

AustStab News

Industry View

Welcome to the first edition of *AustStab News* for 2005.

Last year King Gee, Associate Administrator for Infrastructure (USA) wrote a simple memo to the Directors of Field Services, Federal Lands Highway Division Engineers highlighting the importance of preventive maintenance (see text insert). In addition, Garry Eller, the new Executive Director of the US Foundation for Pavement Preservation, noted that experience shows that spending a dollar on pavement preservation eliminates or delays spending six to ten dollars on rehabilitation or reconstruction costs.

Maintenance is essential for both new and rehabilitated pavements to ensure that their design life will be reached. The message is clear and Australian experience also shows that timely maintenance has real benefits for both local roads and those experiencing heavy traffic.

Finally, I am amazed at how we ignore our environmental efforts or credentials to the community. In both the 2003 RTA and VicRoads annual report there is no mention that each road authority carried out road recycling by road stabilisation of pavement and subgrade materials. The process deserves a better recognition of the environmental benefits.

Thomas Curnow
President

www.auststab.com.au

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2004 Austroads pavement rehabilitation guide – Out now!

Timely preventive maintenance and preservation activities are necessary to ensure proper performance of the transportation infrastructure. Experience has shown that when properly applied, preventive maintenance is a cost-effective way of extending the service life of highway facilities and therefore is eligible for Federal-aid funding. By using lower-cost system preservation methods, States can improve system conditions, minimize road construction impacts on the travelling public, and better manage their resources needed for long-term improvements such as reconstruction or expansion. Preventive maintenance offers State DOT's a way of increasing the return on their infrastructure investment.

From King Gee, Associate Administrator for Infrastructure, FHWA (USA)

Austroads recently published a guide to the design of rehabilitation treatments for road pavements. This Guide provides advice for the investigation of existing sealed road pavements and the selection and design of pavement rehabilitation strategies/treatments. It is applicable to roads carrying normal highway loadings.

The Guide only provides structural design guidance for structural overlays. A CDROM of technical notes from various road authorities and industry associations is provided with the hard copy publication.

The publication number is AP-G78/04 and the cost is \$143.

If you wish to purchase a copy of the guide, please order it on the internet at <http://www.onlinepublications.austroads.com.au/script/home.asp>

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Errol Jones becomes an honorary member

Errol graduated in 1959 with a Diploma in Civil Engineering after a 6 year part time course. He completed a post graduate course in Local Government Engineering in 1963 and was accepted as a member of the Institution of Engineers in 1964. In 1989 he also became a Registered Professional Engineer of Queensland.

With over 40 years working in Local Government; in Blackall, Ipswich, Chinchilla and Brisbane City Council, the Directors of AustStab believe that Errol's tireless work for local government and his achievements in improving the application of road stabilisation over the last few decades, made him very worthy of this honour.

His 30 years with Brisbane City Council included roles as Maintenance and Construction Engineer for Roads and Bridges, Materials Engineer and during the latter years, Research and Development Engineer. Errol saw stabilisation as an efficient and environmentally friendly rehab option for the local roads of Brisbane. Although the costs were initially high, Errol identified efficiencies in the process without compromising quality or end product and the cost of stabilisation was reduced in real terms becoming one of the most cost effective rehab solutions.

Errol was also keen to ensure process control was not comprised during construction and he introduced practices to ensure that depth control and binder application rates were within suitable tolerances. His final contribution to the process was end-product verification using the Benkelman beam. By comparing the before and after deflections on each job, the project could be given a compliance report leading to lower risks on under performing pavements.

The acceptance of a unique Pavement Management System developed from in house performance models was also one of the highlights of Errol's involvement in research and development. Made operational in 1977, the system has been continually upgraded, revised and reviewed and is now the platform for all pavement rehabilitation and reconstruction in Brisbane and accepted in various forms by the surrounding shires.

Errol is also the author of numerous papers in the field of asphalt, foundation engineering and road pavement materials and was a member of the Austroad Pavement Reference Group for many years.

New lime manufacturing plant opens in southern NSW

Blue Circle Southern Cement has opened the Galong lime production plant. Galong is roughly west of Yass and in the heart of NSW grain feed territory. The development of the Galong site provides Blue Circle Southern Cement with improvements in the production and despatch of quicklime.

The Galong facility will assist in providing:

- Continuing high level of quality lime products
- World-class truck loading facilities
- Increased silo capacity for quicklime
- Proven world-class quicklime technology
- Upgraded road infrastructure
- Best practice safe working environment

For more information refer to

http://www.bluecirclesoutherncement.com.au/Article/B/CSC_minerals_GM250.asp?site=BCSC



Cooee Products joins AustStab

Ecotrax is an Australian invention manufactured on the Sunshine Coast in Queensland. This product development by Cooee Products commenced in early 2000 with the Ecotrax formula finalised in late 2003.

Based on the observation that a lot of road deterioration is due to water entering the base layer, Ecotrax was developed as a road stabilising binder that is also hydrophobic. Ecotrax is an environmentally friendly binder that enables bitumen to easily mix with cold water down to percentages as low as 0.01%. It also changes the effectiveness of the bitumen so that the binder covers all particles. It therefore binds the fines and the larger materials in the base material without the necessity of other additives.

Ecotrax can be applied at a quarry plant-mix or mixed into insitu material using a stabiliser.

Further testing is currently underway, including resilient modulus testing to Austroads test procedures.

If you are interested in copies of these results and further developments please contact Tony Pynsent at Cooee Products on 07 54435888. Or enquire via www.cooeeproducts.com.au

A sad farewell to Edgar Haertel

The Department of Infrastructure, Energy and Resources (DIER, Tasmania) is mourning the passing of the head of its Asset Management Section, Edgar Haertel, who died on 8th January.

Edgar was held in high regard by his colleagues nationwide as an engineer with great knowledge and expertise and a man of real integrity. He will be remembered as a gentle and compassionate man, someone who always had time to mentor and encourage the next generation, and who bore his illness with great courage and dignity. Edgar's keen interest in mentoring the next generation of engineers probably owes something to his earlier career as a maths and science teacher, starting at Riverside High School in Launceston.



Before heading up DIER's Asset Management Section, Edgar worked as Manager of the Asset Information Group and Manager Network Operations. He was also actively involved in supporting DIER's participation in Austroads at a technical level.

Edgar will be missed by his many friends, colleagues and the engineering profession.

Pavement underperformance

An Austroads project (AT1067) to establish network performance profiles, identify underperforming pavements and to determine contributing causes is underway. Two key issues under investigation are:

- determine whether the pavement was designed and constructed to Austroads standards, and
- establish suitable criteria for under-performance.

In some country areas and regions with limited road funding, pavements are being rehabilitated to levels below current design and material standards. Consequently, one could argue that this contributes directly to under-performance.

Existing pavements can also be identified as underperforming, and the suggested criteria that will be explored in the project are:

- 'excessive' roughness progression;

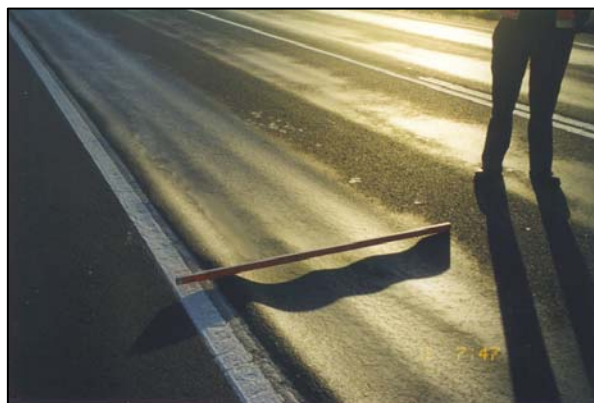
- 'excessive' rutting progression;
- 'excessive' pavement maintenance cost; and
- 'excessive' distress progression.

The term 'excessive' is relative to the context and expected performance of the road type. For example, a heavily-trafficked, high-status functional road will have a lower value placed on 'excessive' than a lightly-trafficked, low-status functional road.

This project also recognises that road roughness is not a good indicator of under-performance. As a typical example, smooth pavements exist in surfaces with excessive rutting (see picture below).

The use of graders for road stabilisation mixing so that local equipment can be used is clearly poor construction and leads to under performance. It is sometimes too easy to put a case for low cost construction solution at the expense of long-term performance.

It is hoped that this project will bring about better network data collection by road authorities and recognition that our normal expectations of pavement performance can only be met when we use current or better standards for the supply of materials and best practice construction procedures.



Excessive rutting can also produce smooth roads.

ACE2005

AustStab is proudly supporting the Victorian construction expo, ACE2005, to be held at Sandown Racecourse, Melbourne, between 24th and 26th February 2005. ACE is a comprehensive trade show held every two years to display the latest equipment, services and technology for demonstration and review.

AustStab will participate in the seminar this year and some of our members, such as Wirtgen Australia and

Huntsman Chemicals of Australia, will be exhibiting their products and equipment.

For more information about ACE2005, refer to the web site at www.ace2005.com.au Entry is free.

AustStab Seminars for 2005

AustStab is commencing a series of seminars around Australia on the design and construction of stabilised pavements. The information presented at the seminars is new and also provides practitioners with the opportunity to share their own experience with the presenters and other participants.

Seminars are being planned for Sydney, Wagga Wagga (NSW) and Tasmania in February and in Victoria and Queensland later this year. For more information about the dates and venues, please refer to www.auststab.com.au/seminars/

Urban Salt 2005 Conference

Many people have heard of irrigation and dryland salinity, but only a small number associate salinity with built assets like roads, or with urban areas like Western Sydney. Over the past 10 years, this group of people has steadily grown. They have also learnt a lot about the two-way interactions

between natural resource issues and engineering design, construction and management decisions. Some have come to realise the potential magnitude of costs resulting from poor urban salinity management and have worked to breakdown the barriers between natural resource and development professions, to overcome a myriad of issues and avoid these costs.

The two-day conference in Sydney on 8th and 9th February highlighted some of the symptoms of urban salinity.

George Vorobieff from AustStab presented a paper titled *Techniques to use on roads affected by salinity* which covered the following topics:

- new and existing roads,
- the impact of salinity on the road easement
- the impact of moisture in pavements
- the potential impact of roads from urban salinity
- possible design and construction techniques to minimise the impact of salinity
- whether there are special issues to consider in the recycling of cement in saline areas
- how lime stabilisation reacts with wet and salty conditions

A copy of the paper may be downloaded at www.auststab.com.au/salinity/

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

Highway Stabilisers

Tel 03 9775 2202
Fax 03 9775 2656

Pavement Salvage

Tel 02 9672 7199
Fax 02 9672 7211

Works Infrastructure

Tel 08 9475 6041
Fax 08 9479 5788

Stabil-Lime Distributors

Tel 03 9737 0777
Fax 03 9737 0333

Stabilised Pavements of Australia

Tel 02 4340 0111
Fax 02 4340 1299

Binder Suppliers

Adelaide Brighton Cement
Blue Circle Southern Cement
Cooee Products
Huntsman Chemicals
Hyrock
Independent Cement & Lime
Pacific Lime
Polymix Industries
Shell Bitumen
Sunstate Cement
Unimin Australia

Equipment Supplier
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)
Transport SA
VicRoads



Those wishing to obtain further information about membership to AustStab, should contact:
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