

britpave news



Fitzpatrick are working for Lafarge on a major maintenance contract valued at £1.2m for the client, the Highways Agency. The works on the A47 comprise of continuously reinforced concrete pavement (CRCP) overlay and 4 km of concrete channel.



THE CHOICE FOR SUSTAINABLE DEVELOPMENT

17 → 21 SEPT 2007
PALAIS DES CONGRES DE PARIS

See page 8 for more details



Diary Dates

2007 Britpave Conference:
24 & 25 September, Cheltenham (see inside for details)

rail

Alan James reports on the maglev progress in the UK

The UK Ultraspeed Proposal

Five hundred kilometres per hour; travelling from London to Glasgow, via the north-west and north-east of England in 160 minutes; re-drawing the country's economic landscape through an infrastructure that connects east to west as well as north to south; these are only a few of the benefits that a national maglev line will bring to the UK.

UK Ultraspeed is a highly developed proposal to use the world's most advanced intercity transport system to link Britain's major population centres with a 500 km/h (311 mph) ground transport network. By using the proven Transrapid maglev (magnetic levitation) system, Ultraspeed will leapfrog the slower 300 km/h (186 mph) so-called 'bullet trains' which will constrain many of Britain's competitors for the next 100 to 150 years.

What sets UK Ultraspeed apart is our ability to create one line that links the UK's largest population areas together and to do so in less time than it currently takes to travel from London to Glasgow or Edinburgh via the West Coast and East Coast mainlines.

Detailed studies have shown that the Transrapid system, developed in Germany and already in successful commercial use in Shanghai, China, is a viable, reliable and cost-effective solution for UK-wide intercity transport.

Ultraspeed's maglev vehicles, with as many as 1,196 passengers on board, could run as frequently as every 10 minutes, operate effectively silently in urban areas, produce zero emissions along routes and use up to eight times less land than high-speed rail alternatives.

In order to achieve speeds of +300 mph, the Transrapid vehicles used by UK Ultraspeed literally float above a fixed concrete guideway on an electro-magnetic 'cushion' and are guided, propelled and braked by variable frequency electric currents passed through the guideway.

The world's first ultra-high speed Transrapid system entered daily passenger service in Shanghai on 1 January 2004 and now carries millions of passengers, at a faster speed than any other ground transport on earth.

By deploying Transrapid in Britain, UK Ultraspeed will create a new national strategic transport system, driven by the strategic economic imperative to enable Northern England and Scotland to compete as powerfully in the global economy as London and the South East do today.

Alan James is a guest speaker at the 2007 Britpave Conference. See page 5 for details.

Some indicative maglev journey times follow below:

Glasgow – Edinburgh – Tyneside – Teesside – Leeds – Manchester – Midlands – Heathrow or Stratford (stopping in all locations)	160 mins
English Northern Way Backbone: Tyneside – Teesside – Yorkshire – Manchester – Merseyside	60 mins
London/Heathrow – Birmingham – Manchester	50 mins
Birmingham International – Stratford/LHR	27 mins
Glasgow – Edinburgh	15 mins
Liverpool – Manchester	10 mins

Slabtrack evidence on Merseyside

In the third phase of a £15m programme, Liverpool city centre has renewed and reopened the new tracks which lie deep beneath this bustling city. At approximately 4 ½ miles long, this underground system consists of one single-track tunnel which travels in a clockwise circle round the city centre, first passing under the River Mersey between Conway Park and Hamilton Square.

The operation of moving the concrete into position, which lay deep under Liverpool city centre, involved pumping a total of 250 tonnes from concrete mixers located on the surface, through a ventilation shaft and onto a specially designed train on the railway below. This rail-borne concrete mixer then travelled from Central station to the work site and was pumped into the mould.

The design of this track has its rails fixed directly to a solid slab of concrete instead of the more usual method of rails fastened to sleepers set in ballast. Network Rail renewed the section of track between James Street and Moorfields. The old rails were removed, the concrete broken up and taken away, then wooden shuttering laid which formed the moulds for the new slab.

Once set, lasers were used to ensure the accuracy of positioning the Vipa base plates that hold the rails in place. Holes were then drilled into the concrete and the plates bolted down and the rails put back.



stabilisation

Two Britpave members report on recent challenging projects

Lime Treatment at the A282/A2 Junction

The McArdle Group were contracted to carry out the lime modification of site won chalk. This involved reducing the moisture content of approximately 300,000 m³ of chalk with lime, a quantity larger than any in recent years.

The treated materials were then placed as suitable fill adjacent to the M25. The works were carried out in 12 weeks by the main contractor for the Highways Agency.

■ For more information contact Brian Heron (BrianH@mcardlegroup.co.uk)



Flood Alleviation Scheme

In March 2006, Beach Soil Stabilisation Ltd commenced the excavation and filling of the 75,500 m³ of the earth bund section of this Environment Agency Scheme together with Mowlem Civil Engineering (now Carillion). The EA had secured a large borrow pit area and had tested the soils for suitability for use as construction fill in the bund. They had found that the moisture content of the grey clay was slightly too high and had to be reduced before use. The material was tested by excavating trial pits and then laboratory tests were carried out, the results of which revealed the need to mix in 2% of lime. This would reduce the moisture content to within the optimum limits.

The first section of bund was completed by excavating the clay and spreading it out in layers on the bund area. The wheeled spreader and Wirtgen mixer were able to travel over this material and carry out a normal 'mix in place' operation. However, as the excavation went deeper into the borrow pit, the material changed from firm clay to very soft clay. In addition, the north end of the pit changed into running silt with water pouring into the excavations.

A major re-think had to be carried out and while the Environment Agency pursued an imported

clay option, Beach Soil Stabilisation Ltd carried out more tests on the materials. It was found that by increasing the amount of lime, the material could still change so that it could be used as embankment fill. A method was then devised of extracting the soft clay and silt by using long reach excavators and then loading the dumptrucks, which would be fitted with tailboards. A specially purchased tracked dumper was then converted into a lime spreader so that it could traverse the softest of material.

In the meantime, the EA found out the problems associated with importing good quality clay. Firstly, there were none available. Secondly, the access track leading to the site would not take the amount of heavy transport required to complete the works and finally, the cost would greatly exceed their budget.

Beach Soil Stabilisation Ltd was instructed to go ahead with their suggestion and the EA were amazed that it worked perfectly. The bank was completed in time before the winter rains and the material that was trimmed off the sides of the batters was used in the final topping up of the bund's crest to allow for any settlement that might occur over the lifetime of the flood defence.

■ For more information contact Alistair McDermid Jnr (al@beachstabilisation.com)



A Wirtgen mixing one of the many layers of the flood barrier. A Padfoot roller was used to achieve greater compaction and also to help 'key in' the layers.



Treated materials (left) untreated (right)

news round up

Big Hit for Barrier

This year has seen an increase of more than double the number of press releases for the concrete step barrier, generating higher levels of public awareness and response.

Proactive PR campaigns announcing forthcoming installations of concrete step barriers as well as presenting the benefits of this high containment safety restraint have been well received.

Britpave have been approached by three radio stations this year, two of which were BBC, wishing to interview David Jones and gather more information on this new specified central reserve barrier. The concrete step barrier also gained immeasurable support from a local paper and web-based news feeder, the Bucks Free Press, who wrote a total of four articles surrounding the benefits of the barrier. In the month in which these articles were released, Bucks Free Press directed its readers and online viewers to watch an edited version of the Vicki Butler-Henderson documentary and records show that an astounding 650 people looked at the video in the first two weeks. Thanks to Bucks Free Press and the overwhelming exposure that concrete step barrier received, Wycombe MP Paul Goodman wrote to the Transport Minister Stephen Ladyman to find out more about these high containment safety barriers and whether they are due to be installed on the M40. We await the response with interest.

All in all, a big hit for the concrete step barrier.

■ For more information contact Britpave (info@britpave.org.uk)



M40 crossover carnage



Adjoining concrete step barrier and steel barrier post-lorry impact on M6. The steel barrier sustained significant damage, needing replacement.



A414

© Welwyn and Hatfield Times

Cheltenham 2007 Seminar Programme

09.00	REGISTRATION & COFFEE	
09.30	Welcome & opening remarks by Britpave Chairman	David York, Sitebatch Technologies
	Morning Keynote Speaker: Why did we lose and why should we win? Some Spanish experiences	Aniceto Zaragoza, MD Spanish Cement Manufacture Association & President European Road Federation
	Are concrete Slab Tracks environmentally sustainable?	Tony Parry, University of Nottingham
	500 kmh - Ground Transport for Britain	Alan James, UK Ultraspeed
	Questions	
11.15	COFFEE BREAK & EXHIBITION	
11.45	The Highways Agency's experience with Stepped Concrete Barrier – Progress to date and lessons for the future	Brian Barton, Highways Agency
	T5 Aircraft Pavements – The Story so far	Richard Moore, TPS Matt Palmer, BAA
	Questions	
13.00	LUNCH & EXHIBITION	
14.00	Afternoon Keynote Speaker: Improved Pavement Performance and Customer Satisfaction Through Diamond Grinding	John Roberts, International Grooving & Grinding Association (USA)
	Stabilisation & Modification of Soft Grounds to Support Structural Loads	Andrew Armstrong, Con-Form/Craig Notman, Mid Sussex Testing Services
	Britpave Task Groups Update	John Donegan, RCC
	Questions	
15.40	CLOSE	

britpave 2007

Dinner, seminar and golf day

The Cheltenham Line-Up

Golf day – Monday 24

Brickhampton is a challenging and attractive golf course set in 200 acres of rolling Gloucestershire countryside that offers a fair test to golfers of all abilities. An excellent Driving Range is available for practice before the competition – balls can be purchased on the day.



Dinner – Monday 24

The Dinner is a first class networking event which offers members real opportunities for networking and is an ideal occasion at which to entertain clients and customers.

This year's after-dinner speaker is Terry Crystal, doctor to the England rugby team during the 1990s. With 83 international matches under his belt, Dr. Crystal has a reputation for providing an entertaining after-dinner event.

Exhibition – 24 & 25 September

There are a limited number of display areas available which will be of interest to all those companies wishing to promote themselves to Britpave members and others in the concrete paving industry attending this important event. Display areas are 3 m x 2 m and are available to Britpave members at £470 incl. VAT and to non-members at £822.50 incl. VAT.

Seminar – Tuesday 25

This is the yearly opportunity to get up-to-date with the latest in roads, airfields, barriers, slabtrack, soil stabilisation and the work being undertaken by Britpave's Task Groups.



Accommodation

The Chase sits among open countryside, yet is still within easy reach of the spa town of Cheltenham and commercial Gloucester. Getting there couldn't be easier. It is just one mile from the M5 motorway, within an hour of Birmingham and Bristol Airports and close to direct train links to London Paddington.

The Chase has this year undergone a £3m refurbishment in public areas, bedrooms and conference rooms. With air conditioning in all bedrooms and new opulent feature furnishings, The Chase provides all you'd expect from a deluxe hotel.

Rooms will be released from 23 August. Please contact the hotel directly and book your room early to avoid disappointment. All seminar bookings to be made directly with Britpave.



airfield concrete paving *down under update...*

Following on from Beca Airports' award winning Runway 16-34 Widening project featured in the last edition of Britpave news, the Beca Airports Project Management Team has recently completed three concrete pavement projects for client Melbourne Airport. The same team members who successfully delivered the Runway 16-34 Widening project, Tim Swain, Rosie Haszard, Johnny MacFarlane and Diana Quiceno, have continued with their success on the airfield through the expansion of the team with the additions of Leigh Findlay and Justin Ashford. The three recent concrete pavement projects are:

- Taxiway Fillet Widening
- Western Apron Phase A
- Taxiway A Slab Replacement

In total, the projects involved the placement by a mixture of hand/mechanised plant of over 17,500 m³ of 5MPa flexural concrete (50 mm slump) up to 500 mm thick to cater for wide bodied aircraft as part of their on-going major maintenance and capital development project at Melbourne Airport. Typically, concrete slabs were 5 m x 5 m with

longitudinal construction joints using 500 mm long x 40 mm diameter steel dowels at 500 mm centres. Curing methods consisted of a three stage curing process including; initial curing (water fog/mist), moist curing (covered with wetted hessian) and membrane curing (spray application of membrane curing compound). Contractors for the airfield paving works included Negri and John Hollands.

A further airside project that is currently being undertaken by Beca Airports is the construction of a segment of parallel taxiway to Runway 16-34 as part of the ongoing capital works programme. The project includes over 18,000 m³ of concrete pavement, 13,800 m³ of flexible pavement and the installation of approximately 600 taxiway centreline lights.

In New Zealand, Beca Airports have recently completed the reconstruction of Taxiway A8 and the Qantas domestic apron at Auckland International Airport. To cater for use by wide-bodied aircraft, the 40 year old concrete pavement was broken out and reconstructed with a 6MPa flexural strength, 500 mm thick, dowelled and key jointed concrete slab over a cement stabilised in-situ hardfill base. In addition, Beca

continued the on-going programme of upgrading various taxiway intersections to cater for the longer new generation aircraft such as the Boeing B777 and the Airbus A340 and A380 aircraft. This involved a mixture of new concrete slab construction to the same specification as above, together with new asphaltic concrete shoulder pavements.

For further information please contact Tim Swain (tim.swain@beca.com), John Marsh (john.marsh@beca.com) or John Cairns (john.cairns@beca.com)



new from britpave

Sustainable Solutions for Old Rail Yard

HBM and stabilisation - Design and specification for:

- 1 Parking areas and hardstandings
- 2 Residential and commercial road pavements
- 3 Heavy-duty paving

Produced to complement the base publication, Hydraulically-bound mixtures for pavements, this suite of three Technical Guidelines is produced to help make clients, designers and contractors aware of the technical issues when using hydraulically-bound materials to produce pavements for three different situations.

Ref. BP/26, 27 & 28. Free to Britpave members, £10 each to non-members.

Rigid airfield pavements 4:

Surface finish, regularity and texture

Prepared by the Britpave Airfields Task group on the principles governing the requirements and current specifications for concrete airfield pavements. It provides advice on:

- The types and specification of surface finishes for new concrete pavements.
- Surface regularity.
- Surface textures and friction requirements.

Ref. BP/25. Free to Britpave members, £10 to non-members.

Step barrier drawings on CD

Issue 2 of the technical drawings and specifications, commissioned from Arup, is now released. It contains 70 drawings of both concrete and steel step barrier and ancillary products. Produced in pdf format, it includes AutoCAD blocks of principal items for download. It contains drawings for both surface-mounted and embedded barrier.

Ref. BP/22. Britpave members £450, non-members £2,000, from the Britpave office.

Concrete step barrier: Data Sheets

A new set of datasheets will soon be released which will be added to the existing set. These include:

- Lighting columns
- Concrete step barrier and kerbs
- Licence scheme and Accreditation scheme
- Concrete mix

Ref: DS/CSB/500 to 530. Free of charge from Britpave office to members, £10 to non-members. Downloadable from Britpave website.

The Elderslie site was an old rail yard which had various uses throughout its history. The project was to change the site into a state-of-the-art container facility for the W.H. Malcolm Group, capable of taking massive loads due to the containers being stacked up to three or four high and the use of container lifting equipment.

The original design called for a 600 mm capping layer, 150 mm stone and a 400 mm concrete slab. This required around 12,000 m³ of site material being shipped offsite, with approximately 23,000 m³ of replacement material brought in. The site also contained non-hazardous contaminated materials from its use as a rail yard and the design needed to also address the issue of potential long term settlement.

CON-FORM worked with engineers URS Corporation Ltd to develop a solution that enabled the site materials to be incorporated into the design, the focus being on sustainability, affordability and practicality.

Key elements of the design were the application of rolling dynamic compaction (RDC) across the site to eliminate the differential settlement issue. Up to 150 mm of settlement was achieved with an average 75 mm across the site. The site was profiled and the base material stabilised in-situ to a depth of 300 mm using a 75 kg/m³ cement/PFA blend to produce a 50% CBR layer. Site won material from the cut operation was then incorporated with 200 kg/m³ of OPC to produce a CBM3 material.

The CBM3 material was placed in layers to form a 600 mm layer across the site. This was then overlaid with 30 mm of sand and 80 mm of block paving. The only import was 110 mm of material versus the 1,150 mm as detailed in the original design.

KEY BENEFITS

- Revised design only required the import of 2,500 m³ for the block paving and sand, saving 4,000 lorry movements over a 12 week period (70 per day).
 - Avoidance of soil classification analysis. The mixed nature of the site materials meant that detailed analysis would have been required to establish soil classifications prior to shipping the materials to landfill.
 - Although the materials were not classified as hazardous, any contaminants were effectively locked up in the modification process as they were incorporated into the 50% CBR and CBM3 monolithic layers.
 - Client gained savings of around £250,000 and 4 weeks, approximately 25% saving in both cases.
- For more information contact Simon Harding (Simon.Harding@con-form.com)



Non-members may buy online from www.concretebookshop.com

the last word...

23RD
WORLD
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PARIS 2007



Transport polices and sustainable development

The Centenary World Road Congress will be held under the auspices of PIARC in Paris from 17 to 21 September. This promises to be an information-packed event, addressing the issue of what road transport polices should be pursued to encourage economic and social progress without jeopardising the natural balance of the planet. Providing networking opportunities for experts, professionals and contractors, the Congress will cover:

- Governance and management of the road system.
- Sustainable mobility.
- Safety and road operations.
- Quality of road infrastructure.

■ For more information visit www.paris2007-route.fr or contact the Britpave office.

Introducing...



Britpave, along with Belgian colleagues Febelcem, have been instrumental in setting up a European Concrete Paving Organisation (Eupave). Other founder members include Oficeman of Spain, Cement and Beton Centrum of Netherlands and A.I.T.E.C of Italy. Cembureau, the European Cement Industry Association, are also founder members. Interest is being shown by many other European countries and it is expected that the organisation will be supported by the majority of the European companies by the end of the year.

The aim of the new organisation is to promote concrete paving markets across the EU. Offices will be in Brussels for easy access to the Commission. One objective of the organisation will be to gain access to major EU research projects and to work with MEPs and Commissions on construction, legal and environmental issues. It is intended that the Association will be responsible for the next World Symposium on Concrete Roads which will be held in 2010.

It will carry out its work through a series of working groups; the first of these, WG1, Concrete Barrier. This is chaired by the UK, with James Charlesworth of Extrudakerb and Britpave Barrier Board Chair being the inaugural Chairperson.



David Jones, Director of Britpave (right) meets with Den Dover, MEP and President of The Forum for Construction in the European Parliament (FOCOPE)

There are four groups of memberships, defined as ordinary member, associate member, supporting member and corresponding member.

The new organisation will be officially launched mid-September and a multilingual administrator has already been appointed who takes up her new role then.

A website, www.eupave.com is currently under construction. More details will be made available on the Britpave website www.britpave.org.uk or by logging onto www.concretebarrier.org.uk.



'A concrete barrier a day keeps the doctor away'

The Telegraph 07 July 2007

Welcome to new members

Britpave is pleased to welcome the following new members and looks forward to their participation in the Association's activities.

Lafarge Readymix Ltd

Tel: 01992 512722
www.lafarge-aggregates.co.uk
Principal contact: Jo Field

Netivey Hamifratz Ltd

Tel: +972 4 858 0888
www.netivey.com
Principal contact: Yossi Maor

Joe Roocroft & Sons Ltd

Tel: 01772 642810
www.roocroftfencing.co.uk
Principal contact: David Roocroft



Britpave News is published regularly by Britpave with the aim of keeping members up to date on Association matters, industry developments and member company news and views. Please help keep us in the picture on all of this by sending us any relevant information that you feel may be of interest to the membership.

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