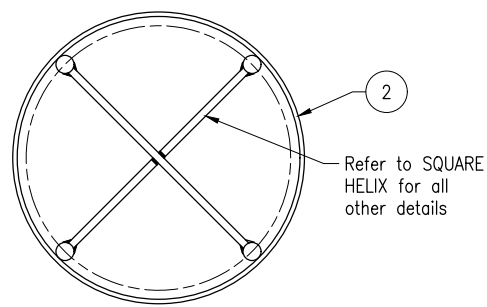


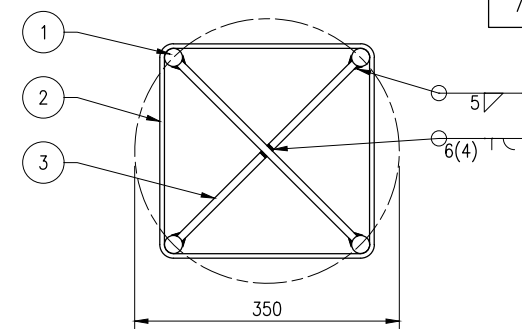
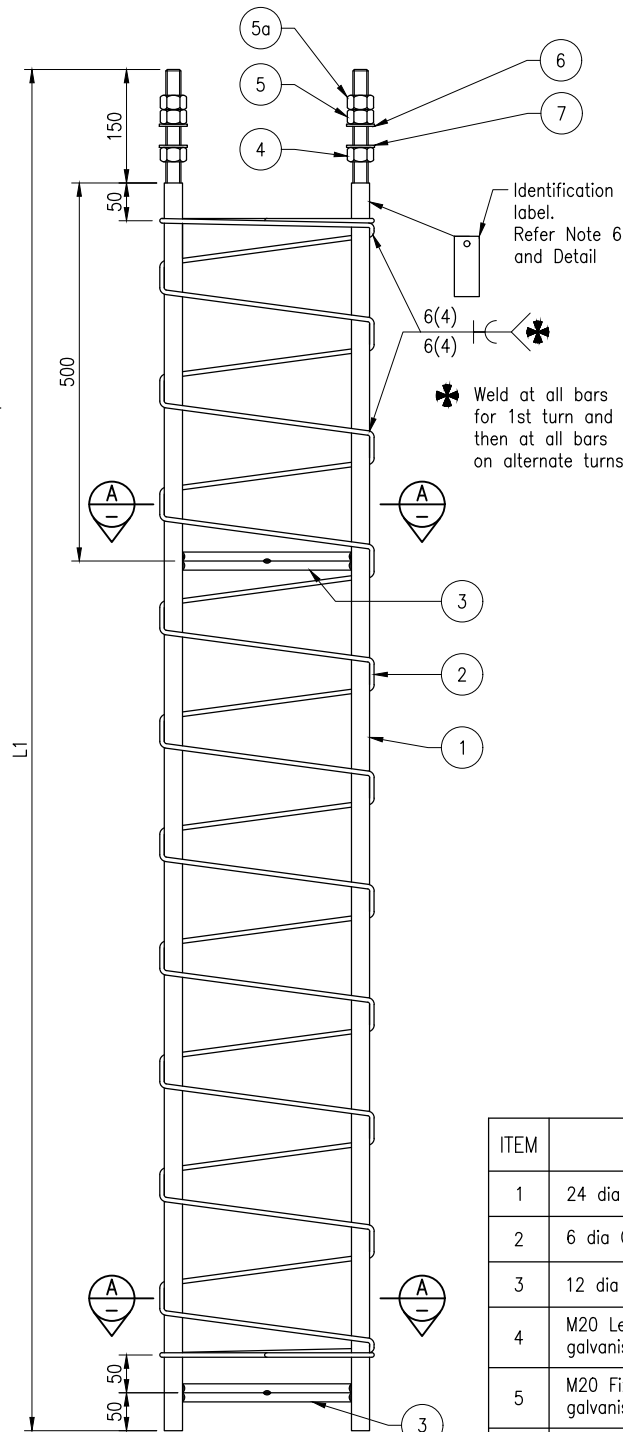
CIRCULAR HELIX DETAIL

Note: Helix to have 1.5 complete turns at both ends.

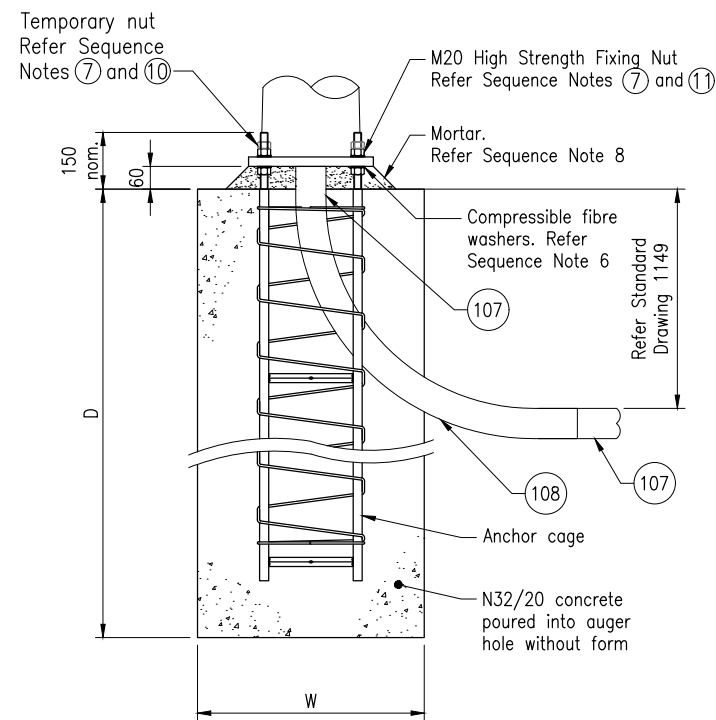
SQUARE HELIX DETAIL



SECTION A CIRCULAR HELIX
ALTERNATIVE CAGE



SECTION A SQUARE HELIX (261)



INSTALLATION DETAILS

FOOTING DIMENSIONS

Ground Profile	Footing diameter W	Footing Depth D	Anchor Cage Length L1	Helix Length L2
Flat to 1:5 batter	600	1400	1400	1320
1:5 to 1:3 batter	600	1800	1800	1400
1:3 to 1:2 batter	600	2100	2100	1500

MATERIALS LIST

ITEM	DESCRIPTION	QTY	REMARKS
1	24 dia Grade D500N deformed bar	4	Bar threaded 150 at top to M20
2	6 dia Grade R250N at 150 pitch	1	Circular or square, refer sections
3	12 dia Grade R250N bar	4	Welded together in pairs and to treaded bar to form anchor cage
4	M20 Leveling nuts, hex, high strength galvanised	4	To suit galvanised M20 threaded bar
5	M20 Fixing nuts, hex, high strength galvanised	4	To suit galvanised M20 threaded bar
5a	M20 Temporary nuts, hex, high strength galvanised	4	To suit galvanised M20 threaded bar
6	Washers, structural, galvanised	4	To suit galvanised M20 threaded bar
7	Compressible Fibre Washers	4	To suit galvanised M20 threaded bar

EXAMPLE OF IDENTIFICATION LABEL

ACN Number	12345
Manufacturer's Name/Trade Mark	Big Pole Co.
Mass	15kg
Month/Year of manufacture	9/03

The purpose of this drawing is to provide typical standard details. The fitness for purpose of this drawing for a specific project shall be determined and certified by an RPEQ engineer. Additional project specific details may be required to be included in the scheme drawings.

SEQUENCE OF INSTALLATION:

1. Locate pole position relative to the roadway after check for services and determine crossfall.
2. Dig/bore and excavate hole.
3. Determine finished surface level and suspend anchor bar cage in correct position relative to the finished surface level.
4. Threads to be protected and conduit plugged before pouring concrete.
5. Pour concrete footing to within 150 of top of anchor bar cage and allow to set.
6. Locate pole 60 above finished footing level. Ensure compressible fibre washers are placed on the levelling nuts.
7. Level pole, finger tighten M20 high strength fixing nut and M20 high strength temporary nut on each threaded bar on base plate.
8. Immediately form mortar pad under base plate using one of the following methods. Mix and apply mortar in accordance with manufacturer's specifications. Mortar pad edges bevelled as shown.
 - (a) Pack Parchem Conbextra HES mortar or approved equivalent in place. Mortar mix to be in plastic consistency, or
 - (b) Pour Pachem Conbextra HES grout or approved equivalent in place. Grout mix to be in flowable consistency.
9. Wait until mortar has achieved final set in accordance with manufacturer's specifications before tensioning nuts.
10. Remove temporary nuts from top of base plate.
11. Tension the remaining nuts to 135 Nm minimum.

NOTES:

1. SCOPE: This Standard Drawing provides fabrication and installation details of the anchor cage to suit the light poles specified in Standard Drawing 1682, and in accordance with MRTS92 and MRTS97. Anchor cages have been designed to withstand wind conditions as defined in MRTS97. The details on this drawing apply to average good soils as well as poor soils, consisting of soft clay, loose sand and soft sand/clay mixes, with batter slopes less than or equal to 1:2. The details on this drawing do not apply to saturated ground conditions, and for batter slopes steeper than 1:2. In such cases a specialist design is required. Either square or circular helix reinforcing may be used to fabricate anchor cage.
2. TOLERANCE: General $\pm 5\text{mm}$ PCD $\pm 1\text{mm}$.
3. REINFORCING STEEL shall be in accordance with Standard Drawing 1044, and with MRTS71 and AS/NZS 4671. Deformed bars Grade D500N. Round bars Grade R250N. All carbon reinforcing steel shall be ACRS certified. Bars shall be threaded in accordance with AS 1275 before galvanising. Prior to galvanizing all weld splatter and welding slag is to be removed. Completed Anchor Cage shall be hot dip galvanised to AS/NZS 4680.
4. Nuts Class 8 and structural washers for Class 8.8 bolts shall be supplied in accordance with MRTS78. Assembly testing of threaded bar and nut shall be in accordance with MRTS78 with test loads as for Class 4.6 bolts. All nuts and washers shall be hot dip galvanized to AS 1214.
5. WELDING symbols conform to AS 1101.3. All welding to AS/NZS 1554.3. Welding consumables to be controlled hydrogen type: G493 to AS/NZS ISO 14341-B or T493 to AS/NZS ISO 17632-B unless shown otherwise.
6. Anchor cages shall have a stainless steel or aluminum identification label, indelibly marked with manufacturer's identification, the mass of the anchor cage, and the month/year of manufacture. This label shall be securely attached to the upper portion of 1-24 dia bar of the assembled cage, immediately below the threaded portion, as shown in this drawing.
7. CONCRETE shall be S25/20 to MRTS70. Concrete shall be poured directly against augered hole. Mechanically vibrate full depth of concrete. Concrete shall be minimum 7 days old and minimum 25MPa before sign erection.
8. DIMENSIONS are in millimetres unless shown otherwise.

REFERENCED DOCUMENTS:

- Departmental Standard Drawings:
 1682 Pathway Lighting – Typical Lighting Requirements for Off-Road Pathways
 1699 Traffic Signals/Road Lighting/ITS – Parts List
- Departmental Specifications:
 MRTS70 Concrete
 MRTS71 Reinforcing Steel
 MRTS78 Fabrication of Structural Steelwork
 MRTS92 Traffic Signal and Road Lighting Footings
 MRTS97 Mounting Structures for Roadside Equipment

Department of Transport and Main Roads			
PATHWAY LIGHTING			
ANCHOR CAGE FABRICATION AND INSTALLATION DETAILS		A3	Standard Drawing No
		Not to Scale	1683
			Date 7/2020