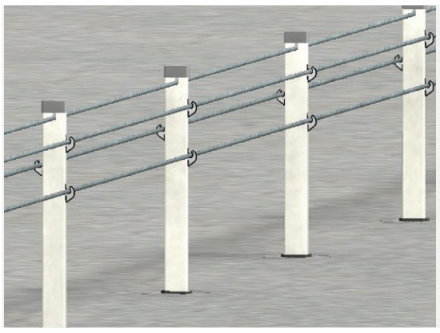
Detail Sheet

Sentryline-M Wire Rope Barrier System

Product summary

Status	Accepted
Category	Permanent – Flexible Longitudinal Barriers
Test Level	Test Level 3 & 4 (MASH): **100 km/h** (refer to design requirements)
Supplier	Australian Construction Products
Description	Wire Rope Safety Barrier comprising four (4) tensioned wire ropes supported by rectangular steel posts.



Introduction and purpose

This detail sheet supplements *VicRoads' Road Design Note 06-04 - Accepted Safety Barrier Products*. Please refer to RDN 06-04 for the current VicRoads acceptance status, information on the product assessment process and general acceptance conditions.

The technical details within this document have been extracted from information submitted to VicRoads by the Supplier and the recommended 'Conditions for Use' from the Austroads Safety Barrier Assessment Panel (ASBAP).

VicRoads requirements take precedence over the product manual and Austroads conditions. Where a departure from these requirements is required, users should understand the risks and document their engineering decisions.

For more detailed product information, refer to the individual product manual or contact the System Supplier.

Technical information

The Sentryline-M Wire Rope Barrier System should be designed, installed and maintained in accordance with the following VicRoads conditions for use.

These conditions for use have been based on an Austroads assessment of technical performance against AS/NZS 3845 and contain VicRoads specific requirements when necessary.

Typical installation arrangement shown above.

Summary Conditions for Use

Accepted configuration	Sentryline-M Wire Rope Barrier System
Variants	Nil
Deflection	3.02 m
Product manual reviewed	Rev B June 2020
ASBAP issue	19 June 2020

Refer VicRoads conditions for use (below).

VicRoads Conditions for Use

Tested design requirements

Containment level	Point of Redirection (m)*		Minimum length of barrier (m)	Anchor/Post Spacing (m)*	Dynamic deflection (m)	Working width (m)	Notes
	Leading	Trailing					
MASH TL-3	13.5m from anchor		165	3.0	3.02	3.02	
MASH TL-4	13.5m from anchor		165	3.0	3.02	3.05	

Approved Terminals and Connections

Crash Cushions or Terminals must be fitted to both ends of a barrier	
Public Domain Products	
W-Beam Guardrail	Not permitted
Thrie-Beam Guardrail	Not permitted
Type F Concrete Safety Barrier	Not permitted
Proprietary Products	
Sentryline-M Terminal End	• Non-release terminal. • This is a gating terminal. Gating terminals shall have a run-out area behind the terminal that is traversable and free of hazards. The run-out area is to be 18.5 m x 6 m from the point of redirection.

Design Guidance

Minimum installation length	165 metres between crash cushions/terminals (tested article)
System width (m)	0.3
Installation	This product must be installed and maintained in accordance with the Product Manual and Road Agency specifications. Road Agency specifications and standards shall have precedence.
Minimum distance to excavation	Recorded dynamic deflection
Slope limit	Side slope limit: 10 Horizontal to 1 Vertical (10%). Side slopes must be considered to minimise manual handling risks and site conditions.
Systems conditions	Installation on top of a kerb is not recommended.
Gore area use	Permitted
Pedestrian area use	Permitted – consider potential for snagging and deflection.
Cycleway use	Permitted – consider potential for snagging and deflection.
Frequent impact likely	Permitted
Remote location	Permitted
Median use	Permitted

Foundation pavement conditions

Submitted Foundation Pavement Conditions					
Pavement	**Use**	**Accepted Speed (max)**	**Post/pin spacing (m)**	**Post/pin type**	**Pavement construction**
Concrete	Permitted	100 km/h	3.0	Posts in 300mm diameter x 750mm deep concrete footings	Minimum AASHTO standard soil with coring holes
Deep lift asphaltic concrete	Permitted	100 km/h	3.0	Posts in 300mm diameter x 750mm deep concrete footings	
Asphaltic concrete over granular pavement	Permitted	100 km/h	3.0	Posts in 300mm diameter x 750mm deep concrete footings	
Flush seal over granular pavement	Permitted	100 km/h	3.0	Posts in 300mm diameter x 750mm deep concrete footings	
Unsealed compacted formation	Permitted	100 km/h	3.0	Posts in 300mm diameter x 750mm deep concrete footings	

Note: Installation in pavement conditions not listed above have not been justified to the Panel's satisfaction.

Other considerations and comments

Minimum length of barrier

Refer VRS to AGRD Part 6; While shorter lengths than the tested article length are possible, the designer must consider how this will affect other performance values (e.g. deflection). Designers should consult with the product supplier or mitigate the risk through additional controls, such as reducing the posted speed.
In general, an alternate barrier type should be considered when shorter than the following: 60m.

Installation

Must conform to the requirement listed in references below, including full compliance of Specification 711.

Damaged components

Damaged components must be replaced. Repaired components must not be used.

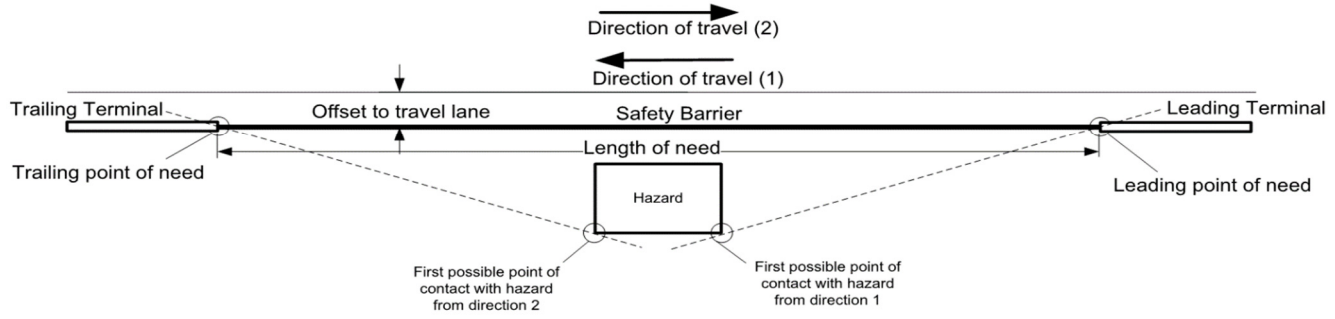
References

- VicRoads Supplement to Austroads Guide to Road Design – Part 6.
- VicRoads Road Design Note 06-04 Accepted Safety Barrier Products.
- Product Installation Manual and Product Operational Manual refer licensed product supplier website.
- VicRoads Standard Section 711 – Wire Rope Safety Barrier (WRSB)
- VicRoads Road Design Note 06-02 The Use of Wire Rope Safety Barriers (WRSB).
- VicRoads Standard Drawing SD2001 – Kerb types
- VicRoads Standard Drawing SD3573 – Guidance on the verge and permissible slopes
- VicRoads Standard Section 204 – Earthworks

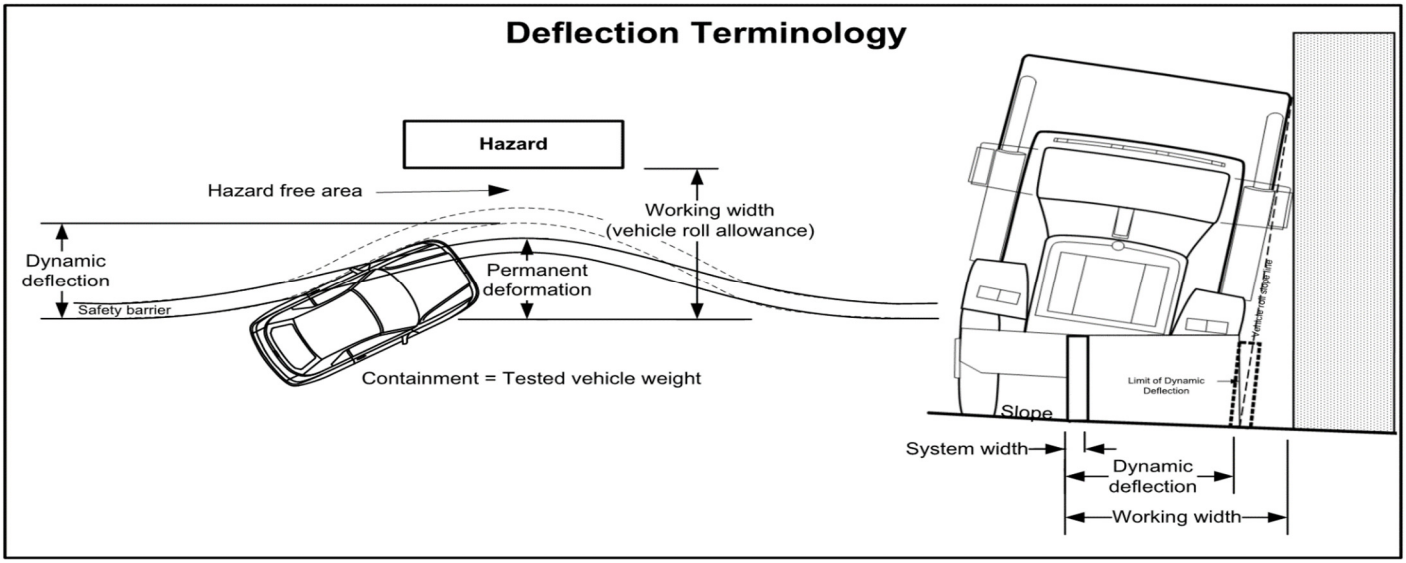
Detail Sheet – Update Summary

Issue	Approved	Amendment
Sep 2020	M-RD&SSE	First edition

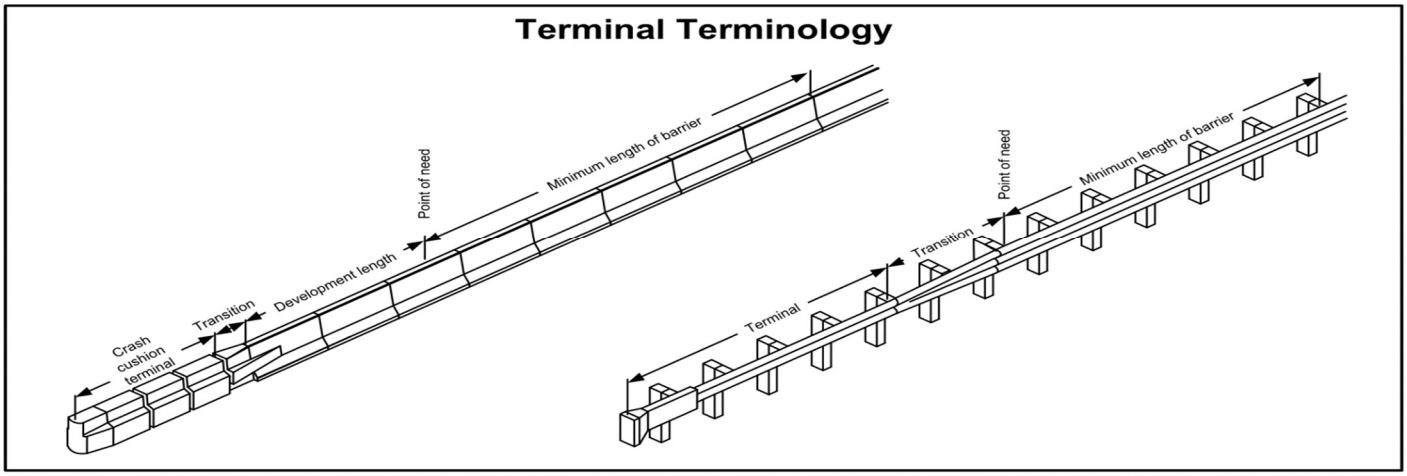
Design Terminology



Deflection Terminology



Terminal Terminology



Flare Terminology