



FOOTING DEPTHS				
	Vertical Height of Pole	Minimum Diameter of Footing W	Minimum Depth of Footing D	
			Good soil, refer Note 3	Average soil, refer Note 3
AT MEDIAN BARRIER	7000	600	2300	3000
	8500			
	10000			
	13000	700	2600	3400
AT VERGE BARRIER	Where the footings for base plate mounted poles are in a concrete verge barrier, the footing details shall be in accordance with Standard Drawing 1392.			

The purpose of this Standard Drawing is to provide typical standard details that shall be used within the limitations specified in the drawing, and shall be assessed by the project designer for project specific slope and soil conditions. When there is uncertainty regarding the application of the standard details on this drawing for a specific project, advice shall be sought from E&T Structures. The details specific to the project shall be shown on the project specific drawings, and certified by an RPEQ Engineer.

- ## SEQUENCE OF INSTALLATION:
- ① Footing shall be accurately located horizontally and vertically, and existing utility service investigation carried out, prior to commencement of excavation. HOLD POINT 1 MRTS92.
 - ② Dig/bore and excavate the hole to the required depth and width for the specified anchor cage. The excavation shall be inspected by the Administrator, HOLD POINT 2 of MRTS92, and surveyed as per MRTS56.
 - ③ Determine finished surface level and suspend the anchor cage in correct position such that the finished surface level is 150 below the top of anchor cage, and at correct orientation relative to the roadway. WITNESS POINT 18 of MRTS56.
 - ④ Threads shall be protected and conduit plugged before pouring concrete.
 - ⑤ Pour concrete footing to bottom of the threads of anchor cage and allow to set. Allow seven day minimum curing period or until 20MPa before installing the pole.
 - ⑥ Locate pole 60 above top of footing. Ensure compressible fibre washers are placed on the levelling nuts.
 - ⑦ Level pole using the levelling nuts, then finger tighten the fixing nuts and temporary nuts on each threaded bar onto the base plate.
 - ⑧ Immediately form mortar pad under base plate using a TMR registered high early strength, rapid setting, flowable, cementitious grout, in accordance with manufacturer's specifications. Mortar pad edges bevelled as shown. Conduit to end flush with top of mortar pad.
 - ⑨ Wait until mortar has achieved final set in accordance with manufacturer's specifications before tensioning the fixing nuts.
 - ⑩ Remove the temporary nuts from top of base plate.
 - ⑪ Tension the remaining fixing nuts to torque of 135 Nm.

- # NOTES:
1. SCOPE : This standard drawing shall be used for base plate mounted pole footing details when installed within concrete barriers, and in good to average soil. Installations proposed for locations in poor soil or sandy materials shall require specialist design by Geotechnical Engineer.
 2. FOOTING for these installations shall be accordance with MRTS92 and the details on this drawing. Selection of depth of footing is to be determined by the designer from the project design documents, such as geotechnical assessment, site survey, and road cross sections.
No permanent forms shall be used for excavation except if required for top 1000.
 3. Good Soil ($S_u \geq 50$ kPa) consists of Stiff to Hard Clayey materials or Weathered Rocks.
Average Soil ($25 \text{ kPa} \leq S_u < 50 \text{ kPa}$) consists of Firm Clayey materials or Compacted Earthfill materials.
Poor Soil ($S_u < 25 \text{ kPa}$) requires require specialist design, and consists of Very Soft to Soft Clayey materials.
 S_u is the undrained shear strength of clayey materials.
Sandy Materials comprising Loose to Very Dense Sands require specialist design.
 4. ANCHOR CAGE shall be in accordance with Standard Drawing 1328 and the details on this drawing. Finished surface level shall be determined prior to commencement of anchor cage installation. Positional tolerances in accordance with MRTS92.
Compressive fibre washers can only be used once. If an existing slip base mount is being reinstated onto its original anchor cage, new fibre washers are required to be used.
 5. CONCRETE shall be in accordance with MRTS70.
MORTAR under the base plate shall be a TMR registered high early strength, rapid setting, flowable, cementitious grout product with the following strengths: 4 hours to 15MPa and 28 days to 32MPa.
 6. For split carriageways, footing and anchor cage length shall be increased 300 (net) for each 300 rise in the split. Refer Standard Drawing 1468.
 7. CONDUITS shall be in accordance with MRTS91 and MRTS200. Refer Standard Drawing 1468 for setout within barriers, and Standard Drawing 1431 for wiring details. Ensure the conduits are not blocked.
 8. Approved pest/vermin proof devices shall be fitted to all conduit openings, and shall be sealed with a PVC cap or approved equivalent.
 9. BASE PLATE MOUNTED POLE shall be in accordance with MRTS97.
 10. ORIENTATION OF HATCHWAY for all poles in concrete barriers shall be in accordance with the details on this drawing and approved by the administrator.
Where poles are located in concrete barriers on the verge, or other pavement near the carriageway, and the area behind the concrete barrier is accessible to maintenance crews, the hatchway shall be orientated perpendicular to the direction of traffic flow, on the verge side. For split carriageways, the hatchway shall be on the higher pavement side of the pole. Where there is no safe access behind the pole, the hatchway shall be located 90° to the direction of travel on the road. The orientation of the hatchway for each pole shall be documented on the as constructed drawings for future reference by maintenance crews.
11. Dimensions are in millimetres.
- REFERENCED DEPARTMENTAL STANDARD DRAWINGS AND SPECIFICATIONS:
- 1328 Road Lighting – Anchor Cage Fabrication Details
 - 1392 Base Plate Mounted Pole – Footing Details for Installation on Slopes of $\geq 1:2$
 - 1431 Road Lighting – Base Plate Mounted Pole Wiring Details for Median Barriers
 - 1468 Single Slope Concrete Barrier – Extruded Median Barrier
 - 1699 Traffic Signals/Road Lighting/ITS – Parts List
 - MRTS56 Construction Surveying; MRTS70 Concrete; MRTS91 Conduits and Pits
 - MRTS92 Traffic Signal and Road Lighting Footings
 - MRTS97 Mounting Structures for Roadside Equipment
 - MRTS200 General Requirements for ITS Infrastructure

Department of Transport and Main Roads		 	
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BASE PLATE MOUNTED POLE WITHIN CONCRETE BARRIER – FOOTING DETAILS AND INSTALLATION OF POLE		A3	Standard Drawing No
		Not to Scale	1395
			Date 3/2025
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