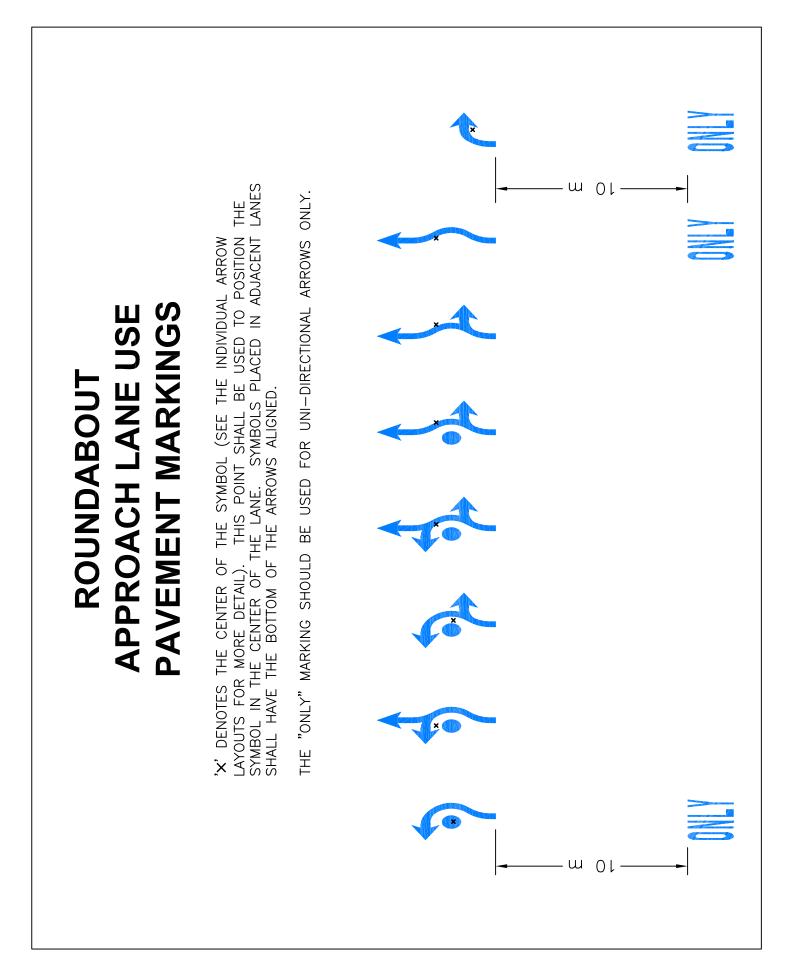


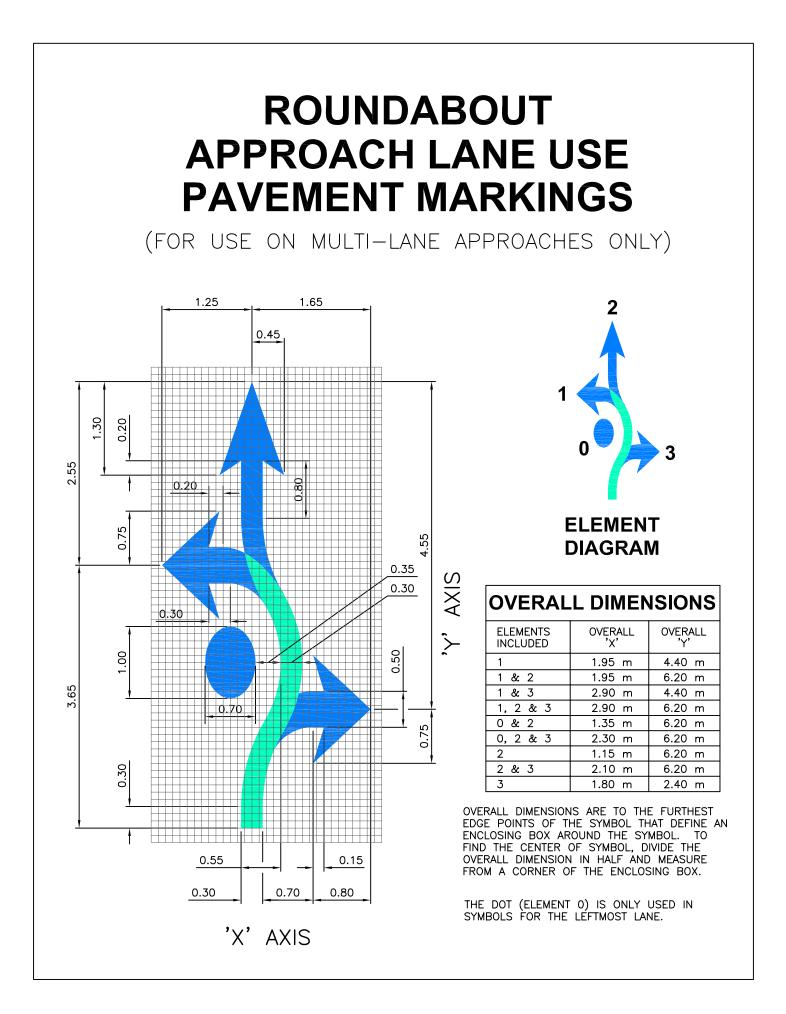
<u>W-501T tab</u>

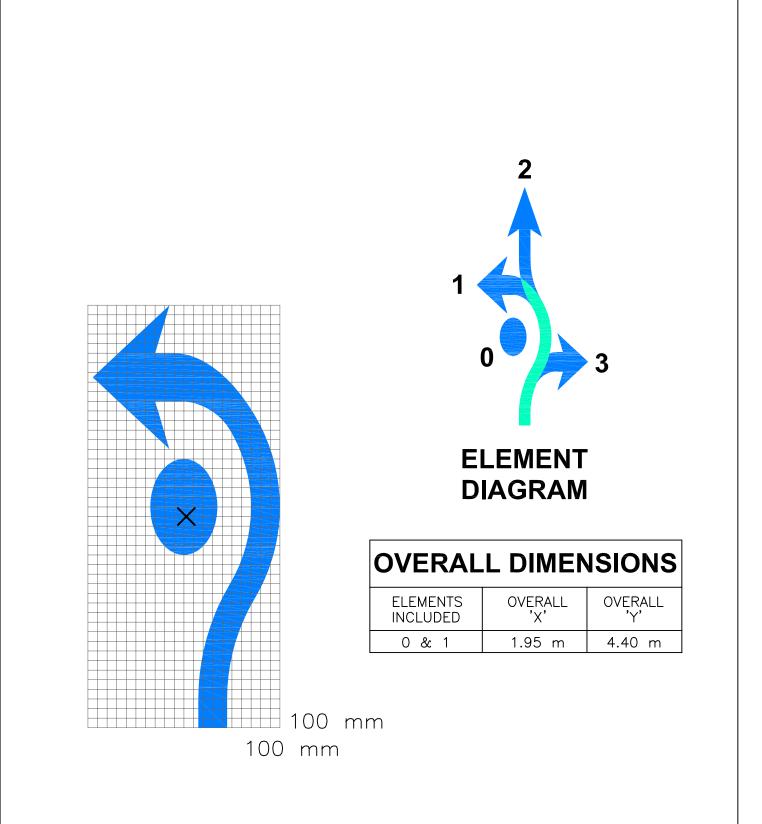
Do Not Drive Beside Trucks In Roundabout Sign tab

The Do Not Drive Beside Trucks In Roundabout Tab sign is used in conjunction with the W-501 Do Not Drive Beside Trucks In Roundabout sign to help familiarize roadusers as to what the Diagrammatic W-501 Do Not Drive Beside Trucks In Roundabout sign symbolizes. The W-501T tab is placed below the W-501 sign.

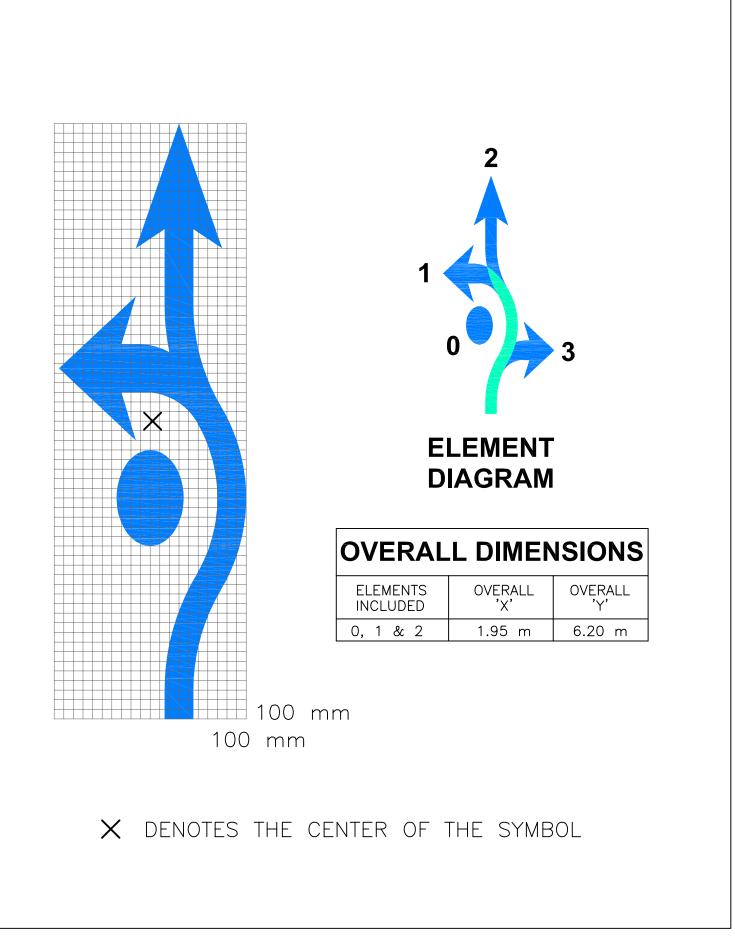


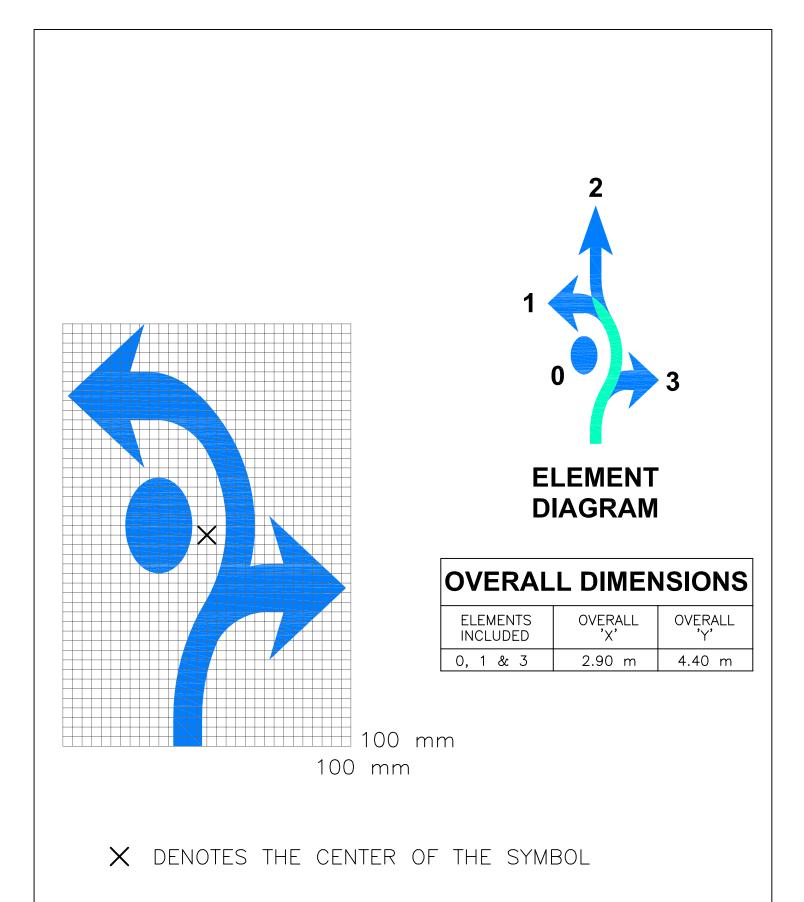


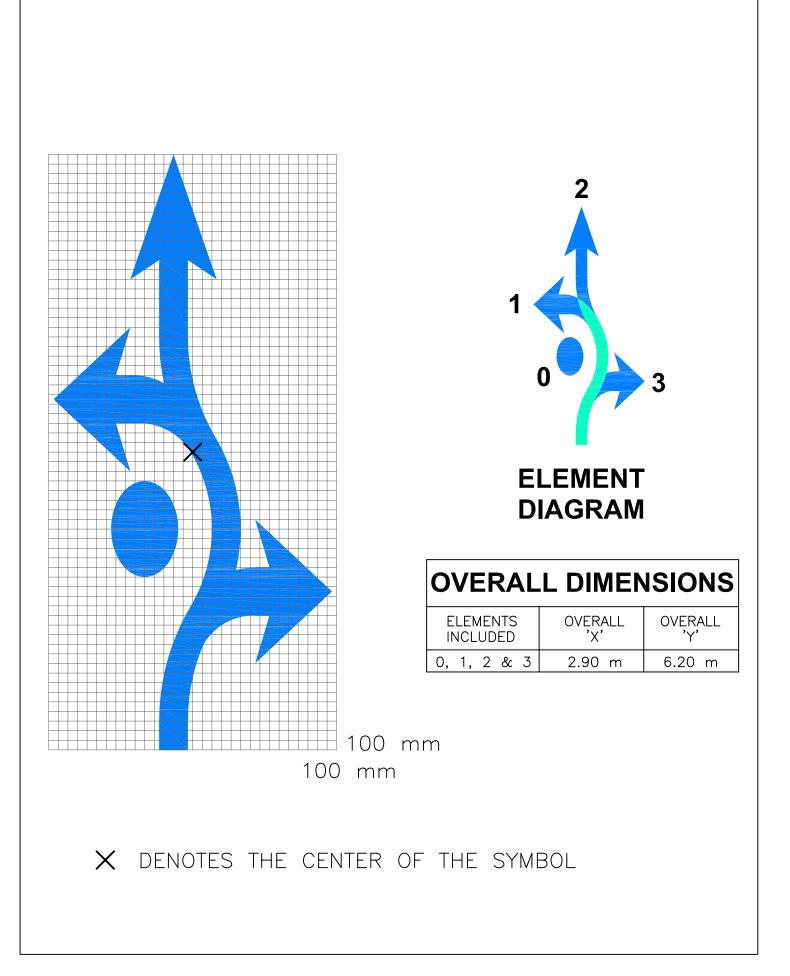


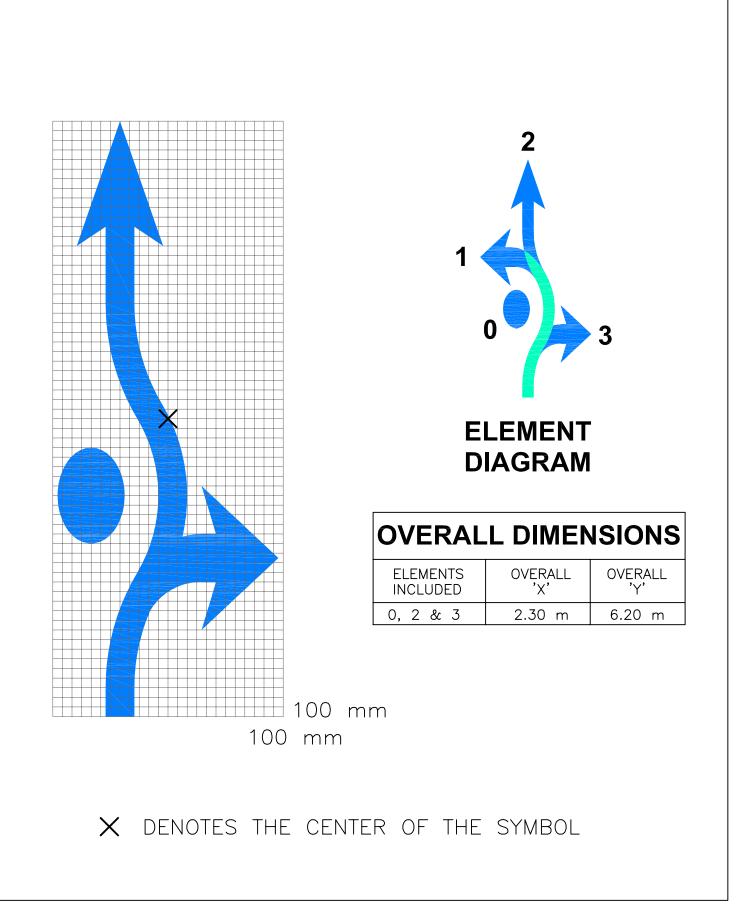


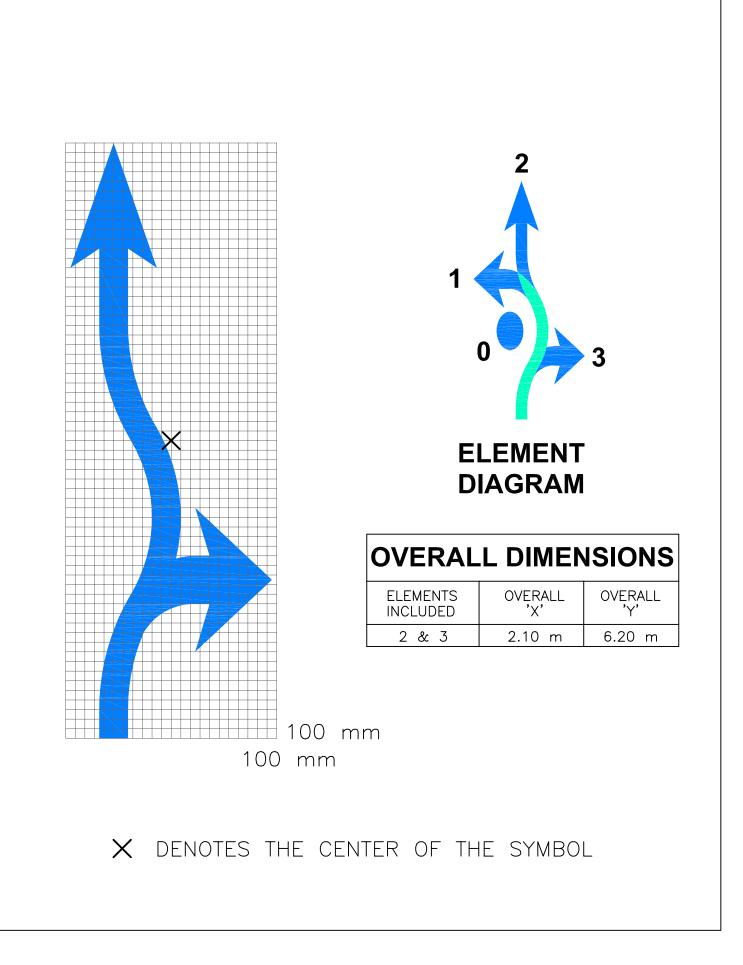
 $\boldsymbol{\mathsf{X}}$ denotes the center of the symbol

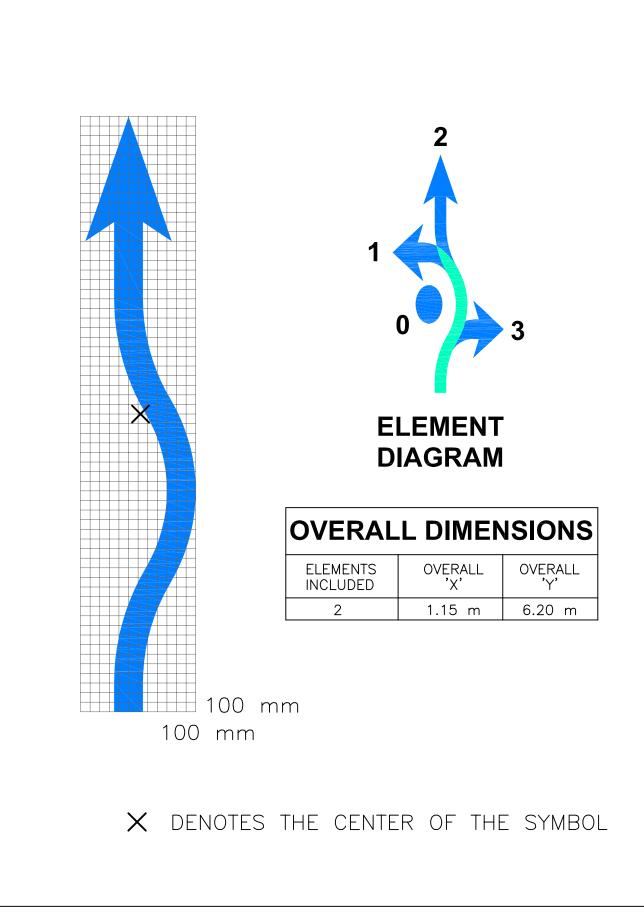


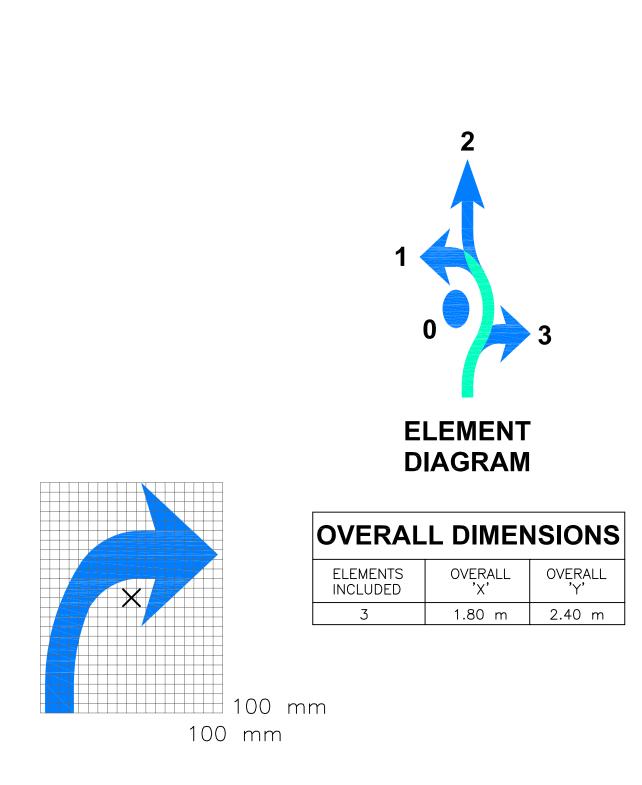




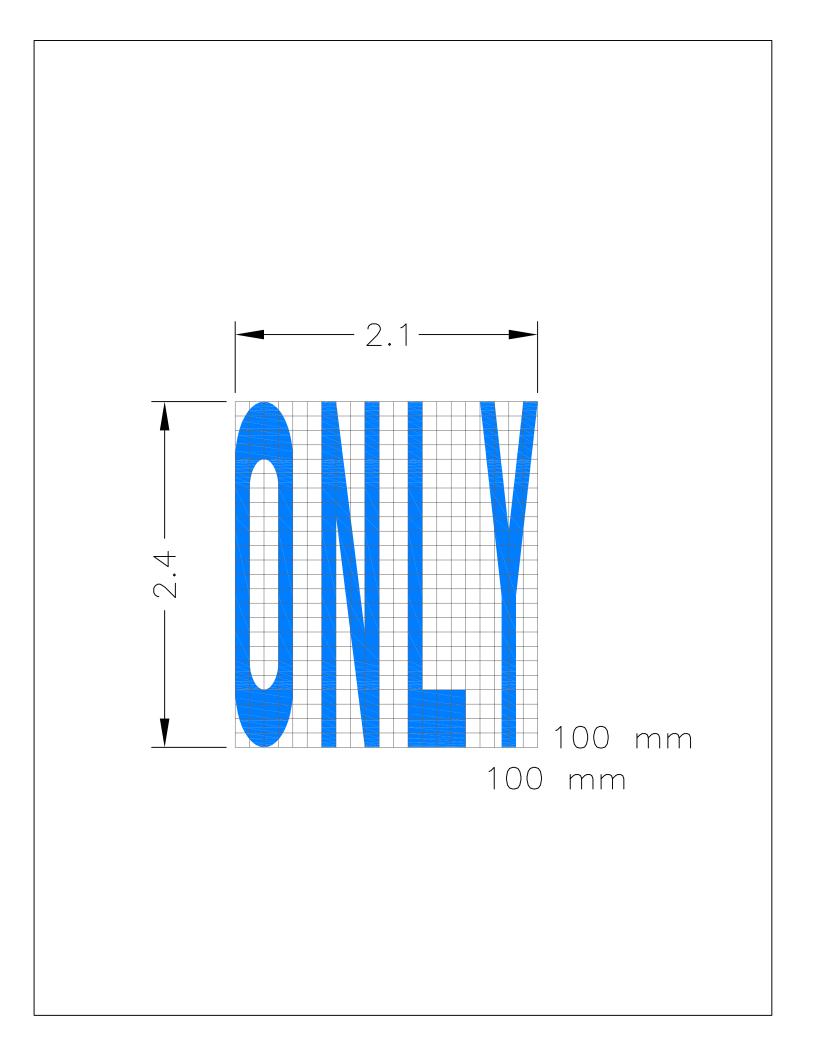




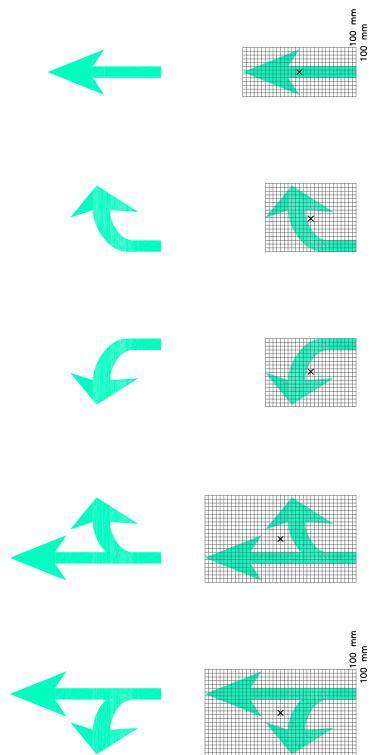




igma denotes the center of the symbol



PAVEMENT MARKINGS (INSIDE A MULTI-LANE ROUNDABOUT) ROUNDABOUT ANE USE



X DENOTES THE CENTER OF THE SYMBOL

Figure 1 Example of Markings for a Two-Lane Roundabout with One- and Two-Lane Approaches. No lane arrows within roundabout – typical of smaller diameter roundabouts.

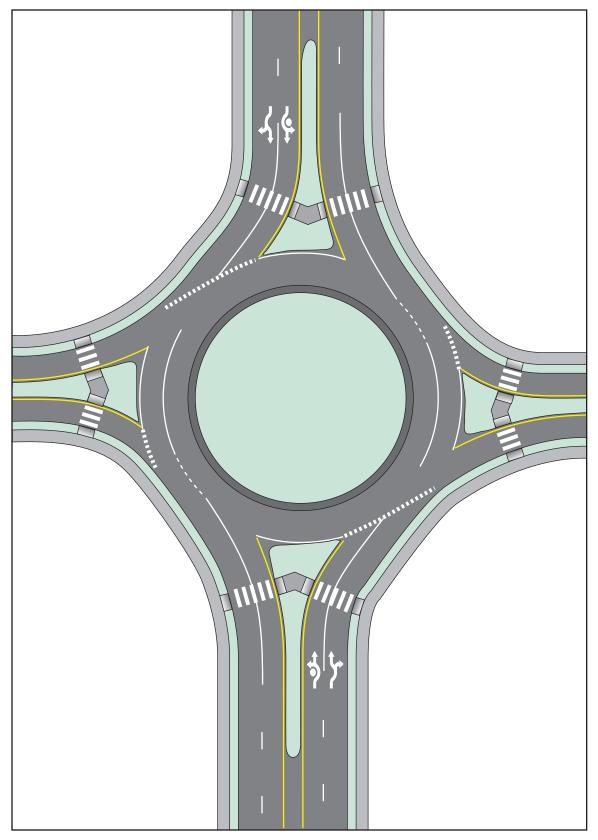
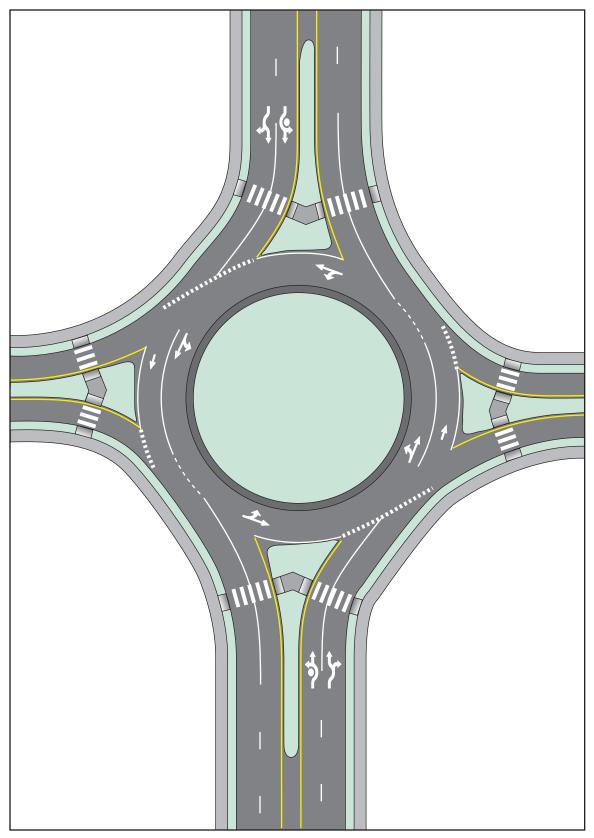
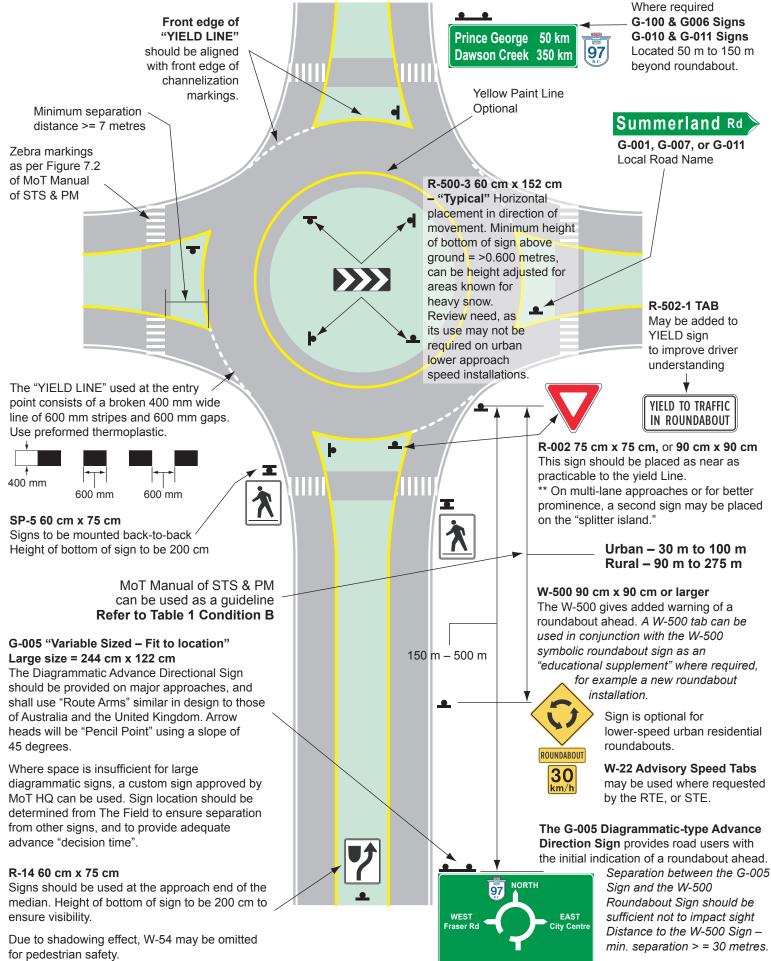


Figure 2 Example of Markings for a Two-Lane Roundabout with One- and Two-Lane Approaches. Lane arrows included within roundabout – typical of larger diameter roundabouts.



Mot SINGLE LANE ROUNDABOUT SIGNING GUIDE – December 2005

*** MULTI-LANE WILL BE SIMILAR FOR REGULATORY AND WARNING SIGNS



MoT MULTI-LANE ROUNDABOUT PAVEMENT MARKING – December 2005

