

Enquiries: Dan Sullivan on 9323 4162
Our Ref: 67-05-5604A (R:\Branch Management\Technical Inquiries-
Correspondence\Signs & Pavement Markings\0045.doc)
Your Ref: -



**MAIN ROADS
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Mr D Rao
Austrend International
97 Jackson Avenue
WINTHROP WA 6150

Dear Denzil

MIRACLE SOLAR POWERED RAISED PAVEMENT MARKERS

Thank you for introducing Main Roads to this innovative product for potential use in improving safety and delineation on roads within Western Australia.

In response to your requests, Main Roads is pleased to provide a 12 month interim approval for the Model MS-200DS (20mm - Steady Lighting) Series Miracle Solar Powered Raised Pavement Marker. This approval applies only to the Yellow and White LED Emission Colours models.

At the end of this period (2/11/02) and subject to performance of this product satisfactory to Main Roads, it would be necessary for Austrend to submit the "Miracle" Solar Powered Raised Pavement Markers to the full range of tests for Raised Pavement Markers as outlined in Australian Standard 1906.3 - 1992.

Main Roads is still assessing the potential benefits that this product may provide, and will advise in the near future regarding trials to be undertaken to determine potential benefits from crash reduction and protection of infrastructure. Consequently, except for Main Roads selected trials, during this interim approval period Main Roads will not fund any purchase, installation, maintenance or replacement of Solar Powered Raised Pavement Markers by any other organisation. Local Government Authorities should be advised of this fact in your marketing of this product and would be further advised by Main Roads should submissions for funding of these products be received.

As part of this interim approval, Austrend is approved to market this product to Local Governments Authorities within WA based on the conditions within this letter and the interim guidelines for application of markers as outlined below.

Interim Guidelines for Use of Solar Powered Raised Pavement Markers

Pavement application

- Solar Powered Raised Pavement Markers should be installed in accordance with Australian Standards (AS1742.2) and Main Roads standards and guidelines for normal retro-reflective raised pavement markers. This includes location, colour and direction aspect.
- Only steady light (Model MS-200DS (20mm) Series) Solar Powered Raised Pavement Markers are to be used. Flashing models are not permitted.
- Only Yellow and White markers are to be used.
- Markers shall not be installed on Main Roads controlled roads and intersections by Local Governments unless authorised by Main Roads as part of a controlled trial.

Non - pavement applications within road reserves

There are no current practices within Australia that would indicate how Solar Powered Raised Pavement Markers should be installed in non-pavement applications. However, the following general guidelines will apply.

- Only steady light (Model MS-200DS (20mm) Series) Solar Powered Raised Pavement Markers are to be used. Flashing models are not permitted.
- Only Yellow and White markers are to be used.
- Markers should not be installed where they would result in a hazard to any road user (including pedestrians, cyclists, people with disabilities as well as vehicles)
- Markers should not be installed so that they detract from the normal road delineation such as existing retro-reflective raised pavement markers, pavement marking or other signs and devices.
- Markers should not be installed to provide false delineation of the road alignment.
- Markers shall not be installed along Main Roads controlled roads and intersections by Local Governments unless authorised by Main Roads as part of a controlled trial.

Main Roads places no controls over use of any devices on private property.

Main Roads will develop detailed Guidelines for the use of Solar Powered Raised Pavement Markers in the near future.

Main Roads thanks you for your efforts to introduce innovative new products into Western Australia that may improve road safety, and looks forward to working with you further with regard to this product.

If you require any further information please contact Dan Sullivan on 9323 4162. In reply please quote file reference 67-05-5604A.

Yours faithfully



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R Grove
Manager Road and Traffic Engineering

2 November 2001

14 December 2001

Mr Denzil Rao
Austrend International Pty Ltd
97 Jackson Avenue
Winthrop
Perth Western Australia 6150

Department of **Main Roads**

RECEIVED
1 / DEC 2001

BY:

Dear Sir

Reference is made to your letter of 8 October 2001.

I have examined the technical information and the marker that was provided and have found the product to be fully compliant with our specifications. Your Solar Powered Pavement Marker has a standard retro reflective sheet that meets the photometric requirements and the construction has the required strength.

In addition the marker has light emitting properties that will provide a most effective delineation device in certain circumstances.

Provided the correct colour of marker is used in the standard situations, I have no objection to the use of the Solar Powered Pavement Marker.

Yours sincerely



Ken Broadhurst
Principal Engineer (Traffic Engineering)