

## DETAIL SHEET

## ZONEGUARD Steel Safety Barrier - Temporary

### VicRoads Requirements

Refer to Austroads - Safety Barrier System Acceptance Conditions for the Zoneguard Steel Safety Barrier. All requirements listed by Austroads have been adopted by VicRoads for use on the Victorian declared road network.

In this instance, VicRoads applies no additional requirements/conditions for use of Zoneguard Steel Safety Barrier on the Victorian declared road network.

Zoneguard is available in two variants:

- Zoneguard (Standard system)
- Zoneguard Minimum Deflection System (MDS)

Please Note: VicRoads requirements take precedence over any Product Manual instructions and Austroads conditions where conflicting.

### References

- Product Installation Manual and Product Operational Manual [refer licensed product supplier website](#)
- VicRoads Road Design Note 06-04 Accepted Safety Barrier Products



### For further information please contact:

VicRoads Technical Services  
60 Denmark Street  
Kew, Vic, 3101  
Telephone: 8391 7192

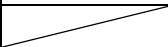
**Accepted safety barrier products are subject to periodic review and the information provided in this document may be superseded. Please refer to *Road Design Note 06-04 – Accepted Safety Barrier products* for the current VicRoads acceptance status.**

# Safety Barrier System Conditions

## ZONEGUARD Steel Safety Barrier - Temporary

 	<b>Australian Distributor</b>	Hill and Smith Pty Ltd
	<b>New Zealand Distributor</b>	Hill and Smith Pty Ltd
	<b>Date Issued</b>	22 August 2016

<b>Status</b>	<b>Accepted</b> – May be used on the classified road network. These acceptance conditions take precedence over any instructions in the Product Manual.
<b>Product accepted</b>	ZONEGUARD Steel Safety Barrier – Temporary.  <u>Variants</u> <ul style="list-style-type: none"> <li>• 12 metre ZONEGUARD Steel Safety Barrier - Temporary units with anchors at 65 metre spacing.</li> <li>• 12 metre ZONEGUARD Steel Safety Barrier - Temporary units with anchors at 10.2 metre spacing (Minimum Deflection System).</li> <li>• Custom fabricated radii units in 2.5°, 5.0° and 7.5° angles.</li> </ul>
<b>Product Manual reviewed</b>	Revision 7 dated May 2014.
<b>Variants NOT accepted</b>	<ul style="list-style-type: none"> <li>• Variants that are not on the list above are not accepted.</li> <li>• Variants accepted in other jurisdictions, but not accepted in the local jurisdiction, are NOT permitted.</li> </ul>

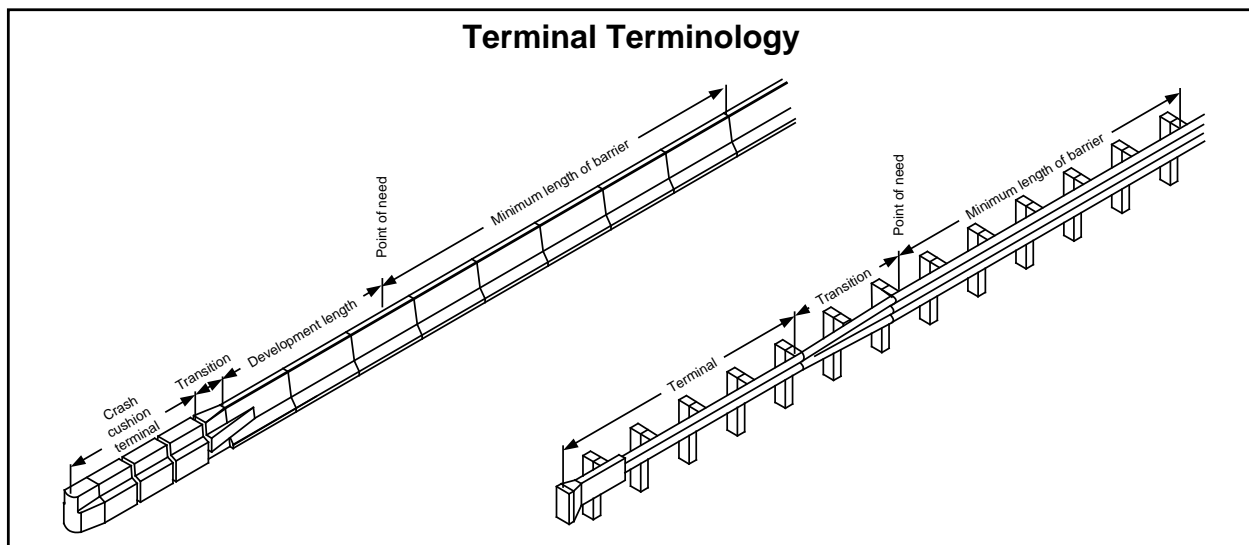
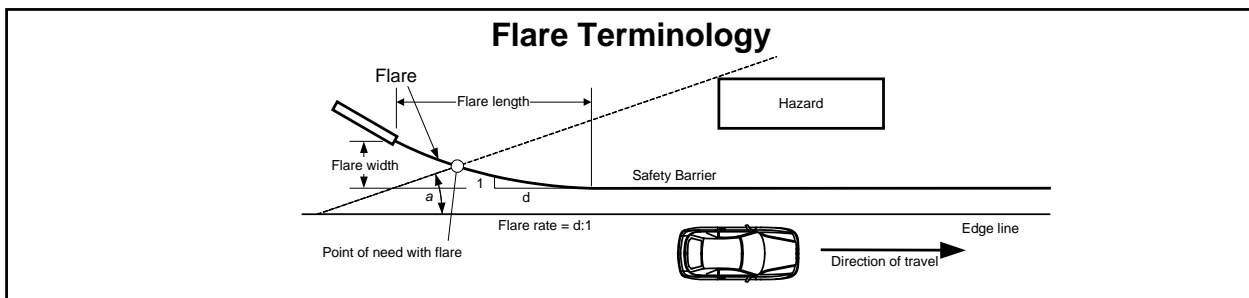
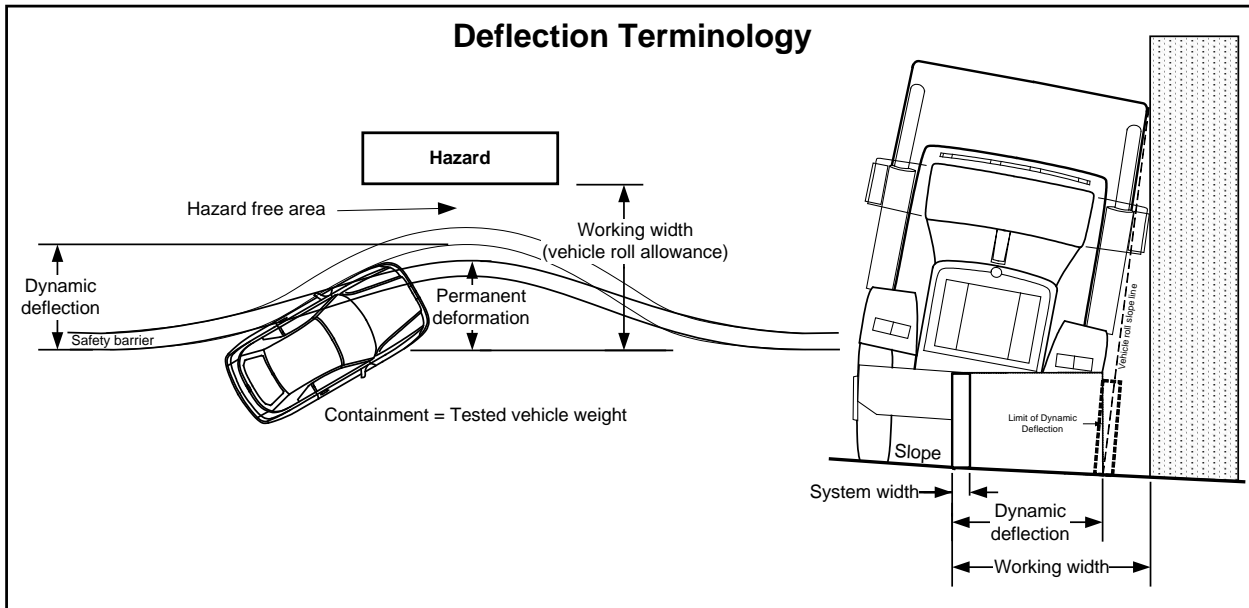
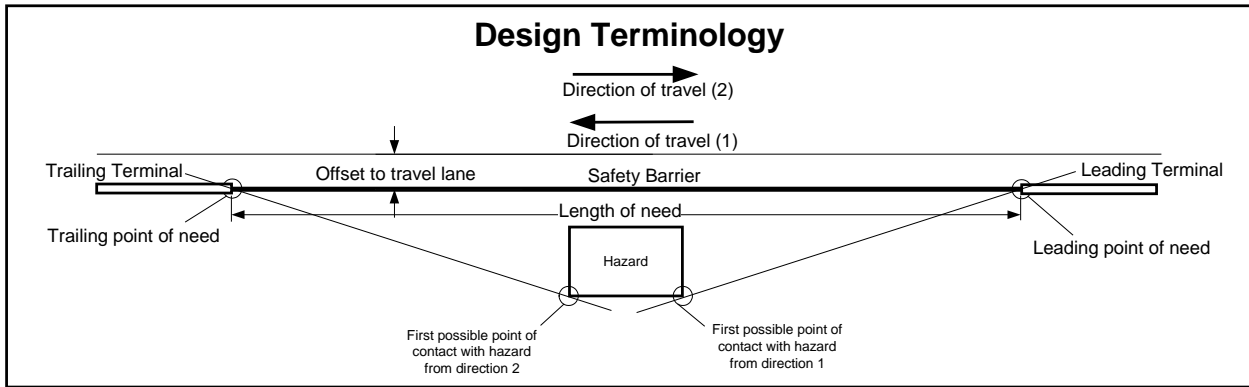
<b>Speed limit (km/h)</b>	Tested at 100 km/h (70 km/h if used with ABSORB 350 Plastic Terminal).	
<b>Tested containment</b>	NCHRP 350 Test Level 4 (8,000 kg at 80 km/h and 15°). MASH Test Level 4 (2,270 kg at 100km/h and 25°).	
<b>Tested dynamic deflection</b>	100 km/h	<u>Standard system – 65 metre anchor spacing</u> 1.9 metres (measured at outer edge of foot on the workzone side).
		<u>Minimum Deflection System – 10.2 metre anchor spacing</u> 0.1 metres (measured at outer edge of foot on the workzone side).
	Note that deflections are measured in crash tests performed under controlled conditions. Designers should be aware that the deflection figures published as a test result may not be the deflection values achieved in the field for all impacts by errant vehicles dependent upon foundation conditions and roadside geometry.	
<b>Working width</b>		Not specified for this system.
	Working width may be determined following a site specific risk assessment based upon type and speed of vehicles on the adjacent roadway. Working width (refer diagram) is the minimum width that is required to prevent an impacting vehicle from colliding with an object behind a road safety barrier system and includes both the dynamic deflection of the road safety barrier and the extra width to allow for vehicle roll.	
<b>Point of redirection</b>	At leading end when attached to a redirective cushion, otherwise the leading end of the Zoneguard Steel Safety Barrier.	

<b>Minimum length of barrier between terminals</b>	75 metres with anchors at 65 metre spacing. 60 metres with anchors at 10.2 metre spacing (Minimum Deflection System).	
<b>System width (m)</b>	0.7 metres.	
<b>System conditions</b>	<ol style="list-style-type: none"> <li>1. Clear span between anchors of greater than 65 metres is NOT permitted.</li> <li>2. Flaring across the clear zone without a terminal listed below is NOT permitted.</li> <li>3. Installation on top of a kerb is not recommended, however if installed on top of a kerb, all system components must be free to operate.</li> </ol>	
<b>Terminals and connections</b>	W-Beam guardrail	Not permitted.
	Thrie-Beam guardrail	Not permitted.
	Type F Concrete Safety Barrier	Not permitted.
	Proprietary product	<ol style="list-style-type: none"> <li>1. UNIVERSAL TAU-II STEEL RAIL CRASH CUSHION <ul style="list-style-type: none"> <li>• Permitted for use with ZONEGUARD Steel Safety Barrier - Temporary.</li> <li>• See UNIVERSAL TAU-II Steel Rail Crash Cushion acceptance document for conditions of use.</li> <li>• The TAU-II TRANSITION TO ZONEGUARD BARRIER must be used to connect the terminal to the barrier.</li> <li>• Permitted as a terminal on a flare.</li> </ul> </li> <li>2. QUADGUARD CZ <ul style="list-style-type: none"> <li>• Permitted for use with ZONEGUARD Steel Safety Barrier - Temporary.</li> <li>• See QUADGUARD CZ acceptance document for conditions of use.</li> <li>• The QUAD TO ZONEGUARD 10 TO 1 TRANSITION must be used to connect the terminal to the barrier.</li> <li>• Permitted as a terminal on a flare.</li> </ul> </li> <li>3. ABSORB 350 PLASTIC TERMINAL - TEMPORARY <ul style="list-style-type: none"> <li>• Permitted for use with ZONEGUARD Steel Safety Barrier - Temporary.</li> <li>• The installation is restricted to a Speed Limit of 70 km/h or less.</li> <li>• See ABSORB 350 Plastic Terminal acceptance document for conditions of use.</li> <li>• The AB350 TRANSITION TO ZONEGUARD BARRIER must be used to connect the terminal to the barrier.</li> <li>• Not permitted as a terminal on a flare.</li> </ul> </li> </ol>
	Other	A terminal must be fitted to both ends of the barrier.
<b>Gore area use</b>	Permitted – consider speed and deflection limitations. Refer to appropriate approved terminal conditions.	
<b>Pedestrian area use</b>	Permitted – consider potential for snagging and deflection.	

<b>Cycleway use</b>	Permitted – consider potential for snagging and deflection.
<b>Frequent impact likely</b>	Permitted.
<b>Remote location</b>	Permitted.
<b>Median use</b>	Permitted – consider speed and deflection limitations.
<b>Flare (See Explanation of Terms diagram)</b>	Refer to Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers Table 6.5 for design advice.
<b>Offset to travel lane (m)</b>	Refer to Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers, Section 6.3.5.
<b>Hazard free area beside barrier or terminal (Working Width)</b>	Refer to Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers, Section 6.3.16.

<b>Installation</b>	The ZONEGUARD Steel Safety Barrier - Temporary must be installed and maintained in accordance with the Product Manual and Road Agency specifications. The Road Agency specifications and standards shall have precedence.	
<b>Minimum distance to excavation</b>	<p>Minimum distance between the edge of the barrier and the edge of an excavation – units with 65 metre anchor spacing is 1.9 metres.</p> <p>Minimum distance between the edge of the barrier and the edge of an excavation – units with 10.2 metre anchor spacing (Minimum Deflection System) is:</p> <ul style="list-style-type: none"> <li>• 0.4 metres when anchored on concrete pavement.</li> <li>• 0.7 metres when anchored on flexible pavement.</li> </ul> <p>(Being the largest adopted dynamic deflection or 1.5 times the embedment depth of the anchor).</p>	
<b>Slope limit</b>	Side slope limit: 15 Horizontal to 1 Vertical (7%).	
<b>Foundation pavement conditions</b>	Concrete	Permitted.
	Deep lift Asphaltic Concrete	Permitted.
	Asphaltic concrete over granular pavement	Permitted.
	Flush seal over granular pavement	Permitted.
	Unsealed compacted formation	Not permitted.
	Natural surface	Not permitted.
	Foundation pavement conditions must be smooth and free of snag points, kerbs or obstructions that may interfere with the operation of the product.	
<b>Attachments and screens</b>	<p>In accordance with the requirements of Australian/New Zealand Standard AS/NZS 3845, road furniture such as headlight screens, signs, lighting posts and fences for pedestrians, visual screens, debris screens, platforms for workers and other non-product hardware must not be attached to the product.</p> <p>Screens may be placed adjacent to the side of the product not exposed to traffic. The distance between the screen and the product shall be determined by a site specific risk assessment that considers the deflection distance.</p> <p>Screens must not have horizontal members that present a risk of impaling errant vehicles that impact the product.</p>	
<b>Damaged components</b>	Damaged components must be replaced. Repaired components must not be used.	

<b>Delineation</b>	The installed system shall include delineation as prescribed by Road Agency specifications and drawings.
<b>Traceability and markings</b>	<p>Product markings shall be in accordance with marking/s prescribed by the current Australian/New Zealand Standard AS/NZS 3845 Road Safety Barrier Systems and Road Agency specifications. Traceability details that must be permanently fixed to the product are:</p> <ul style="list-style-type: none"> <li>• Name of the product.</li> <li>• Manufacturer or distributor name.</li> <li>• Date of manufacture.</li> <li>• Model or version details of the product, if applicable.</li> <li>• Batch number, if applicable.</li> <li>• Serial number, if applicable.</li> </ul> <p>Traceability details must be easily visible but unobtrusive and not be in a form that becomes prominent advertising. No advertising shall be displayed on the installation.</p> <p>Traceability must be in a form that will not be erased with use.</p>
<b>Notes</b>	<p>Conditions are based on drawings 1644-03-G01-400, 1644-03-G01, 1644-03-G02, 1644-03-G03, 7726 (Sheet 1), 7966, G01-0200, G01-0300, G01-1203 and the Product Manual supplied by the Proponent, dated May 2014 (Revision 7). This acceptance will cease if there is any change in the product design or specifications.</p> <p>Only the Product Manual authorised by the Proponent shall be used in any marketing of the product.</p> <p>Acceptance of the ZONEGUARD Steel Safety Barrier - Temporary does not place any obligation on the Road Agency, or its contractors, to purchase or use the product.</p> <p>The Austroads Safety Barrier Assessment Panel may periodically re-assess the ZONEGUARD Steel Safety Barrier - Temporary.</p> <p>The Road Agency may withdraw or modify at any time, the acceptance status or conditions of use of the product without notice. Users should refer to the Road Agency web site to ensure they have the latest version of the conditions related to this product.</p>



Safety Barrier terminology.vsd

For more information, refer to  
Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers