



OUTREACH ARRANGEMENT	MOUNTING HEIGHT (m)	OUTREACH LENGTH (m)	PILE DEPTH - X (m)	
			Ø600mm	Ø500mm *
SINGLE	±6.5	± 1.5, 2 & 3	1.8	1.8
	7	2	1.8	1.8
	7.5	3, 4.5 & 6	2.0	2.0
	9	2	2.0	2.0
	9	4.5 & 6	2.1	2.1
	10.5	2	2.1	2.1
DOUBLE	12.0	4.5 & 6	2.2	2.3
	±7.5	±2	1.8	2.0
		3	2.0	2.0
		4.5	2.0	2.1
	9	2 & 3	2.2	2.3
		4.5	2.3	2.4
		2 & 3	2.3	2.4
		4.5	2.4	2.5
	12	2, 3 & 4.5	2.5	2.6

\* THE SIZE OF THE RAG BOLT ASSEMBLY AND THE REINFORCING CAGE MEANS THAT 40MPa CONCRETE MUST BE USED FOR A 500mm PIER TO ENSURE THAT THE SPECIFIED COVER IS ACHIEVED.

TABLE 1

**CONSTRUCTION PROCEDURE**

- HOLE MAY HAVE TO BE HAND DUG IF UNSURE OF OTHER UNDERGROUND SERVICES.
- PLACE 100x100mm TIMBERS ON 2 SIDES OF THE HOLE TO ACT AS TEMPORARY FOOTINGS. SPIKE FOOTINGS INTO PLACE. FOR UNLEVELLED SITUATIONS, THE TEMPORARY FOOTINGS MAY INCLUDE A FORMWORK BOX TO RAISE THE HEIGHT OF THE PLINTH MOULD BY A MAXIMUM OF 100mm.
- PLINTH MOULD TO BE PAINTED WITH A FORMING OIL WHICH WILL ACT AS A RELEASING AGENT.
- FIT RAGBOLT ASSEMBLY TO PLINTH MOULD. MAKE SURE THAT 100mm OF BOLT PROTRUDES FROM THE TOP OF THE MOULD.
- PLACE PLINTH MOULD IN POSITION. LEVEL MOULD USING PACKING PIECES, NAIL THROUGH HOLES FIXING MOULD TO TIMBER FOOTINGS.
- Ø50mm UPVC CONDUIT IS TO BE INSTALLED INTO SIDE OF HOLE AS SHOWN TO ALLOW POWER CABLE ENTRY FROM UNDERGROUND TRENCH. A MINIMUM OF TWO CABLE ENTRIES SHALL BE INSTALLED, SPACED 50mm APART.
- AFTER REMOVAL THE PLINTH MOULD IS TO BE CLEANED AND REPAINTED WITH FORMING OIL BEFORE STORAGE.

**GENERAL NOTES**

- STABILITY OF THE BUILDINGS, TRANSFORMERS & OTHER EQUIPMENT & FOUNDATIONS DURING CONSTRUCTION & THE CONSEQUENCES OF EXCAVATION IN THE VICINITY OF ADJACENT STRUCTURES ARE THE BUILDER'S RESPONSIBILITY.
- ALL PROPRIETARY ITEMS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ALL WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE CURRENT STANDARDS AUSTRALIA CODES AND BUILDING CODE OF AUSTRALIA.
- DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL LEVELS ARE IN METRES ON AUSTRALIAN HEIGHT DATUM UNLESS NOTED OTHERWISE.
- ELECTRICAL SAFETY SHALL BE IN ACCORDANCE WITH AUSGRID'S ELECTRICAL SAFETY RULES, NS 156 AND AS REQUIRED BY AUSGRID SUPERINTENDENT.
- MAINTAIN EARTHING GRID AT ALL TIMES. MAKING & BREAKING OF EARTHING CONNECTIONS WILL BE BY AUSGRID.
- HANDLE & DISPOSE OF ALL CONTAMINATED MATERIAL IN ACCORDANCE WITH RELEVANT WHS ACTS & REGULATIONS AND AUSGRID'S ENVIRONMENTAL HANDBOOK NS174C.
- THIS FOOTING IS TO BE USED FOR STANDARDS IN TABLE 1. LOADING SHALL BE IN ACCORDANCE WITH DRG : 118244. ULTIMATE WIND SPEED IS 45m/s, TERRAIN CATEGORY 2.

**FOUNDATIONS**

- GROUND IS ASSUMED TO BE MEDIUM DENSE, WELL GRADED SAND ( $\phi = 30^\circ$ ), OR SOFT CLAY ( $C_u = 20kPa$ ) OR BETTER.
- FOOTING EXCAVATIONS SHALL BE CLEANED TO REMOVE ALL LOOSE OR SOFTENED MATERIAL PRIOR TO PLACING OF CONCRETE.
- CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION. IF EXCAVATIONS ARE LIKELY TO REMAIN OPEN FOR MORE THAN 24 HOURS A BLINDING LAYER OF CONCRETE SHALL BE PLACED TO PROTECT THE FOUNDATION BASE.
- FOOTINGS/PILES TO BE LOCATED CENTRAL UNDER COLUMNS UNLESS NOTED OTHERWISE.
- THE STREETLIGHT COLUMN PILE FOOTINGS ON THIS DRAWING SHALL ONLY BE USED ON STABLE GROUND. FOR UNLEVELLED SITUATIONS, FOOTINGS SHALL BE INSTALLED AT A LEVEL SO THAT THE TOP OF THE PLINTH MOULD IS ABOVE FINISHED GROUND LEVEL BY A MINIMUM OF 50mm. THIS IS TO ENSURE THE BASE PLATE OF THE STEEL COLUMN AND THE THREADED ROD AND NUT ARE NOT COVERED BY SOIL OR DEBRIS. PILE FOOTINGS SHALL BE A MINIMUM OF 20mm BELOW THE FINISHED GROUND LEVEL WHERE THE FOOTING IS NEAR THE TOP OF AN EMBANKMENT, IN THE ZONE OF INFLUENCE OF A RETAINING STRUCTURE OR IN EXTREME UNLEVELLED SITUATIONS, A STRUCTURAL ENGINEER SHALL BE CONSULTED.

**NS130**

- THE WORK SHALL ALSO COMPLY WITH THE REQUIREMENTS OF AUSGRID'S NETWORK STANDARD NS130.

**CIVIL SAFETY NOTES**

- THE DESIGNER SAFETY REPORT PREPARED BY AUSGRID DESIGNERS IS INTENDED TO MEET THE REQUIREMENTS OF THE WHS ACT (NSW) & CLAUSE 295 OF WHS REGULATION (NSW) - LATEST EDITIONS. STANDARD DESIGN - DESIGNER SAFETY REPORT - CIVIL/STRUCTURAL WORKS - TRIM REFERENCE D13/588996 SHALL BE READ IN CONJUNCTION WITH THESE DRAWINGS. THIS DESIGNER SAFETY REPORT CONSIDERS CIVIL/STRUCTURAL DESIGN ISSUES ONLY AND DOES NOT ADDRESS ELECTRICAL, EARTHING AND SITE SPECIFIC ISSUES ETC WHICH SHOULD BE ADDRESSED BY THE RELEVANT DESIGN ENGINEERS.
  - CERTIFICATION OF THE COMPLETED WORKS IS REQUIRED IN WRITING FROM THE PROJECT STRUCTURAL ENGINEER. CERTIFICATION SHALL BE OBTAINED TO ENSURE COMPLIANCE WITH WH&S SAFETY IN DESIGN LEGISLATION AND NS 261. CERTIFICATION CANNOT BE PROVIDED UNLESS THERE IS COMPLIANCE WITH THE NOMINATED INSPECTIONS. AS A MINIMUM, INSPECTIONS ARE REQUIRED BEFORE WORK IS COVERED UP. I.E., BEFORE A CONCRETE POUR OR BEFORE CLADDING IS INSTALLED. A COMPLETION INSPECTION WILL ALSO BE REQUIRED.
  - IF THE BUILDER IS UNABLE TO CONFIRM THE GROUND CONDITIONS IDENTIFIED IN NOTE F1 THEY SHALL SEEK ADVICE FROM A COMPETENT PERSON.
  - IF THE PROPOSED STREETLIGHT IS TO BE LOCATED NEAR THE TOP OF A BANK OR WITHIN THE ZONE OF INFLUENCE OF A RETAINING STRUCTURE OR ANY OTHER POTENTIALLY UNSTABLE SITUATION, PROJECT STRUCTURAL ENGINEER SHALL BE CONSULTED TO PROVIDE A SITE SPECIFIC DESIGN.
- THIS IS A STANDARD DRAWING SO SITE SPECIFIC SAFETY ISSUES HAVE NOT BEEN CONSIDERED. SITE SPECIFIC ISSUES SHALL BE CONSIDERED BY THE PROJECT DESIGN TEAM. THE SITE SPECIFIC DESIGNER SAFETY REPORT SHALL INCORPORATE ANY UNUSUAL HAZARDS IDENTIFIED IN THE STANDARD DESIGN - DESIGNER SAFETY REPORT.

**CONCRETE NOTES:**

C1. ALL CONCRETE MUST BE IN ACCORDANCE WITH THE CURRENT AS CODE 3600. ALL CONCRETE TO BE MANUFACTURED AND SUPPLIED IN QUALITY CONTROLLED CERTIFIED PLANT, IN ACCORDANCE WITH AS 1379. NO SITE MIXING PERMITTED. CONCRETE TESTS AS REQUIRED BY AS 1379 - CERTIFICATES TO BE PROVIDED AS FOLLOWS:

ITEM	REQUIREMENT
- SLUMP	- AS PER CODE
- 7 DAY STRENGTH	- IF REQUIRED
- 28 DAY CHARACTERISTIC STRENGTH	- FIRST TRUCK, 3rd TRUCK AND EVERY 5th TRUCK FOLLOWING BUT NOT LESS THAN CODE
- CHLORINE & SULPHATE CONTENT	- AS PER CODE
- DRYING SHRINKAGE	- AS PER CODE
- AIR CONTENT	- NOT REQUIRED

C2. CONCRETE QUALITY WATER/CEMENT RATIO SHALL NOT BE GREATER THAN 0.45. NO WATER TO BE ADDED ON SITE.

ELEMENT	MAX. AGG SIZE	SLUMP	CHARACTERISTIC STRENGTH F <sub>c</sub> (AS 3600) AT 28 DAYS	MAXIMUM SHRINKAGE STRAIN
6000 PIERS	20 mm	80 mm	32 MPa	650
5000 PIERS	20 mm	80 mm	40 MPa	650

- FOR CLEAR CONCRETE COVER TO REINFORCEMENT REFER SECTION.
- NO ADMIXTURES ARE TO BE ADDED TO CONCRETE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE AUSGRID STRUCTURAL ENGINEER.
- SPICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN & SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- ALL REINFORCEMENT TO BE ACCURATELY PLACED IN POSITION SHOWN & TIED & ADEQUATELY SUPPORTED TO GIVE SPECIFIED COVER.
- REINFORCING NOT REQUIRED FOR PILES  $\leq 1800$ mm IN LENGTH.
- CONDUITS PIPES ETC. MUST NOT BE PLACED IN CONCRETE COVER & NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE ALLOWED UNLESS APPROVED IN WRITING BY THE AUSGRID STRUCTURAL ENGINEER.
- ALL BAR CHAIRS TO BE PLASTIC OR CONCRETE TYPE UNLESS NOTED OTHERWISE.

**C10.**

REINFORCEMENT SYMBOLS	
RL	DENOTES RECTANGULAR LOW DUCTILITY REINFORCING FABRIC TO AS/NZS 4671
SL	DENOTES SQUARE LOW DUCTILITY REINFORCING FABRIC TO AS/NZS 4671
R	DENOTES STRUCTURAL GRADE ROUND BAR TO AS/NZS 4671
N	DENOTES 500 GRADE DEFORMED BAR NORMAL DUCTILITY TO AS/NZS 4671
C	DENOTES COLD WORKED DEFORMED BAR TO AS/NZS 4671
THE NUMBER FOLLOWING THE SYMBOLS R, N AND C IS THE BAR DIAMETER IN MILLIMETRES	

ITEM	DESCRIPTION	DRG No.	STOCK CODE	QTY
4	CAP - CONDUIT, Ø50mm UPVC		179754	4
3	BEND - CONDUIT, Ø50mm, 90°, 320mm RADIUS, UPVC		52415	2
2	CONDUIT - Ø50mm, UPVC (SEE NOTE 6)		78022	AS REQUIRED
1	RAGBOLT ASSEMBLY FOR STEEL LIGHTNING STANDARD	514607	H5880	1

AMENDMENTS						
AMD	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
9	23/10/2019	TABLE 1 REVISED TO INCLUDE 500 DIA PILE INFORMATION	ALEX SPITERI		PAUL LOVARINI	P. LOVARINI
10	03/02/2020	REINFORCEMENT COVER REVISED	ALEX SPITERI		DAVID STANBURY	P. LOVARINI
11	12/04/2021	NOTE C7 AND TABLE 1 REVISED. ISSUED FOR CONSTRUCTION	M.LJOLIC	D.STANBURY	P.LOVARINI	K.GALLEN
12	04/10/2023	GROUT SLOT ADDED. ISSUED FOR CONSTRUCTION	M.LJOLIC	D.STANBURY	P.LOVARINI	K.GALLEN

DESCRIPTION	DRG No.
LIGHTING COLUMN CONCRETE PLINTH STEEL MOULD FOR USE WITH RAGBOLT ASSEMBLY	514020
RAGBOLT ASSEMBLY FOR STREET LIGHTING STANDARDS	514607
STREET LIGHTING STEEL STANDARDS BASE PLATE MOUNTED LIMITING DIMENSIONS	115041
STREET LIGHTING COLUMNS WIND LOADING ALLOWABLE CONDITIONS	118244

**Ausgrid**  
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ISSUED FOR CONSTRUCTION ISSUE

SCALE: NTS  
DESIGNED: -  
DRAWN: PETER SAUNDERS  
CHECKED: D.R.G.  
APPROVED: I NICHOLS  
DATE: 20/12/94  
TRIM REF: -  
PROJECT NUMBER: -

STANDARD CONSTRUCTION STREET LIGHTING COLUMN PILE FOOTING DETAILS

DRAWING No: **514087** SHEET 1 AMD 12 SIZE A1