

### 3.1 Post and Pipe Rail Fence Square ‘Pyramid Top’

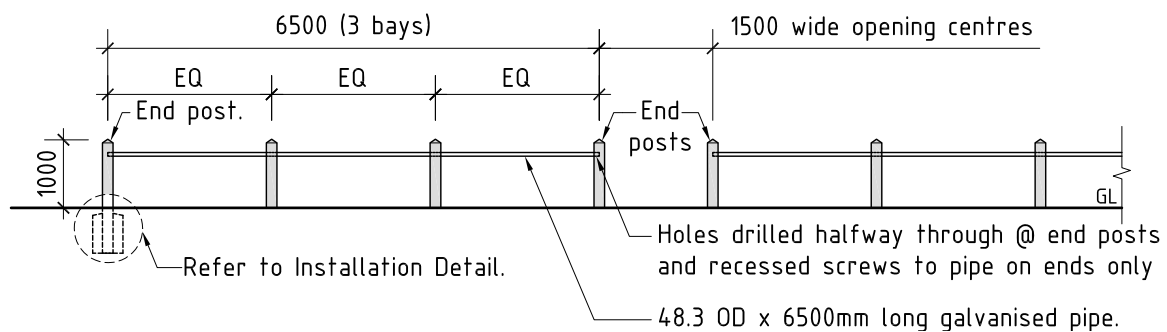
### Description



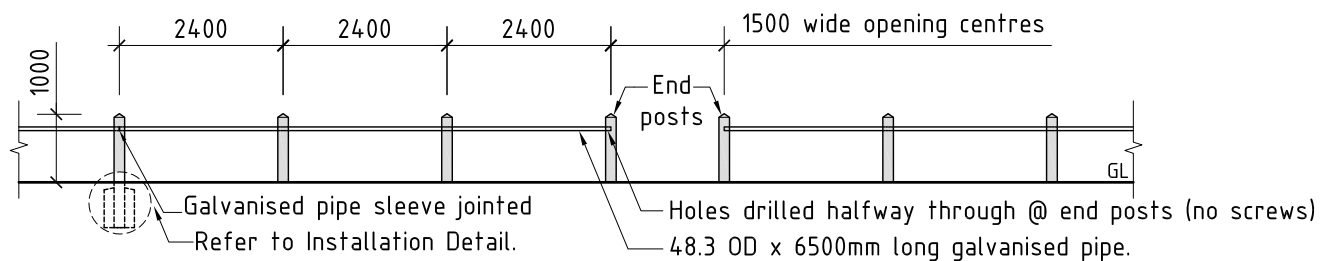
<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Significant Parks &amp; Gardens</li><li>▪ Informal Parks &amp; Community Recreation Reserves</li><li>▪ Sporting Reserves</li></ul>
<b>Common Locations</b>	<ul style="list-style-type: none"><li>▪ Croydon Park &amp; Town Park.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 6500 centre-centre modules/4 posts/3 bays, 1000mm above ground.</li><li>▪ Internal sleeve jointed option for continuous fencing (posts at 2400 centres).</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 50Ø galvanised steel pipe rail.</li><li>▪ 125x125x1500 Cypress Pine square post with pyramid top, dressed finish, chamfered corners.</li><li>▪ Recessed delineators are available for roadside locations.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Holes through posts are to be 5mm larger than steel pipe OD.</li><li>▪ 1500mm wide pedestrian access opening for every 4 sections.</li><li>▪ Fix bollards into concrete footings as shown in Installation Detail.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ Barling's Woodworks Pty. Ltd.</li></ul>
<b>Note</b>	<ul style="list-style-type: none"><li>▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad Guidelines.</li><li>▪ Posts to be frangible if potentially impacted by vehicles.</li></ul>

### 3.1 Post and Pipe Rail Fence Square 'Pyramid Top'

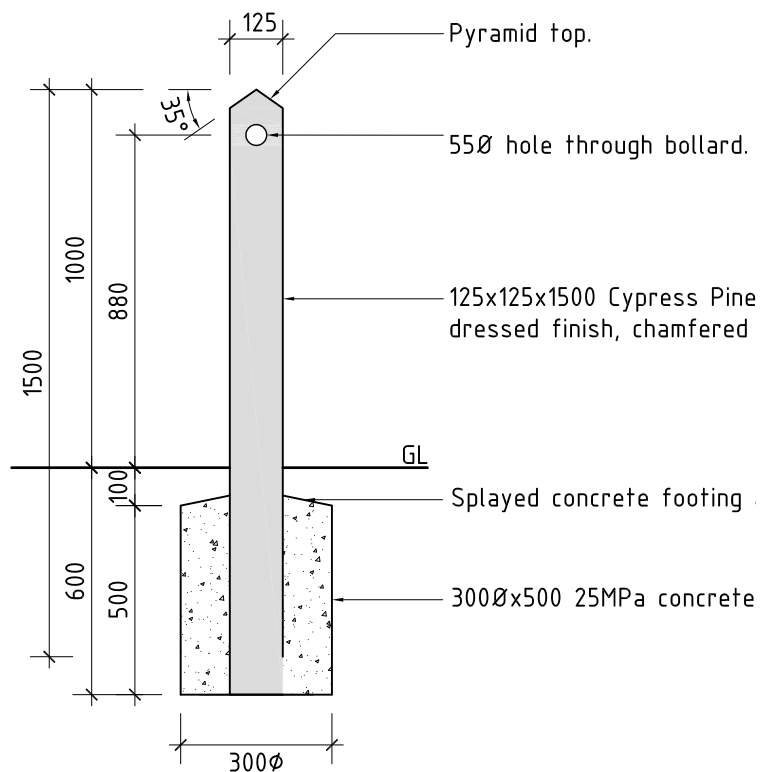
Detail



3-bay Fencing: Elevation 1:100



Continuous Fencing: Elevation 1:100



Installation Detail - Section 1:20



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<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Informal Parks &amp; Community Recreation Reserves</li><li>▪ Sporting Reserves</li><li>▪ Bushland &amp; Natural Areas</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Quambee Reserve, H.E. Parker Reserve, P. Vergers Reserve.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 3000x700mm above ground (top of rail).</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ White Cypress Pine post and rail.</li><li>▪ 2No. M10x200 galvanised coach bolts, anti-tamper nut.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Install parallel to kerb edge unless instructed otherwise.</li><li>▪ Posts are to be fixed into concrete footings as shown in Installation Details.</li><li>▪ Ensure barrier rail is level (unless significant slope – to be assessed in site) and in the correct line before connecting to posts.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ Cypress Pine Parking Barrier by Barling's Woodworks Pty Ltd.</li></ul>



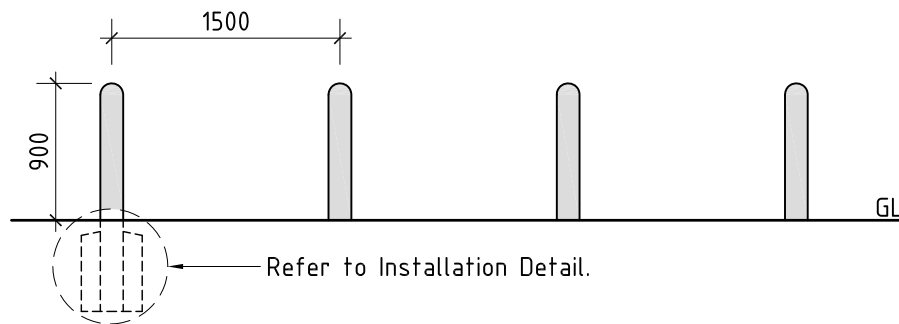


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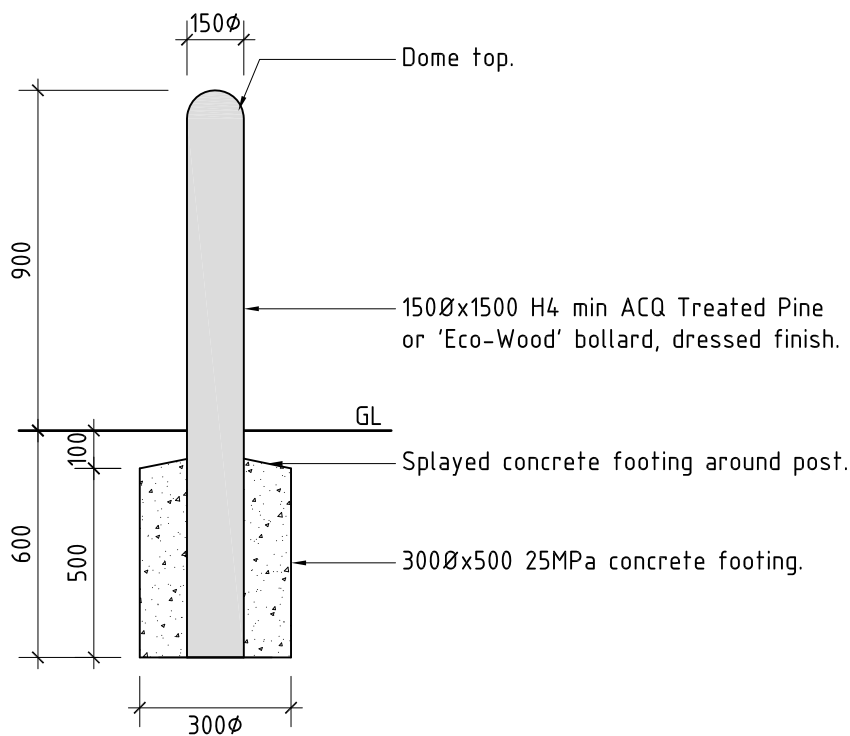
<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Informal Parks &amp; Community Recreation Reserves</li><li>▪ Sporting Reserves</li><li>▪ Bushland &amp; Natural Areas</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Common to all areas.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 150Øx900mm above ground.</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 150Øx1500 H4 minimum ACQ Treated Pine or 'Eco-Wood' round post with dome top, dressed finish.</li><li>▪ Recessed delineators are available for roadside locations.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Install along edge of path unless instructed otherwise.</li><li>▪ Install bollards @ 1500mm centres along straight paths.</li><li>▪ Bollards are to be fixed into concrete footings as shown in Installation Detail.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ B5 Treated Pine (150Ø Dome Top) by Barling's Woodworks Pty. Ltd.</li></ul>
<b>Note</b>	<ul style="list-style-type: none"><li>▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad guidelines.</li><li>▪ Posts to be frangible if potentially impacted by vehicles.</li></ul>

### 3.3 Round 'Dome Top' Bollard

### Detail



Elevation 1:50



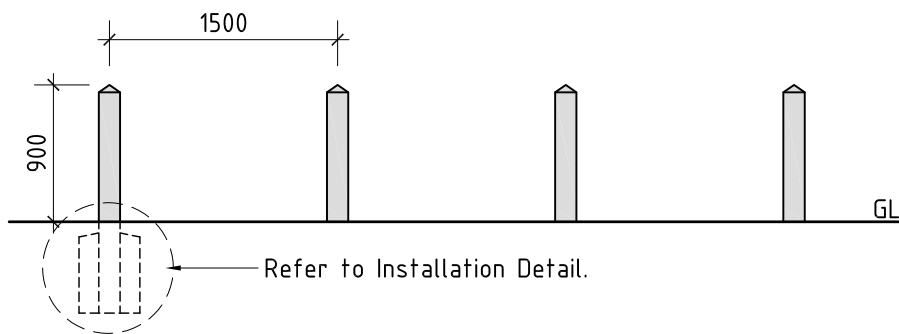
Installation Detail - Section 1:20



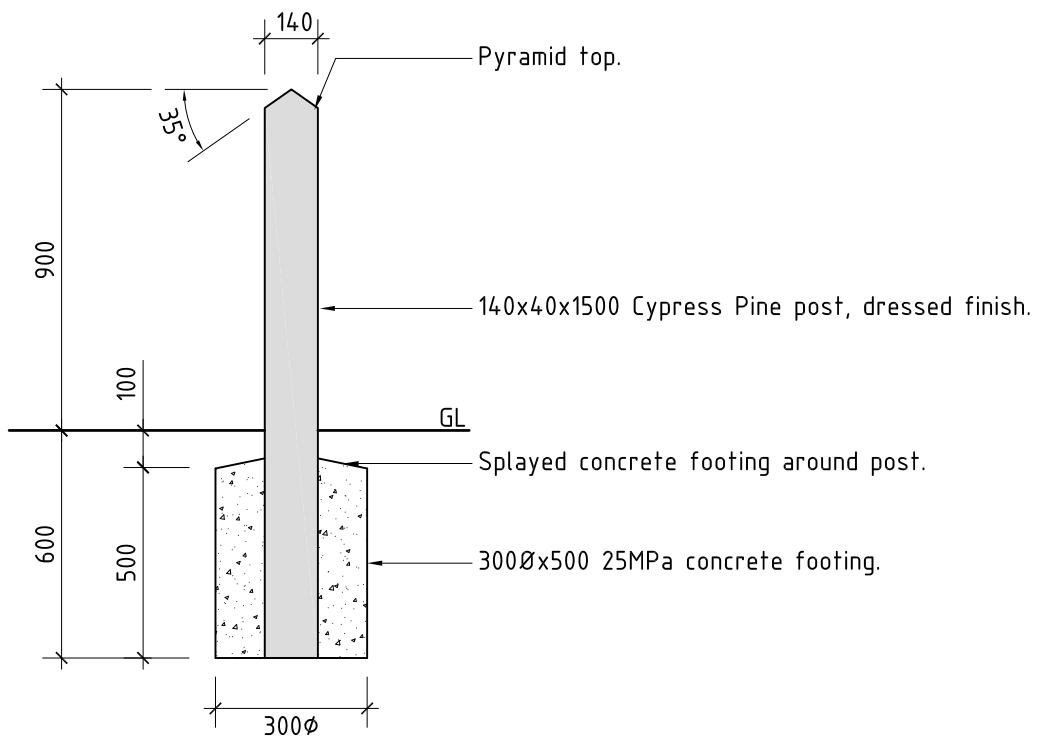
<b>Suitable Locations</b>	<ul style="list-style-type: none"> <li>▪ Significant Parks &amp; Gardens</li> <li>▪ Informal Parks &amp; Community Recreation Reserves</li> <li>▪ Sporting Reserves</li> </ul>
<b>Common Location</b>	<ul style="list-style-type: none"> <li>▪ Common to all areas.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>▪ 140x140x900 above ground.</li> </ul>
<b>Material</b>	<ul style="list-style-type: none"> <li>▪ 140x140x1500 Cypress Pine square post with pyramid top, dressed finish.</li> <li>▪ Painted white or green (optional)</li> <li>▪ Recessed delineators are available for roadside/ shared trail locations.</li> </ul>
<b>Installation</b>	<ul style="list-style-type: none"> <li>▪ Install along edge of path unless instructed otherwise.</li> <li>▪ Install bollards @ 1500mm centres along straight paths.</li> <li>▪ Bollards are to be fixed into concrete footings as shown in Installation Detail.</li> </ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"> <li>▪ B4 Cypress Pine (140mm Square Top) by Barling's Woodworks Pty. Ltd.</li> </ul>
<b>Note</b>	<ul style="list-style-type: none"> <li>▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad guidelines.</li> <li>▪ Posts to be frangible if potentially impacted by vehicles.</li> </ul>

### 3.4 Square 'Pyramid Top' Bollard

### Detail



Installation Detail - Elevation 1:50



Installation Detail - Section 1:20



### 3.5 Removable Round ‘Dome Top’ Bollard

### Description

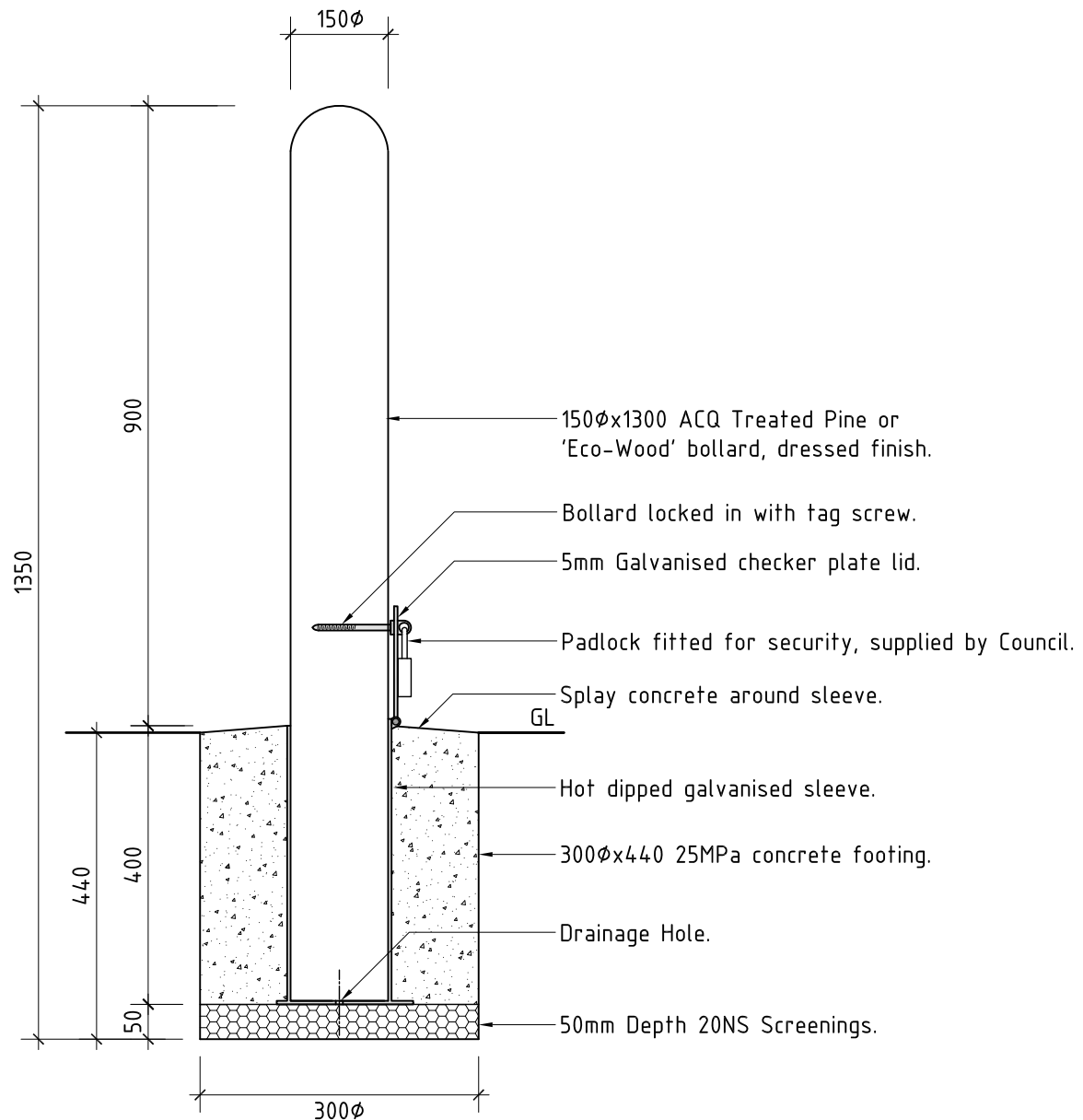


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<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Informal Parks &amp; Community Recreation Reserves</li><li>▪ Sporting Reserves</li><li>▪ Bushland &amp; Natural Areas</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Common to all areas.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 150Øx900mm above ground.</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 150Øx1300 H4 minimum ACQ Treated Pine or ‘Eco-Wood’ round post with dome top, dressed finish.</li><li>▪ Hot dipped galvanised sleeve.</li><li>▪ Tag screw.</li><li>▪ 5mm checker plate lid.</li><li>▪ Recessed delineators are available for roadside/ shared trail locations.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Install bollard sleeve into concrete footing as shown in Installation Detail.</li><li>▪ Once the correct height has been determined the tag is to be screwed into the bollard.</li><li>▪ Padlock tag screw for security.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ Galvanised In-Ground Round Bollard Sleeve &amp; B5 Treated Pine (150Ø Dome Top) by Barling’s Woodworks Pty. Ltd.</li></ul>

### 3.5 Removable Round 'Dome Top' Bollard

### Detail



Installation Detail - Section 1:10

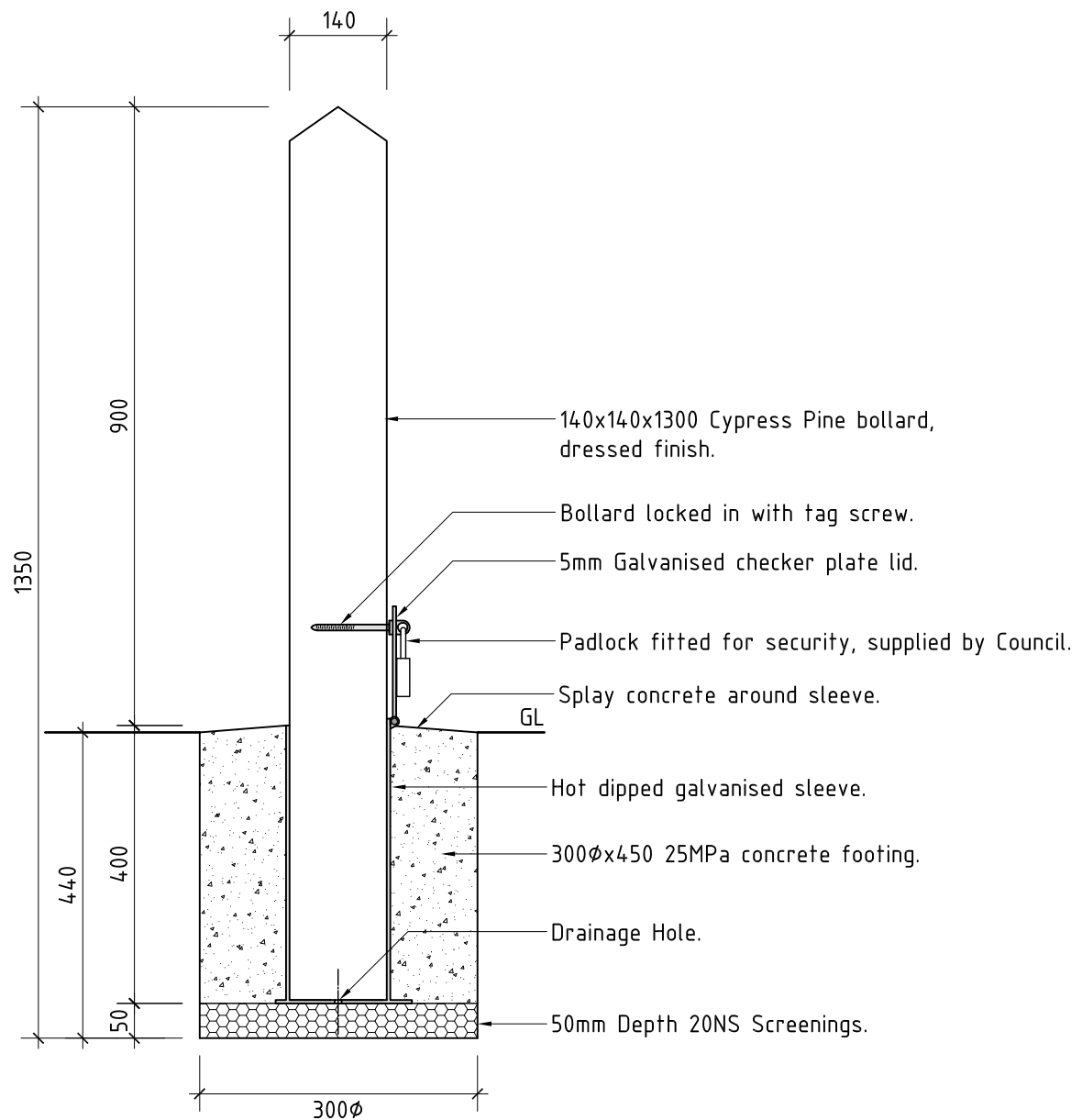


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<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Significant Parks &amp; Gardens</li><li>▪ Informal Parks &amp; Community Recreation Reserves</li><li>▪ Sporting Reserves</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Common to all areas.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 140x140x900mm above ground.</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 140x140x1300 Cypress Pine square post with pyramid top, dressed finish.</li><li>▪ Hot dipped galvanised sleeve.</li><li>▪ Tag screw</li><li>▪ 5mm checker plate lid.</li><li>▪ Recessed delineators are available for roadside/ shared trail locations.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Install bollard sleeve into concrete footing as shown in Installation Detail.</li><li>▪ Once the correct height has been determined the tag is to be screwed into the bollard.</li><li>▪ Padlock tag screw for security.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ Galvanised In-Ground Square Bollard Sleeve &amp; B4 Cypress Pine (140mm Pyramid Top) by Barling's Woodworks Pty. Ltd.</li></ul>

### 3.6 Removable Square Pyramid Top Bollard

### Detail

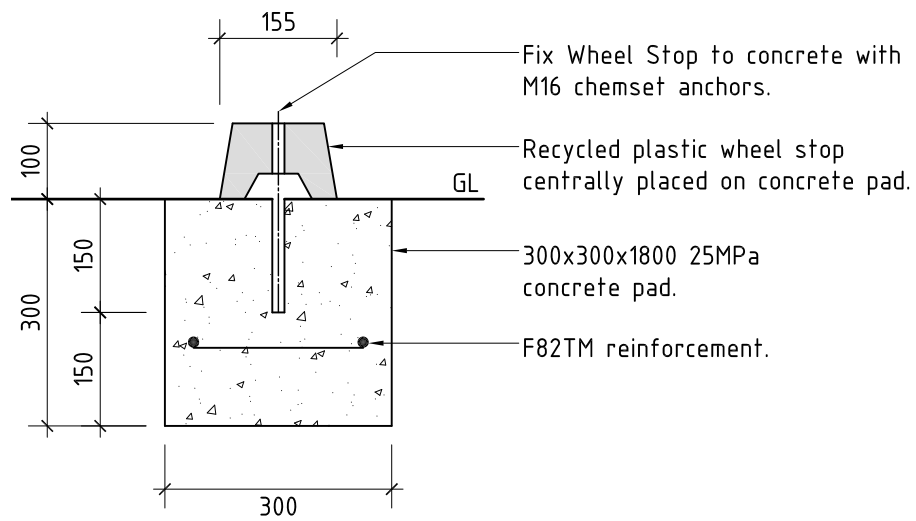


Installation Detail - Section 1:10



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<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Activity Centres &amp; Streetscapes</li><li>▪ Significant Parks &amp; Gardens</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Car parks.</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 1650(long)x155(wide)x100(high).</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 1650x155x100 recycled plastic, standard 'concrete' grey colour.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Fix on to concrete pad with M16 chemset anchors as shown in Installation Detail.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ PSS-159 Wheel Stop by Polite Enterprises Corporation.</li></ul>



Installation Detail - Section 1:10

### 3.8 Square ‘Chamfer Top’ Bollard

### Description



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<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Car Parks</li><li>▪ Garden beds</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Quambee Reserve</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 200x200x1000mm above ground.</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 200x200x1500mm Cypress Pine square post with chamfer top, dressed finish.</li><li>▪ 3No. Recessed delineators. Colour: Red.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Bollards to be fixed in concrete footing as shown in Installation Detail.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ B6 Cypress Pine (25mm Chamfer Top) by Barling’s Woodworks Pty. Ltd.</li></ul>



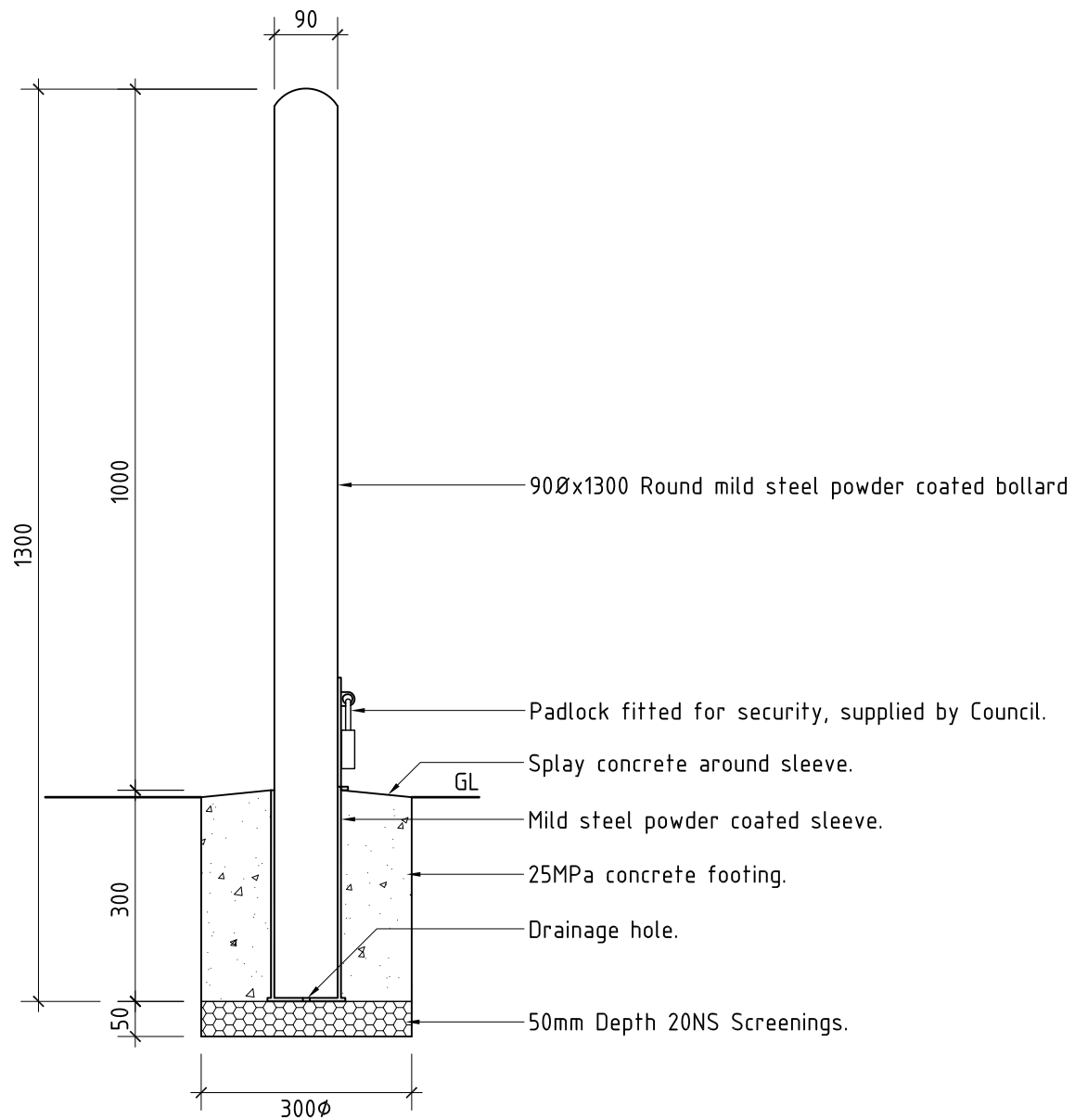


### 3.9 Removable Round Steel Bollard

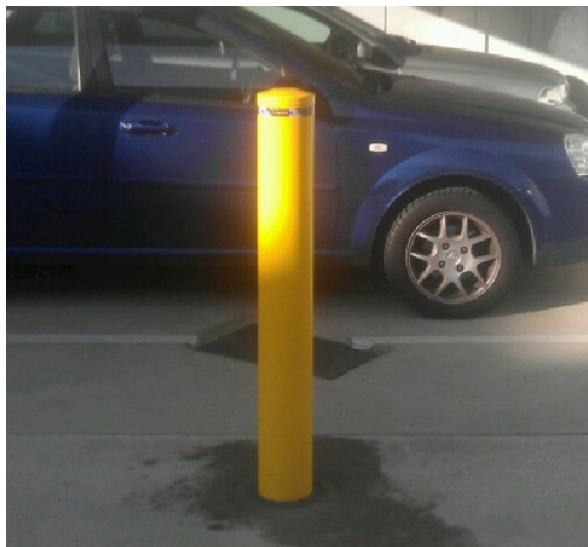
### Description



<b>Suitable Locations</b>	<ul style="list-style-type: none"><li>▪ Vehicle access points</li><li>▪ Trail entrances</li></ul>
<b>Common Location</b>	<ul style="list-style-type: none"><li>▪ Ringwood Lake</li></ul>
<b>Dimensions</b>	<ul style="list-style-type: none"><li>▪ 90Øx1000mm above ground.</li></ul>
<b>Material</b>	<ul style="list-style-type: none"><li>▪ 90Øx1300mm powder coated mild steel.</li><li>▪ Powder coat: white or yellow with reflective band.</li></ul>
<b>Installation</b>	<ul style="list-style-type: none"><li>▪ Install bollard sleeve into concrete footing as shown in Installation Detail.</li></ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"><li>▪ SRRB-10 Standard Round Removable Bollard by Polite Enterprises Corporation.</li></ul>



Installation Detail – Section 1:10

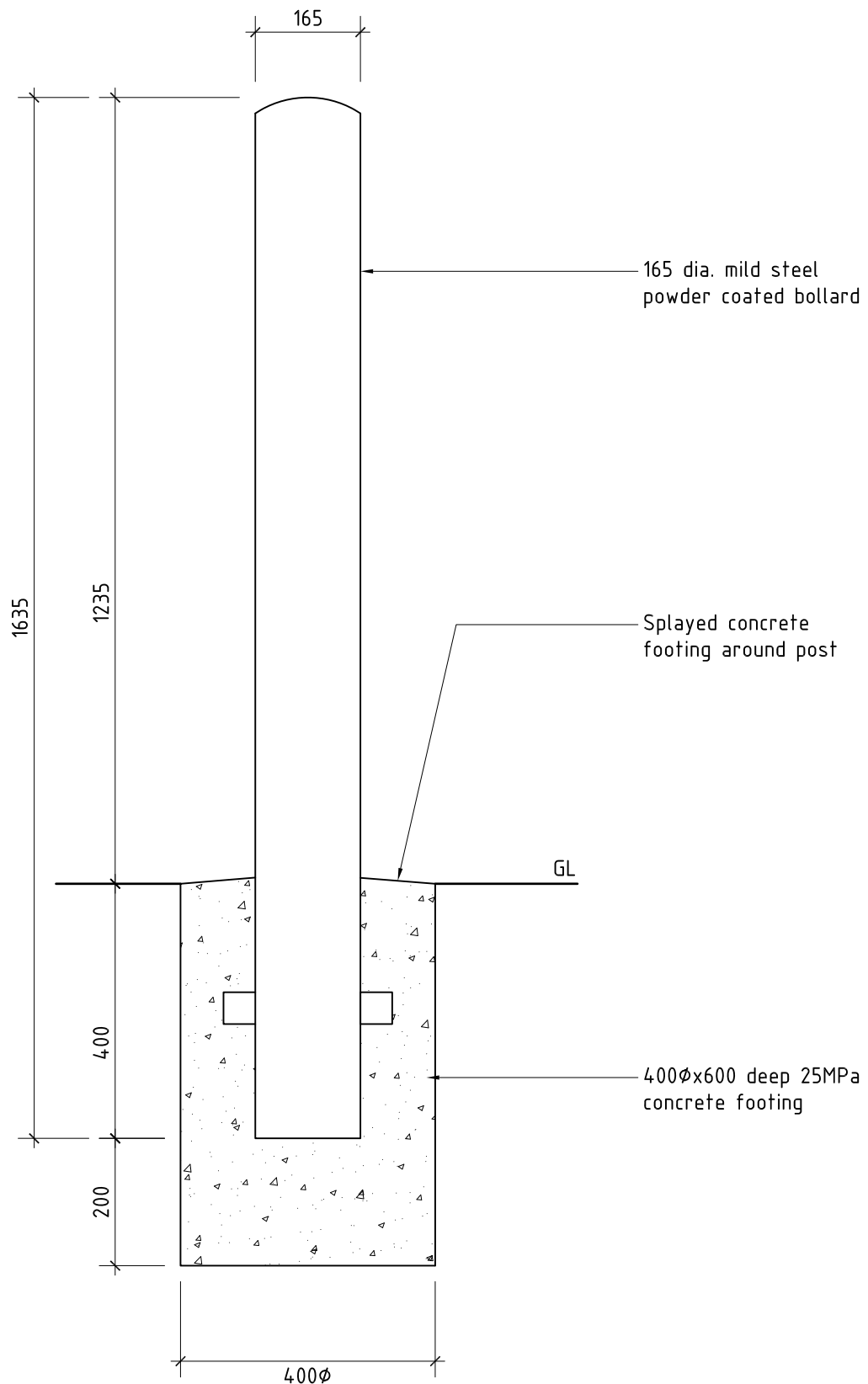


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<b>Suitable Locations</b>	▪ Shopping centres.
<b>Common Location</b>	▪ Heathmont shops.
<b>Dimensions</b>	▪ 165Øx1235mm above ground.
<b>Material</b>	▪ 165Øx1635mm powder coated mild steel. ▪ Powder coat: white, yellow or mist green.
<b>Installation</b>	▪ Fix in concrete footing as shown in Installation Detail.
<b>Product &amp; Supplier</b>	▪ HRB-8 Heavy Duty Round Bollard by Polite Enterprises Corporation.

### 3.10 Heavy Duty Round Steel Bollard

### Detail

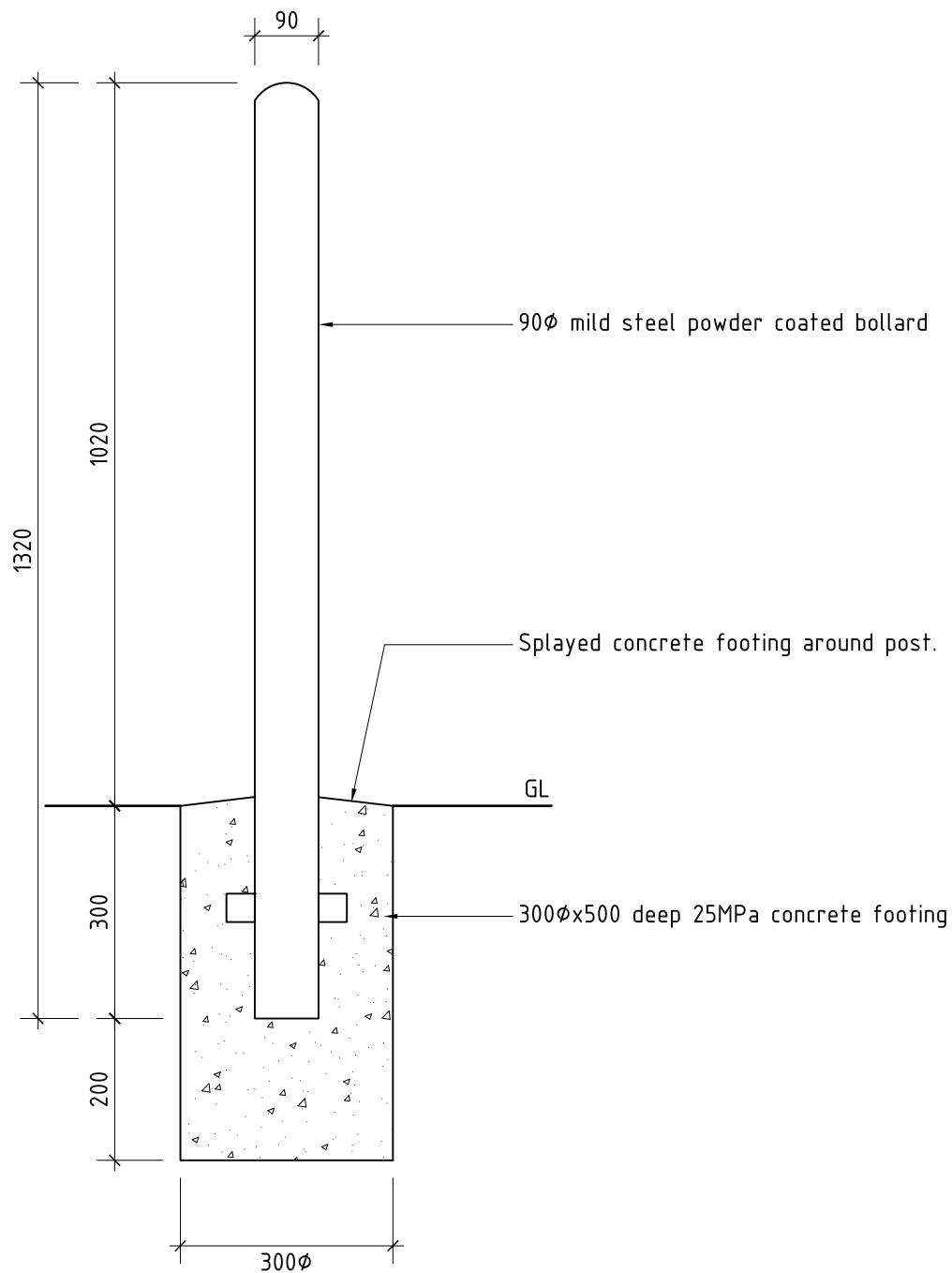


Installation Detail - Section 1:10



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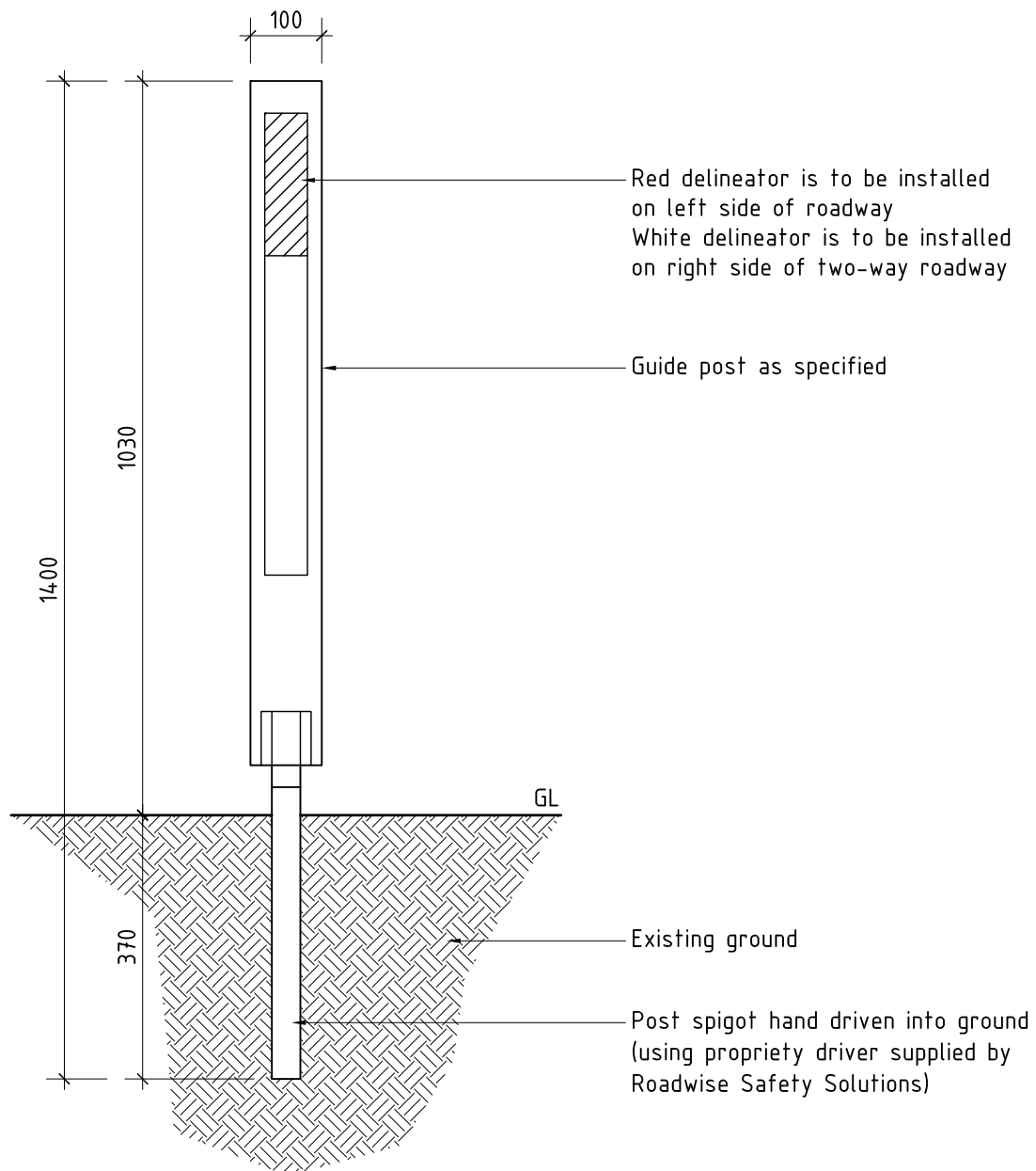
<b>Suitable Locations</b>	▪ Trail entrances
<b>Dimensions</b>	▪ 90Øx1020mm above ground.
<b>Material</b>	▪ 90Øx1320mm powder coated mild steel. ▪ Powder coat: white or yellow.
<b>Installation</b>	▪ Fix into concrete footing as shown in Installation Detail.
<b>Product &amp; Supplier</b>	▪ SRB-6 Standard Round Bollard by Polite Enterprises Corporation.



Installation Detail - Section 1:10



<b>Suitable Locations</b>	<ul style="list-style-type: none"> <li>▪ Road verge, shared paths (culverts/hazard).</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>▪ 100mm wide x 25mm thick x 1030mm high above ground.</li> </ul>
<b>Material:</b>	<ul style="list-style-type: none"> <li>▪ 1400mm long white guide posts with galvanised steel spigots</li> <li>▪ Red and white delineators to guide posts.</li> </ul>
<b>Installation</b>	<ul style="list-style-type: none"> <li>▪ Guide posts are to be installed with hand drivers.</li> <li>▪ When installing posts into sandy or soft ground conditions the tabs on either side of the lower portion of the ground anchor can be twisted with a small tool or shifter creating greater ground anchorage and resistance to removal.</li> <li>▪ Clip the guide post to the driver coupling with the convex side of the ground anchor or the red delineator facing the driver and the driver toe positioned over the guide post driver pin. Ensure the final post installation is <i>vertical and orientated correctly</i>. (Red delineator facing on-coming traffic).</li> <li>▪ Position the ground anchor point and twist the posts back and forth several times to create a depression and a starting point for the post installation.</li> <li>▪ To establish the post in a final vertical position the top of the post and driver should be slightly tilted toward your body as the downward driving action tends to push the post away from you.</li> <li>▪ Drive the post into the ground, avoid consistently striking the upper stop as this will result in the drive fingers lifting off the pin and disengaging from the post.</li> <li>▪ The top of the round housing that contains the drive pin should be about ground level after installation.</li> </ul>
<b>Product &amp; Supplier</b>	<ul style="list-style-type: none"> <li>▪ Box Section Spigot Flexible Guide Post by Roadwise Safety Solutions.</li> </ul>



Installation Detail - Section 1:10