This two-day short Course is ideal for those seeking a working understanding on stabilisation and is suitable for engineers and engineering technologists, project managers and senior supervisors and operations personnel working for federal, state, or local government, consultants and contractors.

**Course Overview (2 Days) - 2017**

($1,116 early bird - $1,240 incl. GST)

The use of stabilisation technology for stabilising and recycling of materials for pavement construction & rehabilitation is widely accepted as a cost-effective method of improving long term performance and reducing whole-of-life costs of modern, heavily trafficked pavements.

This Course will briefly review the types of stabilisation before more detailed presentations on types of binders, material characteristics, design and mix detailing, with sessions on specifying and case studies for practical outcomes. A feature of this Course is its significant practical and project based content which aims to provide practical advice on road stabilisation solutions.

Overall the Course will include discussion on the types of various stabilising binders used in road construction, their properties, manufacture, and chemical reactions during the stabilisation process and safety considerations associated with their use. The types of binders described are lime, cement, cementitious pozzolans, bitumen, chemical and synthetic polymers.

- Types of Stabilisation Undertaken
- Relative Costs of Stabilisation
- Binder Types
- Characteristics of Materials
- Material Mix Design
- Structural Design of Insitu Stabilised Pavements
- Construction Process & Pitfalls, Equipment & Design Detailing
- Rehabilitation
- Types of Specifications & Contracts
- Case Studies and Open Forum

**stabilisation - a recycling option**

The relevant Parts of the Austroads Guide to Pavement Technology (the Guide) are key reference documents, and are supported by the AustStab Pavement Recycling and Stabilisation Guide.

**Guide to Pavement Technology**

- Part 2: Pavement Structural Design
- Part 4E: Recycled Materials
- Part 6: Unsealed Pavements
- Part 4D: Stabilised Materials
- Part 4L: Stabilising Binder
- Part 7: Pavement Maintenance
- Part 8: Pavement Construction
## Day 1

| 8:40am | Course Start | Day 2
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<td>9.00</td>
<td>Setting the Scene</td>
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| 0      | Introduction to Stabilisation | 8      | Structural Design of In-situ Stabilised Pavements
| 1      | Binder Types - Traditional Binders | 9      | AustStab Design Methodology
| 2      |                            | 10     | Types of Specifications & Contracts
|        |                            | 11     | Accreditation System for Stabilisation
| 10.45  | Morning Tea  | 10.00  | Morning Tea
| 3      | Non Traditional Binders | 12     | Equipment & Construction
| 4      | Characteristics of Materials |        | Tutorial
| 12.50  | Lunch       | 12.00  | Lunch & Workshop Sessions
| 5      | Material Mix Design & Site Investigation | A      | Lime Stabilisation of Subgrades
|        |              | B      | Tutorial
|        |              |        | Foamed Bitumen Stabilisation - Theory, Design & Construction
| 3.30   | Afternoon Tea | 3.15   | Afternoon Tea
| 6      | Economics of Stabilisation | C      | Stabilisation of Unsealed Roads
| 7      | Construction Process Experiences | Summary |
| 4.45   | Close       | 4.30   | Close

* program subject to change

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### Who Should Attend?

- State road authority and local government engineers and managers with responsibilities in the provision, approval, design, construction or maintenance of concrete roads & pavements. This to also include project managers and senior supervisors.
- Consulting engineers with involvement in road and/or pavement projects.
- Road & Pavement construction contractors, engineers, project managers and supervisors.
- Local Government engineers, project managers and senior supervisors.
- Technical operatives and Engineering graduates and “cadets” looking for specialist knowledge for career development.

### CPEE Professional Development (CPD)

This course, with content based on the relevant CPEE postgraduate distance learning study Unit is facilitated and delivered by recognised practitioners in the field and is of such technical content that the number of hours involved should be fully acceptable toward Continuing Professional Development (CPD) standing.

### Organisers & Endorsements

**Centre for Pavement Engineering and Education (CPEE):** This course is presented by CPEE, a non-profit, specialist private provider (roads and pavements) of tertiary education, founded by Austroads and the Australian Asphalt Pavement Association (AAPA). CPEE offers Graduate Certificate, BEng (Honours), and Master of Technology qualifications in roads, pavement engineering and infrastructure asset management, and has formal links to the University of Tasmania.

**Pavement Recycling and Stabilisation Association (AustStab):** The Australian Stabilisation Association is a national organisation set up to educate and inform the civil engineering industry of the environmental and economic advantages of road recycling and all types of stabilisation. Its members are contractors, binder suppliers, government road authorities and plant manufacturers.

### Course Size

Due to its practical nature, numbers are limited for this course so it is advisable that you register quickly to avoid missing out. Its unique and targeted content means this course is unlikely to be offered again in this location for some time.
Course Presenters

Bob Andrews  Course Core Presenter

Following a 38-year career in geotechnical and pavement engineering, Bob now manages his own technology consultancy, Infratechno Consultants, in addition to being a Principal Engineer Research at ARRB Group. His specialist consultancy areas are in the application and performance characteristics of unbound, marginal, industrial/mining waste, recycled and stabilised materials, mechanistic pavement design/rehabilitation and strategic management of unsealed road networks.

Bob has contributed both nationally and internationally, serving on a number of research groups and international standards. He is a member of the US Transportation Research Board Committee AF590 ‘Mechanical and Chemical Stabilisation’, honorary member of AustStab and chair of the national construction and demolition waste division of the Waste Management Association of Australia.

As a member of the Austroads Working Group he has been a major contributor to the Austroads Guide to Pavement Technology (2008) Part 4D “Stabilised Materials”, Part 6 “Unsealed Roads” and co-author for Part 4L Stabilising Binder.

Phil Walter  Course Core Presenter

After joining the New South Wales road authority as an engineering cadet, graduating with a degree in Civil Engineering. He continued academic study gaining a Master of Engineering Science in 1976 and recently became a private pavements consultant having gained a wealth of knowledge and experience with the RMS/RTA/DMR in construction and flexible pavements specialising in asphalt, spray sealing, stabilisation, drainage, pavement design, materials, recycling, maintenance and rehabilitation, specifications and test methods.

Phil has written numerous technical papers and was awarded the Director’s prize at the 17th ARRB Conference for a joint paper on Deep-Lift Recycling of Granular Pavements. He was an invited speaker at the National Pavement Stabilisation Strategies for the Future Conference held at Rotorua, New Zealand, in October 1998. In 2005, he was made an honorary affiliate member of industry association, AustStab. Phil’s expertise in the development and use of recycled road building materials, pavement stabilization, materials specifications and test procedures is widely recognized across road authorities and industry.

AustStab:

Graham Hennessy, CEO, AustStab: Prior to taking up his current position Graham was the Senior Pavements Manager for RMS and responsible for the RMS Pavements Unit for a period of two years. Graham has over 35 years of experience in the fields of geotechnical and pavement investigations, pavement design, road construction, pavement maintenance and pavement construction materials. This being the result of senior appointments as Associate Director (Pavements), AECOM, National Technical Manager, Boral Asphalt and previous employment as Pavements and Geotechnical Officer, RTA (now RMS).

Daniel Orriss, General Manager – Stabilisation and Services, Stabilised Pavements of Australia Pty Limited: Daniel Orriss is a graduate of the University of Technology, Sydney and has over 8 years’ experience within the pavement industry primarily with the promotion, development and operations management of recycling and rehabilitation projects throughout Australia. Throughout this time, Daniel has maintained several roles within the Stabilised Pavements Group including various roles within Australia and also assisting in the development of Malaysian operations.

Andrew Middleton, Stabilised Pavements of Australia Pty Limited: Andrew has over twenty years’ experience in the stabilisation industry. In this time, and while employed by SPA, he has gained invaluable experience and progressed through the ranks gaining experience as an Operator, Foreman, Supervisor and eventually gaining his Engineering qualifications. Andrew has also accumulated overseas work experience in this field in the United Kingdom.

Kenn Hall, Hiway Stabilisers: Kenn, a civil engineer and Fellow of the Institution of Engineers, Australia, is a strategic business developer and manager with an entrepreneurial flair. He joined Hiway Stabilizers in June 2016 following five years creating a $200million civil engineering construction business based in Queensland. Prior to this he drove the commercial development of Brisbane CityWorks (one of Brisbane City’s largest divisions) covering maintenance, quarries, asphalt production and capital construction into a profitable, dynamic and customer focussed organisation.

Kerry Constanti: Project Manager NSW and Queensland Stabilisation - Downer Group: Kerry has a Bachelor of Engineering (Civil) and has 5 years’ experience in delivery of stabilisation projects with a key focus on Zero Harm and on quality. Kerry focuses on developing stabilisation efficiencies and procedures to better improve the process for clients and the industry. Kerry brings an advocacy for benefits of double mixing over single mixing. Currently Kerry is the Chairman for AustStab Specifications Review Working Group, and an active member of AustStab’s New South Wales working group. He has an interest in Rugby Union and Motorbikes.
This course is supported by:

**Austroads**: Austroads is the Association of Australian and New Zealand road transport and traffic agencies and its members are the six Australian state and two territory road transport and traffic agencies, the Department for Infrastructure, Transport, Regional Development and Local Government, the Australian Local Government Association (ALGA), and the NZ Transport Agency.

**AustStab**: The Australian Stabilisation Industry Association is a national organisation set up to educate and inform the civil engineering industry of the environmental and economic advantages of road recycling and all types of stabilisation. Its members are contractors, binder suppliers, government road authorities and plant manufacturers.

**Australian Society for Concrete Pavements (ASCP)**: ASCP was formed in October 2007 to facilitate improvements in the design, construction & quality of concrete pavements in Australia through education, information and technology transfer, and research. ASCP holds regular forums throughout the year and a biennial conference on concrete pavements, both of which also provide excellent networking opportunities. Members enjoy significant discounts on event fees and access to ‘member only’ resources.

**IPWEA**: The Institute of Public Works Engineering Australia is a professional organisation providing member services and advocacy for those involved in and delivering public works and engineering services to the community. Previously known as the Institute of Municipal Engineering Australia (IMEA), the organisation has expanded its traditional local government engineering focus to public works and thereby covering all levels of government and private practice.

**Roads Australia**: Roads Australia is a not-for-profit, non-political industry association. Members are drawn from all corners of the Australian road sector, and we champion the interests of a vital national asset - Australia’s road transport system - and provide a forum for policy development, networking and communication. Further, we seek to draw attention to the importance of Australia’s road network to the economic and social fabric of the nation, and to ensure that information and decision-making in relation to roads and road transport is well informed and reflects an appropriate level of priorities.

**SRA**: State Road Agencies are responsible for the management of the road network, which includes planning, designing, construction and maintaining road use through registering vehicles, licensing drivers and traffic management, and providing information and other road user services. SRAs also provide quality assured integrated investigation, testing and design services in the pavement technology and geotechnical engineering disciplines, and provides support to CPEE in developing expertise and undertaking education in all aspects of the flexible pavements industry.

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**Enquiries & Management**

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**Cancellation Policy**: If you are unable to attend this event a substitute attendee may take your place, without penalty. However, if you wish to cancel your registration, a refund, less a $125 (Incl GST) service fee, will be given provided you have notified us in writing, at least 10 days before the start of the event. No refund is available for cancellations under 10 days. CPEE reserves the right to cancel or reschedule any course, whereby a full refund or course transfer will be provided.