

Spring 2017

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MEINHARDT

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Welcome. In this issue of our newsletter, we are pleased to announce our appointment as structural engineers on the £1bn Peninsula Place scheme and our multidisciplinary engineering appointment on Greystar's £700m scheme at Greenford Green in West London. There is news of our work on Greenwich Creekside and the new Blakes Hotel in Shoreditch, and we look at why district heating is gaining momentum.

Best wishes

David Sharp

Managing Director



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GREENFORD GREEN

2,000 home London scheme
is given green light

As a proud member of the project team we welcome the news that one of the largest rental community schemes in the UK - at Greenford Green, Ealing, London - has earned planning consent.

Global real estate company Greystar will regenerate an area of industrial wasteland next to the Grand Union Canal that was formerly occupied by pharmaceutical giant GSK.

The majority of the 1,965-home development will primarily be for multifamily rental, but will also offer a mix of private sale, affordable and shared

ownership homes set within a mixed-use well-managed neighbourhood.

One of the biggest engineering achievements to date is that our team has developed an earthworks strategy which will allow the developer to retain and re-use the maximum available demolition material, to improve the ground levels, which currently slope some six metres from one end of the site to the other.



Greenford Green - credit Greystar

We have been surveying the site and working with utility companies to design the demolition and enabling works packages with an aim to have the site cleared for the main contractor during 2017.

Read more on our website

<http://www.meinhardt.co.uk/news/meinhardt-uk-welcomes-news-that-c-2000-home-london-scheme-is-given-green-light/>

MEINHARDT EXPANDS IN AFRICA

Meinhardt Group is expanding in Africa with new offices now open in Kenya and Rwanda alongside the group's existing base in Egypt.

The Singapore-based international engineering consultancy sees Africa as a key growth area. Group CEO Omar Shahzad says: "We are quite bullish on Africa, both on real estate and on project infrastructure."

Martin Taylor, a Director at Meinhardt UK in London, who has worked extensively in Africa, says: "This further extends the group's reach to 45 offices worldwide and enables us to draw on a global talent base that now numbers more than 4,000 people."

The new offices in Rwanda and Kenya follow the acquisition of a Kenyan business. Meinhardt BA Africa is a

50-strong business, and there are plans to scale up by overlaying the African company's traditional core business of infrastructure work - largely for the Africa Development Bank and World Bank - with real estate expertise in areas such as hotel development.

“Egypt has a large number of very experienced engineers among the population”

The company's office in Cairo, Egypt, which has 35 people, was officially inaugurated in 2016. Meinhardt is currently working on one of the largest mixed use developments in Egypt.

Mr Shahzad says: "Egypt is a country of 80 million people and an interesting market with good long term prospects.



Nairobi Tower - Meinhardt project in Nairobi, Kenya

It is the biggest economy in North Africa, and it has a large number of very experienced engineers among the population, who make up a lot of our workforce in the Middle East, so it is important as a market but also as a recruitment location."



PENINSULA PLACE

£1bn Greenwich Peninsula scheme

Meinhardt UK have been appointed as structural engineers on the £1bn Peninsula Place scheme, comprising 1.4 million sq ft of shops, bars, theatres, a new tube station, winter gardens, cinemas, performance spaces, apartments and hotels.

Peninsula Place will be developed by Knight Dragon and designed by world renowned architect Santiago Calatrava. It will be located on Greenwich Peninsula, over the existing public transport interchange of North Greenwich. It will feature a new entrance to the underground station, and a complete new bus station. A new land bridge featuring latticed sides will connect the development with the waterfront.

Peninsula Place - Galleria_©Uniform

A main focal point for the scheme are the three illuminated tower blocks, each rising to approximately 30 storeys, which will house offices, apartments, retail, as well as the new winter gardens below. Visitors and residents of Peninsula Place will emerge from the tube station into a 24-metre-high glazed gallery containing the gardens.

“This project will redefine the landscape of London.”

Meinhardt will take an advisory role at the early stages of design, engaging with the architect to prepare a successful planning application, while integrating the proposal with requirements from London Underground and other stakeholders.



Future Greenwich Peninsula_©Uniform

Alex Carvalho at Meinhardt UK, comments: “We are delighted to be working on this spectacular scheme with inspirational architects and visionary developers. This project will redefine the landscape of London.”

Commenting on his first major UK project, Santiago Calatrava said: “It is an honour to be designing such a piece of the fabric of London, a city I love. In designing this scheme, I have been inspired by London’s rich architectural heritage and the very special geography of the Peninsula.”

Peninsula Place responds to its natural surroundings, its unique position, the history of Greenwich and to Calatrava’s love of British engineering.

Peninsula Place forms part of £8.4-billion regeneration works on the river-side site, which is to include 15,720 homes, a film studio, as well as a new design district, schools, offices and healthcare services. Greenwich Peninsula masterplan was designed by British practice Allies and Morrison, who are also responsible for two residential buildings at Peninsula Central.

HARBOUR CENTRAL

Record breaking engineering challenges



Harbour Central - credit Rock Hunter

With its basement structure complete, work on building one of the biggest residential developments in London will continue in earnest in 2017, climbing 42 storeys above Docklands.

“ A basement that required record-breaking prop spans ”

Working for client Galliard Homes on a design by architectural practice Rolfe Judd, Meinhardt UK is providing civil, structural and façade engineering consultancy services for Harbour Central - a mixed

use, 907-home residential project that raised special challenges because of the height of its tallest tower and a basement that required record-breaking prop spans.

The design of the project, comprising seven buildings between eight and 42-storeys tall, was limited by how much the buildings would sway in the wind. Meinhardt engineered strict tolerances into the design, allowing for less than 300mm of movement in the strongest winds.

Read more on our website

<http://www.meinhardt.co.uk/news/record-breaking-engineering-challenges-as-breath-taking-docklands-project-reaches-skywards/>

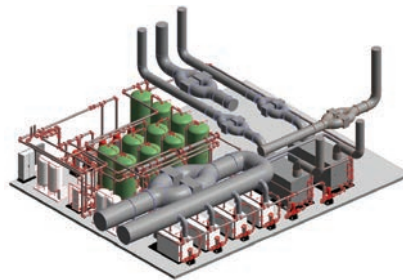
DISTRICT HEATING

Heat networks are gaining momentum, promising cheaper and cleaner energy, but a joined up approach to design and operation are required, says Richard Wilkes, Building Services Associate Director at Meinhardt UK.

It is one of New York's lesser known landmarks but 601 Lexington Avenue in midtown Manhattan is sure to catch the eye of any skyward-gazing visitor. Its 45-degree sloping roof was designed to contain solar panels, but turned out not to face the sun. Guides on Circle Line boat cruises like to tell tourists the architect was from Boston.

In 19th century London, David Boswell Reid designed what is thought to be the world's first ventilated heating system for the Palace of Westminster. Although it appeared to work perfectly well, architect Charles Barry did not take kindly to being told how high or wide his towers should be by an engineer ten years his junior.

The Lords became sceptical and insisted their House should have a separate system.



3D Views of centralised Energy Centre serving major 8-building mixed-use development - credit Meinhardt UK

The building was split below the Central Hall, and the result was that neither system worked properly.

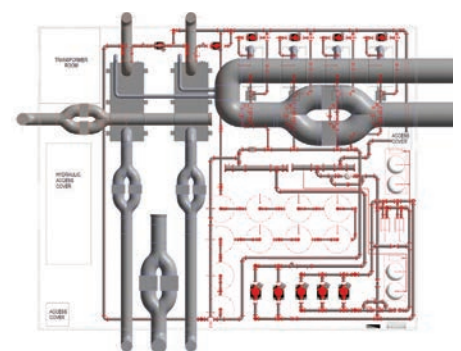
Nearly half the energy used in the UK is for heating, with the vast majority produced by burning fossil fuels (primarily natural gas). Heat networks have the potential to contribute to a reduction in the UK's carbon dioxide emissions as part of a decentralised energy system.

Large scale heat and power projects have continued to have their ups and downs. The obstacles today continue to be less about the technology and more to do with planning, design, operation and cooperation.

In recent history, there have been enough examples of people with limited experience of designing heat networks or understanding of how they operate getting involved. Poor design, inefficient systems

and poor maintenance have given the technology a bad press in the UK. Market penetration is tiny here compared with Denmark where as far back as 2000, almost two thirds of heat and power was delivered via heat networks. There, demand was driven by the cost of oil while the UK had plentiful supplies of cheap North Sea gas. The need for lower carbon solutions means the UK is now playing catch up.

Now there is new, policy-driven momentum behind heat networks – and potentially on a bigger scale - in the form of neighbourhood-wide district heating.



Layout of centralised Energy Centre serving major 8-building mixed-use development - credit Meinhardt UK

Read more on our website

<http://www.meinhardt.co.uk/news/heat-networks-from-single-developments-to-ambitious-area-wide-projects-good-design-and-expertise-are-crucial/>



Hertswood Academy - credit Bond Bryan

HERTSWOOD ACADEMY

State of the art academy

“ Extensive community facilities, including a theatre and sports centre. ”

Meinhardt UK has been appointed by main contractor Willmott Dixon to provide civil and structural engineering services for a new building to replace the existing Hertswood Academy in Borehamwood, Hertfordshire.

The existing buildings, dating from the 1950s and 1960s, are spread across two sites (10 minutes' walk apart) and have reached the end of their design life. The proposal is to amalgamate these onto a single plot of land from one of

the existing sites to create a leading edge educational environment for the students.

Due to be completed in 2018, the new structure will comprise a large three-storey building featuring a library and extensive community facilities, including a theatre and sports centre.

Read more on our website

<http://www.meinhardt.co.uk/news/meinhardt-uk-engineers-state-of-the-art-academy/>

BLAKES HOTEL

Boutique hotel project in London's Shoreditch

We have been commissioned by Blakes Hotel to assist in bringing one of the world's most distinctive five-star boutique hotels to Shoreditch.

In December 2016, the scheme's architect Kyson won the go-ahead from Hackney Council to proceed with the development - work is now due to start on site early 2017 and to complete towards the end of 2018.

Meinhardt's London team will be responsible for the structural and MEP work on the project.

Patrick Hayes, a Director at Meinhardt UK, comments: "We are delighted to have been appointed on this fascinating project, which will completely transform the site and add impetus to Shoreditch's rapidly developing skyline."



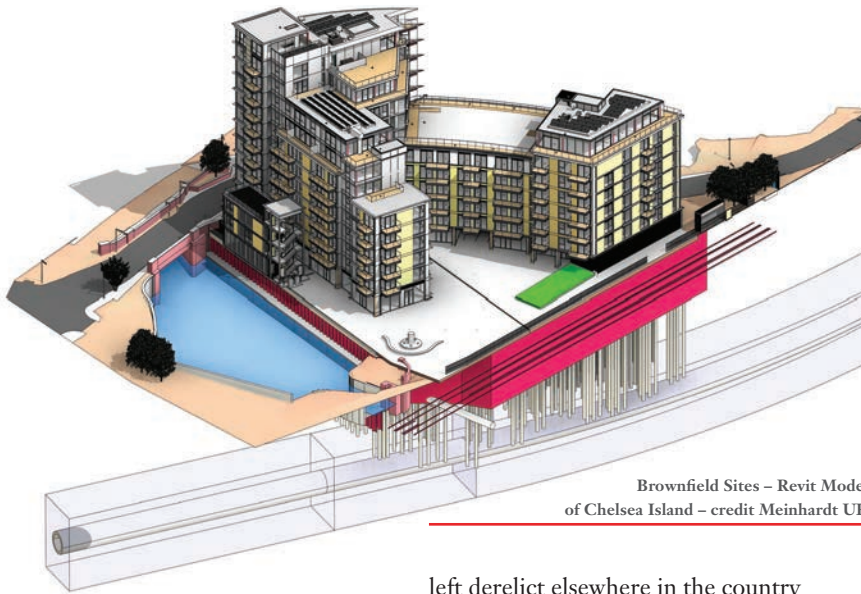
Blakes Hotel - credit Kyson Architects

The site is in the London Borough of Hackney and occupies a large corner frontage to Corsham Street and Baches Street. It involves the demolition of the existing Satellite House - a former telecommunications centre and office block unused for 18 months - and the construction of the new eight-storey hotel.

The 87-room boutique hotel will comprise three individual cubes that intersect to form a whole. The shape, composition and materiality of these relate each of the cubes to different elements of the surrounding urban fabric, from the nearby traditional Victorian warehouses to the new 11-storey student accommodation block opposite.

“ We are delighted to have been appointed on this fascinating project ”

Building materials will be a mix of brick, concrete, steel and glass, creating an industrial aesthetic that ties in with the heritage of the area while maintaining a resolutely modern and minimalist approach.



BROWNFIELD SITES

Developing brownfield sites

Demand for land in prime London locations is intense, so much so that complex brownfield sites that would be

left derelict elsewhere in the country still attract investors and developers.

For different reasons, they are also a very interesting proposition from an engineering perspective.

Brownfield sites typically have a large number of constraints, both originating from the sites themselves and from the built-up development around them. On-site challenges typically include

successive layers of building works, underground utilities and archaeology, while prime London sites are always surrounded by other buildings and/or roads, railways or waterways.

“ Even the most complex brownfield site can be unlocked ”

Soaring house prices have meant that sites that wouldn't have been touched with a bargepole have become viable. Sometimes the challenge is so acute that it takes vision and courage for a developer to take it on, but with the right expertise, even the most complex brownfield site can be unlocked (as with our project at Chelsea Island).

Read more on our website

<http://www.meinhardt.co.uk/news/developing-brownfield-sites-takes-technical-expertise-and-diplomacy/>

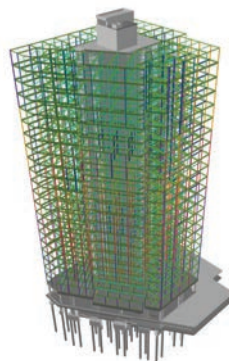
GREENWICH CREEKSIDE

Creekside Wharf speeds forward utilising MMC

“ 249 new homes designed exclusively for families ”

Creekside Wharf in Greenwich is home to one of the first UK build-to-rent (BTR) schemes being constructed using modern methods of construction (MMC).

Modelled by Meinhardt UK, the development, comprising two blocks of 11 and 22 storeys, is set to deliver 249 new homes designed exclusively for families with concierge, restaurant, nursery and flexible commercial space at ground level. While the construction of



Greenwich Creekside - Fabrication Design of Volumetric System - credit Meinhardt UK

the ground floor, podium level and core may be in traditional concrete, the majority of the build will happen off-site.

Each unit or apartment is pre-fabricated using a volumetric modular system developed by Elements UK. 632 steel-framed modules are to be assembled off-site at Elements' factory in Telford, where 60 per cent of the total work is carried out. Each apartment will comprise two to three modules; in total 23 are required for each floor. The units are fully finished in the



Greenwich Creekside - credit Assael Architecture

factory, including electrics and plumbing - the outer walls will simply need cladding to be completed. The modules are then shipped to site, secured around a concrete core and 'plumbed' into the building systems.

Read more on our website

<http://www.meinhardt.co.uk/news/creekside-wharf-speeds-forward-utilising-mmc/>



CHARTERSHIP RESULTS

Huge congratulations to four of our senior engineers, Chiara Tosi (Façades) Thomas Akrigg, George Cullinane and Ashley Neale (all Structures), who passed their professional review in 2016 and are

Chartered Engineers

all now chartered members of the Institute of Civil Engineers (MICE).

Meinhardt UK is dedicated to supporting its engineers in taking steps to becoming chartered. We currently have 12 engineers working towards Chartership, with three due to take their exam for IStructE membership in 2017.

MEINHARDT MARATHON

Antony Gradley, Associate Director on the Building Services team, will be running the London Marathon on 23rd April.

Bexley Grammar School, where Antony's wife Louise is a teacher, applied for charity entries to raise money for the Brain Tumour Charity. Antony found out just a few weeks ago that the school has been awarded two places in the marathon, and so will train for just two months before the event – no mean feat!

We hope you will join us in supporting Antony and the Brain Tumour charity.

To sponsor Antony, go to his JustGiving page

[JustGivingAntonyG](https://www.justgiving.com/JustGivingAntonyG)

WELCOME TO OUR INTERNS!

In January the Meinhardt office was delighted to welcome back Clara Ould to the Structural team and to welcome our new intern Megan Van Dessel to the Building Services Team.

Clara was one of two interns with us on a 3-month work placement last year from the Université Paul Sabatier Toulouse III – IUT Génie-Civil in Toulouse, France.

Meinhardt UK have been offering paid summer internships to our students since forming a relationship with the university in 2013. Clara has just begun a further three years of study at engineering college ISA BTP: Institut Supérieur Aquitain du Batiment et des Travaux Publics in Biarritz, where a two month internship is included as part of her first year at the college.

Clara so enjoyed her experience with us last year that she returned to work with us for her placement. 'I had such a good team supporting me, and have learned so much

about structural engineering' Clara tells us. 'I also love the work atmosphere – you are all so lucky to work with such great people!' The feeling is mutual – it was great to have you back Clara!

Meinhardt have a similar relationship with the outstanding engineering department at University College Dublin. Megan is currently studying for her Master's degree in Energy Systems Engineering at the university, following her BSc in Mechanical Engineering.

Megan joins the Building Services team for a paid seven-month internship as part of her course, ending in August. "Everyone has been so friendly, helpful and welcoming, and I am gaining really great experience working so closely with a team of directors, senior and junior engineers on a number of projects," Megan explains. "Being new to London and not knowing many people here, the social aspect to the office has made it really easy to get to know everyone and makes it a really enjoyable place to work. I'm really looking forward to the months ahead."



Clara and Megan