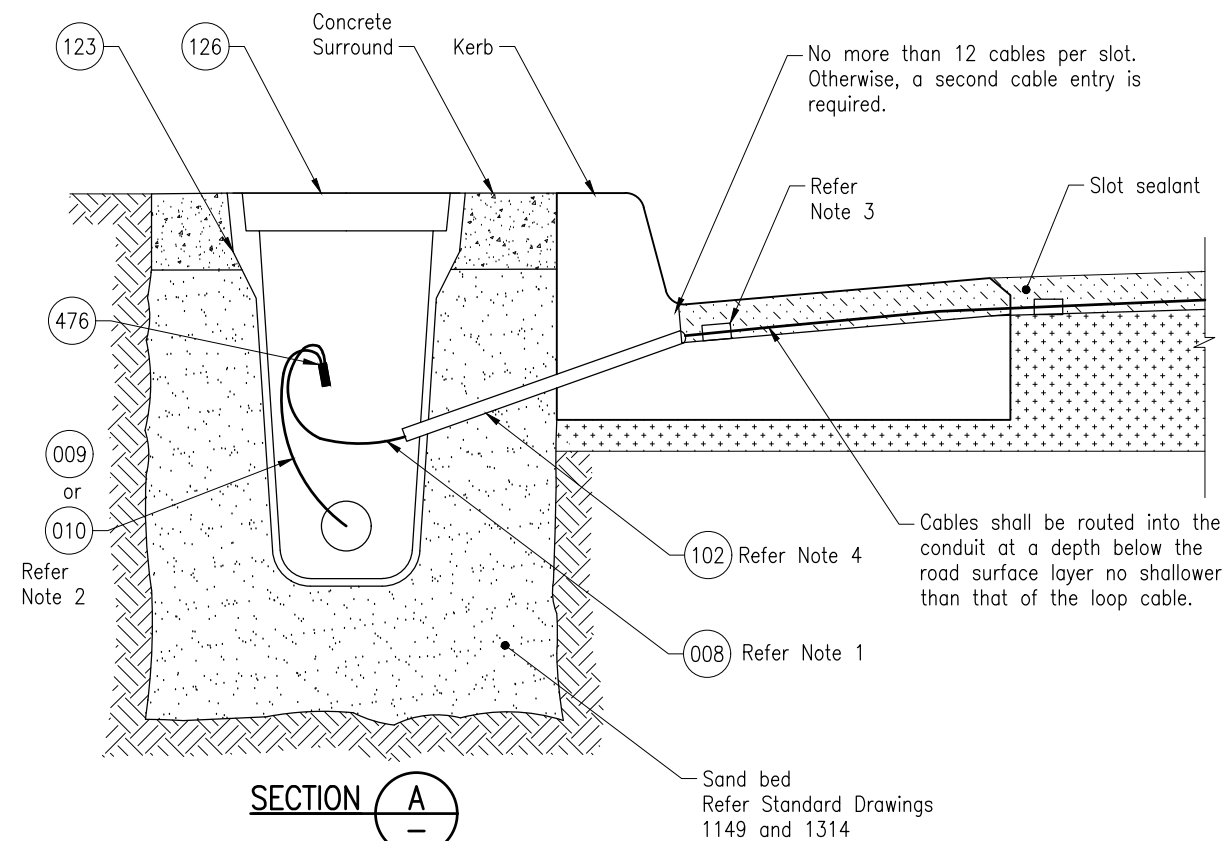


TYPICAL RECTANGULAR LOOP CABLE  
WIRING FOR 4 POSSIBLE ENTRY POSITIONS  
(DIAGRAMMATIC)



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

## NOTES:

1. Preformed loop cable shall comply with MRTS257.
2. Loop feeder cable shall comply with AS/NZS 2276 – Part 2.
3. Fit retaining wedges at 300–400mm spacing to ensure loop cable does not move while sealant is applied. The wedge material is to be resilient and impervious to water.
4. Item 102 is indicative only. Use larger diameter conduit if required to accommodate additional cables.
5. Loop cable and its lead-in shall be continuous. i.e., no joints permitted.
6. Lead-in to each loop shall be twisted together at minimum 1 turn per 100mm.
7. Loop detector cables and feeder cables shall be jointed in assigned pits. Each joint shall be separately insulated and sealed to prevent ingress of water.
8. All loop feeders shall be returned to the cable pit in the footpath or the median where the median is over 2 metres wide. However, for right turn presence loops or loops in the two lanes adjacent to the median on approaches with four or more lanes, feeders may be returned to a cable pit in the median (if available).
9. All loop cable ends shall be labeled with Helagrip markers (HG2–5) or equivalent, with Start (S), Finish (F) and numbered as per the design plan.
10. All feeder cables shall be labeled with Helagrip markers (HG4–9), or equivalent, at each end to show the detector number as per the design plan.
11. For loops cut in situ, the number of turns for loops shall be as follows (unless specified otherwise by the design):
  - Rectangular loops – 4 or 5 turns
  - Quadrupole loops – 3 turns
12. Wiring instructions
  - a. Mark 'S' at start end of cable.
  - b. For quadrupole loops, reverse the direction longitudinally at the centre cut to make a figure '8' pattern.
  - c. Mark 'F' at finish end of cable.

## ASSOCIATED DEPARTMENTAL DOCUMENTS:

- Manual of Uniform Traffic Control Devices (MUTCD)
  - Part 14 Traffic Signals
- Traffic and Road Use Management (TRUM)
  - Volume 4 Part 5 Configuration and Placement of Traffic Sensors

## REFERENCED DOCUMENTS:



- Standard Drawings:
- 1149 Traffic Signals/Road Lighting/ITS – Installation of Underground Electrical and Communications Conduit
  - 1314 Traffic Signals/Road Lighting – Cable Jointing Pit Drainage Details
  - 1425 Traffic Signals – Detector Loops Placement Details
  - 1426 Traffic Signals – Detector Loops Standard Configuration
  - 1699 Traffic Signals/Road Lighting/ITS – Parts List
  - 1702 ITS – Detector Loops Motorway Management Placement Details

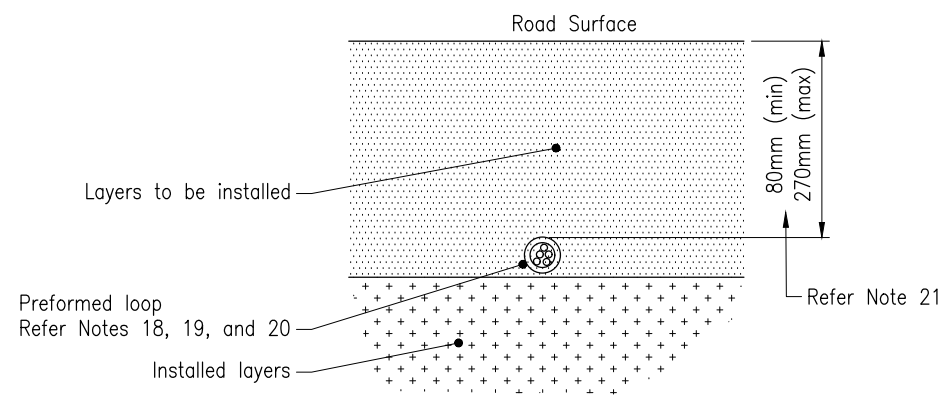
## Departmental Specifications:

- MRTS93 Traffic Signals
- MRTS257 Feeder Cable and Loop Cable for Vehicle Detector

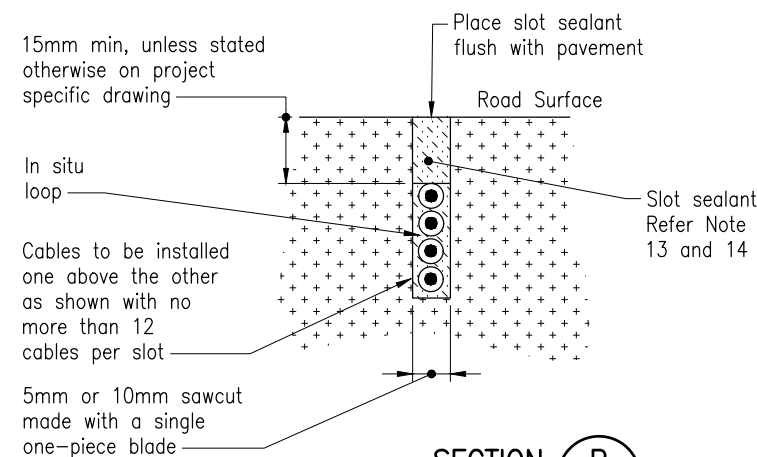
## Australian Standards:

- AS/NZS 2276 Cables for Traffic Signal Installations
- AS 2703 Vehicle detector systems

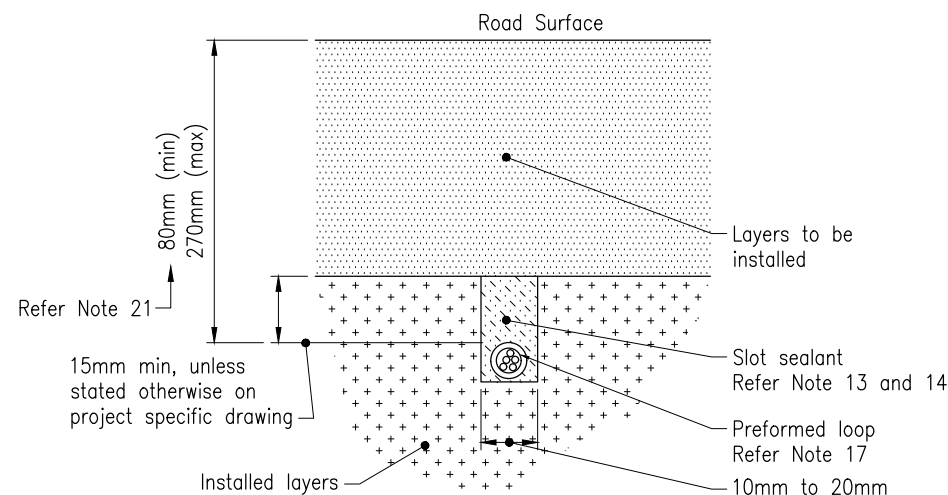
Department of Transport and Main Roads			
TRAFFIC SIGNALS			
DETECTOR LOOPS INSTALLATION DETAILS SHEET 1 OF 2		A3 Not to Scale	Standard Drawing No <b>1424</b> Date 5/2026



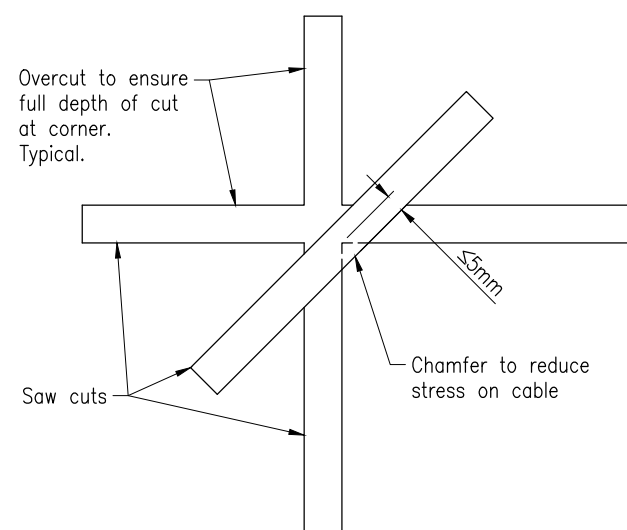
**SECTION B 1**  
**FOR ALL NEW PAVEMENTS**  
**(CONCRETE OR ASPHALT BASE)**  
**OVERLAY METHOD (PREFERRED)**



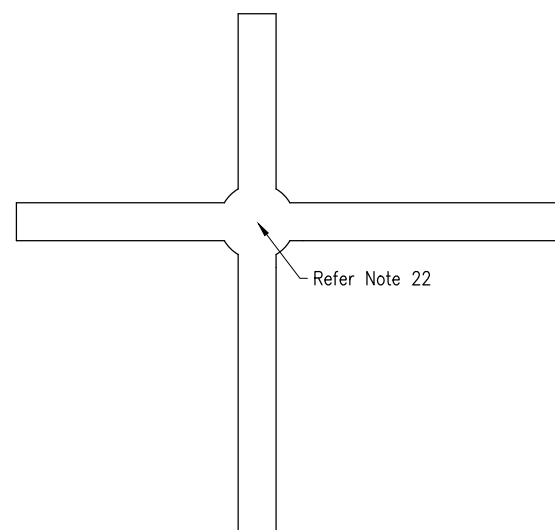
**SECTION B 1**  
**FOR EXISTING PAVEMENT**  
**FOR IN SITU REPLACEMENT**  
**OF DAMAGED LOOPS IN**  
**ASPHALT PAVEMENTS**



**SECTION B 1**  
**FOR ALL NEW PAVEMENTS**  
**(ASPHALT BASE)**  
**SAW CUT METHOD**



**CHAMFER CUT**



**DRILLED CORNER**

**DETAIL 1**

**CORNER TREATMENT OPTIONS FOR**  
**CABLE STRESS RELIEF**

**NOTES CONTINUED:**

13. The loop shall be sealed in the slots using one of the following options that is most suitable for the layer type:
  - a. Slot sealant approved by TMR (refer to certificate for conditions)
  - b. Bituminous emulsion and sand filler (for dense graded asphalt only)
  - c. Hot polymer modified binder (alternative option for open graded asphalt)
14. Slots shall be cut using a suitable saw and blade in accordance with the manufacturer's instructions.
15. For new pavements or resurfacing, only preformed loops shall be used. Preformed loops shall be installed prior to laying the wearing surface.
16. For preformed loop installation, overlaying method should be used where possible.
17. If overlaying method is not possible, then saw cutting is permitted with due care. Before cutting, determine the depth of asphalt layer and avoid cutting to full depth.
18. When using the overlaying method, ensure the preformed loops are anchored on profiled or milled asphalt and then apply a tack coat above them. Prior to placing asphalt with a paver, cover the preformed loops with a small amount of hand-placed asphalt to protect against damage from construction vehicles and plants. Refer to the manufacturer's instructions for further guidance.
19. If a strain alleviating membrane (SAM) seal is installed at the interface between new asphalt pavement and existing (profiled) asphalt, preformed loops shall be installed above the SAM seal.
20. For loop installation on concrete base, preformed loops to be placed and anchored as per the overlaying method.
21. Burial depths for preformed loops:
  - 80mm to 200mm for 9.5 OD preformed loop
  - 200mm to 270mm for 16 OD preformed loop
22. Alternate stress relief option to chamfer cuts. At the centre of where the slots intersect, drill a hole such that the resulting corners do not cause damage to the loop cables when under tension.

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

Department of Transport and Main Roads			
TRAFFIC SIGNALS			
DETECTOR LOOPS INSTALLATION DETAILS SHEET 2 OF 2		A3 Not to Scale	Standard Drawing No <b>1424</b> Date 5/2026