

## 1. Objective and Scope

To describe how to correctly install Saferoads OMNI-STOP Ultra Security Bollard.

## 2. Important Note:

Saferoads OMNI-STOP Ultra Security Bollard has been crash tested and can stop a 3500lbs/1600kg vehicle travelling at 30mph/50kph. It is important that the surrounding soil has sufficient strength to support the footing during a design impact.

The minimum specification for the surrounding soil is that it should be a cohesive soil with a minimum Undrained Shear strength of 100kPa. A simple Dynamic Cone Penetrometer (DCP) test can be conducted, a minimum average of 2 blows per 2in/50mm is required.

Installation outside of these conditions may be possible, but a geotechnical engineer should be engaged to recommend appropriate design.

## 3. Personal protective equipment (PPE)

The following is mandatory PPE.



Safety Boots (steel capped) with rubber soles.



Eye protection is compulsory



Hearing protection is compulsory



Hi-Viz must be worn when installing product



Gloves must be worn when installing product



Hi-Viz Protective Clothing is to be worn

## 4. Equipment Required

- Auger & or digging tools
- String line
- Spirit level
- Reo spacers
- 5000 PSI/32MPa concrete
- Pencil vibrator
- 6in / 150mm x 57in / 1450mm light galvanised pipe

## 5. Qualifications and Competencies







- a) Safe use of hand tools;
- b) Manual handling; and
- c) Road traffic management.





## 6. Documentation and Setup

- a) Ensure that the selected installer provides a copy of Public Liability Insurance, WorkCover, SWMS and plant service records. (No documentation - no job).
- b) Before commencing ensure that you have had all services located and clearly identified using “Dial Before You Dig” or “Before You Dig Call 811”.
- c) Ensure you complete the Inspection and Test Plan (ITP) / SWMS and that these documents are signed onto by all operators..
- d) Ensure you are at the correct location and set up traffic control to Australian Standards, or as advised and required by the client.
- e) Conduct a site meeting and ensure that all aspects of the works are outlined and fully understood by all parties.



7. Installation

<b>Step 1 – Identify right location</b>	<b>Step 2 – Marking</b>	<b>Step 3 – Dig</b>
		
<p>Ensure that you are in the right location for the installation.</p>	<p>Mark out hole centres as per site design.</p> <p>If installing multiple bollards use a stringline to check they are in a straight line.</p>	<p>Auger or manually dig a minimum 28in / 700mm diameter x 40in / 1000mm deep hole.</p>
<b>Step 4 – Reinforcement spacers</b>	<b>Step 5 – Positioning reo cage</b>	<b>Step 6 – Positioning reo cage</b>
		
<p>Place 4 reinforcement spacers under the cage to allow the reinforcement cage to sit clear of the sub-soil.</p>	<p>Insert the Omni-Stop Ultra Security Bollard reinforcement cage, ensuring that the cage is at equal distance from the edges of the hole.</p> <p>Also ensure the top of the sleeve is level with the finished concrete surface.</p>	<p>Use a spirit level to ensure that the reinforcement cage assembly is correctly positioned</p> <p>Note: using a 6in / 150mm x 57in / 1450mm lightweight galvanised pipe placed into the cage to check that the bollards will be vertical may assist.</p>

Step 7 – Pouring concrete	Step 8 – Pouring concrete	Step 9 – Screeding
		
<p>Pour concrete into the space surrounding the reo cage to approx. 12in / 300mm and then re-check levels. (Concrete must be 5000PSI / 32MPa).</p>	<p>Fill the remainder of the hole with concrete. Ensuring that the application of concrete does not move the reo cage out of position.</p> <p>The concrete should be vibrated with a pencil vibrator to settle the concrete and remove air pockets.</p> <p>Be careful when pouring concrete that the Omni-Stop Ultra Security Bollard cage is not moved from its intended location, or level.</p> <p>The performance of the Omni-Stop Ultra Security Bollard may be affected by incorrect installation.</p>	<p>Finish off by screeding the concrete surface and if applicable replace pavers around installed bollard.</p> <p>Note: If paving is to be placed over the top of the footing, the excavation must be deep enough to ensure that the concrete footing is minimum 40in/1000mm deep and 28in/700mm diameter.</p>
Step 10 – Finish	Step 11 – Final checks and housekeeping	
	<p>Clean Worksite</p> <ul style="list-style-type: none"> <li>• Sweep any excess dirt or debris from the site and collect any left-over parts</li> <li>• Housekeeping practices adhered to and worksite is left clean and safe; and</li> <li>• Items have been fitted correctly and safely.</li> <li>• Workmanship is to specification;</li> <li>• Materials quality is acceptable;</li> <li>• Unused materials are removed; and</li> <li>• Quality checks performed.</li> <li>• Surrounds are restored to prior condition; and</li> <li>• No spillage and/or damage to any soil, habitat, atmosphere or drainage.</li> </ul>	
<p>Sweep up any excess dirt or debris from the site.</p> <p>Ensure you have completed the Inspection and Test Plan (ITP) for the Omni-Stop Ultra Security Bollard for each installation you have completed.</p> <p>Installation complete.</p>		



# SOP – INSSOP028 - Installation OMNI-STOP Ultra Security Bollard

Rev 2 (22/11/2023) – Owner: Engineering & Production Manager



ROAD SAFETY RENTAL

## SOP REVISION UPDATES

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### SOP Amendment Level

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Rev #	Date	Comment
2	20/11/2023	a. PPE icons updated b. SOP Ownership update: COO to Engineering & Production Manager
2	10/05/2022	c. Review by Manager – Supply, Safety and Systems – No Revision change (format only)
2	26/10/2020	a. New Format