

## Just What The Doctor Ordered – More Parking!

One of HBPW's latest engineering design projects is now playing a key role in alleviating queuing at a leading hospital in Surrey.

As part of a £2.5m scheme at Frimley Park Hospital in Frimley, an additional 134 car parking spots have been created for patients and visitors, increasing capacity to around 275 vehicles.

And the project, which is being led by HBPW design engineer Shaun Strugnell on behalf of contractor, Faircloth Construction, has also helped cut car waiting times.

The scheme, unanimously backed by Surrey Heath Borough Council planners as far back as last May, was expected to reduce waiting times for motorists eager to enter the car park from Portsmouth Road where there have been historic tailbacks.

Janet King, Director of HR and Corporate Services at Frimley Health NHS Foundation Trust, said: "We don't think the extra capacity will completely solve all the parking and access issues. However,

combined with the road widening in Portsmouth Road, we believe it will make a significant contribution towards easing congestion on and around the site."

Shaun said: "The new car park is a single storey car park deck constructed in steel and precast concrete deck units and effectively sits directly above the existing car park. From an engineering perspective it has been challenging. Working on a compact site that has a vast system of underground drainage and electrical cables beneath the car park, meant we have had to coordinate everything carefully and position the new

foundations so as to avoid the pipes and cables serving the hospital.

"By their nature hospitals are technically complex environments so it wasn't entirely a surprise. We had to take as much care of the car park and its environs as the doctors probably do of their patients!"

Research by the trust has shown that each car parking space at Frimley Park is used on average three times each day.

It calculates that the extra capacity provided by the new deck will allow for around 450 extra vehicles in every 24-hour period.



The new car park during development phase



Frimley Park Hospital

Client: Frimley Park Hospital NHS Foundation Trust  
Contractor: Faircloth Construction

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simply become a toothless tiger? Let's hope not!

So many of our European counterparts have already delivered on high speed rail – Germany, Holland, Spain, France, to name but a few – but we seem to have the unenviable reputation of stop start infrastructure and simply 'doing public enquiries to death'!

We are a small island here in the UK and, whenever a project is suggested or land is earmarked, someone is affected and the chorus of disapproval rings out.

The East Midlands main line electrification scheme from South Yorkshire to St Pancras, for example, was cancelled then it was back on. We need politicians with the guts to lead the country and that invariably means making hard decisions.

For now, let's hope that common sense engineering plays its part in bringing greater consistency in UK infrastructure and that Lord Adonis' National Infrastructure Commission plays a key role in making this happen.

We continue to work on some great projects so please keep an eye on the HBPW blog to see what we've been up to ([www.hbpw.co.uk](http://www.hbpw.co.uk)).

Meanwhile enjoy the read!

PAUL WITHERS  
MANAGING PARTNER  
HBPW LLP

## Welcome



Paul Withers - Managing Partner

Forward planning by our newsletter editor allows me to say Happy Christmas and a Happy New Year in the same breath so, whether you are reading this missive at the end of 2015 or the beginning of 2016 (it does have a three month lifecycle!), be happy!

Which brings me to my next point, the concept of planning! Have we become a country of 'planners' skilled in the art of talking with very little action? Gone are the days, it would seem, of those pioneering British engineers who built our rail network in the 19th century, and put the Great in Britain.

So, it is with some trepidation that I welcome the National Infrastructure Commission and its aim to determine the priorities for UK infrastructure. But, will it provide for longer term thinking or, with no power to force through major schemes, will this 'recommending agent'

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## Experience Triumphs In £100m Project

Client: Peel Ports Ltd  
Contractor: Graham Construction Ltd



The huge storage silos of the new £100m biomass facility at the Port of Liverpool

The joint experience of HBPW and Graham Construction working on the huge Immingham Renewable Fuels Terminal, was instrumental in winning it the contract to complete the civil engineering design on Liverpool's new £100m biomass facility.

The new multi million pound terminal at the Port of Liverpool – the first stage of which opened in October - will handle up to three million tonnes of wood pellets a year and will help drive Drax Power Station's decarbonisation programme in North Yorkshire.

HBPW Managing Partner, Paul Withers, who was instrumental in planning the original civil engineering direction for the massive Immingham scheme on behalf of Associated British Ports, said experience had proved everything.

"The IRFT biomass facility, which features eight silos, in the same way that Liverpool's will have three larger ones, will

also land millions of tonnes of biomass from around the world, with Drax as the principal beneficiary.

"At the outset the project for Peel Ports Ltd at Liverpool's Gladstone Dock, got off to a slow start due to the original contractor going through a steep learning curve in order to understand the basic principles of designing a biomass import facility.

"HBPW had already cut its teeth on the Immingham project, as had Graham Construction, so it became the logical conclusion for Peel Ports to involve both parties when they transferred procurement of the construction to Graham's and their specialist team, which included us."

There are three huge silos measuring 40 metres by 50 metres high at Liverpool's Gladstone Dock, capable of holding a combined total of 100,000 tonnes of wood pellets. They will provide the Selby-based power station with a new,

sustainable low carbon fuel source.

All of the wood pellets will also be sent to Drax at Selby by rail, ensuring there is no impact on the road network.

The new terminal is set to create an additional 47 permanent jobs at the Port of Liverpool, while construction of the wider facility and the supply chain will create up to a further 300.

It is being built as part of Peel Ports' ambitious growth plans for the Port of Liverpool, with the company already investing £300m to create the UK's most centrally located deep water container terminal, known as Liverpool2.

The first phase of the new terminal opened in October with Phase II coming online later this summer.

# Getting To The Nuts & Bolts Of The Matter!



Inspection workers, circled - barely noticeable against the huge stand

**West Bromwich Albion's Hawthorn Stadium has been given the green light by HBPW's engineers following a detailed 'nuts and bolts' inspection of the century old structure.**

'The Hawthorns', which officially opened 115 years ago and once boasted a 65,000 crowd capacity, has to be inspected – as do other football stadiums – under the 1999 Standing Committee on Structural Safety (SCOSS) recommendations.

Associate Paul Jacklin, who headed up the project, said: "Most years a general 'walk round' inspection suffices, however, periodically, a more detailed inspection has to take place."

Four stands were given a detailed overview including the Birmingham Road, Smethwick

Road, Halford Lane (West) and Millennium (East) ends of the large structure, now officially capable of holding just over 27,000 since becoming an all seater ground in 1995 in the wake of the Hillsborough disaster.

"On the face of it, it may appear like a relatively straightforward assignment," said Paul, "however, in practical terms, all areas of the grandstand structures have to be inspected 'within touching distance' for defects such as loose bolts and steel corrosion. Consequently specialist access measures were required to reach all areas of the structures and a combination of roped and conventional access techniques were used.

"A loose bolt, for instance, falling from height, can cause injury or untold damage so periodic detailed inspections of this type are a paramount safety requirement."

The Hawthorns' corner infills between the main four stands were also inspected as part of the project.

The Black Country venue was the first Football League ground to be built in the 20th Century and was opened on September 3, 1900 after construction work lasting just four months.

The club's move to The Hawthorns came when the lease expired on the old Stoney Lane ground. It was sited on the old Hawthorns Estate, and hawthorn bushes had been grown there in the past, so the name was especially appropriate. It was also the first ground in Britain to have an electronic turnstile aggregator fitted in 1949.

Client: West Bromwich Albion FC

# New Lease Of Life For Lowestoft Quay

**A joint £4.5m project between HBPW and Graham Construction has given Town Quay in Lowestoft a new lease of life.**

'The project – given the green light by Associated British Ports – was authorised after one section of the quay wall collapsed in 2012.

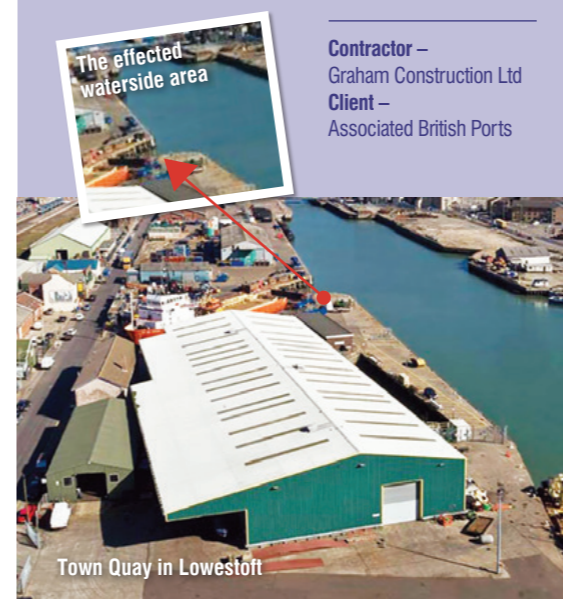
HBPW Managing Partner, Paul Withers, said: "Working with Graham's, we designed a new retaining structure which comprised a combi wall featuring 1520 tubular piles, each 19m long, with sheet piles running in between.

"A significant proportion of the reinstated quay wall was designed with a cantilever because obstructions behind it prevented the use of dead man anchors. In addition we had to deal with the difficulty of reconstructing the wall around major gas and water mains.

"Jobs of this nature always present difficult challenges. The quay was built at another time in history when construction methods were either different or, perhaps, in their relative infancy and, sometimes, it is impossible to predict what you are going to be faced with when modern meets old. Nevertheless, Graham's did a sterling job working closely to our engineering drawings," added Paul.

The £4.5m project also included new surfacing, associated drainage, bollards, removal of the existing quay wall and other minor works. Pavement construction and the installation of new water mains were also included as part of the 30 week project.

Contractor – Graham Construction Ltd  
Client – Associated British Ports



# Sounds Like A Good Idea!

**The relatively unknown technique of sonic drilling came to the rescue in Cornwall when a speedy solution to recover good quality samples of weathered rock was required.**

HBPW was working on behalf of Carillion Civil Engineering as part of a £27m road scheme which has seen the construction of two huge arches across the Red River Valley in Cornwall.

Geoenvironmental engineer, Jay Fox, said: "We needed rock samples but there had been difficulties, previously, whilst drilling at this site, so the project team decided to use a sonic drill from Geosonic of Falkirk in Scotland. It operates at the speed of sound.

"More conventional techniques such as rotary and percussive drilling, had struggled with the very difficult ground conditions, hence the alternative approach."

Sonic drilling works by vibrating the drill head up and down at frequencies of up to 150 hertz and, in soft soil, this liquefies a very thin layer, allowing the drill head to pass downwards without affecting the structure of the sample.

"In harder soils, where there is rock and obstructions such as wood and concrete, the sonic action is combined with rotary action to ensure a continuous sample is obtained.

"All concerned were impressed with the

speed and quality of the sample recovered, and quite a crowd gathered because few members of the project team had actually seen the technique in action before," added Jay.

Sonic drilling is able to cope with difficult ground conditions and its high speed – up to twice as fast as conventional drilling – more than compensates for the slightly higher costs when compared with other methods.

"We will certainly be using it again," said Jay.

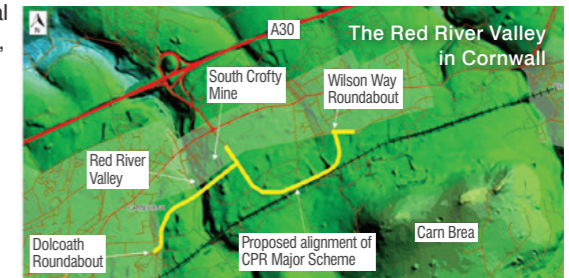
The Camborne to Pool to Redruth project, which has already been under development for more than

eight years, is being built by Carillion Civil Engineering on behalf of Cornwall Council.

And, as part of the project, two 12 metre span pre-cast concrete arches have been built across the Red River close to South Crofty Mine.

Geoenvironmental Engineer, Jay Fox, said: "The geological setting of the bridge is complicated in that it is located, partially, on the Great Crossing, a heavily mineralised fault zone. Consequently the area has been extensively mined over the decades, leaving scheme developers with the added headache of a complicated tin mining legacy."

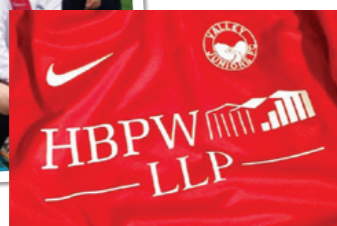
Client: Cornwall Council Contractor: Carillion



# Junior Football Stars Win HBPW International Acclaim!



**Several of HBPW's engineers watched on in amazement recently as the company logo was beamed around the world, all thanks to the firm's latest sponsorship deal...with a team of mini-sized football stars from Rotherham in South Yorkshire!**



Undefeated Valley Juniors, who play at the Herringthorpe Valley Road ground as part of the Under Eights Sheffield & District Junior Football League, approached HBPW for kit sponsorship.

"We were happy to help out," said Partner, Paul Monaghan, "however, we didn't expect to see their new kit, featuring our logo, being beamed around the world when the youngsters were invited to become flag bearers for the Sky televised South Yorkshire derby match between Rotherham United and Sheffield Wednesday!"

The 10 man squad were only formed this year but have been undefeated in 10 matches.

"The outing onto the pitch at Rotherham United's New York Stadium was an amazing experience for the kids and was their reward for such a great start to the season.

