

1. Purpose

The purpose of this Standard Operating Procedure (SOP) is to outline the safe handling method for the erection and lowering of the Saferoads 6-meter Solar Hinge Pole fitted with a 100W solar light. Applicable to single and double base variants.

2. Safety



The following safety guidelines must be adhered to:

- a) Working on or besides a roadway is inherently dangerous;
- b) Checks must be performed to ensure there are no overhead services prior to the erection of the pole;
- c) Manual lifting is not permissible (risk of Musculoskeletal injury);
- d) Only certified lifting equipment is to be used and checked prior to use;
- e) Operators are to stay clear of plant and equipment whilst performing this task;
- f) Operators are to stay well clear of the lifting and lowering area; and
- g) Operators are to be sure they keep clear from any pinch point area.

3. Personal Protective Equipment (PPE)

The following is mandatory PPE.



Safety Boots (steel capped) with rubber soles.



Eye and hearing protection is compulsory



Hard hat is to be worn when raising or lowering



Hi-Viz must be worn when installing product



Gloves must be worn when installing product



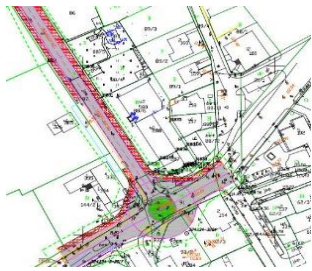
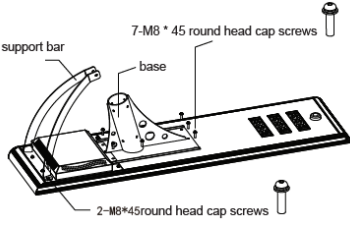

Hi-Viz Protective Clothing is to be worn

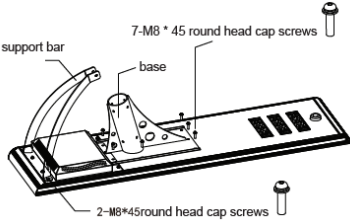

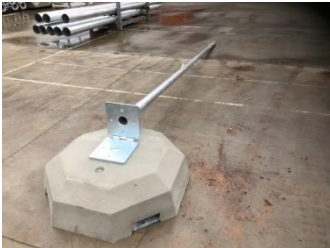


4. Equipment Required

The following equipment is required to safely carried out this process:

- a) Forklift and jib;
- b) Certified slings; and Small hand tools.

5. Assembly




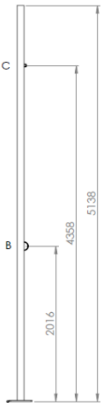


<b>Step 1 – Identify right location</b>	<b>Step 2 – Light assembly</b>	<b>Step 3 – On position</b>
		
<p>Ensure that you are in the right location for the installation.</p>	<p>Assemble the light in accordance with the manufactures instructions.</p>	<p>Ensure that the light is turned on. When the button is depressed, the light is “off”. When the button is in line with the housing the light is “on”.</p>



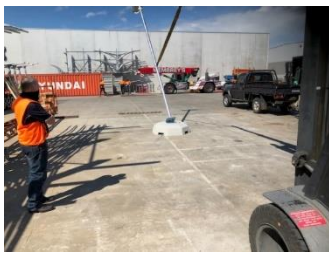



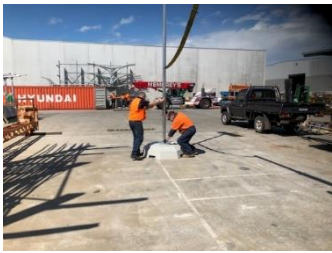
Step 4 – Assembly	Step 5 – Light assembly	Step 6 – On position
		
<p>Ensure that you are in the right location for the installation.</p>	<p>Assemble the light in accordance with the manufactures instructions. Preassemble lamp, mounting bracket and support bars according to the drawing below.</p>	<p>Ensure that the light is turned on. When the button is depressed, the light is “off”. When the button is in line with the housing the light is “on”.</p> <p>Note: Always assemble the light assembly prior to affixing to the pole. It is then easier to offer the assembly up to the pole once the light, brackets and support bars are bolted together.</p>
Step 7 – Pole & block	Step 8 – Hinge pin	Step 9 – Fitting light
		
<p>Place the end of the pole on the concrete block so that the hinged and fixed base plates align.</p>	<p>Once the two plates are aligned, insert the hinge pin and the two (2) x “R” Clips. This will secure the pole to the base plate during the raising of the pole.</p>	<p>Raise the pole parallel to the ground. This will be easier to fit the light assembly to the pole. Place the solar light assembly onto the top of pole, fasten the jacking bolts and the support brace. Ensure the light is firmly affixed to the pole. Once the solar light head is secure to the pole, the pole can be raised.</p>

6. Raising the pole

8.1 Safety 

- Only use certified lifting equipment to raise the pole. Inspect all slings prior to use to ensure that they are in a serviceable condition;
- Plant and equipment is to be fitted with a certified lifting jig (& hook). Plant can consist of either a crane, excavator, backhoe or forklift;
- Ensure there are no overhead services;
- Ensure there are no operators forward of the base plate when the lift is occurring and all operators are well clear (7+ meters) from the base plate;
- No manual lifting is to take place.



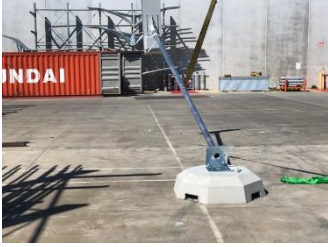



Step 1 – Orientation	Step 2 – Lifting equipment	Step 3 – Attaching sling
		
<p>Prior to lifting, ensure the orientation of the light is in the upwards direction of the lift. It is always good practice after fitting the light, to rest the light head on a piece of timber to avoid damage to the light housing.</p>	<p>1 x Three (3) meter flat sling rated to 2 tonne (min);          1 x Rated “D” Shackle – min – 2 Tonne capacity;          1 x certified lifting jib complete with lifting hook – minimum capacity 2 tonne.</p>	<p>Attach the sling with the “D” Shackle to the lower attachment point on the pole</p>
Step 4 – Lugs	Step 5 – Labels	Step 6 – Labels
		
<p>There are two lugs on the pole. These are shown in the following representation as points B &amp; C.</p>	<p>The lower lifting point (B) will have the following label affixed just above the lifting point.</p> <p>This is the recommended primary lifting point.</p>	<p>The secondary lug will have the following label placed below the lug.</p> <p>This point is used for tie down purposes for transport and it is recommended that this is not used as a lifting point.</p>


<b>Step 7 – Attach the jib</b>	<b>Step 8 – Lifting the pole</b>	<b>Step 9 – Lifting the pole</b>
		
<p>Attach the other end of the sling to the jib hook.</p>	<p>Gradually take up the tension on the sling.</p>	<p>At a controlled and steady pace, reverse the plant rearward ensuring the pole moves at a smooth gradual rate.</p> <p>Note: Ensure that there are no operators are forward of the concrete block.</p>
<b>Step 10 – Attach the jib</b>	<b>Step 11 – Lifting the pole</b>	<b>Step 12 – Lifting the pole</b>
		
<p>Attach the other end of the sling to the jib hook.</p>	<p>Gradually take up the tension on the sling.</p>	<p>At a controlled and steady pace, reverse the plant rearward ensuring the pole moves at a smooth gradual rate.</p> <p>Note: Ensure that there are no operators are forward of the concrete block.</p>
<b>Step 13 – Securing Pole</b>		
	<p>Once the pole is in the fully upright position, maintain the tension on the sling and secure the two base plates together with the joining bolts.</p> <p>Once the mounting bolts are secure, remove the sling from the pole.</p> <p>The pole is now considered to be in an operational state</p>	

7. Lowering the pole

8.1 **Safety**

a) Observe all safety points outlined in section 7.1

<b>Step 1 – Attach the sling</b>	<b>Step 2 – Tilt the pole</b>	<b>Step 3 – Lower the pole</b>
		
<p>Attach the sling to the jib hook as outlined in section 6.4(b).</p> <p>Attach the sling and “D” Shackle to the upright pole. (Bottom lug)</p> <p>Ensure that the sling is secure and remove the four (4) x base plate securing bolts.</p> <p>Ensure all operators remain rearward of the concrete block.</p>	<p>Once the bolts are removed, an operator will gradually tilt the pole forward. The sling will take up the tension.</p>	<p>In a controlled and gradual manner, move the plant forward which will gradually lower the pole.</p>
<b>Step 4 – Lowering the pole</b>	<b>Step 5 – Remove sling</b>	<b>Step 6 – Remove pole and “R” clips</b>
		
<p>As the pole is approaching the ground, place a block of wood on the ground to ensure that there is no damage caused to the light head housing.</p> <p>Do not touch or go near the pole until it is securely on the ground.</p> <p>Place the light head casing on a block of wood to prevent damage</p>	<p>Once the pole is on the ground, remove the sling from the pole and the jib hook.</p>	<p>Once the pole has been fully lowered, remove the 2 x “R” clips and pin.</p> <p>The light head can be removed by unfastening the bolts on the support bar and loosening the jacking bolts (use two people to remove the light).</p>

<b>Step 7 – Finish</b>	<b>Step 8 – Final checks, housekeeping and clean worksite</b>
<div data-bbox="225 324 555 571" data-label="Image">  </div> <p data-bbox="185 636 564 696">Sweep up any excess dirt or debris from the site.</p> <p data-bbox="185 732 592 860">The pole, light assembly and concrete block are now easily separated into three components for transport purposes.</p>	<ul data-bbox="639 338 1458 696" 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>

**SOP REVISION UPDATES**

SOP Amendment Level		
Rev #	Date	Comment
2	22/11/2023	a. PPE Icons updated – No Revision change
2	10/05/2022	a. Review by Manager – Supply, Safety and Systems – No Revision change (format only)
2	26/10/2020	b. Sticker (labels) and lifting method revised