Detail Sheet

INGAL MPR (Motorcyclist Protection Rail)

Product summary

Status	Accepted
Category	Permanent – Motorcycle Safety Products
Test Level	UNE 135900 Impact Severity Level 1: **100km/h**
Supplier	Ingal Civil Products
Description	INGAL MPR is a motorcyclist safety barrier system that attaches to EZYGUARD guard fence

Introduction and purpose

This detail sheet is intended to supplement *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 INGAL MPR (Motorcyclist Protection Rail) Steel Component – Permanent 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.

Summary Conditions for Use

Accepted configuration	INGAL MPR (Motorcyclist Protection Rail) Steel Component – Permanent with End Piece
Variants	Nil Variants that are NOT listed above are NOT recommended for acceptance.
Deflection	N/A.
Product manual reviewed	Conditions are based on drawings ICP-MPR-001, ICP-MPR-002, TER000046 and the Product Manual dated July 2015
ASBAP issue	8 January 2016

Refer VicRoads conditions for use (below).

VicRoads Conditions for Use

Tested design requirements

Containment level	Speed (km/h)	Vehicle mass (kg)	Point of Redirection (m)*		Minimum length of barrier (m)	Post/Pin Spacing (m)*	Dynamic deflection (m)	Working width (m)	Notes
			Leading	Trailing					
UNE 135900-1,2:2008 TM1.60	Refer EZY-GUARD SMART Technical Conditions for Use								Dummy tested to UNE 135900 Impact Severity Level 1.
UNE 135900-1,2:2008 TM3.60									

Approved Terminals and Connections

Crash Cushions or Terminals must be fitted to both ends of a barrier	
Public Domain Products	
W-Beam Guardrail	Permitted on trial basis only.
Thrie-Beam Guardrail	Not permitted
Type F Concrete Safety Barrier	Not permitted
Proprietary Products	
EZY-GUARD SMART Steel Rail Safety Barrier – Permanent.	Permitted on EZY-GUARD SMART in accordance with the EZY-GUARD SMART Detail Sheet.

Design Guidance

System width (m)	Not Applicable
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	Not Applicable
Slope limit	Side slope limit: 10 Horizontal to 1 Vertical (10.0%).
Systems conditions	1. End piece must be fitted to both ends of component. 2. The end pieces must not be within a curve or terminal.
Minimum installation distance from batter hinge point of the slope (m)	Not Applicable.
Gore area use	Not 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 – where rear impact is not possible

Foundation pavement conditions

Submitted Foundation Pavement Conditions					
Pavement	**Use**	**Accepted Speed (max)**	**Post/Pin spacing (m)**	**Pavement construction**	**Post/pin type**
Concrete	Not applicable				
Deep lift asphaltic concrete					
Asphaltic concrete over granular pavement					
Flush seal over granular pavement					
Unsealed compacted formation					
Natural surface					

Other considerations and comments

Design & Installation

Must conform to the requirement listed in references below, including full compliance of Specification 708.

Damaged Components

Damaged components must be replaced and repaired components must not be used.

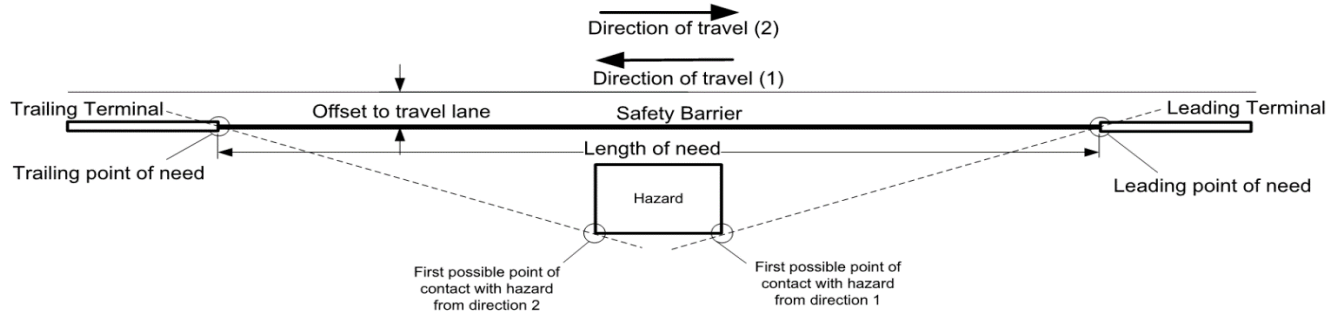
References

- Austroads Guide to Road Design – Part 6.
- Product Installation Manual and Product Operational Manual refer licensed product supplier website.
- VicRoads Road Design Note 06-04 Accepted Safety Barrier Products.
- VicRoads Road Design Note 06-08 The Use of Guard Fence.
- VicRoads Standard Drawing SD2001 – Kerb types
- VicRoads Standard Drawing SD3573 – Guidance on the verge and permissible slopes
- VicRoads Standard Section 204 – Earthworks
- VicRoads Standard Section 708 – Steel Beam Guard Fence
- VicRoads Supplement to Austroads Guide to Road Design – Part 6.

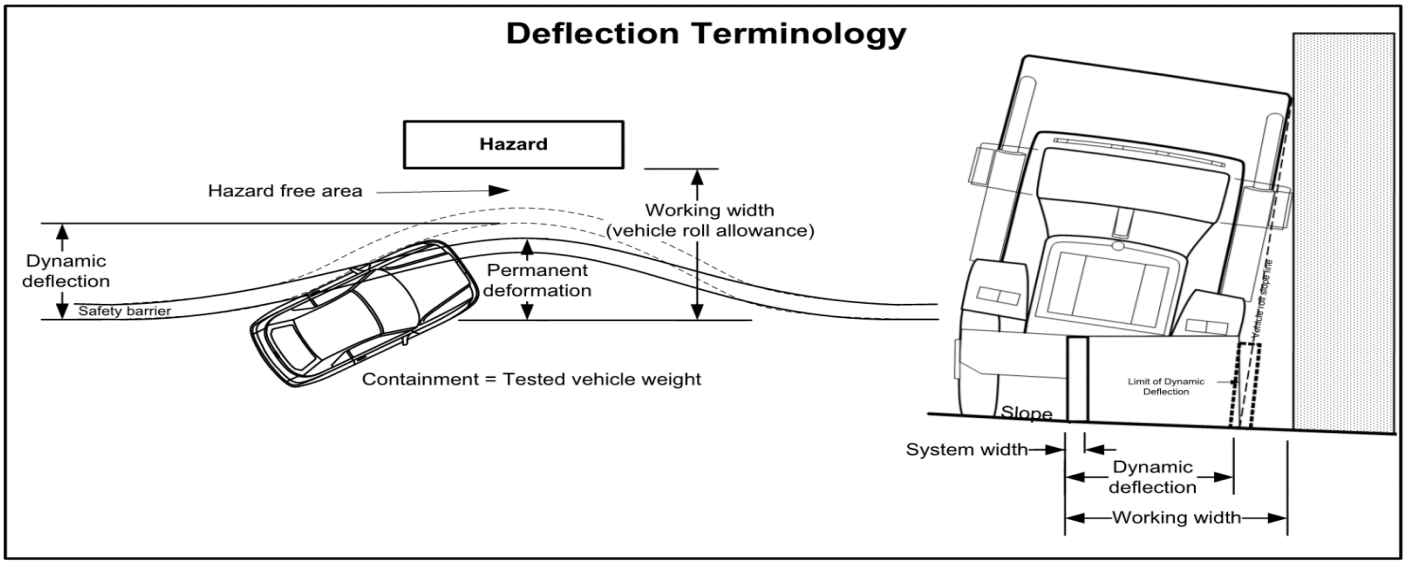
Detail Sheet – Update Summary

Issue	Approved	Amendment
March 2016	M-RS&T	First edition
March 2019	M-SSE	New format Testing information

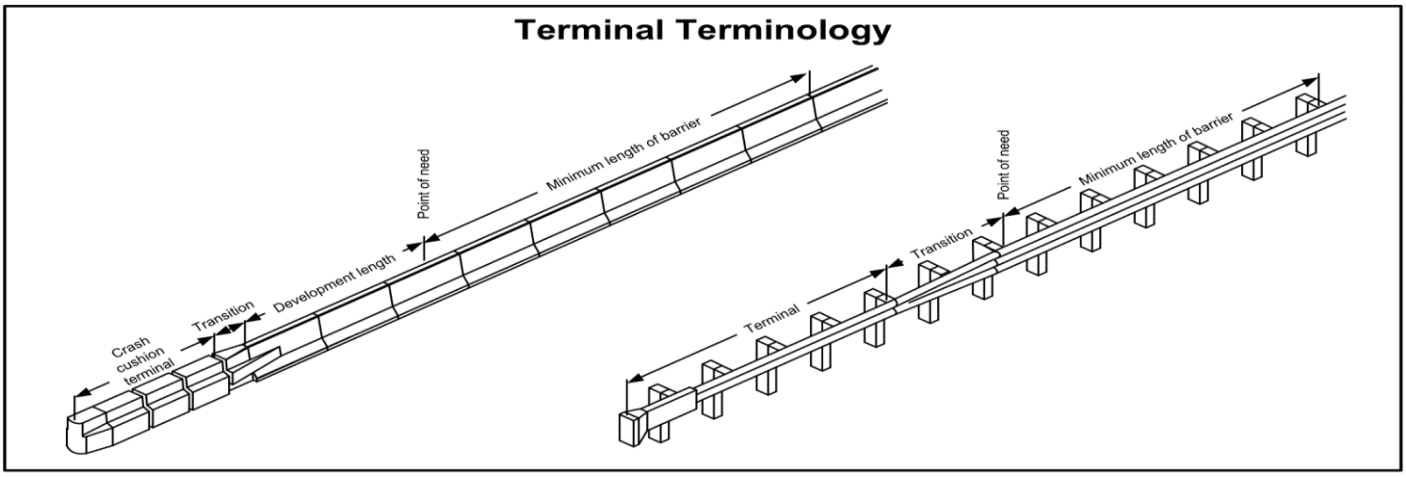
Design Terminology



Deflection Terminology



Terminal Terminology



Flare Terminology