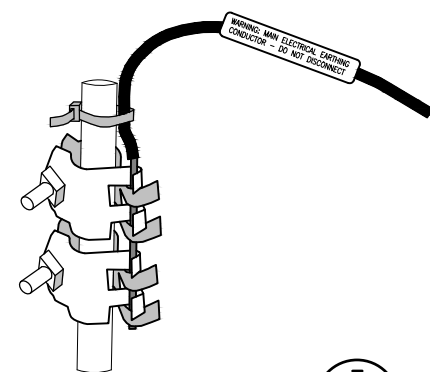
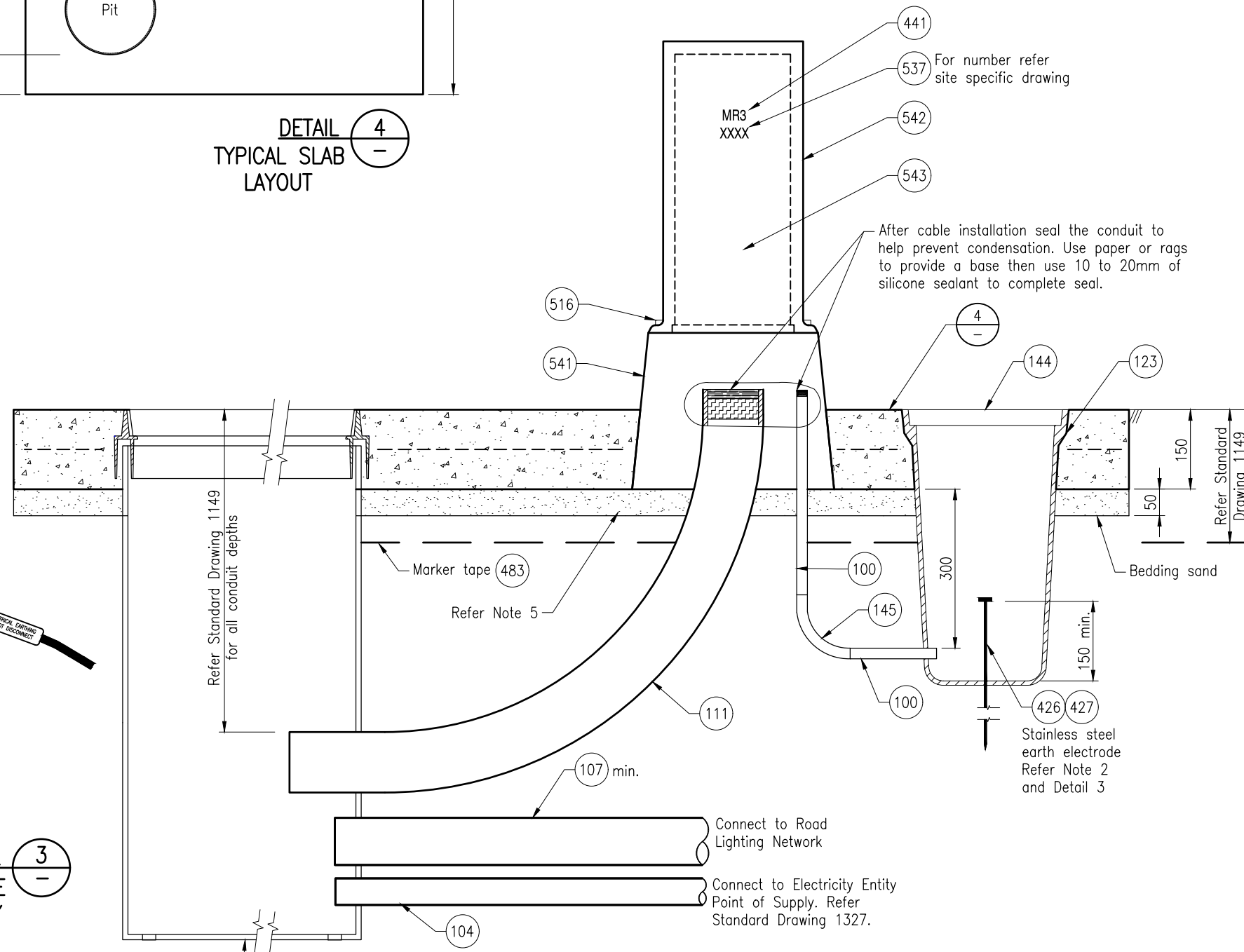


DETAIL 4
TYPICAL SLAB LAYOUT



DETAIL 3
EARTH STAKE, CABLE & CLAMP ASSEMBLY
N.T.S



EQUIPMENT DETAIL (ONLY)
REFER DETAIL 4 FOR TYPICAL LAYOUT

NOTES:

- (a) Electrical switchboards shall wherever possible be located adjacent to the property boundary with the door facing the roadway.
- (b) Electrical switchboards shall wherever possible be located outside the clear zone (refer RPDM - Volume 3, Part 6). Where site constraints require that electrical switchboards are situated within the clear zone then an assessment in accordance with the provisions of RPDM - Volume 3, Part 6 must be carried out to determine whether protection (i.e. by safety barrier) is required.
- (a) Ensure there are no underground services in the vicinity prior to installing earth electrode.
- (b) Earth pits shall be minimum of 3m apart.
- (c) The earth electrode must be driven no less than 1300mm vertically into the ground, leaving a minimum 150mm exposed length of the electrode in the base of the pit.
- (d) Earth rods are not to be cut under any circumstances. In difficult soils, dig out the appropriate P3 pit size, auger a 75mm hole vertically to 1300mm, install the earth electrode in the centre of the hole, fill the auger hole with LSI RESLO or equivalent, then install the pit over the earth electrode.
- (e) Only one earth electrode connected to one main earth conductor permitted in one earth pit.
- (f) For existing no.7 pit and pits of greater depth, a 1.8m earth stake is to be used, where it is not viable to install a separate adjacent dedicated earth P3 pit with a new 1.5m earth stake.
- (g) Attach a permanent label to the main earthing conductor at the connection to the earth electrode stating: "WARNING: MAIN ELECTRICAL EARTHING CONDUCTOR - DO NOT DISCONNECT"
- The URD pillar and electrical components details shall comply with MRTS228 and MRTS256.
- Enclose connectors, item (419), and cable tie, item (410), in junction box for installation in the field.
- Pillar base foundation shall be stabilised sand at 20:1 Sand:Cement ratio by weight.
- Attach a permanent label in the switchboard stating: "EARTH ELECTRODE IN ADJACENT EARTH PIT"
- Dimensions are in millimetres unless shown otherwise.

ASSOCIATED DEPARTMENTAL DOCUMENTS:

- Standard Drawings Specifications
- Traffic and Road Use Management Manual (TRUM) - Volume 4 Part 3 Electrical Design for Roadside Devices
- Road Planning and Design Manual (RPDM) - Volume 3 Part 6 Roadside Design, Safety and Barriers

REFERENCED DOCUMENTS:

- Departmental Standard Drawings:
 - 1149 Traffic Signals/Road Lighting/ITS - Installation of Underground Electrical and Communications Conduit
 - 1327 Traffic Signals/Road Lighting - Mains Connections
 - 1623 Road Lighting - Switchboard Typical Layout and Circuit Diagram MEN System
 - 1676 Road lighting - Switchboard Typical Pillar Layout
 - 1699 Traffic Signals/Road Lighting/ITS - Parts List indicated as (XXX)

Departmental Specifications:

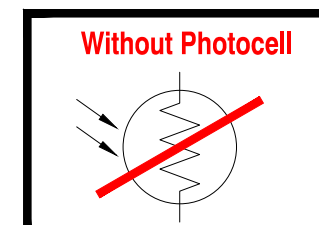
- MRTS91 Conduits and Pits
- MRTS92 Traffic Signal and Road Lighting Footings
- MRTS210 Provision of Mains Power
- MRTS228 Electrical Switchboards
- MRTS256 Power Cables

Australian Standards:

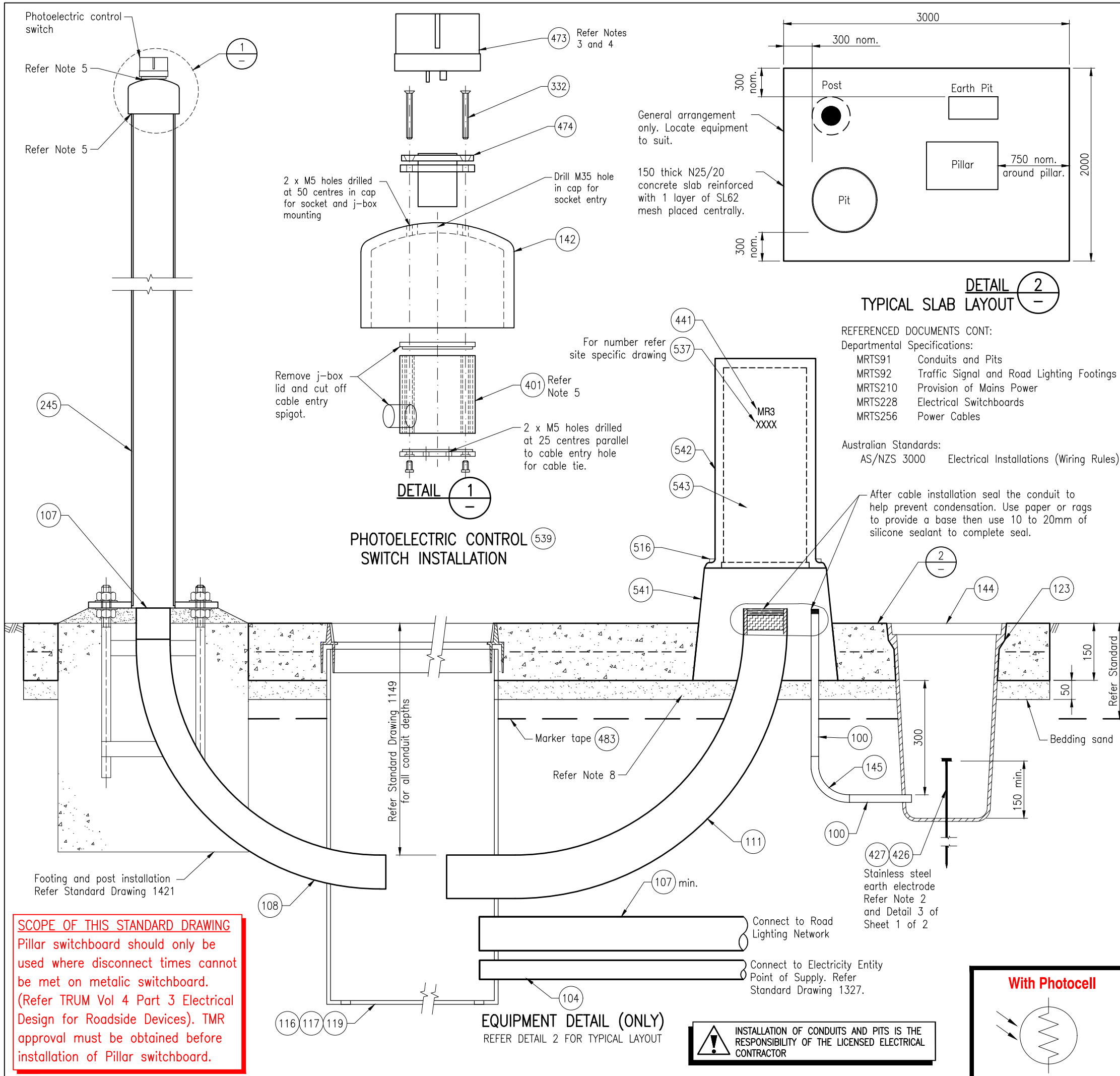
- AS/NZS 3000 Electrical Installations (Wiring Rules)

SCOPE OF THIS STANDARD DRAWING
Pillar switchboard should only be used where disconnect times cannot be met on metallic switchboard. (Refer TRUM Vol 4 Part 3 Electrical Design for Roadside Devices). TMR approval must be obtained before installation of Pillar switchboard.

INSTALLATION OF CONDUITS AND PITS IS THE RESPONSIBILITY OF THE LICENSED ELECTRICAL CONTRACTOR



Department of Transport and Main Roads			
ROAD LIGHTING			
SWITCHBOARD PILLAR MOUNTED SHEET 1 OF 2		A3 Not to Scale	Standard Drawing No 1430 Date 7/2022



- NOTES:**
- (a) Electrical switchboards shall wherever possible be located adjacent to the property boundary with the door facing the roadway.
 - (b) Electrical switchboards shall wherever possible be located outside the clear zone (refer RPDM – Volume 3, Part 6). Where site constraints require that electrical switchboards are situated within the clear zone then an assessment in accordance with the provisions of RPDM – Volume 3, Part 6 must be carried out to determine whether protection (i.e. by safety barrier) is required.
 - (a) Ensure there are no underground services in the vicinity prior to installing earth electrode.
 - (b) Earth pits shall be minimum of 3m apart.
 - (c) The earth electrode must be driven no less than 1300mm vertically into the ground, leaving a minimum 150mm exposed length of the electrode in the base of the pit.
 - (d) Earth rods are not to be cut under any circumstances. In difficult soils, dig out the appropriate P3 pit size, auger a 75mm hole vertically to 1300mm, install the earth electrode in the centre of the hole, fill the auger hole with LSI RESLO or equivalent, then install the pit over the earth electrode.
 - (e) Only one earth electrode connected to one main earth conductor permitted in one earth pit.
 - (f) For existing no.7 pit and pits of greater depth, a 1.8m earth stake is to be used, where it is not viable to install a separate adjacent dedicated earth P3 pit with a new 1.5m earth stake.
 - (g) Attach a permanent label to the main earthing conductor at the connection to the earth electrode stating: "WARNING: MAIN ELECTRICAL EARTHING CONDUCTOR – DO NOT DISCONNECT"
 - The URD pillar, photoelectric control switch and socket and electrical component shall comply with MRTS228 and MRTS256.
 - Photoelectric control switch and socket to face south.
 - Seal between the photoelectric control switch socket and the pressure cap and between the pressure cap and the traffic signal post with silicone sealant.
 - Enclose connectors, item 419, and cable tie, item 410, in junction box for installation in the field.
 - Install cable 034 between photocell and switchboard.
 - Pillar base foundation shall be stabilised sand at 20:1 Sand:Cement ratio by weight.
 - Attach a permanent label in the switchboard stating: "EARTH ELECTRODE IN ADJACENT EARTH PIT"
 - Dimensions are in millimetres unless shown otherwise.

REFERENCED DOCUMENTS CONT:

Departmental Specifications:
 MRTS91 Conduits and Pits
 MRTS92 Traffic Signal and Road Lighting Footings
 MRTS210 Provision of Mains Power
 MRTS228 Electrical Switchboards
 MRTS256 Power Cables

Australian Standards:
 AS/NZS 3000 Electrical Installations (Wiring Rules)

ASSOCIATED DEPARTMENTAL DOCUMENTS:

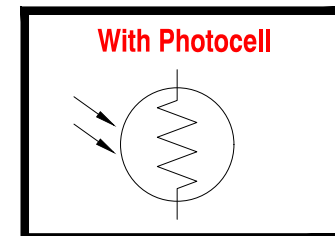
Standard Drawings Specifications
 Traffic and Road Use Management Manual (TRUM)
 – Volume 4 Part 3 Electrical Design for Roadside Devices
 Road Planning and Design Manual (RPDM)
 – Volume 3 Part 6 Roadside Design, Safety and Barriers

REFERENCED DOCUMENTS:

Departmental Standard Drawings:
 1149 Traffic Signals/Road Lighting/ITS – Installation of Underground Electrical and Communications Conduit
 1327 Traffic Signals/Road Lighting – Mains Connections
 1421 Traffic Signals – Traffic Signals Post and Footing Installation Details
 1422 Traffic Signals – Ragbolt Sub-Assembly Fabrication Details
 1428 Traffic Signals – Traffic Signal Post Base Mounted
 1623 Road Lighting – Switchboard Typical Layout and Circuit Diagram MEN System
 1676 Road lighting – Switchboard Typical Pillar Layout
 1699 Traffic Signals/Road Lighting/ITS – Parts List indicated as (XXX)

SCOPE OF THIS STANDARD DRAWING
 Pillar switchboard should only be used where disconnect times cannot be met on metallic switchboard. (Refer TRUM Vol 4 Part 3 Electrical Design for Roadside Devices). TMR approval must be obtained before installation of Pillar switchboard.

INSTALLATION OF CONDUITS AND PITS IS THE RESPONSIBILITY OF THE LICENSED ELECTRICAL CONTRACTOR



Department of Transport and Main Roads				ROAD LIGHTING	
ROAD LIGHTING				SWITCHBOARD PILLAR MOUNTED SHEET 2 OF 2	
A3	Not to Scale	Standard Drawing No 1430		Date 7/2022	