



New Zealand
Concrete Masonry
Association Inc.



SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS) PERMEABLE PAVING SEMINARS

A seminar invitation is given to Landscape Architects, Architects, Urban and Environmental Planners, Local Government Engineers, Consulting Engineers and Paving Contractors.

With interest in Sustainable Urban Drainage System (SUDS) applications for urban development growing, the NZ Concrete Masonry Association (NZCMA) and Concrete NZ have organised two free seminars that bring together expertise from the United Kingdom, Canada and New Zealand.

CONCEPT

The seminars, being held in Auckland (17 October 2017) and Christchurch (19 October 2017), covers the disciplines of landscape architecture, urban and environmental planning and the engineering design and construction of the drainage system.

The seminars will be of interest to Landscape Architects, Architects, Urban Planners, Engineers involved with stormwater systems, and Paving Contractors.

Seminar presenters are:

- **Bob Bray**, Sustainable Drainage System (SuDS) Designer and Landscape Architect, Robert Bray Associates, UK.
- **David Hein**, Principal Engineer and Vice-President of Transportation of Applied Research Associates Inc., Toronto, Canada.
- **Sam Blackburn**, Director of Engineering, Civix Limited.
- **Nick Vigar**, Stormwater Technical Specialist, Auckland Council Stormwater Technical Services.

Further information on SUDS applications is available from the Interpave (UK) website at www.paving.org.uk/commercial/permeable.php

(CPD points are available to NZRAB, ADNZ and NZILA members)

SEMINAR PROGRAMME

- 9.30 am Registration and Morning Tea
- 10.00 am Welcome – Ralf Kessel, NZCMA
- 10.15 am **Bob Bray** – how permeable pavements can contribute to meeting stormwater objectives and urban design in an integrated way.
- 11.15 am **Nick Vigar** – where and how permeable paving fits into the requirements of the Auckland Unitary Plan.
- 12.30 pm Lunch
- 1.30 pm **Bob Bray** – introduction to the value of permeable pavement surfaces in urban design and will also discuss the design and management of the pavements themselves.
- 2.00 pm **David Hein** will introduce the *ICPI Permeable Design Pro Software* which provides basecourse thickness solutions from calculating permeable paving inflow/outflows and traffic loads.
- 3.00 pm Afternoon Tea
- 3.15 pm **Sam Blackburn** – design and construction examples of permeable paving projects within the Auckland area.
- 4.15 pm Finish



INTERNATIONAL PRESENTERS



ROBERT BRAY

BA (Hons), Grad. Dip. LA.

Bob has been a Landscape Architect in private practice since 1978 with extensive experience in the Housing, Commercial and Retail sectors.

During the 1990's the practice refocused on environmental design and the management of sustainable landscapes. Since 1996, Robert Bray Associates has developed an integrated environmental approach to managing rainwater that delivers cost-effective drainage solutions that exploit the potential in SuDS for amenity and habitat enhancement.

Bob has provided in-house training for Local Authorities, Regulators and Consultancies undertaking Nations SuDS Training with CIRIA since 2004. He has written design guides for Cambridge City Council, and the London Borough of Islington, and is currently (2015) developing guidance for Peterborough City Council, and the States of Guernsey.



DAVID K HEIN, P. ENG.

B.A.Sc., Civil Engineering

David has extensive experience in the design, construction, and management of permeable pavements. He has published 15 technical papers on permeable

pavement design and construction and has completed over 100 technical presentations, workshops and webinars on the subject.

David is chair of the American Society of Civil Engineers (ASCE) committee that developed a standard for the design of Interlocking Concrete Pavements (ICPs) for municipal roadways and another standard on the design, construction and maintenance of Permeable Interlocking Concrete Pavement (PICP) expected to be published in late 2017.

David has been involved in permeable pavement systems including the development of the ICPI Permeable Design Pro Software application. David also developed design, pavement management and Life-Cycle Cost Analysis (LCCA) comparison methods for both conventional and permeable pavements.

NEW ZEALAND PRESENTERS

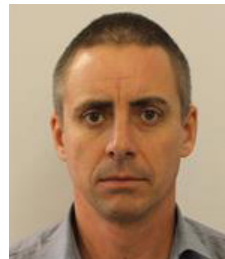


SAM BLACKBOURN

CPEng

From 10 years working as a Civil Engineer Sam has a wide range of experience in three waters management, including infrastructure design and

construction, modelling, asset management, design guidance and planning with a strong focus on Water Sensitive Urban Design. Sam enjoys working with multi-disciplinary teams including ecologists, urban designers, planners and landscape architects. He strives to develop design solutions that take into account site and project requirements to produce great outcomes for his clients and the environment.



NICK VIGAR

BSc (Hons)

Nick is Manager of the Waterways Planning Team for Auckland Council Healthy Waters. He has background in water quality and hydrology management,

and provided technical input on these issues for the Auckland Unitary Plan.

ICPI PERMEABLE DESIGN PRO SOFTWARE

The *ICPI Permeable Design Pro Software* (Version 2) (www.permeabledesignpro.com) designed by David Hein incorporates:

- State-of-the-art North America practice, supported by Applied Research Associates Inc. (worldwide pavement engineering consultancy);
- i2b Global Inc. (IT consulting firm); and
- Local New Zealand rainfall characteristics.

The benefits of the Permeable Design Pro software is the graphical and tabulated presentation of the required basecourse/sub-base depth and underdrain spacing (where required) for the full range of rainfall characteristics, including inputs of:

- Both hydrologic (2, 5, 10, 25, 50 and 100 year rainfall return periods) and traffic loads.
- Porosity and permeability of the basecourse, subbase and subgrade layers.
- Pavement layer surface infiltration rate.
- Sizing, spacing and elevation of underdrain pipes.





The NZ Concrete Masonry Association (NZCMA) endeavours to advance the wellbeing of the concrete masonry industry by executing a work programme that addresses issues of short and long-term importance. It does this as the Masonry Sector Group of the newly formed Concrete NZ. Company / Sector Group members are:



SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS) PERMEABLE PAVING SEMINAR REGISTRATION FORM

There is no charge to attend these seminars, however, pre-registration is required as numbers are limited.

SELECT SEMINAR

I wish to attend the following SUDS Seminar (please tick):

- Auckland, 17 October 2017, 9.30 am to 4.15 pm, Home Ideas Centre, 165 The Strand, Parnell, Auckland
- Christchurch, 19 October 2017, 9.30 am to 4.15 pm, BreakFree on Cashel, 165 Cashel Street, Christchurch

REGISTRATION INFORMATION

Name

Organisation

- Profession
- Landscape Architect (6 NZILA CPD Points Accredited) NZILA No.
- Architect (60 NZRAB CPD Points Accredited) NZRAB No.
- Architectural Designer (8 ADNZ CPD Points Accredited) ADNZ No.
- Engineer
- Urban Planner
- Paving Contractor
- Other

Postal Address

Email

Phone

Please complete this form and forward it to: **NZCMA SUDS Seminar**, PO Box 448, Wellington 6140
Fax (04) 499 7760 or email admin@concretenz.org.nz.

For all enquiries contact Angelique Van Schaik on 04 499 8820 or admin@concretenz.org.nz.