

Newsletter

br / tpave

The British In-situ Concrete Paving Association

Spring 2002 | 4

JOIN US THIS YEAR at the Britpave Dinner & Seminar

This year the event is being held a month earlier than usual, on the 23 and 24 September at the Belton Woods Hotel, near Grantham. This prestigious de Vere Group hotel is set in spacious grounds and has the very latest in leisure facilities, plus there are two 18 hole golf courses in the grounds.

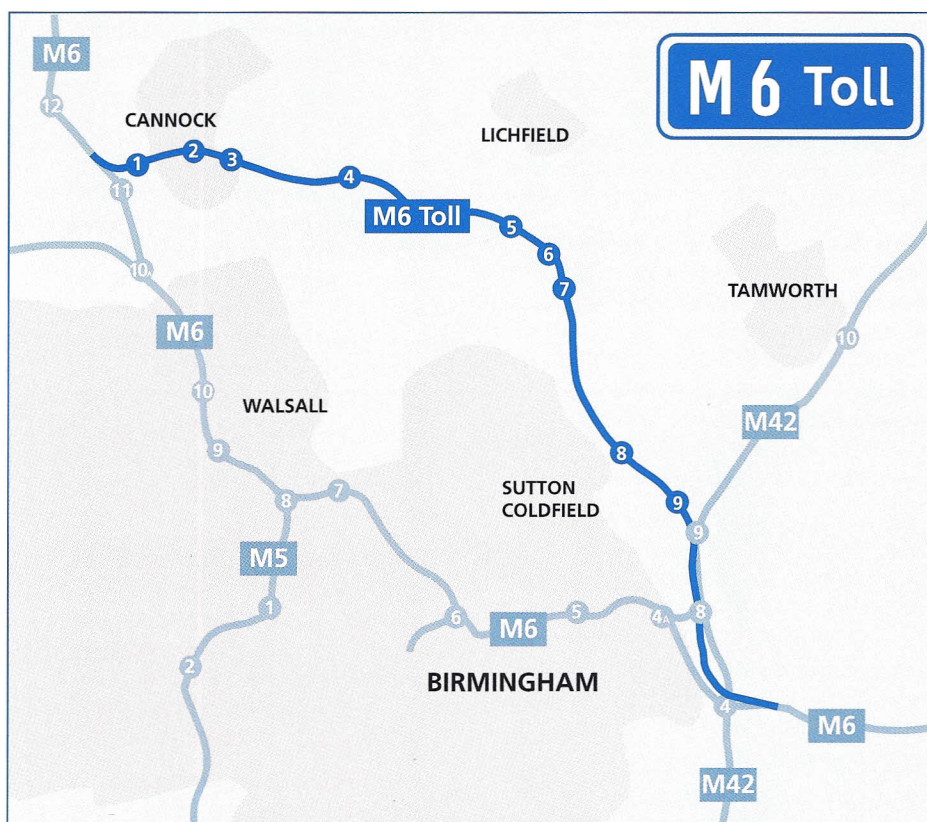
As usual, we have a full programme of interesting topics that will stimulate discussion and debate.

Our speaker at the dinner is David Kendall, who is very popular on the after dinner circuit. David, a born and bred Yorkshireman is an ex-bank manager. His cheerful manner and infectious laugh have brightened many an event both in the UK and abroad.

Our guest of honour and keynote speaker at this year's Seminar is Richard Thorndike, Corporate Director of the Highways Agency. Members will welcome the opportunity to meet Richard and hear what challenges he throws out to our industry.

Remember, the dinner is on the evening of Monday 23 September and the Seminar is on the Tuesday 24th. Full details of the programme will be mailed to you soon, together with an invitation to take space at the exhibition – an opportunity to showcase your company and products to all those who count in the industry.

Sustainable construction on UK's first toll motorway



Route of M6 Toll

The M6 Toll will be the nation's first toll motorway. This new motorway alternative to the existing M6 through the West Midlands is the first public highway to be fully privately funded with all revenue for the operators, Midland Expressway, provided by real tolls collected on the route.

The new road runs to the north and east of Birmingham between junctions 11 and 4 of the present M6. It follows closely the corridor formed by the A5, A38, and A446 and joins the M42 between junctions 9 and 8 where the two motorways will run together for this section.

CAMBBA, a joint venture between Carillion, Alfred McAlpine, Balfour Beatty and AMEC, was awarded the £485.5 million design and construct contract in September 2000 and work is well on target to meet the contract completion date of January 2004.

Continued on page 2

Diary Dates

AGM 20 June

M6 Toll Project Management Offices
Shenstone, Lichfield

Annual Dinner and Seminar

Mon/Tues, 23 – 24 September
Belton Woods Hotel, near Grantham



M6 toll...Continued

This scheme, which is probably the largest single road contract to be let in the UK, clearly had the potential to impact significantly on the local landscape and the lives of the neighbouring population. For this reason the design has been carefully considered to minimise that impact both during and after construction.

Wherever possible the new highway has been designed in cuttings, and at-grade or embankment areas are screened with extensive landscaped mounding to reduce noise and visual impact. Additional land has been provided alongside that needed for the engineering works to allow for additional landscape mitigation so that the new road can blend with the existing scene.

This design has resulted in an excavation requirement of 9.2 million m³, plus topsoil of 1.3 million m³, but a fill requirement of only 7.5 million m³ – an imbalance of some 1.7 million m³ or 3 million tonnes of material. It was necessary to give careful consideration to this surplus, preferably by re-using it in the works.

It is perhaps good fortune that the route passes through two areas of naturally occurring sand and gravel, one at the northern end and one in the middle of the route where it passes Hanson's Weeford Quarry. This second area has the potential to yield some 2 million tonnes of material for re-use in the works.

This factor has been a major consideration in the planning and design of the M6 Toll and the aim is to achieve an overall balance between cut and fill by using all of this material.

Sampling and trialling of the sand and gravel has shown that it has the ability to provide the project with drainage materials, 6C fills, and aggregates for structural concrete, cement-bound material and pavement quality concrete.

This in turn has heavily influenced the choice of pavement design and the design team, an Arup-Atkins joint venture, working closely with the CAMBBA laboratory and production team, has produced a pavement

design incorporating both a CBM improvement layer and a CRCP pavement. The final surface of the road is specified to be black with a noise-reducing surface such as stone mastic asphalt.

CBM trials have already taken place on site using a mobile batching plant and Titan paver. CAMBBA has purchased a Titan 525 paver to lay the CBM and will hire a 523 from AMEC. Production has recently started.

This will allow a long enough lead for the PQ concrete to start in the summer. Laying of the CRCP will be carried out using the Alfred McAlpine Guntert and Zimmerman slipform paver and this method of construction clearly has a strong influence on the planning of the works.

The greater part of the route throughout the centre of the scheme is essentially greenfield in nature and this provides an excellent opportunity for good lengths of run for the paving train. Nevertheless there are still bridges to finish and service diversions to be completed throughout the section to be able to get the clear run that is needed; the construction teams were fully focused on this objective through the winter until early spring.

Production of aggregates started well in advance of requirements and production rates, stockpile management and crushing, screening and washing plant levels are being carefully monitored to meet the future needs of the paving operations.

CAMBBA is carrying out the aggregate production using powerscreen washing systems. Anticipated quantities are as follows:

PQ concrete	352,000 tonnes
Structural concrete	193,000 tonnes
Drainage	320,000 tonnes
CBM aggregates	597,000 tonnes

The processing of material on site and the use of mobile batching plants within the site will eliminate the need for 400,000 lorry journeys that would be needed for off-site production and delivery.

The natural environment has not been forgotten, despite the emphasis on production, and a major population

of Great Crested Newts had to be translocated from the quarry area before work could begin. Using trained ecologists the newts were fenced and trapped before being relocated around pond sites away from the works. The site is now fenced with amphibian-proof barrier to stop the newts from inadvertently straying back into the works.

Pollution control is also essential and new settlement lagoons have been constructed to control CAMBBA's effluent into the local brook from the washing processes. Production of the aggregate is well on target and the pavement team is gearing up for a very busy year in 2002.

For more information contact Chris Jackson on 01543 440500. e-mail chris.jackson@cambba.com

• CAMBBA will make a presentation on the project after the AGM on 20 June.

THE PROJECT

Government Agency – The Highways Agency
Client – Midland Expressway Ltd
Main contractor – CAMBBA
Designer – Arup-Atkins Joint Venture
Ecologists – Cresswell Associates
Landscape design – Cooper Partnership
Archaeology – Oxford Wessex Joint Venture

Construction details

43 km dual three-lane motorway
£485.5 million design and construct contract
Start date – 29 September 2000
Contract duration – 40 months
57 new bridges (including 3 rail bridges)
20 existing bridges (4 demolished, 8 widened)
1 new canal lock
1.3 million m³ topsoil
9.2 million m³ general excavation
443 hectares landscaping
3 maintenance areas
7 toll plazas
1 operations centre
1.4 million m² mainline pavement
750,000 tonnes CBM
305,000 tonnes PQ concrete
9,600 tonnes structural steel
800,000 tonnes blacktop

CONSTRUCTION DETAILS

The concrete pavement construction is 200 to 250 mm of CBM2a depending on subformation CBR, 220 mm CRCP, and 40 mm of asphalt surfacing.



At last – work is about to start on Heathrow's Terminal 5

Barring last-minute hitches, work will have started on T5 at Heathrow by the time this issue of *Britpave News* arrives on your desk. This is after the most comprehensive and rigorous inquiry in UK planning history.

Designed to handle around 30 million passengers a year, Phase one of the development, handling 20 million passengers a year, is due to open for public use in 2008. It will be funded by BAA, not the taxpayer, and with its satellites and aircraft stands will cover some 260 hectares, just under a quarter of the 1,200 hectares currently occupied by the airport.

T5 will be served by the Heathrow Express and the Piccadilly Underground Line, and a new spur road to the M25 will minimize additional traffic on local roads. As part of the development, a new 87 m high state-of-the-art control tower will be built to serve the whole airport. The layout of the taxiways and aircraft stands has been designed to minimize taxiing and cut delays, so helping to reduce the affect on air quality.

The impact of construction on local residents will be minimized by restricting the noise, times of working, deliveries and vehicle emissions coupled with a telephone hotline and a 24-hr emergency response system. When completed, the visual impact of the new terminal will be mitigated by planting some 20,000 trees.

On the ecological front, steps will be taken to encourage a wide range of insects and small mammals and a regionally important area of grassland will be relocated.

- For details of the construction methods see *Britpave News* 3, winter 2002.

THE PROJECT

Client – BAA

Designer – Integrated design team incl TPS, Mott MacDonald, and Brown and Root

Civil Contractors – Laing O'Rourke and AMEC

Concrete paving – AMEC

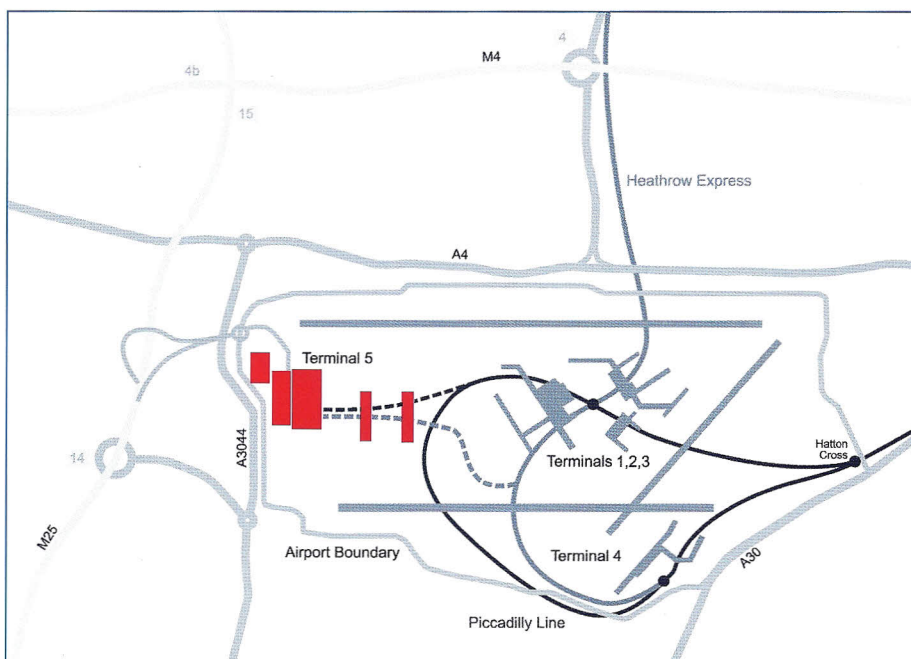
Duration – April 2002 to Spring 2008

Phase 1 Project Value – £2.7 billion

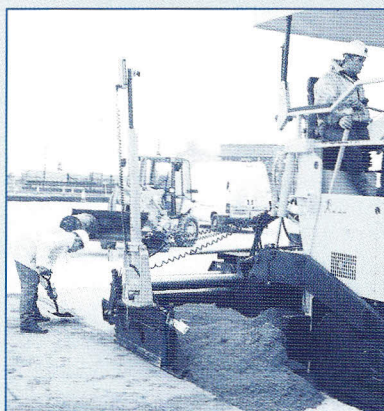
Start paving – January 2003

Finish paving – Autumn 2006

Peak paving rate at 2000m³/day



Roller compacted concrete cuts costs for harbour project

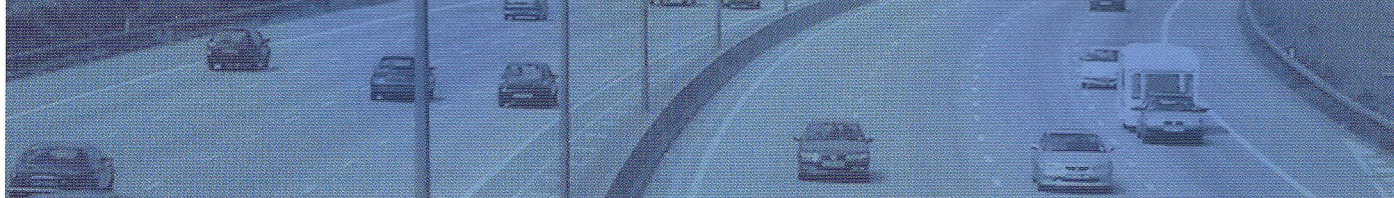


An ABG Titan 511 laying the RCC at the 12 Quays Project. Laser guidance was used as part of the system to achieve the required tolerances.

Sitebatch will shortly complete production of 21,000 m³ of roller-compacted concrete (RCC) for the 12 Quays Ro-Ro project in Wallasey. The company proposed the use of RCC to the client Mersey Dock and Harbour Company and their partner AMEC as an alternative to conventional paving. RCC is mixed and laid with CBM type equipment but surface tolerance is tighter and the RCC provides the final running surface. The surface is not as 'pretty' as conventional materials but RCC provides a durable, fit-for-purpose paving solution with considerable savings. The technique is used extensively for hardstandings in the USA and is seen as having great potential in the UK.

- For more information contact: info@sitebatch.co.uk

- Watch out for a new video explaining the technique and it's application. This will be available soon for *Britpave* members.



Concrete helps prevent train derailments

In Hong Kong, the new passenger railway linking West Kowloon with Tuen Mun will incorporate slip-formed barrier walls on both sides of each track. Known as derailment upstand walls, they will contain the trackform and act as a retaining wall to keep trains on-line should they derail.

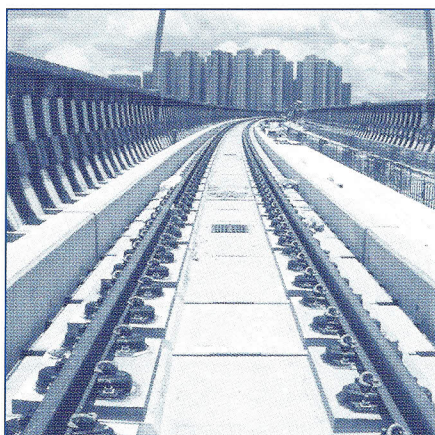
The railway is being built for the Kowloon-Canton Railway Corporation (KCRC) by a joint venture that includes Chun Wo Holdings, Henryvicy Pty. Ltd, China Railway Construction Corporation and Queensland Rail.

Approximately 9 miles of derailment upstand wall will be constructed with a height of 800 mm and a width of 400 mm. It will be slipformed over reinforcing steel consisting of starter bars with T20 loops with T16 longitudinal bars.

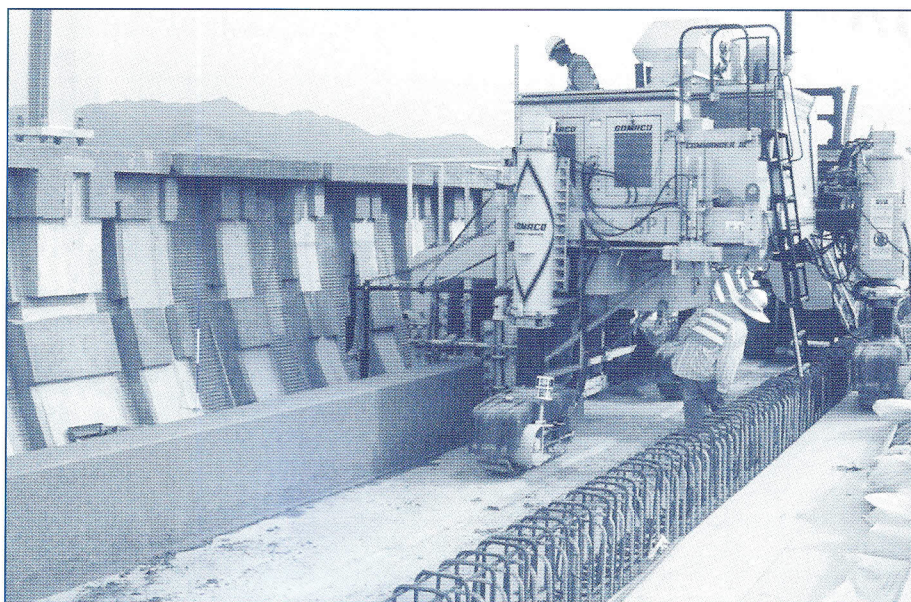
Surface clearances are very tight. The position of the side of the wall in relation to the centreline of the track can deviate by only 5 mm, and tolerance for the top of the wall from the rail is 10 mm.

Working on a project that varied from 10.6 m to 28 m above ground presented its own problems for the constant supply of concrete to the Gomaco Commander III paver.

The team decided to achieve this through a series of steps. Concrete is delivered to the site by conventional ready-mixed trucks, where it is transferred to a concrete skip.



The completed track with anti-derailment barrier on either side



The anti-derailment wall is slipformed before the tracks are laid

This is then lifted onto the deck of the viaduct by a crane. A forklift truck then picks up the skip and takes it to the paver.

This method was chosen because they had the machines available, and not all areas of the viaduct could be reached by a crane.

This was the first time that a slipform paver has been used in Hong Kong for rail/vertical application, so a major part of the project was the development of a slipformable mix for the vertical wall and also the method for delivering it to the paver.

During trials, the mix was tested and refined, and a suitable OPC cement was developed with 6% air entrainment and a slump of 40 mm. Support from Gomaco helped refine the mix and train the joint venture staff to become familiar with the mix consistency.

Average production rate is 105 m during the five-hour slipforming period, with the rest of the day spent forming joints and ducts for the next pour and moving the machine. 'The main issue is not how fast the machine will go, but how slowly it can go to enable the concrete supply to keep up with it', explained Peter Slack, the project manager.

Four finishers work behind the slipformer, trowelling the wall to the

required finish. They also re-form openings in the wall where the conduit goes through for future signal wires and drainage.

For further information contact Gomaco on 01753 821926, e-mail paving@Gomaco.co.uk

A tip from the team

Focus on your mix design and machine support systems, and don't underestimate the time and quantity of concrete required to complete the trials.

Combating noise

In a bid to construct one of the quietest railways in the world, KCRC designed a floating track slab with rails supported on rubber/steel vibration absorbing base plates on precast concrete panels. These are set on rubber bearings on all four sides to reduce noise and vibration.

Some project details

Completion date 30 June 2003
56,000 tons of precast track units
21,000 m³ ready-mixed concrete
4,000 tons of rail
193,000 rubber bearings
17 miles of GRC cable troughs



Concrete highway repairs

Innovative technique halves the time

A technique first trialled in December 2000 in Colorado, USA, halves the time taken to repair concrete highways in a technique that involves inserting a precast concrete slab into the area left after the bad section has been cut out.

In the first trial, the entire repair procedure was tightly 'choreographed'. Each task was given an allotted timeframe during which the various contractors performed their individual parts.

With the traffic control cones set in place, the first contractor saw-cut the damaged portion of the highway. After the old concrete had been removed, another crew graded and compacted the base, and the foam manufacturer's team cleaned and sand-blasted the perimeter of the surrounding concrete to ensure a stronger bond for the foam.

A previously cast precast slab had been delivered, made with $\frac{1}{2}$ to $\frac{3}{4}$ inch tolerance on the sides and 1 inch on the ends. The precaster took some seven minutes to set the panel down in the hole, and then the foam manufacturer's crew injected polyurethane foam through small holes that had been precast into the concrete.

The foam quickly filled the voids underneath and around the slab, raising it into place, at which stage gauges were used to level the new section to within $\frac{1}{8}$ inch of the existing highway.

Background

A superintendent from the Colorado Department of Transportation challenged his managers to come up with a more efficient way to repair highways and reduce lane closure times. One remembered the use of a high-density polyurethane foam to lift sagging or uneven concrete into place. The connection to precast concrete slabs was made and Colorado Precast Concrete Inc and other contractors were called. The rest, as they say, is history.



The new slab has been lowered into place – note slots precast into it, which will be matched by similar slots cut into the existing highway

Next, $\frac{1}{2}$ inch wide slots 5 inches deep were saw-cut into the highway to coincide with slots precast into the new section. Fibreglass panels or 'stitches' measuring 36 inches long and $\frac{1}{4}$ inch thick were placed in the slots, which were then filled with a semi-rigid polymer. This will hold the slab in place and provide load transfer between it and the existing highway.

Eyebolts cast into the slab for lifting were then removed and the holes also filled with the polymer.

From cones in place to cones uplifted, the entire process took about eight hours. The next day the teams replaced two slabs in just ten hours.

When planning the first trial, the Colorado DOT chose a bad road, with less than ideal weather conditions and heavy traffic, in order to prove that the technique would work in all situations. They also selected a site situated on a slight curve and where there was a slope in the grade.

The precaster, Colorado Precast Concrete, made a product that fitted like a piece in a jigsaw, and was subsequently awarded for excellence in concrete pavement restoration by the American Concrete Pavement Association.

But, in future, the company hopes to manufacture a stock sized product – they feel it makes more sense to saw-cut to fit a panel than to cast to fit the hole.

The repairs have held up well. The Colorado DOT says they have preformed well over four seasons, with no stress cracking or fractures. The strength of the panels was greater than that of traditional repair work concrete. The precaster had used a high strength mix with a low water/cement ratio and 5.5% air entrainment to avoid freeze/thaw damage.

In a repeat performance in summer 2001, eight more panels were used to repair a heavily trafficked highway overnight. Most commuters didn't even know that the work had been carried out, and the repairs were hardly noticeable.

Following the success in Colorado, the idea of using precast slabs and high-density foam for repairs to traffic-bearing concrete has been used by Washington Dallas International Airport to repair its tarmac, and other states have used it for their highways.

For more information, contact Colorado Precast Concrete Inc at info@coloprecast.com



Keeping up-to-date with **Britpave...**

The safer barrier video hits the spot

Britpave's video on concrete safety seems to be putting over the message very effectively. *Construction News* has carried the story, and there has been a headline feature in the *Bristol Evening News* explaining how concrete barriers could have helped prevent a crossover accident on the M5 on Good Friday in which two people were killed. Watch out for an article in the Spring edition of the prestigious *Science in Parliament* publication.

Ready-mixed Concrete Bureau staff are already using the video as part of their promotional toolkit, and David Jones has presented the programme at a meeting of Conquest (the BCA's members-only information service).

Members are asked to consider using their own contacts in local authorities, the police, Rotary and other professional clubs and organisations to promote the message

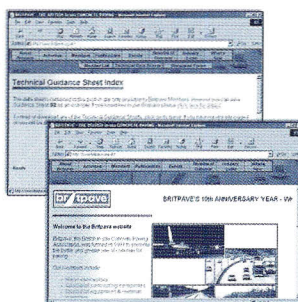
Further copies of the video are available to members on request from Jan Stamp on 01344 725731.

• A new slabtrack video that addresses the buildability issues when constructing concrete slabtrack is almost complete. All members will receive a complimentary copy.

The future for concrete road construction

Britpave's vision of how cement and concrete offer solutions to meeting the demands of a modern highway system was presented by two Britpave members at an event held in Scunthorpe. The joint presenters, Alex Lake of Burks Green and David York of Sitebatch Technologies, also contributed to the lively debate held after the meeting organised by The Concrete Society and the ICE.

WEBSITE - members-only area



Remember, all our Technical Guidance Sheets are available on the Britpave website in the members-only area. These are in PDF format that makes downloading and printing easy.

We are now receiving over 1,000 hits over week on our site www.britpave.org.uk

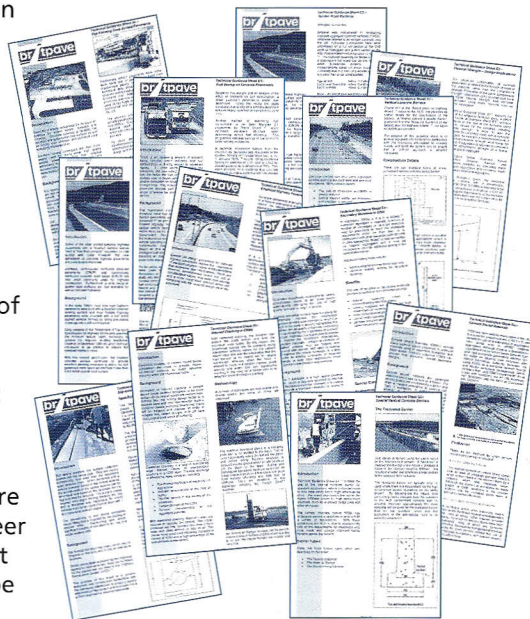
Helping to spread the word

So far 12 Guidance Sheets have been published on paper and made available on the website. Titles currently being worked on include

- Slabtrack for rail
- Recycling of concrete
- Use of secondary materials in concrete.

For a full list see the Winter issue of *Britpave News* (No. 3), and to check availability, or to download further copies, visit the website and look at the index.

To maintain the high standard set by the initial Guidance sheets, we are asking Britpave members to volunteer their services and help provide input into the next sheets. The topics to be covered are listed above.



Making way for freight – Slabtrack for clearance, safety and minimum maintenance

This was the title of a paper given by David Jones at a Railway Civil Engineers' Association seminar at ICE, attended by almost 200 people, who heard about the challenges facing the rail freight industry. Britpave's presentation offered an immediate solution to freight gauge problems in tunnels offering freight

operators the vision of almost 24 hour operation over 7 days a week. This could be achieved by a widespread adoption of slabtrack. The solution stimulated a barrage of questions, and the session chairman said that he 'felt another seminar coming on about slabtrack'. So watch out for further developments.

Britpave contributes to Advanced Concrete Technology Course

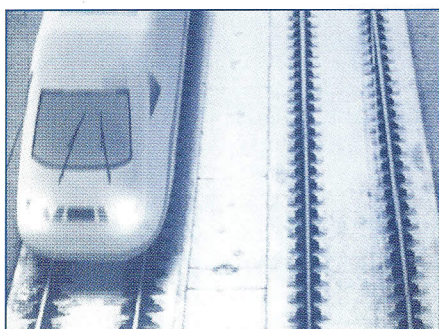
Britpave presented two sessions at the Nottingham University/Imperial College ACT course in April. David York of Sitebatch Technologies covered the CBM module and

Graham Taylor presented the PQ sessions on our behalf. This year there were almost 20 candidates on this prestigious course, several of whom were from overseas.



News from the industry - at home and abroad

SRA backs new north-south rail link



High speed train on slabtrack, Germany.

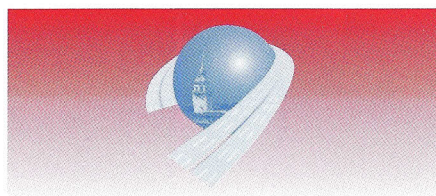
Richard Bowker, the new Strategic Rail Authority chief has backed the building of a new London – Scotland high speed railway. He maintains that around the end of this decade the motorway system is likely to be gridlocked, and its not too soon to start now in building another route.

He believes that a new line could be built by 2015. 'If we don't start believing that we can do things, then we won't achieve them'. The feasibility work on the proposed new electrified line that would carry trains at 225 mph has been started by WS Atkins.

The study will be published in the autumn, and Ernst and Young are said to be working on how to finance the scheme, provisionally priced at £5 billion.

Bowker has long seen the need for a new high-speed line between Edinburgh/Glasgow and London, an idea that formed the basis of Virgin Trains' bid for the East Coast Mainline franchise. He is credited with knowing every part of both the ECML and West Coast lines, after many weekends spent trackside at Virgin Trains.

- Britpave has already made a presentation to the SRA East Coast Mainline project team in York and hopes to partner them in a major research project.



DON'T MISS the 2003 International Symposium on Concrete Roads

After recent successful conferences in Vienna and Lisbon, next year's 9th International Symposium on Concrete Roads is to be held in Istanbul. Two days of papers on 28 and 29 April will be supported by technical visits and workshops, with English as the main language. There will be four themes:

- Design and specification, life cycle cost
- Materials for concrete pavements
- Construction, maintenance, performance
- Safety, environment, low-noise concrete

The workshop for beginners will cover the first concrete pavement, while that for specialists will deal with in-situ recycling with cement.

Clearly some of these topics are close to members' hearts, and the organisers have especially requested papers from the UK. For further details, contact the Britpave office.

Road recycling seminar

In-situ road recycling with cement is to be the afternoon session on the first day of a two-day international conference to be held in Warsaw on 10 and 11 October. Organised by the Polish Road and Bridge Research Institute in association with PIARC, the conference will include invited presentations from developed and in-transition countries. For further information e-mail promotion@ibdim.edu.pl

Build 'pit stops' on motorways, says AA

Thousands of crash-proof 'pit stops' should be built alongside every UK motorway to prevent stranded motorists being hit by other vehicles, says the AA. Similar refuges have already been built on Italian motorways following a spate of fatal crashes.

- The obvious material to provide crash proof protection would be concrete. Britpave also asks if these havens would be the answer to the government's exhortation 'Think - don't drive tired' Without more motorway service areas, where does it think these tired motorists could stop?

Warning re airport capacity

The Government has recently warned that airfares could rise if UK runway capacity fails to meet the expected demands, forcing airlines to move to Europe. This follows the Government's proposals to build additional runways at three airports in the south east. It is due to publish its long-awaited aviation consultation paper in May

.....Maybe Manston?

Manston, a former RAF base, is the second Kent site to be considered as a potential site for London's fifth passenger airport.

Both Kent County Council and the South East England Development Agency prefer Manston to Cliffe, the other Kent site, that is in an environmentally sensitive area and already has busy skies.

Putting an extra runway in one of the three main airports will be controversial, making the case for using an existing runway attractive. In addition to having a long runway capable of handling transatlantic flights, Manston has good motorway links to London. It has also recently changed its name to London Manston Airport. There is no fast rail link to London, but Wiggins, the company that owns Manston, wants to establish a connection to the Channel Tunnel Rail Link. It plans to construct a new passenger terminal from 2004, capable of handling 1.5 m passengers a year.



Interest grows in cold in-situ recycling

The use of recycling for road maintenance is nothing new, but is continuing to gain a higher profile as a result of government sustainable construction policy and the commitment of local authorities to reduce waste as part of their Agenda 21 plans. Landfill tax and the introduction of the aggregate levy should both act as economic drivers for increased levels of recycling.

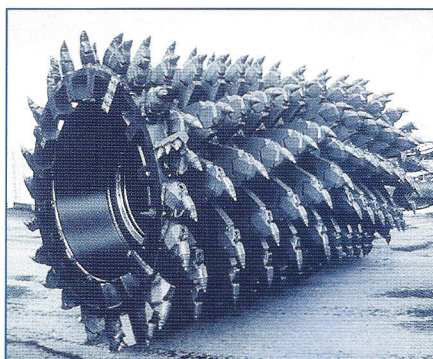
Where possible, recycled construction materials should be used in high-grade applications; the use of asphalt-planings as fill or capping, for instance, is not exploiting this material to its full value.

Like other forms of reconstruction conventional recycling still requires energy and new materials, and generates transport movements. For these reasons, cold in situ recycling – a procedure using specialist plant to pulverise and stabilise existing road materials in place at ambient temperatures – can make the most sense. Indeed, cold in situ recycling of asphalt roads provides environmental and cost benefits by;

- reducing the production of waste
- reducing transport movements, traffic congestion and fuel consumption
- removing energy requirements of hot-mix techniques
- reducing the use of raw materials

The process, where the pulverised asphalt pavement is stabilised (using cementitious, pozzolanic, or bituminous materials or a combination of two or all of these), re-laid and then surfaced, has been available for many years but has suffered from barriers to its use. These have principally been the lack of specification and design guidance for the often variable in situ materials and the lack of clear evidence of the success of the technique.

In 1999, TRL Report 386 was published, which includes case histories of the use of cold in-situ



recycling and provides structural design and specification guidance in the form of decision trees that can be applied under variable site and material conditions. The work, which included a full-scale trial of deep cement-bound recycling, resulted in an increased design life of roads recycled in this way, thereby making the technique a more economic proposition. As a result, this method has found unprecedented use over the last couple of years.

Following the success of that work, a new project at TRL has been funded, partly by landfill tax credits, in a collaboration between national and local highway authorities and industry. This project, called SMART (Sustainable Maintenance using innovative cold Recycling Techniques), aims to extend this research by producing versatile end-performance specifications. These will cater for both in-situ and ex-situ recycling techniques, as well as a wide range of aggregates (not only in-situ recycled asphalt product, but also externally sourced secondary/recycled and natural materials) and stabilising binders.

The project will lead to advice for inclusion in the Specification for Highway Works and the Design Manual for Roads and Bridges. A number of trial sites have been identified for inclusion in this research but more are required.

• For further information about this work or if you can offer a trial site, please contact Dr Bryan Magee at TRL (bmagee@trl.co.uk).

Meetings with Highways Agency

Britpave has recently met with a number of senior Highways Agency staff, including directors, Ginnie Clark (Safety, Standards and Research) and Richard Thorndike (Corporate). The meetings explored ways in which the two organisations can work together, and how Britpave and HA might partner each other in research projects

- Richard Thorndike has kindly agreed to present the keynote speech at Britpave's Conference on 24 September.

OBITUARY

Brian Ingham, a great supporter of Britpave, died suddenly in India, aged 47. Brian had worked for a number of member companies, and for the past three years was working on concrete road projects in India.

The Director represented members at Brian's funeral. Our sincere condolences are offered to Brian's wife and family.



The British In-situ Concrete Paving Association

Britpave Newsletter 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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