



## Online Dating Service for Soil!

**The huge costs of moving soil to and from construction sites has resulted in the growing popularity of 'soil dating' across the UK, something that HBPW is now playing a key role in facilitating.**

Many projects need to import or export materials in order to achieve required levels or an earthworks balance and, whether a site is a potential 'donor' or 'receiver', there is a resource for balancing materials via a project partner.

HBPW Geoenvironmental Associate, Jay Fox, a 'Qualified Person', under the 2011 CL:AIRE Code of Practice, which oversees the Register of Materials, says the Register seeks to put materials donors and receivers in touch.

"It contains information such as the location, availability, type,

quantity, provenance and quality of available earthworks materials. Not many people are aware that this free 'soil dating service' exists to assist developers in reducing costs associated with materials and waste," said Jay.

The Register of Materials was born out of the CL:AIRE Definition of Waste: Development Industry Code of Practice, often simply referred to as 'the CoP'. Now in its Second Version 'the CoP' provides a procedure for re-using contaminated and/or clean excavated materials in construction without the requirement for waste related exemptions or permits.

This process can be used to avoid



Making soil work harder!



Jay Fox

contaminated and even hazardous materials ever becoming a waste. HBPW can manage the whole materials assessment process as Jay is a registered Qualified Person.

CL:AIRE offer to connect donors and receivers. As soon as development or remediation is planned details can be confidentially submitted to CL:AIRE who then identify any potential synergies with other registered schemes and members.

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something that will need to be addressed as a priority.

There's a strange parallel in Jon Livesey's editorial about the threatened collapse of UK infrastructure. Must we reach crisis before action is taken? Surely a planned approach, over time, has to be a far better alternative?

And yet, despite my observations, life at HBPW continues apace with the team working hard to play their part in some prestigious, challenging and, invariably, complex projects.

HBPW will leave its mark on Manchester Victoria Railway Station's multi million pounds re-vamp, thanks to Emyr Parry's work on the new £16m roof, whilst the engineering challenges of Houghton Road in Darlington have been met, enabling construction work to proceed with speed!

By the time you read this the blistering summer will probably be a distant memory, as will the Commonwealth Games, the furore surrounding the Tour De France and, indeed, Germany's 7-1 thrashing of Brazil in early July!

Like the weather, change is never far away! Keep an eye on the HBPW blog to see what we've been up to, at [www.hbpw.co.uk/blog](http://www.hbpw.co.uk/blog).

Enjoy the read!

**PAUL WITHERS**  
MANAGING PARTNER  
HBPW CONSULTING

## Welcome



Paul Withers - Managing Partner

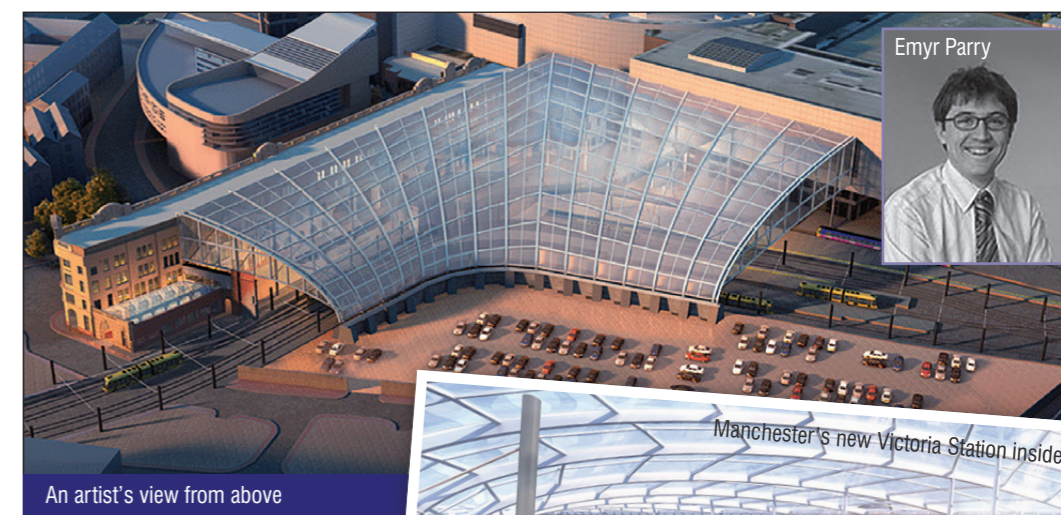
A few weeks ago the lion's share of 600 business leaders interviewed by the Prince's Trust and the HSBC believed that a significant skills crisis will hit the UK within the next three years.

On the one hand the UK government is trying to drive the economy forward with the likes of its Growth Accelerator initiative, whilst, on the other, the people required to support this appear to be in short supply across many sectors. It is a trend we are noticing in the civil and structural engineering sector.

More than 40% of those questioned said they were already experiencing skills gaps within their firms, while more than half are facing difficulties filling vacancies. Getting people with the right skills, especially young people, has long been an issue for British business and it is

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## HBPW Plays Its Part In Rail 'Grand Design'



An artist's view from above

**The new £16m roof that forms part of Manchester Victoria Railway Station's £44m re-vamp, will also feature a special piece of engineering designed at HBPW's Retford offices.**

The station, which is being transformed into a 'transport interchange' as part of Network Rail's plan to create a premier gateway to the city that is safer, brighter and more spacious, will also feature a Grand Designs style roof made from ethylene tetrafluoroethylene, or ETFE.

ETFE was used at Piccadilly station, the Eden Project in Cornwall and the swimming pool built for the Beijing Olympics, known as the Water Cube.

HBPW Partner, Emyr Parry, said: "We have played a minor part in the entire project but a very important one because we were asked to design a series of small enclosures that form

the wall elevation to the new station. The enclosures have also been designed to sustain terrorist blast loading to British Transport Police requirements so that passengers would be protected in the event of an attack."

The enclosures will be used to house the mechanical equipment that is subsequently used to 'inflate' the state-of-the-art roof.

ETFE is lighter, cheaper and lets in more light than glass. It's also self cleaning, making it an ideal material.

"Many consider it the building material of the future because this so-called 'wonder polymer', essentially a transparent plastic related to Teflon, is replacing glass and

plastic in some of the most innovative buildings being designed and constructed today. It is nice to think that we have played our part in such an amazing project," added Emyr.

The £44m project, which will also feature an improved concourse, including a new bridge link to the Manchester Arena, is scheduled to complete early next year.

**Client:** Network Rail  
**Contractor:** Morgan Sindall

## UK Infrastructure Challenge

**Tackling the UK infrastructure deficit across all sectors will be one of the great challenges facing civil and structural engineers over the coming years, according to HBPW Partner Jon Livesey.**

Following widespread media criticism that too much of the road budget is spent on 'patching and potholes' rather than sustained up-front investment, Jon maintains that the British road network is only the tip of the iceberg.

"Road maintenance budgets have been reduced over the years and thousands of miles of road surfaces with a 10-15 year lifespan are now coming to the end of their natural lives, which means there is an even bigger

problem looming. As much as 65-70% of the North East's network alone could soon be at the end of its natural design life."

Jon said that the rail network was also facing challenges. "Up to the late 1980's there had been 50 to 60 years of chronic under investment to the extent that many structures weren't even getting a lick of paint!

"Whilst this trend has now been reversed the need for planned maintenance across UK infrastructure in general remains paramount. However, if the best an MP can do is stand up and point at a re-surfaced road, it's not going to win them the same brownie points as announcing a major capital scheme. When we had steam trains, sparks flying

from coal fired engines played their part in starting the small fires that burned excessive shrubbery and trees in many cuttings. However, that no longer happens with diesel and electric locomotives.

"Equally neglected culverts get blocked, drainage fails and, potentially, embankments are compromised, sometimes leading to catastrophic collapses. The need for a more substantial inspection and maintenance programme across UK infrastructure generally, remains," added Jon.



Jon Livesey



# Engineers Overcome Darlington's Double Challenge!

Client: Carillion plc Contractor: Darlington Borough Council

Engineers faced a double challenge when they were called upon to design the sub structure for a new footbridge and cycleway next to Darlington College.

Construction work on the 60 metre span bridge on Houghton Road began this Summer under the watchful eye of Carillion.

However, one of the key challenges in designing the structure was providing sufficient clearance over the tracks of the East Coast Main Railway line below, whilst also ensuring that the approaches to either side of the bridge were not too steep for the disabled.

Design Engineer, Paul Monaghan, who has led the work on behalf of HBPW, said: "The new bridge is being constructed



Work begins at Houghton Road



The site of the new footbridge

to the south of, but immediately adjacent to, an existing bridge. It will provide an important improvement to the existing pedestrian and cyclist provision on Houghton Road by completing a key designated cycle route, which currently ends either side of the existing structure."

He said the existing bridge, which was not suitable for widening, carried pedestrians and cyclists along a narrow footway.

"Currently around 240 cyclists, as well as pedestrians, use the existing structure each day but, with numbers expected to rise, an alternative, more effective, solution needed to be found, hence the new bridge build.

"However, the design not only needed to comply with Network Rail engineering specifications, but also provide for all types of

pedestrian access including both cycles and vehicles used by the disabled. That has meant following guidelines laid out in the Disability Discrimination Act and keeping the bridge approaches at a suitably low level. Achieving these two requirements was one of the key engineering design challenges of this project," added Paul.

# Half Billion Pounds Rail Challenge

HBPW is playing its part in the massive £500m scheme to electrify the Midland Main line between Bedford and Sheffield by 2020.

Network Rail's half a billion pounds investment, which will not only enable electric trains to run between London St Pancras and South Yorkshire, will also provide for more seats and quicker journey times as well as cleaner, quieter trains.

However, before the scheme can be brought to fruition, existing rail and footbridges need

to be raised in order to create the higher clearances required for the introduction of electric overhead lines.

Design Engineer, Ross Hardy, said: "HBPW has been asked to advise on three farm access bridges, all close to Wymington in Bedfordshire, and two footbridges in Burton Latimer and Wellingborough, both in Northamptonshire.

"The three existing structures in Bedfordshire are masonry arch bridges and they are all being

demolished and replaced with Network Rail's standard 'conarch' bridge which gives the required minimum clearance of 5.3 meters. The two footbridges will also be replaced with Network Rail standardised structures," added Ross.

One of the over bridges in Wymington will also be widened. "Modern farming machinery is so much bigger than it used to be so this major scheme is also providing Network Rail with a perfect opportunity to widen the bridge slightly so that local farmers are able to move large agricultural equipment so much easier," added Ross.

An independent report, compiled by engineering consultancy Arup, has estimated that electrification will benefit the East Midlands alone to the tune of £450 million.

Client: Network Rail  
Contractor: AMCO Rail Ltd



Electrification of the Midland Main Line



Ross Hardy

# Skyline Testimony To HBPW

As work continues on the £17.3m project to create a new south entrance at Leeds Railway Station, a key feature of the West Yorkshire skyline is proof that HBPW has been playing its part in ensuring Network Rail's scheme remains on schedule.

While tower cranes may be a normal feature of many construction sites, it is a rarity that they are positioned directly next to railway lines, something NR is always keen to avoid in the interests of safety.

However, in order that the multi million pounds project, close to Leeds' landmark 'Dark Arches' in the Dark Neville Street area, can progress, such a structure has had to be erected adjacent to the main lines which run in and out of the city station.

HBPW's Managing Partner, Paul Withers, said: "The engineering for the new entrance has been designed by Mott MacDonald. However, we were asked to carry out the Category 3 independent checks on Carillion's design of the foundations to ensure that they were capable of supporting a tower crane. We also carried out the Category 3 checks on the Form F002 for the new permanent works.

"In simple terms Category 3 protocols provide for a double checking process in high risk safety environments. In this instance HBPW was the independent verifier but, in the past, some of our own design work has been subject to Category 3 over viewing by an independent third party."

The new entrance will be a fully-accessible, enclosed pedestrian extension over the River Aire directly south of the station. Lifts, escalators and stairs will take passengers from areas south of the city such as Holbeck Urban Village, to a widened footbridge, which will have customer information screens, ticket vending machines, CCTV, and cycle storage facilities, leading to a new ticket gate line above platforms 16 and 17.

To complement the scheme, the area around Little Neville Street will



Artist's impression of the new Leeds Railway Station entrance

also be pedestrianised and landscaped and NR has submitted an application for improvements to arches and area around Dark Neville Street.

It is anticipated that approximately 20 per cent of passengers a day travelling into Leeds from across West Yorkshire and beyond will use the new southern entrance, relieving pressure on the existing entrances and providing shorter journeys for business and leisure passengers to the south of the city centre. The new pedestrian entrance is expected to be used by around 20,000 people a day. Passenger numbers using the station are expected to rise by 16 per cent this year and by 62 per cent within 15 years.

Client: Network Rail  
Contractor: Carillion

