

ISSUE	APPROVED BY	DATE	AMENDMENT
-	M-SSE	07/2020	SUPERSEDES SD3511

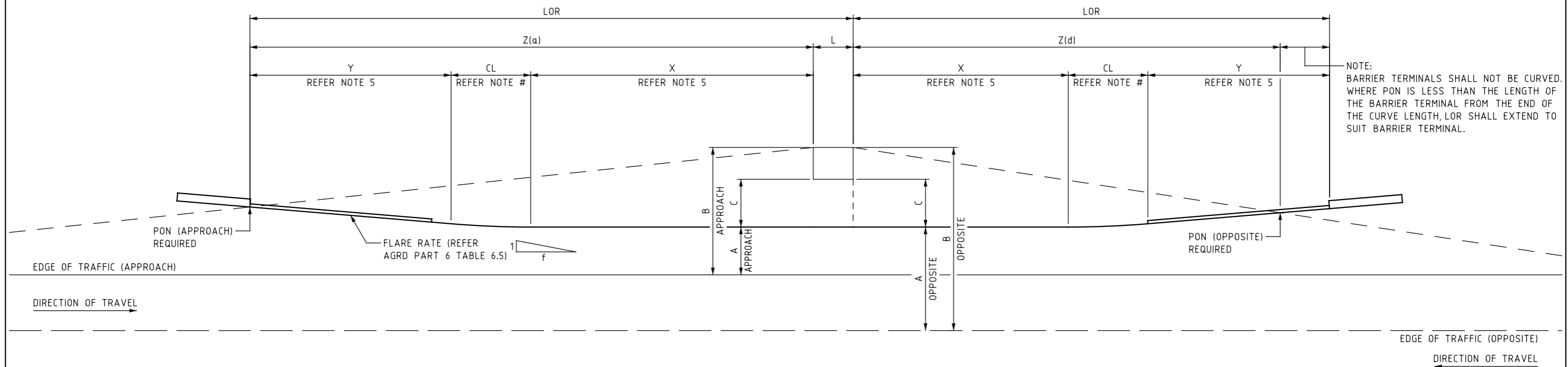


TABLE A - LENGTH "Z" FOR LINE A SAFETY BARRIERS (m) (SEE NOTE 4, 6 AND 7)

PROTECTED WIDTH "B" (m)	15			13			11			9			8			7			6			5			4			3			2.5			
	SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			SPEED (km/h)			
"A" SAFETY BARRIER OFFSET FROM TRAFFIC LANE (m)	0.5*	85	75	65	80	70	65	80	70	65	75	65	60	70	60	55	65	60	55	60	55	50	55	50	50	50	45	45	40	40	40	45	40	40
	1*	80	70	65	80	70	65	75	65	60	70	60	55	65	60	55	60	55	50	55	50	45	50	45	45	45	40	40	35	35	35	35	35	35
	2*	75	65	60	75	65	60	65	60	55	60	55	50	55	50	45	50	45	45	45	40	40	40	35	35	30	30	25	30	30	30	30	25	25
	3	70	60	55	65	60	55	60	55	50	55	45	45	50	45	40	40	40	35	35	30	30	30	25	25	25	25	25	25	25	25	25	25	25
	4	65	55	50	60	50	50	55	45	45	45	40	35	40	35	30	35	30	30	25	25	20	25	20	20	25	20	20	25	20	20	25	20	20
	5	60	50	50	55	45	45	45	40	35	35	30	30	30	25	25	25	20	20	20	20	15	20	20	20	20	20	15	20	20	15	20	20	15
	6	55	45	45	50	40	40	40	35	30	30	25	25	20	20	20	20	15	15	20	20	15	20	20	15	20	20	15	20	20	15	20	20	15
	7	50	40	40	45	35	35	35	30	25	35	30	25	20	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	8	45	35	35	35	30	30	25	25	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	9	35	35	30	30	25	25	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	10	30	30	25	25	20	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	11	25	25	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	12	20	20	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	13	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

TABLE A NOTES:

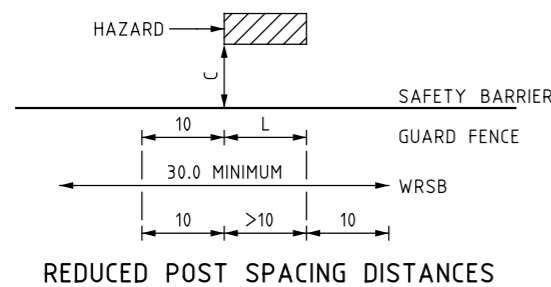
- * OFFSETS LESS THAN 3.0m REQUIRE RELEVANT AUTHORITY. REFER VRS TO AGRD PART 6.
- ** "Z" VALUES MAY BE MULTIPLIED WITH AADT FACTOR IN TABLE B

TABLE B - VEHICLES/DAY (AADT) FACTOR

AADT	SPEED							
	110	100	90	80	70	60	50	
> 10,000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5,000 - 10,000	0.92	0.76	0.74	0.73	0.70	0.67	0.54	
1,000 - 5,000	0.80	0.64	0.61	0.61	0.60	0.57	0.48	
< 1,000	0.69	0.61	0.60	0.58	0.54	0.50	0.42	

NOTES:

- ALIGNMENT DETAILS IN THIS DRAWING APPLY TO ALL ACCEPTED SAFETY BARRIER PRODUCTS, WITH THE EXCEPTION OF WRSB WHICH SHALL REFER TO GD6221 FOR FLARED TERMINALS.
- DETAILS IN THIS DRAWING ARE FOR BARRIERS ON STRAIGHT SECTIONS OF ROAD. "Z" VALUES FOR CURVED SECTIONS OF ROAD SHALL USE THE "RUN-OUT LENGTH METHOD" IN ACCORDANCE WITH AGRD PART 6, SECTION 6.3.19 AND VRS TO AGRD PART 6, TABLE 6.9.
- TABLE A IS CALCULATED USING THE 'RUN-OUT LENGTH' METHOD AS DESCRIBED IN AGRD PART 6, WITH 'Lr' VALUES FROM VRS TO AGRD PART 6 TABLE 6.9
- VALUES OF "Z" IN TABLE A ARE MINIMUM VALUES CALCULATED FROM A CURVE LENGTH OF 5m WITH APPROXIMATELY A 60m RADIUS AND FLARE RATE OF 12:1. SEE NOTE 6 FOR APPLICATION WITH OTHER BARRIER TYPES AND RESTRICTIONS. SEE NOTE 7 FOR OTHER AADT VOLUMES.
- DIMENSIONS X AND Y ARE CALCULATED FROM Z VALUES, IN ACCORDANCE WITH THE 'X, Y AND Z VALUES' FIGURE. MINIMUM X VALUE IS 5m FOR GUARD FENCE AND 10m FOR WRSB.
- VALUES OF X, Y AND Z MAY ALSO BE CALCULATED FROM THE X, Y AND Z FIGURE USING Lr VALUES SPECIFIED IN AGRD PART 6. VALUES SHALL BE A MULTIPLE OF THE SAFETY BARRIER UNIT LENGTH (e.g. 5m FOR GUARD FENCE) AND ROUNDED UP TO SUIT.
- FOR OTHER AADT VOLUMES, "Z" VALUES IN TABLE A MAY BE MULTIPLIED BY THE AADT FACTOR IN TABLE A AND ROUNDED TO THE CLOSEST WHOLE BARRIER UNIT LENGTH. VALUES CALCULATED FROM THE X, Y AND Z VALUES FIGURE ALREADY CONSIDER AADT VOLUMES AND SHALL NOT USE AADT FACTORS IN TABLE A. FUTURE TRAFFIC VOLUMES AT THE SITE SHALL BE CONSIDERED WHEN USING AADT FACTORS IN TABLE A.
- IF THE TERMINAL CAN BE IMPACTED BY OPPOSING TRAFFIC, USE AN APPROVED APPROACH TERMINAL IN ACCORDANCE WITH RDN 06-04.



X, Y AND Z VALUES

$$X = \frac{Z}{2} \quad Y = X - CL$$

$$Z = \frac{B - A + \left(\frac{CL}{2f}\right)}{\left(\frac{1}{2f} + \frac{B}{Lr}\right)}$$

Lr: RUN-OUT LENGTH VALUES IN ACCORDANCE WITH AASHTO 2011 AND VRS PART 6 TABLE 6.3.19

f: FLARE RATE IN ACCORDANCE WITH AGRD PART 6 AND SUPPLEMENTS

CL: RESULT OF FLARE RATE AND MINIMUM CURVE RADIUS SHOULD MATCH BARRIER UNIT LENGTH. (e.g. GF= 5m)

- NOTES:
- ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
 - THIS DRAWING FORMS PART OF THE VRS TO AGRD PART 6 AND SHOULD BE READ IN CONJUNCTION WITH THOSE REFERENCES.
 - SAFETY BARRIERS SHALL BE VICROADS ACCEPTED PRODUCTS IN ACCORDANCE WITH RDN 06-04.
 - RUN-OUT AREA REQUIREMENTS IN ACCORDANCE WITH GD6211 AND GD6221.

- REFERENCES:
- | | | | |
|-----------|----------------------------------|--------|---|
| RDN 06-02 | USE OF WIRE ROPE SAFETY BARRIERS | GD6000 | TERMINOLOGY, SHORTHAND AND GENERAL REQUIREMENTS |
| RDN 06-04 | ACCEPTED SAFETY BARRIER PRODUCTS | GD6101 | SAFETY BARRIER OFFSETS |
| RDN 06-08 | USE OF STEEL GUARD FENCE | GD6112 | - CLEARANCES TO TRAFFIC LANE AND KERB |
| SD3501 | GUARD FENCE LOCATION PROCEDURE | GD6211 | SAFETY BARRIER LENGTH OF NEED - LINE B |
| SD4311 | WRSB LOCATION PROCEDURE | GD6221 | RUN-OUT AREA DETAILS - G.R.E.A.T's |
| | | GD6221 | RUN-OUT AREA DETAILS - WRSB TERMINALS |



AGRD PART 6
SAFETY BARRIER LENGTH OF NEED
LINE A

NOT TO SCALE	APPROVED M-SSE	GD NO. 07/2020	ISSUE GD6111
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