



Registered Office:  
Marshalls plc,  
Landscape House, Premier Way,  
Lowfields Business Park,  
Elland, HX5 9HT  
United Kingdom

UK: 0370 600 2425

International: +44 (0) 1422 312 993

USA: +1 603 465 1254

UAE: +971 50777 6308

[marshalls.co.uk/landscape-protection](http://marshalls.co.uk/landscape-protection)

  
**Marshalls**  
*Creating Better Spaces*

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# RhinoGuard®

## Ultra Shallow 50™ Bollard

  
**Marshalls**  
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**A PERFECT HVM SOLUTION FOR USE ON  
BRIDGES AND OTHER AREAS REQUIRING  
MINIMAL EXCAVATION**

## PRODUCT OVERVIEW

Requiring just a 50mm excavation depth, the RhinoGuard® Ultra Shallow 50™ bollard series has been successfully crash tested in two different foundations under the IWA-14.1 standard and is capable of stopping a 7.2 tonne vehicle travelling at 30mph.

Using just 7 easy to install bollards that are simply bolted together allows for quick and flexible deployment opportunities and the requirement of just 50mm of foundation makes the Ultra Shallow 50™ the perfect solution for use on bridges and other areas where underground service and utilities affect installation. Individual modules can be added to the system to cover the required length of any project.



RhinoGuard® Ultra Shallow 50™ with Sloped Stainless Steel Sleeve

## OUTSTANDING PERFORMANCE

Tested on both a typical footpath installation, and cycle segregation foundation, the bollard series successfully performs in both environments, immobilising the vehicle and achieving a stopping distance of only 1.1m.

Both tests demonstrate a real life scenario by impacting a single bollard at 30 degrees which is considered to be the most likely angle of attack on long linear runs of perimeter protection.



IWA-14.1:2013 Bollard, Cycle Segregation Performance Rating:  
V/7200(N2A)/48/30:1.1



IWA-14.1:2013 Bollard, Footpath Installation Performance Rating:  
V/7200(N2A)/48/30:1.1

## DESIGN CAPABILITIES

Along with the Westminster style Ferrocast® sleeve design and the standard mild and stainless steel options, the slim profile of the bollard core means a varied choice of sleeve designs are also offered with the RhinoGuard® Ultra Shallow 50™. With a breadth of aesthetic options available, the bollards can either blend in with the surrounding environment or can create a unique design feature in any space.

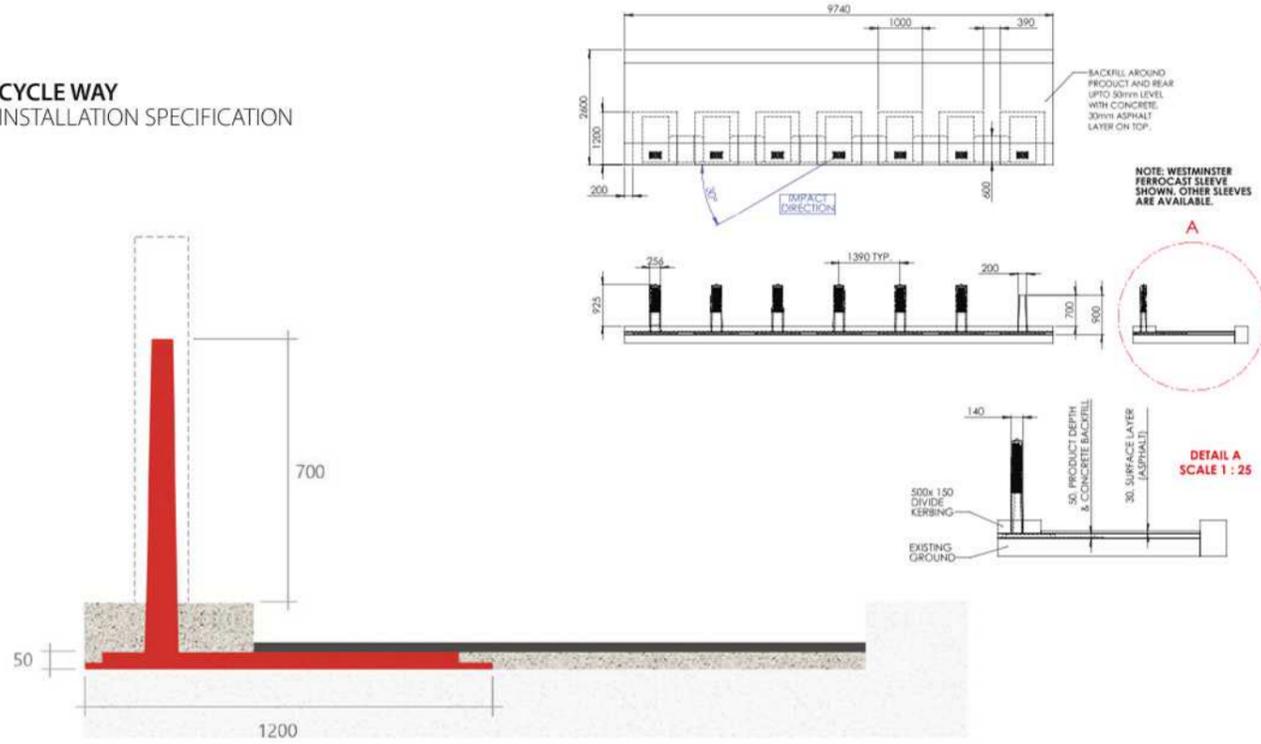
The core bollard elements can be incorporated in to other products within the Landscape Protection portfolio including seating, cycle stands, lighting, handrails and wayfinding solutions, offering a varied choice of protective design solutions to meet a range of requirements.



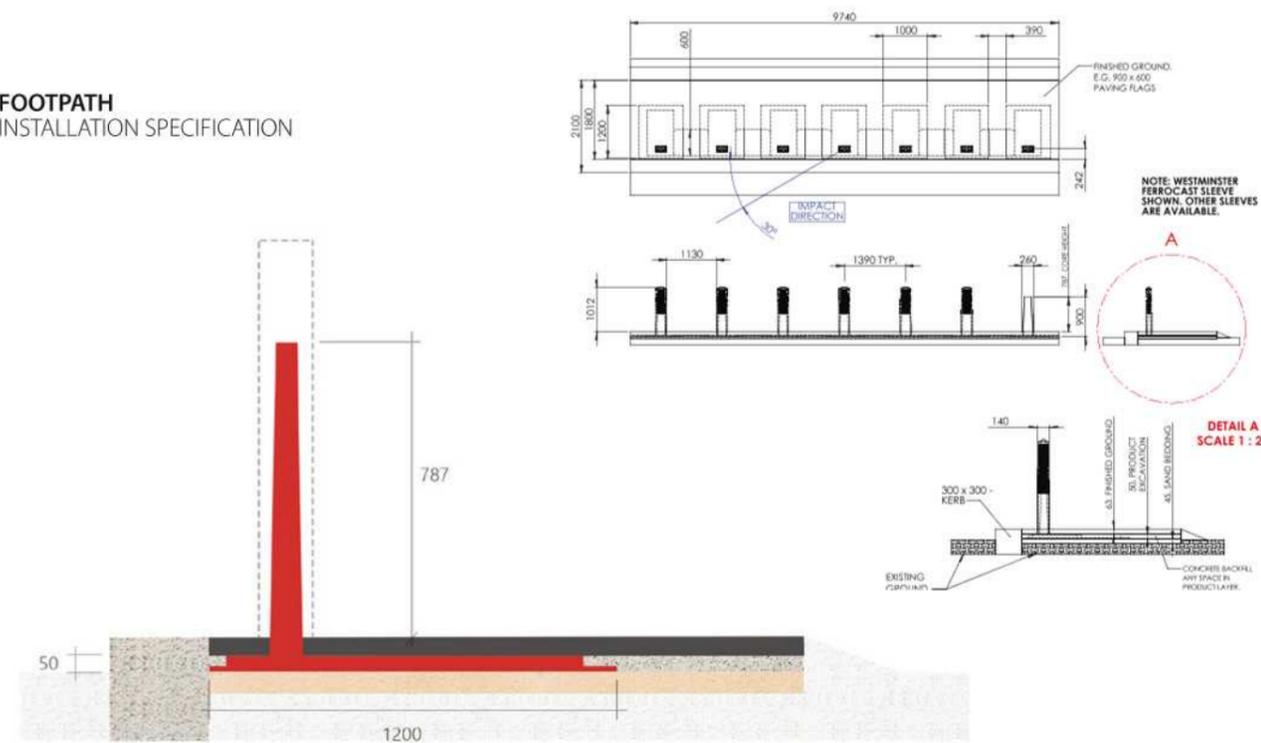
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## RhinoGuard® Ultra Shallow 50™ Bollard

**CYCLE WAY**  
INSTALLATION SPECIFICATION



**FOOTPATH**  
INSTALLATION SPECIFICATION



Core Bollard Specifications

CORE	WIDTH (mm)	DEPTH (mm)	HEIGHT ABOVE GROUND (mm)	OVERALL WEIGHT (kg)
Ultra Shallow 50™	200	50	700 (cycle way) 787 (footpath)	390

Standard Sleeve Specifications

SLEEVE OPTIONS	DIAMETER (mm)	WIDTH (mm)	DEPTH (mm)	HEIGHT ABOVE GROUND (mm)	SLEEVE MATERIAL	SLEEVE FINISH	SLEEVE WEIGHT (kg)
 Westminster	N/A	260	140	1075	Ferrocast®	Painted	20
 Stainless Steel, No Groove (1 or 2 Groove Options)	219	N/A	N/A	1000	Stainless Steel	Brushed	16
 Mild Steel, No Groove (1 or 2 Groove Options)	219	N/A	N/A	1000	Steel	Painted	30
 Geo	254	N/A	N/A	1000	Stainless Steel	Bead Blasted	21
 Manchester	350	N/A	N/A	1100	Ferrocast®	Painted	34
 LED	254	N/A	N/A	1000	Stainless Steel	Brushed	20
 Decorative	254	N/A	N/A	1000	Stainless Steel	Various	52
 Sloped	N/A	240	121-80 (tapered)	1000	Stainless Steel	Brushed	10.2