



Normal service

HBPW prides itself on completing projects on time, to budget and with minimum disruption.

That was the case with extensive improvements at Aylesbury and Princes Risborough railway stations to create waiting rooms and a ticket office. HBPW carried out the design of structural alterations and temporary works as part of a general upgrade of stations on the Chiltern Railways line from London to Birmingham.

HBPW director Paul Withers said: "There were structural alterations involved and significant temporary works close to the live railway, yet throughout the public continued to use the stations."

The works were all carried out under Forms A/B and Form C controls administered by Chiltern Railways.

Client: Chiltern Railways
Contractor: Buckingham Group Contracting Ltd
Contract Value: £1 million



One of the new railway station waiting rooms

Creating the future, protecting the past

Client: Network Rail
Contractor: Buckingham Group Contracting Ltd
Contract Value: £2 million



Faversham Station during refurbishment

Engineers had to tread carefully when working within a few metres of a precious building during railway refurbishment.

The Grade 1 listed building at Faversham Station in Kent underwent extensive dilapidation surveys prior to, during and after the works to ensure that any damage during the realignment of the track layout could be identified.

The English Heritage listed entrance enclosure to a pedestrian underpass also had to be moved, adding further complications.

HBPW worked with the Buckingham Group Contracting Ltd to install a complex arrangement of Temporary Works Earth Support – all designed under the Network Rail Form C protocols – to allow a large precast concrete culvert extension to be installed amid very restricted railway possessions.

Thanks to careful planning the installation was a success and HBPW was commissioned to complete the design of a glass enclosure to complement and contrast the existing listed structure.

HBPW Director Paul Withers was delighted with the outcome. He said: "Great care was taken to preserve the existing pedestrian culvert as much as possible.

"The listed building already had great cracks in it and the worry was that there would be more damage caused. But the dilapidation surveys, both before during and after the works, showed that the working strategy had achieved the end result."

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Skydiving complex now open in Manchester. We also outline our involvement with the newly renovated Stan Cullis Stand at the Molineux stadium in Wolverhampton, which will allow more than two thousand more Wolves fans to tune into the game live at their home ground.

Also covered in this issue is our continuing work with Network Rail, the development of a swing bridge restaurant on the River Hull, and the building of a bridge to the new home of the Salford City Reds Rugby League Club. If variety is the spice of life then spice we have for no two months are ever the same!

As I write, the Olympic Opening Ceremony has just taken place and Danny Boyle has a lot to be proud of. The weather is varied but, hopefully, there will be enough sunshine to lift the spirits of the nation and win us a couple of gold medals. And, with a bit of luck, the psychological gains of London 2012 will transfer to the British Economy in the near future.

We hope that the projects featured in this newsletter will prove to be of interest to you and we look forward to helping you with any of your projects.

PAUL WITHERS
DIRECTOR
HBPW CONSULTING

Welcome



Paul Withers - Director

Dear Reader,

"The sun is out and the skies are blue, there's not a cloud to spoil the view" for HBPW.

But it's (been) raining and raining for ever, it seems, resulting in one of the wettest quarters in living memory!

This is our sixteenth newsletter exemplifying the activity of the Practice over recent months. I trust you will agree that it is a varied diet and one that we are extremely proud of. The variety of work is most definitely to the taste of HBPW engineers and technicians who are thriving on the challenges brought before them.

In this edition, we look at the latest thrill seeking craze taking off across the country - with a new indoor

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HBPW's air fix

Helping to build an indoor skydiving centre has put the wind up engineers

Visit one of HBPW's latest projects – and you'll believe a man can fly.

The company was asked to advise on the latest Airkix™ development, an indoor skydiving building where thrill seekers can float in a vertical wind tunnel.

The craze is taking off across the country and is an ideal showcase for HBPW's skills.

The company's engineers carried out the design and detailing of value-engineered substructures for the Airkix™

centre at Trafford Park in Manchester and were asked to do a similar job for the latest venture in Basingstoke.

And while flying might look easy for Airkix™ fans, planning the building wasn't quite as simple.

HBPW director Paul Withers explains: "The buildings require a deep basement to act as a plenum for the rapidly travelling air to rise up through the indoor skydiving tube.

"The Basingstoke project is complicated by the presence

of a primary aquifer below the site with the possibility of contamination from construction activities, which resulted in protracted negotiations with the Environment Agency."

HBPW used its integrated 3D-Revit and Design Software Robot to successfully integrate the special proprietary equipment imported from the U.S. into the building structure.

"It looks incredible fun," added Paul, "though I'm quite happy watching from the sidelines!"

An Airkix indoor skydiving centre



I can fly!

The tunnel circulates air into a flight chamber. Flyers, dressed in skydiving suits stand in the open doorway, lean forward and feel their legs lifted from under them, as they are turned horizontal into a flying position.

Client: Airkix
Contractor: Buckingham Group Contracting Ltd
Contract Value: £3.5 million

HBPW's down to earth approach on stadium revamp

New look for Wolverhampton

One of England's oldest football grounds is being redeveloped with help from HBPW.

The company has advised on the demolition of one of the stands at Wolverhampton Wanderers' Molineux stadium.

The Stan Cullis Stand – named after one of the club's great former players – was dismantled to make way for a new structure that will increase crowd capacity.

HBPW worked closely with stadium developers the Buckingham Group Contracting Ltd in assessing the stability of the stand during various stages of demolition and pre-weakening. This included preparing calculations for the design and controlled collapse of the canopy of the cantilever stand down onto the terraces.

The building of a new Stan Cullis Stand has increased the capacity from 29,300 to 31,700.

Further ground development is on hold following the club's relegation from the Premier League at the end of last season.



The Stan Cullis Stand during demolition



The old stand ready for demolition

Stadium Stat

Wolves are one of the founder members of the Football League and have played at Molineux since 1889.

Client: Wolverhampton Wanderers FC
Contractor: Buckingham Group Contracting Ltd
Contract value: £5 million

Meals on the move

A unique swing bridge on the River Hull will house a restaurant where diners can move with the times.

The bridge opens to allow vessels through, while diners carry on with their meals.

HBPW and A. Torn Construction worked closely on the design and build project to provide foundations to the hub of the footbridge and separate protection structures to fend off errant river traffic. This involved driving piles deep into the riverbed, along with a complicated

reinforced pile cap, all detailed to achieve the tight deflection limits specified in the design of the bridge superstructure.

HBPW Director Paul Withers said the unusual bridge is set to become a landmark, lying close to Hull tourist attraction The Deep.

"It looks like a giant comma," said Paul, "with the leg of the comma going over the river."

"Not only can you dine in the restaurant

on the hub, but you can also walk on the footbridge while the bridge is swinging open or closed.

Feel the force – centrifugal of course."

Client: Qualter, Hall & Co Ltd
Contractor: A. Torn Construction
Contract value: £4.5 million

Building of the swing bridge and restaurant



Bridge gives club kick-start



Bridging the gap at Salford

HBPW has helped build a bridge to the future at the new home of Salford City Reds Rugby League Club.

The company's engineers were called in to advise on communication links to allow the stadium to be built and also for spectators to get to the ground.

This led to:

- a temporary access bridge laid across Salt Eye Brook for construction traffic
- and a permanent highway bridge built for crowds to make their way to the stadium from the A57.

The Buckingham Group Contracting Ltd worked alongside HBPW specialists on designs and programme and cost constraints.

The final bridge is a skewed three-span steel and concrete composite structure, supported on piled reinforced concrete bank seats, with structural steelwork trestles supported onto reinforced concrete pile foundations.

Client: City of Salford Community Stadium
Contractor: Buckingham Group Contracting Ltd
Contract value: £0.5 million