



# TECHNICAL NOTES

October 2006

Number 6

## FIRE PLUGS

### INSTALLATION OF BLUE REFLECTORS PAINTING OF ROAD MARKINGS

**This Technical Note is to be read in conjunction with Water Supply Construction Manual**

**Refer WSCM Section F Index**

#### 1. Technical Requirements

- **Codes and Specifications for Work**

Refer to Section 6.

- **Location of Water Hydrants**

- ◇ The location of fire hydrants (also known as Fire Plugs) are shown on the AquaMap System.
- ◇ Establish that there is a hydrant located below the lid by lifting the cover and ensuring the presence of a water hydrant valve. If there is no hydrant then **DO NOT** place a Retroreflective Raised Pavement Marker or paint the Cover Lid and No Parking Line.

- **Retroreflective Raised Pavement Markers (RRPMs)**

- ◇ The RRPMs shall be blue bi-directional and comply with AS 1906.3 - brand name and type is "Ray-O-Lite rounded shoulder RRPMs" or other RRPMs authorised by Infrastructure Standards Manager.

- **Paint**

- ◇ The paint shall be TSA approved Waterborne Line Marking Yellow (Golden Yellow, Colour No. Y14 in AS 2700) paint with Quartz Non-slip additive. The quartz Non-Slip additive shall comply with TSA and Australian Standards.

#### 2. RRPM Placement

- **The RRPMs shall be installed opposite each water hydrant at a location in accordance with the following requirements:**

- ◇ Establish the hydrant is located below the lid by lifting the cover and ensuring the presence of a water hydrant valve. If there is no hydrant then **DO NOT** place a Retroreflective Raised Pavement Marker or paint the Cover Lid and No Parking Line.
- ◇ The reflective faces of RRPMs are to face direction of traffic flow.
- ◇ Where the road has a median strip, one RRPM shall be placed adjacent to the median strip opposite the location of the hydrant. The RRPM shall be in line with existing RRPMs if installed, and should be kept clear of any paint. If no existing RRPMs are installed then the RRPM shall be placed either in a gap for a discontinuous line, or offset into the traffic lane to provide 25 – 50 mm spacing from a continuous line, consistent with AS 1742.2-1994.

- ◇ For all other roads without a median strip, one (1) RRPM shall be placed on the road with a 25 – 50 mm clear offset from the painted centre line to the side of the road containing the hydrant, and should be kept clear of any paint. If no painted centre line exists RRPMs shall be installed, offset from the centre line of the road towards the side of the road containing the hydrant by 25 – 100 mm. Both installations shall be consistent with AS 1742.2-1994.
  - ◇ Where the road has a traffic slip lane (e.g. for a right-hand turn), the RRPM shall be placed on the right hand side of the straight ahead lane, in line with existing RRPMs if installed, and should be kept clear of any paint. If no existing RRPMs are installed then the RRPM shall be placed either in a gap for a discontinuous line or between 25 – 50 mm spacing from a continuous line and should be kept clear of any paint, consistent with AS 1742.2-1994. The RRPM shall not be placed within the traffic slip lane.
  - ◇ RRPMs shall not be placed within any road intersection.
  - ◇ RRPMs shall not be installed on unsealed roads, in the leaning path of motorcyclists or within a bicycle lane.
  - ◇ RRPMs shall not be placed in bicycle lanes.
  - ◇ RRPMs shall not be placed where no linemarking exists **and** the leaning of motorcycles is necessary, eg. Winding section of road.
- **Installation of RRPMs shall be in accordance with the Transport SA Pavement Marking Manual**
    - RRPMs shall be placed to a transverse tolerance of  $\pm 25$  mm and a longitudinal tolerance of  $\pm 100$  mm.
  - **Adhesives used**
    - ◇ Adhesion shall be achieved by use of two part epoxy adhesives or hot melt bitumen in accordance with the manufacturer's instructions and applied evenly over the whole contact surface area of the marker so that a bead of adhesive forms around the perimeter when the marker is pressed onto the road surface during installation. Differing adhesives may be used dependant upon traffic volume and need to be approved by the Infrastructure Standards Manager.
    - ◇ Adhesives used for fixing of raised pavement markers shall comply with AS 3554 "Epoxy - For Raised Pavement Marker Installation". Subject to approval, an alternative product may be used if recommended by the Raised Pavement Marker manufacturer, and approved by the Infrastructure Standards Manager.

### 3. Painting of Hydrant Lids

- **Painting of the Hydrant Valve Lids shall be in accordance with the following requirements**
  - ◇ Establish the hydrant is located below the lid by lifting the cover and ensuring the presence of a water hydrant valve. If there is no hydrant then **DO NOT** paint the Cover Lid and No Parking Line or place a Retroreflective Raised Pavement Marker.
  - ◇ Clean off any dirt, road grime or rust with a steel wire brush before applying the specified TSA approved Waterborne Line Marking Golden Yellow paint with Quartz Non-slip additive. The quartz Non-Slip additive shall comply with TSA and Australian Standards.
  - ◇ Ensure satisfactory adhesion of the paint by not painting when:
    - Wet or humidity is greater than 85%.
    - Surfaces are hot or temperature is less than 10°.
  - ◇ Ensure the paint dries sufficiently to avoid “walking” of paint down the road by car tires.
  - ◇ Painting is only required on the inner lid.

#### **4. Painting of No Parking Line**

- ◇ Painting of the 2 metre "No Parking" line using the specified TSA approved Waterborne Line Marking Golden Yellow paint with Quartz Non-slip additive shall be in accordance with AS 1742.11 – Manual of Uniform Traffic Control Devices.
- ◇ The line shall only be installed where access the fire plug is likely to be impeded by parked vehicle.

#### **5. If removal of RRPMS is required**

The marker and adhesive shall be removed in such a way that minimum damage is caused to the road surface. Any damage to a wearing surface shall be repaired by an approved method.

#### **6. Codes and Specifications**

- ◇ All Works shall be executed in accordance with AS 1742 “Manual of Uniform Traffic Control Devices” and the South Australian Road Traffic Act, 1961 as modified by Transport SA’s “Code of Technical Requirements for the Legal Use of Traffic Control Devices (December 1999)” and ‘Field Guide for Speed Limits at Works on Roads Version 5 2003’.
- ◇ The “Field Guide for Speed Limits at Works on Roads Version 5 2003” provides information on the amendments to the South Australian Road Traffic Act, 1961 regarding speed limits to be applied at road works in South Australia and should be used in conjunction with AS 1742.3 and the Code of Technical Requirements for the Legal Use of Traffic Control Devices (December 1999). The Code must be read together with, but takes precedence over the Australian Standards.
- ◇ The following field reference guides shall also be used as appropriate:

SAA HB81.1	Short -term urban works, daytime only
SAA HB81.2	Short -term rural works, daytime only
SAA HB81.3	Mobile works
SAA HB81.4	Short -term urban night works
SAA HB81.5	Short -term works on unsealed roads
SAA HB81.6	Bituminous surfacing works

These field books cover a specific area of roadworks signage and reproduce in summary form the relevant provisions of AS 1742.3 which are considered to apply in the particular case. It is not intended that they supersede AS 1742.3 and in any cases where there may appear to be differences in specified requirements or recommendations, or where matters could be interpreted differently from that in the Standard, the Standard shall prevail.

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