

# AustStab News

## Industry View

It's great to have two new major members, namely RoadTek and Caterpillar of Australia. Both of these established companies have been actively involved in road stabilisation in Australia for many years and their contribution to the association will benefit all practitioners.

It is disappointing to still read literature from various road authorities listing their environmental achievements and yet road stabilisation does not even get a mention. Road stabilisation is one of the oldest forms of road recycling and probably the most forgotten as everyone takes it for granted. Also, the procurement process does not recognise the reuse of the existing pavement materials, but only the purchasing of the binder.

Those engineers among us, be they old or new, who have a clearer view of engineering and its place in society and the larger scheme of nature, recognise the true importance of sustainability. It is up to us to lead and mentor those engineers still clinging to old environmentally practices and try to enlighten them to the existence of practices and procedures with equivalent technical merit but which are more environmentally sustainable. If you need help in spreading the word, AustStab can assist with regard to the pavement recycling sphere.

The association has been promoting lime stabilisation of subgrades of new and existing roads on its technical merits for many years, but in an environmental framework, increasing the subgrade strength reduces the thickness of the pavement material and therefore, less use of quarried materials is good for long term sustainability of our natural resources.



[www.auststab.com.au](http://www.auststab.com.au)

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I hope you have a successful 2008 and you're welcome to contact the association from time to time to seek advice or browse the website for information.

*Warren Smith*

President

## NSW Workshops on stabilisation

AustStab is planning to run eight workshops around NSW between February and May this year. This comes after a successful series of workshops in Victoria which over 200 people attended.

The last series of workshops held in Sydney and rural NSW regions was in 2004. Some great projects have since been completed by the RTA and AustStab, and are now worth sharing with practitioners from around the regions.

If you have limited knowledge of stabilisation and want to learn more about the latest design and construction techniques, please consider the program and select a workshop closest to your office.

The dates and towns for these workshops are:

19 February	Newcastle
10 March	Wollongong
13 March	Sydney North Metro
17 March	South West Sydney Metro
18 March	Sydney West Metro
12 May	Wagga Wagga
13 May	Griffith
15 May	Orange

If you wish to register, please contact AustStab by email or send an SMS to 0411 445 058 noting us of your name and company or download the registration form at

[www.auststab.com.au/pdf/nsw\\_workshops\\_2008.pdf](http://www.auststab.com.au/pdf/nsw_workshops_2008.pdf)

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## What is stabilisation?

Have you ever been asked to explain what is road stabilisation to your children or friends and end up mumbling incoherently about cement, lime, bitumen and mixing? Well AustStab has prepared a poster on the topic which maybe downloaded from the website at [www.auststab.com.au/pdf/wis\\_poster.pdf](http://www.auststab.com.au/pdf/wis_poster.pdf)

## RoadTek joins AustStab



AustStab has been keen to have both private and public contractors join the association, and late last year RoadTek joined AustStab as a contracting member.

RoadTek is a major provider of road construction and maintenance services throughout Queensland. As a commercial business within the Queensland Department of Main Roads, RoadTek is instrumental in the delivery and maintenance of numerous projects that make up the state's extensive road and bridge network.

RoadTek operates several reclaimers and spreaders throughout the state, and place great emphasis on safety, quality and the environment. They are accredited to quality standard ISO 9001/2000 and will enhance the knowledge base of the association in its research and technical development projects around Queensland and Australia.

For further information on the services RoadTek provides, please contact Kym Murphy Senior Project Manager on (07) 4620 1212.



One of RoadTek's CAT RM-350 in operation in western Queensland.

## Stabilisation of unsealed low volume roads

A few months ago, AustStab received a grant from (what is now) the Department of Infrastructure, Transport, Regional Development and Local Government to provide a detailed examination of insitu stabilisation of unsealed roads using lime and dry powdered synthetic polymers.

Lime stabilisation of unsealed roads is not new and several unsealed roads in NSW have been stabilised using this technique but not documented, and with no laboratory test protocols in place and no performance data.

For instance, the site shown in the photograph below from Coolamon Shire was constructed in 2001 using 3% lime and at 150 mm deep. The prior stream gravel has been mixed with the clay formation material, and compacted and trimmed. As the picture shows, the road has little fine material on the surface and has little surface defects. The Shire has occasionally trimmed the road surface.

The trial sites will be constructed in early 2008 and closely monitored over a three year period followed by a long term monitoring program funded by AustStab. A series of sites in South West NSW have been identified for further laboratory investigation to select the binder application rate. These trial sites will be constructed with an adjacent or nearby control site to allow a direct comparison between this technique and standard gravel resheeting treatments.

The key outcomes of the research project are:

- substantially reduce dust generation from unsealed roads
- reduce maintenance frequency and hence maintenance costs to Shires
- provide safe all weather access on unsealed roads
- incrementally improve the structural strength of the road

As the work progresses, information will be released on the AustStab website, click on 'Unsealed roads'.

## 3<sup>rd</sup> Road & Pavement Engineering & Management Conference

The 3rd conference is being held in Melbourne at the Sebel Albert Park on the 5th and 6th March 2008. This two day conference focuses on the management and engineering of roads, traffic areas, residential streets, rural roads, footpaths and rural reserves.



*Willow Road, Coolamon (NSW) was lime stabilised in 2001 at a depth of 150 mm with 3% design lime application rate.*

Some of the topics are:

- road practices for a sustainable future
- road and landscape
- alliance contracts and road delivery models
- road maintenance
- future and smoother pavements
- working under traffic

AustStab recommends that you come along to this conference so that you will become familiar with new developments in road stabilisation and maintenance of roads. For more information about the conference refer to [www.halledit.com.au](http://www.halledit.com.au)

## CME 2008

The second running of the Construction & Mining Expo - CME 2008 will be held from the 4 to 6 April, 2008 at McCallum Park, Perth (off the Causeway).

CME 2008 will be the most comprehensive, professional trade exhibition for the construction, mining and allied industries ever seen in Western Australia and AustStab is one of a few selected associations to support such a great event.

CME is only staged every two years, so don't miss this unique opportunity to attend and be part of your industry event. For more information refer to [www.cme2008.com.au/](http://www.cme2008.com.au/)

## Insitu stabilisation of the upper formation on Hume Freeway projects

Major contractors have once again selected insitu stabilisation of the select material zone on several sections of the Hume Freeway duplication south of Tarcutta. The RTA typically specifies that the top 150 to 300 mm of the select material zone be

stabilised with 2% (hydrated) lime or cement depending on the type of formation material.

In the past, this stabilised material was prepared by pugmill and trucked to site and laid with a paver. However, the shortage of space to set up a pugmill and meeting the environmental requirements around the plant has meant that the stabilisation process can be carried out quicker and more cost effectively using mechanised spreaders and reclaimers for mixing. The compaction and trimming process is the same as if the material was carried out by plant mix.

When lime is being used, the contractor will spread quicklime and slake the lime on the surface before mixing. The application rate of quicklime is typically 0.76 times that of hydrated lime but the chemical effectiveness is the same provided the lime has a high Available Lime Index. If the lime has a lower CaO content, additional lime is added by the contractor. More details can be found in the AustStab Technical Note titled *Lime stabilisation practice*.

## Which stabilisation contract is better?

There are four types of insitu stabilisation contracts typically found in most regions of Australia and they may be summarised as:

*Full Service Contracts.* The contractor does all the work including the supply of binder, spreading, mixing, compaction & trimming and constructing the wearing surface. This style of service may also include an initial pavement investigation and mix design, and may be used where a lack of expertise or experience is in the Shire.

*Part Service.* The contractor works with Council day labour staff. The specialist contractor is likely to supply, spread and mix the binder. Sometimes water

supply is included such that moisture control falls under the responsibility of the contractor.

**Annual Rate Contracts.** This is where an agreed rate of work is tendered prior to the start of the year and the contractor provides the service on roads later identified by the council engineer. The contract is anywhere between 1 and 3 years in duration.

**Alliance/Term Maintenance Contracts.** This is a replacement for the 'provider service' model used in the 1990s but with better internal negotiations for setting road maintenance budgets for Councils rather than the high overhead costs that arose from the previous 'provider service' model.

Alliance or term maintenance contracts are sometimes being used by various Shires but best suited to inhouse construction groups of the Shire or in some cases a department within the road authority.

There is no simple one contact type that suits all, but local government is currently preferring *Full Service Contracts* over longer term rates. So called 'Buyer groups' for metropolitan councils have been tried in some areas in the last few years, but these have generally been unsuccessful for a number of reasons and have resulted in a drop of technical quality and increased prices.

## Research topics for students

AustStab has always assisted undergraduates and postgraduates with research briefs for topics related to stabilisation. There is no shortage of topics and a short list appears on the AustStab website by clicking on 'Information' and then 'Students'.

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## AustStab Member Details

The following companies are contracting or binder and equipment supplier members of AustStab. Contact details for these organisations by region, can be obtained by contacting AustStab or visiting their website.

### Contractors

#### Andrew Walter Constructions

Tel 03 6249 8799  
[www.awconstructions.com.au](http://www.awconstructions.com.au)

#### Downer EDI Works

Tel 02 9897 4333  
Tel 03 8645 0800  
Tel 08 9475 6041  
Tel 08 8341-2465  
[www.downerediworks.com.au](http://www.downerediworks.com.au)

#### RoadTek

Tel 07 4620 1212  
[www.mainroads.qld.gov.au](http://www.mainroads.qld.gov.au)

#### Stabil-Lime Distributors

Tel 03 8739 3800  
[www.stabil-lime.com.au](http://www.stabil-lime.com.au)

## Stabilised Pavements of Australia

Tel 02 4340 0111  
Tel 03 9775 2202  
Tel 07 3807 7600  
Tel 07 4729 1311  
[www.stabilisedpavements.com](http://www.stabilisedpavements.com)

## Binder Suppliers

Adelaide Brighton Cement  
Blue Circle Southern Cement  
Cement Australia  
Hyrock  
Independent Cement & Lime  
Polymix Industries  
Shell Bitumen  
Sunstate Cement  
Unimin Australia

## Equipment Supplier

Caterpillar of Australia  
Conplant  
Dynapac Australia  
Wirtgen Australia

## State Road Authority members

Department of Infrastructure, Energy and Resources (TAS)  
Department of Infrastructure Planning and Environment (NT)  
Department of Main Roads (QLD)

Roads & Traffic Authority (NSW)  
Dept. for Transport, Energy & Infrastructure (SA)  
VicRoads

## Geotechnical laboratories

Network Geotechnics (NSW)  
Testrite (NSW)  
Western Geotechnics (WA)

The logo for AustStab, featuring the word "Aust" in a serif font and "Stab" in a bold sans-serif font, both in white, set against a black rectangular background.

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Those wishing to obtain further information about membership to AustStab, should contact:  
George Vorobieff,  
14/29 Bertram Street, Chatswood NSW 2067  
Phone (02) 9411 8857  
Fax (02) 9411 8897  
Email: [inquiry@auststab.com.au](mailto:inquiry@auststab.com.au)

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