# CONSTRUCTION MANAGER

NOVEMBER/DECEMBER 2020
For members of the CIOB
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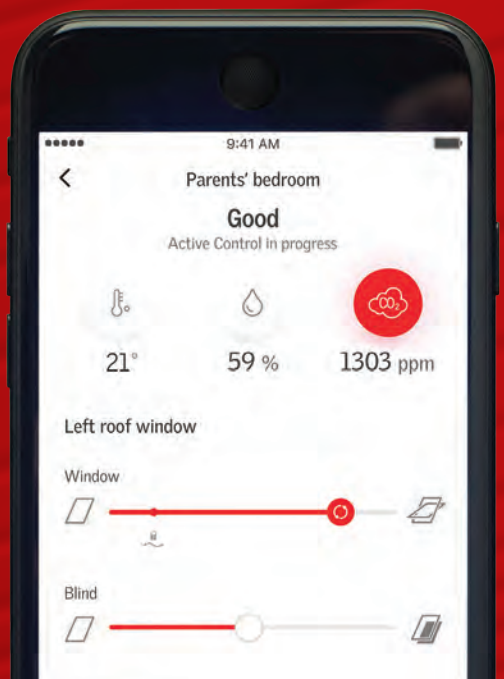

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# News

News story for CM?
Email neil@atompublishing.co.uk

## ◀ 8,000 tonne cantilever hoisted into place

An 8,000 tonne, 227m-long cantilever whose structural steel weighs more than the iron in the Eiffel Tower, has been lifted into place to join together two towers in Dubai.

The Link forms part of developer Ithra Dubai's One Za'abeel mixed-use project. Main contractor Alec Engineering and Contracting embraced 4D modelling with Bentley's Synchro for the project, which it was claimed knocked 70 days off the programme and saved £12.5m.

## ▲ Manmade concrete brick aims to save marine life

Marine ecologists have developed an innovative concrete brick that is designed to mimic natural rock and coral. The ECOncrete range of products have been designed to enhance biodiversity and marine and coastal infrastructure on urban coastlines. The business was founded by marine ecologists Dr Shimrit Perkol-Finkel and Dr Ido Sella and produces custom-made bricks for each location to encourage growth of flora and fauna.


## ◀ Bricklaying robot builds three bedroom house

An automatic bricklaying machine developed by Pocklington-based Construction Automation is constructing the first home in the UK to be built by a robot. The Automatic Brick Laying Robot (ABLR) started work on the three-bedroom home in Everingham in Yorkshire this week. It will lay all the bricks, blocks, and mortar. Only two people are required to work on each house – a labourer to load the machine and a skilled person to install tie bars, damp courses and lintels and to do the pointing.

**Seagull downs drone**

A seagull attacked a drone being used for a roof survey of Stranraer Academy in Scotland. It caused the 6kg device to crash, according to a report by the Air Accidents Investigation Branch.


## ▲ Kier trials road airbags to protect workers

Kier Highways is to trial a new airbag in the Midlands that protects workers and warns drivers that work is underway. The large, bright airbags can be inflated in under 10 minutes. Kier started using the barrier on a slip road at the A45/A46 Stivichall interchange in Coventry in October. The £95,700 cost of the airbags trial was met through the Highways Agency's Designated Funds programme.

## ▼ Skanska builds UK's first Dutch-style roundabout

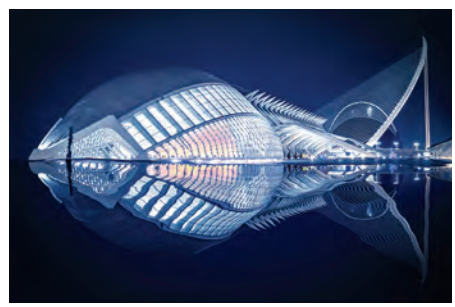
Skanska has completed the UK's first Dutch-style roundabout, which prioritises pedestrians and cyclists over motorists. The works to redesign the existing roundabout at the junction of Queen Edith's Way and Fendon Road in Cambridge were delivered by Skanska on behalf of Cambridgeshire County Council.

## ▶ BAM Nuttall builds new Dawlish sea wall

BAM Nuttall has built a new sea wall in Marine Parade, Dawlish, Devon after the existing defences were battered to the point of failure, threatening the main railway route into the south west.

The new sea wall involved the construction of concrete foundations to house a precast nib section during short tidal windows. A separate precast facing panel sits in the nib, tied to the existing wall behind.

The void between the existing wall and facing panels was then infilled with ready-mixed concrete before a paving concrete was laid on top to create a widened pedestrian walkway.



## ▲ 2020 Art of Building photography competition launches

The world's biggest photography competition for the built environment, the Art of Building, has launched. The competition is free to enter and open to anyone aged 18 or over. Entries can be made from 12 October 2020 until 15 November 2020.

Winners will be announced on 26 January 2021. There are two awards to be won: the £1,500 Judges' Prize, chosen by the judges, and the £1,500 Public Choice Award chosen by the public through an online vote.

Last year's winners included Pedro Luis Ajuriaguerra Saiz, a professional photographer from northern Spain, who was awarded the Judges' Prize for capturing Hemisferic, a science museum in Valencia (pictured). For more details about the competition and to enter, log on to **www.artofbuilding.org**.

# ‘Super clerk of works’ to monitor golden thread

CIOB-LED COMPETENCE WORKING GROUP SAYS NEW 'INDEPENDENT CONSTRUCTION ASSESSOR' WOULD HELP FACILITATE HACKITT'S PROPOSAL FOR MANAGING PROJECT INFORMATION. BY **NEIL GERRARD**

Dawber: “A safety net for the client”

**A working group led by the CIOB has** recommended creation of a potentially critical new role: the independent construction assessor (ICA), effectively an enhanced clerk of works.

The suggestion was made to the Competence Steering Group (CSG) which published its report, *Setting the Bar*, on 5 October as an update to its interim report, *Raising the Bar,* from August 2019.

Eleven working groups fed into the report and Working Group 9, led by the CIOB, was tasked with examining and defining the competencies for site supervisors on higher-risk residential buildings above 18m.

CIOB board trustee Pete Dawber, who chaired the group, said the ICA role would facilitate adoption of the ‘golden thread’ of information, which Dame Judith Hackitt recommended should run through projects following her independent review of Building Regulations and fire safety.

The working group agreed that third-party verification was needed to drive this industry change, Dawber said.

“The ICA would identify the information required and check that project elements have been satisfactorily installed and the relevant information captured, using digital technology,” he explained.

“For example, photographic or video evidence would be captured after one work element, then further evidence recorded after a follow-on trade has gone through to confirm the work is still intact and not damaged. This way, the ICA would maintain the integrity of the golden thread.

“This provides a safety net for the client, so they know that the design has been properly designed and the construction has been executed correctly, including any agreed changes.”

Dawber stressed the role would not diminish the responsibility of designer, contractor or site supervisor for ensuring work meets the required standard.

## PAS for competencies of principal contractors

**CIOB trustee Pete Dawber is leading the working group writing the publicly available specification (PAS) for the competencies of principal contractors.**

**He urged CIOB members and the wider construction industry to contribute thoughts and ideas on what the detailed competencies ought to be, how they could be implemented and assessed, the challenges, and whether competencies should be rolled out for other types of building.**

**“This is going to happen but we need to think about how we make it happen as speedily as possible and bring about the necessary cultural change,” he said.**

## The four key elements in the CSG’s proposed overarching system of competence

1. **A new competence committee sitting within the Building Safety Regulator**
2. **A national suite of competence standards – including new sector-specific frameworks developed by 12 working groups**
3. **Arrangements for independent assessment and reassessment against the competence standards**
4. **A mechanism to ensure that those assessing and certifying people against the standards have appropriate levels of oversight.**

**The CSG’s overarching competency framework is now out for consultation.**

**“The ICA would identify the information required and check that project elements have been satisfactorily installed and the relevant information captured, using digital technology”**
Pete Dawber, CIOB

“The ICA is not personally going to sign off the work; they are specifying and collating the data, and confirming they have all the necessary information,” he said. “That will include sign-off certificates, offsite and onsite inspection approvals for installed materials and components, detailed records of what has been installed and by whom, and evidence of their competence.”

The working group also set out competencies for two roles related to site supervision: construction project manager and site supervisor.

“The construction project manager works with clients, designers, suppliers and subcontractors, overseeing all work from instruction through to handover,” Dawber explained. “The site supervisor makes sure individual workers are competent, materials are installed correctly, and that follow-on trades do not cause any damage.”

He suggested members of bodies like the CIOB would be able to use their chartered membership along with enhanced development to attain whatever competence standard was required. Industry professionals who are not chartered members would need to find a route to say they had self-assessed before obtaining third-party accreditation, Dawber added.

The CSG is recommending that all individuals whose work on higher-risk buildings is likely to affect safety outcomes, or who work unsupervised on these buildings, should meet the skills, knowledge, experience and behaviours set out in the competence frameworks developed by the industry.

**"It is really important that people understand what the bill does and the duty that it will place on everyone working on buildings"**
Mims Davies, employment minister

# 'We are listening to industry experts on competence'

GOVERNMENT RECRUITMENT AND TRAINING POLICIES WILL KEEP THE REQUIREMENTS OF THE FORTHCOMING BUILDING SAFETY BILL FIRMLY IN MIND, EMPLOYMENT MINISTER MIMS DAVIES TELLS **NEIL GERRARD**

**Employment minister Mims Davies is** keen to ensure the government upholds competence standards as her department launches measures to boost construction recruitment post-covid.

Davies, parliamentary under-secretary of state for employment at the Department for Work and Pensions (DWP), has overseen the £238m Job Entry Targeted Support (JETS) scheme, launched in October, to help people who lost their jobs due to the pandemic back into work. The DWP has also launched the Kickstart programme aimed at creating thousands of fully subsidised roles for 16-24-year-olds starting out in their career.

And Davies reveals that she has been in discussions with housing minister Lord Greenhalgh and Health & Safety Executive chief executive Sarah Albon about competence.

She says: "We have got the Building Safety Bill coming up so it is really important that people understand what the bill does and the duty that it will place on everyone working on buildings so they are sure that the people they employ are sufficiently competent in those roles.

"There has been criticism that we haven't got on with this quickly enough but part of it is making sure that we are listening to industry experts to develop the competence standards that can be adapted for the different sectors, buildings, and materials so that we have got a robust and consistent approach to assessing competence which will underpin the bill requirements. I am very involved in that as we start to progress this bill.

## Mims Davies CV

**July 2019:** Appointed parliamentary under-secretary of state for employment at the Department for Work and Pensions.

**November 2018 – July 2019:** Parliamentary under-secretary of state at the Department for Digital, Culture, Media and Sport.

**January 2018 – November 2019:** Assistant government whip and parliamentary under-secretary of state for Wales.

**2015:** Elected as MP for Eastleigh.

**2011-2015:** Conservative Party town councillor for Haywards Heath Town Council and district councillor on Mid Sussex District Council for Haywards Heath Lucastes ward.

**Early career:** Educated at Swansea University in politics and international relations. Worked as a local radio presenter, reporter and producer. Later worked as road safety communications officer with the Automobile Association, the police force and Sussex Safer Roads Partnership.

"The HSE are brilliant people to work with and have done a great job in helping people in the sector to be covid-safe and they are at the heart of this."

Meanwhile, Davies hopes the JETS and Kickstart programmes will encourage more people to consider a career in the construction sector.

"In January this year, we were looking at completely different labour markets, but what we did know is there were some structural challenges and that we weren't necessarily filling the vacancies and attracting people to particular sectors," she says. "We know construction has an ageing workforce, and wanted more diversity, and that hasn't changed."

The JETS programme aims to attract 250,000 people from Job Centres into new, growing sectors in its first year, pairing them up with personal careers advisers. Meanwhile the sector-based work academy programme aims to offer prospective employees pre-employment training relevant to the needs of the sector, a work experience placement, and a guaranteed job interview. Davies hopes those who find themselves out of a job will use the scheme to discover how their skills could be applied to a different industry like construction.

She is "encouraged" to see several construction organisations have signed up to act as 'gateways' under the Kickstart scheme, including fit out trade body the FIS. Gateways will act on behalf of construction firms with fewer than 30 job placements and apply for a Kickstart scheme grant on their behalf.

"I want to make it clear we are not trying to cannibalise apprenticeships with Kickstart," Davies says. "It offers opportunities to young people that might not have otherwise materialised. The early response is really encouraging and hopefully Kickstart, particularly in construction, will give young people an experience that will lead them onto a traineeship or an apprenticeship."

## Data

**70%**

**Expected reduction in long-term EU workers in the five years from 31 December. Source: Migration Observatory at the University of Oxford**

# As foreign workers leave, are we braced for Brexit?

Brexit has been on the back burner because of covid-19, but it is already putting huge pressure on construction's skills base, says **Kris Hudson**

**Construction continues to adapt to the changing covid landscape, but a significant test on skills capacity now looms due to Brexit.**

**At the time of the EU referendum in Q2 2016, more than one in eight workers on a UK building site were born abroad. Since then, analysis of the Office for National Statistics' Labour Force Survey shows this has dropped to one in 10.**

**A continuing trend, when the UK leaves the EU on 31 December 2020, threatens to further destabilise the construction industry's supply chain. Skills shortages, project delays and price increases may be round the corner.**

**In theory, London could be the hardest hit as it relies on the highest proportion of migrant labour of any region across the UK. Almost half (49.6%) of the capital's construction labour force were migrant workers when people voted to leave the EU. This has fallen to 36.6% in four years.**

**Furthermore, data from recruitment sites suggests that job posts within the UK construction sector have increased faster than any other industry, rising more than 50 percentage points since June 2020. If borders are closed as a result of Brexit, the effect could see short-term increases to prices as labour flows are restricted.**

**While there is clearly an immediate Brexit risk to the supply chain, the scale of the future challenge is amplified by a maturing demographic.**

**As of Q2 2020, 49.1% of construction workers were aged 45 and above, while the proportion of younger workers is in decline. Only 2.6% of the sector's workforce was made up of 16 to 19-year-olds. That is half the number it was 15 years ago.**

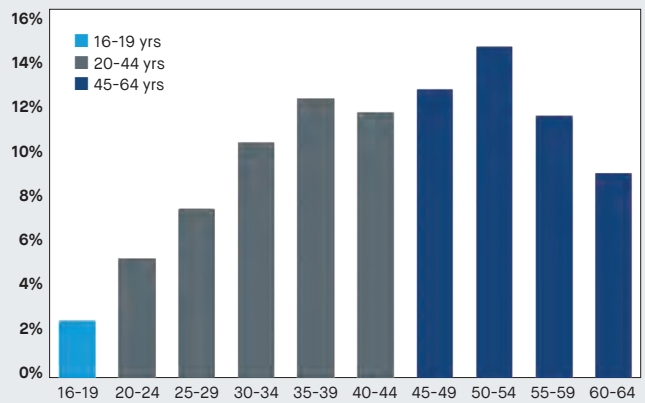
**This creates a ticking time bomb. As the workforce approaches retirement age there may not be enough fresh talent joining the industry to replace them, resulting in a net loss of skills and the ingredients for a cliff edge in capacity.**

**The Construction Leadership Council has launched a Brexit Working Group aimed at preparing the industry for new immigration rules, and providing help accessing alternative labour supply. Detailed risk analysis, evaluation of supply chains and early warning notices can act as best practice to mitigate the rising challenge of importing labour from abroad.**

**However, the UK's challenges are as much long-term as short. To deliver on the government's 'levelling up' agenda, through and beyond Brexit, construction must regain and retrain at pace and modernise its ways of working by drawing on a more diverse pool of talent.**

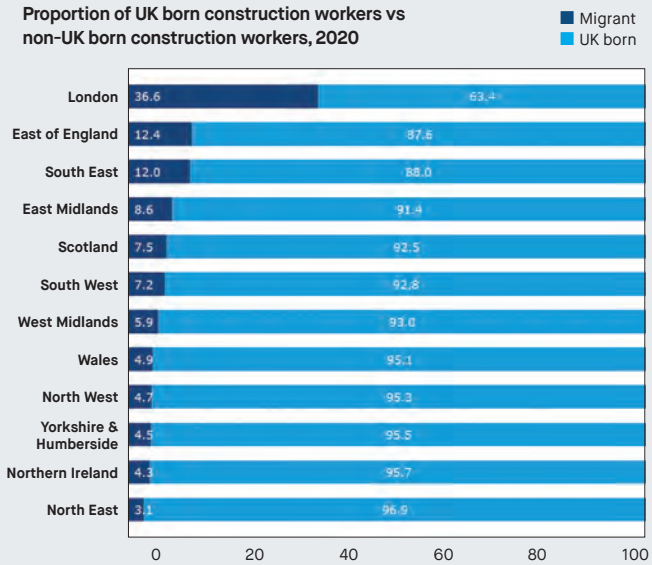
Kris Hudson is an economist and associate director at Turner & Townsend.

**Age profile of UK construction workers, as a proportion, 2020**




SOURCE: ONS LABOUR FORCE SURVEY

**Proportion of UK born construction workers vs non-UK born construction workers, 2020**




SOURCE: ONS LABOUR FORCE SURVEY

## News in numbers

**£570m**

**Expected increase in annual cost of building materials the UK construction sector imports from the EU, according to Scape Group**

**78%**

**Percentage of construction workers with black heritage who have experienced career restrictions due to their race, according to recruiter Hays**

**412**

**Number of new apprenticeship opportunities announced by HS2 in October**

**£800m**

**Forecast cost overrun on HS2, due to issues with enabling works, asbestos removal and at Euston Station, according to government minister Andrew Stephenson**

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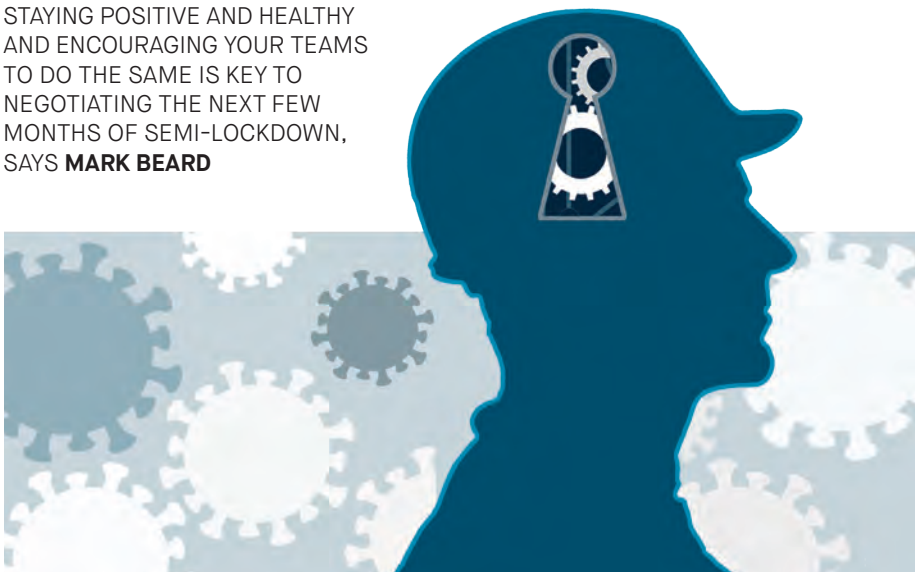
# Opinion

Mark Beard
CIOB

## Mental health key as covid restrictions return

STAYING POSITIVE AND HEALTHY AND ENCOURAGING YOUR TEAMS TO DO THE SAME IS KEY TO NEGOTIATING THE NEXT FEW MONTHS OF SEMI-LOCKDOWN, SAYS **MARK BEARD**



**People who grasp difficult issues head-on** deserve admiration and it was absolutely typical of my predecessor Professor Charles Egbu, that he should choose mental health as the main theme for his presidential year, bringing to our attention what we can all do to minimise the causes of mental health problems and deal with the issues when they occur.

When Professor Egbu became CIOB president in June 2019, little could he have known that 2020 would be dominated by the consequences of covid-19 and how appropriate his year highlighting mental health issues would be.

Most of us found a way of surviving the March-June national lockdown, remaining healthy and keeping our spirits up – spirits substantially restored by looser restrictions during July, August and September.

The retightening of the restrictions has been a blow to the spirits. But it is important to maintain positive thoughts. As leaders, we have the dual responsibility of looking after ourselves, while looking after those that work for us. Most people expect their leaders to be optimistic about the future and as team leaders our body language sets the tone for our business working environment.

Maintaining a positive working environment will maximise staff wellbeing and minimise the risk of mental health problems as we navigate through the next six months and beyond. There is no better tonic than feeling the positive mood of teams radiate around offices and sites.

At Beard, we are having open discussions with our directors about their work/life integration and how they plan to remain positive and healthy. Likewise, they are having open discussions with their teams about their work and wider issues, ensuring a good level of personal contact and variety each day, wherever possible, minimising long periods of staring at the same computer screen. That is all coupled with regular positive feedback for each week successfully navigated.

**"Maintaining a positive working environment will maximise staff wellbeing and minimise the risk of mental health problems as we navigate through the next six months and beyond"**

### Avoid unnecessary pressures

More broadly, the best way to minimise the risk of mental health problems is to avoid unnecessary work pressures caused by poorly developed designs, unrealistic project programmes and unnecessary arguments over payment and the like.

Achieving these basics for our staff and supply chain will be more important than ever over the next six months. It was great to have achieved Investors in People Health and Wellbeing accreditation one year ago – now for the real test of how much we really value staff and supply chain wellbeing.

Everyone has their own ways of navigating the next period of semi-lockdown, dark nights and the onset of more widespread ill health. Whatever role you play, please do all you can to put family, friends and work colleagues in a winning place and keep all avoidable mental health issues to a minimum.

The CIOB Academy has recently announced its first CIOB Mental Health in Construction MOOC (Massive Open Online Course). This is a really good free tool and a great aid in developing your personal strategy for staying healthy.

Stay positive, stay safe, stay well.

**Mark Beard is CIOB president and chairman of Beard Construction.**

**Hero Bennett**
Max Fordham

# Time to declare

MORE CONTRACTORS SHOULD JOIN THE 'CONSTRUCTION DECLARES' INITIATIVE ON CARBON REDUCTION, SAYS **HERO BENNETT**

Industry action can influence global $CO_2$ emissions

**The covid crisis has shifted attention from** the biggest risks we face: climate change and biodiversity loss. But the issue hasn't gone away. Globally we have less than 10 years to halve $CO_2$ emissions. Business as usual is no longer an option.

As an industry the mood is changing, with the Construction Declares movement on the climate and biodiversity emergency launching in 2019 and being supported by architects, building services and structural engineers. Signatories agree to advocate faster change, share knowledge and evaluate all new projects against the aim to contribute positively to mitigate climate and biodiversity breakdown.

After a delay, contractors are now stepping forward to acknowledge the crisis, with BAM, Morgan Sindall, Sir Robert McAlpine, Skanska and Willmott Dixon among the founding members of UK Contractors Declare. But 36 signatories compares poorly with over 1,000 architects.

Personal experience suggests contractors are less knowledgeable about the risks posed by climate change, which include systemic risks to their operations and supply chains. Yet the contractor's role is significant. The quality of construction on site can be a key component of reducing the 'energy performance gap' seen between the designed energy and actual building operational energy consumption.

For example, the quality control process employed on a Passivhaus construction site virtually eliminates unexpected heat loss. Experienced Passivhaus constructors have acknowledged how much they have learned through their Passivhaus projects and that the required processes can reduce a project's overall risks and associated costs.

### Contractors' influence

Contractors can also significantly influence a building's embodied carbon, sometimes convincing a client to switch from a low-carbon to a high-carbon product once on board, where cost and construction familiarity is more of a priority than environmental impact. Concrete usually has the most significant embodied carbon impact in a building, though encouragingly, more contractors are becoming comfortable with using low carbon forms of concrete through cement replacements. Contractors can use their close ties with their supply chains to influence behaviour, requiring data on embodied carbon and selecting greener or locally sourced products.

Contractors Declare is a positive movement that I hope will grow and benefit the industry as a whole. We have less than 10 years to make a sizeable dent in the $CO_2$ emissions our industry is responsible for and every one of us has a role to play. ●

**Hero Bennett is principal sustainability consultant at Max Fordham and a member of the CIOB sustainability special interest group.**

## Scaling up retrofit for net zero

Now is the moment to create a national market for industrialised retrofit, says **Richard McWilliams**

**The government's recent launch of £3bn worth of schemes to help retrofit buildings is a welcome acknowledgment of the climate emergency, the challenge of meeting our net zero targets, and the need to drive economic recovery.**

**Nonetheless, the focus on job creation, via direct funding for retrofit measures, could undermine the long-term market for industrialised retrofit. Britain has Europe's oldest housing stock and 80% of buildings that need to achieve net zero have already been built. Retrofit on this scale is not currently within the capacity of the market.**

**The pandemic provided a unique opportunity to reset the economy and spearhead a green recovery. This will not be achieved under the government's current policy for residential property, which focuses on loft and wall insulation, new windows or boilers, and one-off heat pumps within ageing buildings. Piecemeal measures like this only scratch the surface.**

**Instead, we need to create a market for industrialised retrofit that delivers guaranteed performance based on outcomes including warmth, hot water and the wellbeing of occupiers. This can then be packaged up as an investable proposition, creating a long-term funding mechanism with a contractual agreement to deliver homes and buildings that are energy efficient.**

**This model has already been demonstrated in the UK. In London, Turner & Townsend is the lead delivery partner for the Greater London Authority's (GLA) Retrofit Accelerator programmes, which have enabled investment in homes and workplaces for over a decade.**

**The new Innovation Partnership, for whole-house retrofit, will bring together the GLA, housing providers and suppliers to develop innovative solutions that make an economic price point achievable for performance-assured net zero retrofit. Such a strategy, if rolled out nationwide, requires a local network of contractors and manufacturers. This creates an early-mover advantage for regional authorities looking to build their green economies through long-term jobs that deliver and maintain retrofitted buildings.**

**This model could give a £400bn-600bn domestic market, with the potential to export the UK's knowledge and expertise. With national and local government support, there is real scope to create a supply chain for industrial retrofit at scale.**

Richard McWilliams is director, sustainability at Turner & Townsend.

**Caroline Gumble**
CIOB

# CIOB community stays strong during difficult year

THOUGH 2020 WAS CHALLENGING, THE CIOB AND MEMBERS HAVE ADAPTED FAST TO THE CHALLENGES PRESENTED BY THE PANDEMIC, WRITES **CAROLINE GUMBLE**

The CIOB is supporting members hit by the pandemic

**"I have observed our members come together, supporting their colleagues and the construction industry in their regions. It's been heartening to hear about"**

**This time last year, I wrote about the inspiring** community which makes up the global CIOB membership. I was reflecting on what I'd learned after getting out and about to meet members. One of the main things that struck me was the sense of community – the Hub networks, the trustees, Novus members, the whole of the CIOB family.

Who knew just how important that community would be during 2020? I have observed our members come together, supporting their colleagues and the construction industry in their regions. It's been heartening to hear about and a real reminder of the strength we have when we come together.

In turn, the CIOB put in place a number of things to support members and the wider construction community. Early on, we recognised that site shutdowns, even temporary ones, would lead to a reduction in income for many in our industry. We offered, on a case-by-case basis, financial flexibility to members who requested it, with extended payments periods and some discounts. We've now formalised that support with the Covid-19 Support Fund for members, wherever they are in the world, who face financial difficulties as a result of the pandemic.

We tried to reach out to members to make sure they know about the support offered via our Benevolent Fund, including access to the services provided by Anxiety UK for those living with anxiety, stress or anxiety-based depression.

We moved events online, including our CPD and training courses, committee meetings, professional review and Fellowship workshops and even networking, with 'Hubs in virtual pubs'.

And our annual celebration for Construction Manager of the Year is going virtual this year (do join us online on 25 November if you can).

You may also have noticed a strengthening of our collaboration and increase in communication with industry-wide groups, including Build UK and the Construction Leadership Council, working with and influencing government in advocating for the necessary measures and support to keep our sector going and help it to thrive in a post-covid economy.

I am proud of the fact CIOB adapted fast to the challenges we encountered during the pandemic. We implemented processes that are more environmentally sound and cost effective, while delivering a better customer experience. We will be taking many of these new ways of working and benefits forwards. I thank all our members for their ongoing professionalism, inspiring tenacity and encouraging support during 2020. ●

**Caroline Gumble is CEO of the CIOB.**

## Changing attitudes towards disability

Let's normalise the conversation about construction workers with disabilities, writes **Jez Cutler**

**We all know we don't live in a binary world and that we are complex and multifaceted individuals. So why do I struggle so much with identifying as being disabled?**

**I started in construction in 2005. I knew I had a rare form of muscular dystrophy, although outwardly was showing no signs. My condition is progressive, but the loss of muscle function didn't really impact on me until I was in my early 30s. I had a dream job at Travis Perkins, guiding the business towards better environmental outcomes. Moreover, I had some great bosses and mentors.**

**In about 2010, I started walking like John Wayne – I'd hitch my thumbs in my belt and swing my hips – so I could still get around. My colleagues and my boss took their cue from me and nothing was ever said. But the group's fleet manager banned me from driving because I was no longer safe. So I had to ask my boss for help. Three years later, I was in a powered wheelchair having had no significant time away from work and still making a substantial contribution.**

**My bosses found the balance between offering support and allowing me to stay in control. My identity was never taken away from me and I worked at Travis Perkins for another two years. I continue to work full-time and set up my own sustainability consultancy.**

**But I'm not sure others are as lucky as me. A good friend resigned because of poor health and told me he didn't want to lose respect and influence by staying on when he was "past his best". That's what can happen if a safe and supportive environment is not created.**

**At Construct-Ability, a new networking and campaigning group, we aim to normalise conversations about disability. There are many people working in construction who identify – at least to themselves – as having a disability, but make fantastic contributions. Let's create an inclusive industry that values the skills these individuals have to offer.**

Jez Cutler is founder of Cutler Consulting and co-chair of Construct-Ability.

Do consultants amend JCT contracts just to boost their fees? p46

# Feedback

A selection of readers' comments about news and issues in the industry from www.constructionmanagermagazine.com

Reports on the Grenfell Tower Inquiry have brought a wave of reader responses

## CM 02/10
### Building control officer accepts 'failings'

Charles Worby
It is regrettable that government policies saw the repealing of the London Building Acts, replacing them with the discredited and "not fit for purpose" Building Regulations, and abolishing London's first-class and properly resourced building control regime – then part of the Greater London Council's (GLC) architects department.

I worked for the GLC in building control from 1974 until its abolition in 1986 and I firmly believe that if that regime were still in existence neither the Grenfell fire nor anything like it could have occurred in London.

Michael Smith
It is not just this incident that shows the failings in the current state of the industry. There are failings all round, and that includes: education; professional and trade bodies; main contractors; subcontractors; manufacturers; and suppliers – as well as the governments who set these regulations.

We are safer on site but we are seemingly all trying to rush everything. Why can't we all be given time to do the job of construction properly – from the design right through to the occupation – rather than constantly being pushed by money?

Gordon
Over the years, the Building Regulations as well as the guidance relating to them has bloated to an unmanageable level for any one person, including the building control officers. They are expected to be jacks of all trades as well as a master of them all.

An unrealistic level of scrutiny is expected from inspectors as the police of the building industry. After all, you don't blame the police if they drive past a burglary – you wouldn't expect them to check every house just in case.

## CM 30/09
### Fitter had 'no guidance' on cavity barrier installation

John Youle
When I read "poorly fitting and cut cavity barriers with rough edges and gaps, or cavity barriers cut around cladding rails, creating gaps" described as poor workmanship, I do wonder about the expectations of site workers by specifiers.

Don't think I'm defending shoddy work and lack of training and instruction – I'm not. However, we have to be realistic about the calibre of the workforce, and the conditions we are asking them to produce perfect workmanship in. It's not easy working 20m up on a mast climber in the wind and rain.

## CM 28/09
### Clerk of works criticises 'mixed-up' construction

Rod McLennan
Back in the day, we operated a test and inspection (T&I) process whereby any work that was to be subsequently covered (foundations, ground floor construction, drainage, first fix items etc) was inspected on site and only when it had passed inspection would the follow-up work be completed. As time went on, and prices and timescales became tighter, this system was dropped as being too time-consuming and expensive.

Brett Clitheroe
Many contractors are now forced to tender for a range of design and build contracts of which they often have little or no understanding. The use of these contracts, where the clients' representatives look to pass on all responsibilities to the main contractor within an all-embracing package, results in confusion and poor quality work.

## CM 22/09
### 25-year-old project manager had no ongoing training

WF Truman
This disaster is a turning point that says "wake up". We need properly fully trained labour, trades, staff and professionals. We have to stop cutting cost and fees to the bone to enable the industry to function properly.

Mike Mann
We are years past this disaster that is a shameful condemnation of the industry and culture from government downwards, yet all anyone seems to be doing is waiting for someone to tell them what to do and arguing if anyone's life is worth a sprinkler system in sleeping accommodation. It is.

## CM 08/09
### Rydon struggled to 'drum up interest' from cladding firms

Dan
As we hear more in this inquiry, I have to say the events are entirely familiar from the last 15 years in construction: a rushed tender process with limited design information leading to mistakes and omissions; the successful contractor often being the one who's made the biggest error in their tender; specifications that aren't fully understood, often cut and paste from previous projects; building control competing on the lowest-fee basis; a turnover in staff, especially at site level; a lack of suitable training on the technical aspects; a rush to promote people due to a skills shortage.

It's an industry that's been in a race to the bottom for a long while and unfortunately Grenfell shows the worst possible consequences of that.

Provide your own feedback on latest industry issues by posting comments online at **www.constructionmanagermagazine.com** or by emailing the editor at **construction-manager@atompublishing.co.uk**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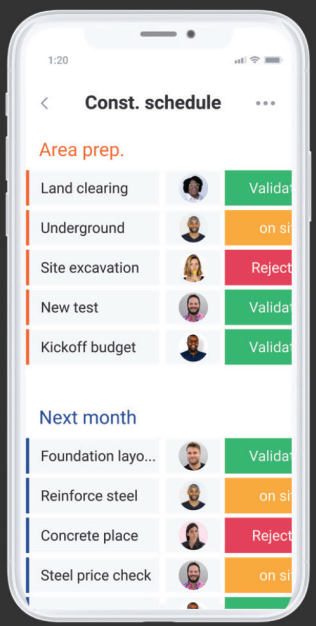


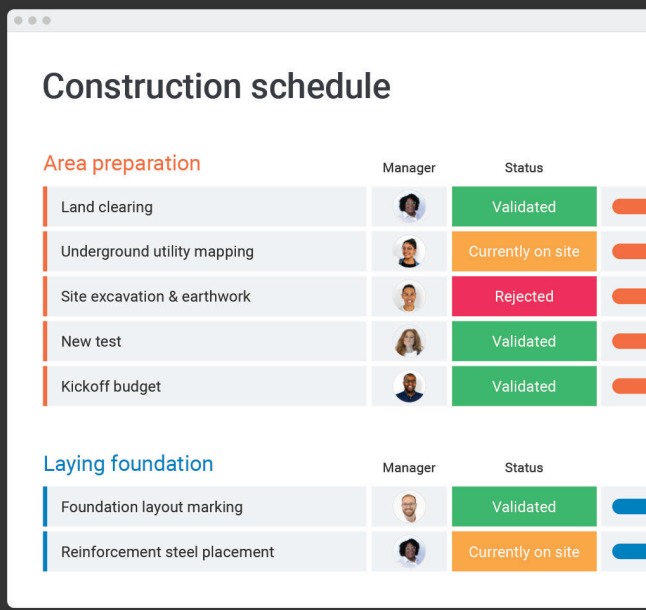


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## Interiors

# WHAT WILL THE POST-PANDEMIC OFFICE LOOK LIKE?

BUSINESSES HAVE BEEN SCRAMBLING TO ADAPT THEIR OFFICES TO BECOME MORE COVID-FRIENDLY OVER THE SUMMER. BUT WITH REMOTE WORKING SEEMINGLY HERE TO STAY, ANECDOTAL EVIDENCE SUGGESTS THAT FIRMS ARE LOOKING TO CUT OFFICE SPACE BY UP TO 40%. HOW IS THE WORKPLACE HAVING TO EVOLVE TO REMAIN RELEVANT? **JAMIE HARRIS** REPORTS

**"I've turned my office into a forest.** Branches, leaves, rope bridges. Now I can't wait to get to work each day!"

Given many offices across the country have seen their footfall dramatically decline – or in some cases completely disappear – for several months this year, you'd be forgiven for thinking the growth of vegetation in this tweeter's workplace was a natural event.

But this is just one example of how organisations are using the disruption caused by the coronavirus pandemic as an opportunity to make changes to the office environment.

Kirsten Lees is London managing partner at architect Grimshaw. She says that the practice has taken the opportunity to create a new working environment, removing fixed desks and promoting collaboration. Says Lees: "It is airy, clean and free of clutter and makes you wonder how we managed to work in the space before."

In recent months organisations across the country have been figuring out how to return safely to the office, reconfiguring the space to allow for social distancing and making physical alterations to ventilation systems. While the return itself may be on hold due to tougher government restrictions, businesses have begun this process, and some who returned earlier in the summer have practical evidence they can learn from as they look to make their office covid-safe – or as safe as it can be.

Some have taken the opportunity of a blank slate to make more drastic alterations.

"We're the busiest we've ever been," says Adam English, a director at fit-out firm Sorrel. "Conversations about fit outs started when lockdown started [in March]. Clients are saying: 'There's no one in the office, let's completely revamp it.'"

This has led to workplace experts musing about the longer-term implications for the office. While the death of the office is just as cliched as it is unfounded, many within the industry feel that there will be a reinvention of sorts, particularly given the pandemic has accelerated the conversation around flexible and remote working policies out of necessity.

Could this change to working practices completely change how offices are configured? Will the main purpose of an office shift to collaborative tasks or social interactions? What should businesses take from their workforce's working-from-home experience?

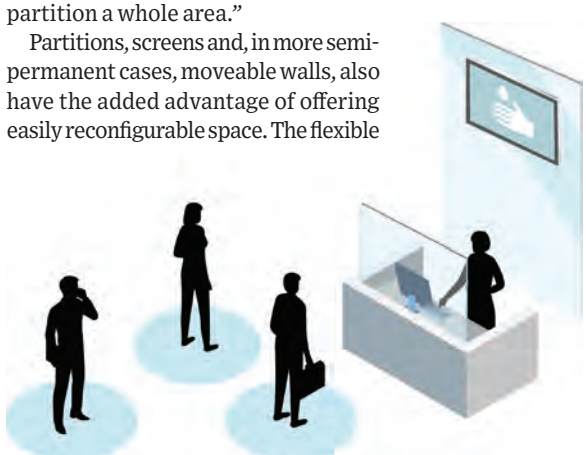
### Practical steps – minimising covid risk in your office

Before businesses had time to consider closing office branches completely, workplace managers were looking into quick fix solutions to get some of their staff back in the office in a safe manner.

Iain McIlwee, chief executive of the Finishes and Interiors Sector (FIS), says that partitioning has dominated conversations for offices, in particular separating out teams for social distancing.

"We've seen a lot more pop-up products coming into the marketplace, where people are looking for breakout spaces but not necessarily looking to partition a whole area."

Partitions, screens and, in more semi-permanent cases, moveable walls, also have the added advantage of offering easily reconfigurable space. The flexible



CHRIS GLOAG

**"Our new working environment is airy, clean and free of clutter and makes you wonder how we managed to work in the space before"**
Kirsten Lees, Grimshaw

workspace trend of the last 10 years has helped with office reconfigurations.

Older buildings are hampered by their layout, making it more difficult to reconfigure interior walls or keep people apart. Says English: "Many of these older buildings have narrow, intricate corridors. You need to look at the flow of people through the building and manage that."

But these buildings also enable compartmentalisation of a workspace as they are less likely to be open plan, which are more beneficial in keeping staff distanced.

A possible side effect of the reconfiguration measures to make an office covid-safe, such as partitions and screens, or additional meeting spaces specifically for Zoom calls, could be this improvement in sound quality. To support this, the FIS has launched an acoustic verification scheme to ensure the products used provide the level of sound protection desired.

Tim Oldman, CEO of workplace engagement specialist Leesman, thinks that organisations should learn from their employees' remote working ▶

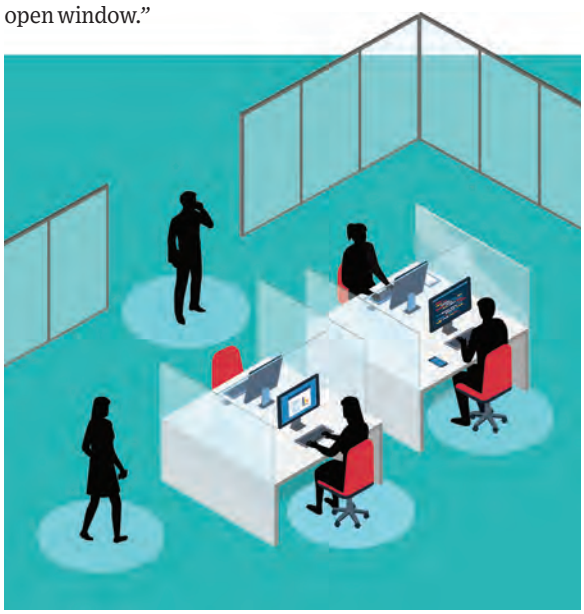
experience to improve the office – and that noise levels should be a high priority.

"We have studied noise levels and the negative impact they have on an individual's productivity." Individual tasks, Leesman has found, are better supported at home with fewer noise distractions.

"Please, stop ignoring all the alarm calls around the poor acoustic design of an open-plan workplace. Let's get open plan sorted acoustically so that it works as well as home does."

Organisations have also been adapting the physical building itself to minimise the risk of infection. Crucial to maintaining a healthy indoor environment, says Sorrel's English, is the monitoring of air quality, and as such organisations have had to consider upgrading ventilation systems.

English explains that air conditioning systems are effectively pushing air particles around an office, and that systems using outdoor air will be more effective at stopping the spread of covid particles. "You're creating a great cycle of air so it's almost as if you've got an open window."



STEWART ATTWOOD

**"We've seen a lot more pop-up products, where people are looking for breakout spaces but not looking to partition a whole area"**
Iain McIlwee, Finishes and Interiors Sector

The British Council for Offices (BCO) published a series of guidance notes on office design and operation (see box) which note that buildings should use natural ventilation where possible. The guidance also suggests to consider air quality factors, such as humidity levels.

There appears to be a change in mindset for office workers, who are much more aware of how 'healthy' a building is.

"In the end, it's about confidence," says Angela Love, director of Active Workplace Solutions. "Staff want to know if their company has done enough to make them feel safe."

Colin Allan, managing director at fit-out firm Morgan Lovell, highlights strong communication with the workforce before any measures are put in place.

"Just putting in managing processes and guidelines won't suffice. It's so important to consult and understand how your staff are feeling about it," he says.

Chris Moriarty, director of insight at the Institute of Workplace and Facilities Management (IWFM), says this is critical. "They are going to be in familiar settings with unfamiliar practices."

But despite the efforts of workplace managers and fit-out firms to comply with guidelines as best as they can, the surge in cases across the UK has seen government advice revert to home working "where possible". So where does this leave the office – a space which is deemed surplus to requirements for the many who send emails and conduct video calls from the comfort of their home?

### Future of the office?

One thing that the majority of experts agree on is that this is not the death of the office – the FIS's McIlwee describes the notion as "nonsensical", although the return to more home working may see office demand dip, at least temporarily, particularly in the serviced office sector.

One serviced office provider, Purpose Group, now starts each office space as a blank canvas to maximise the amount of flexibility it can provide for clients, and even repurposed the space for filming and music videos to cope with the drop in demand.

The IWFM's Moriarty thinks that the cost of office space may well lead to a reduction in take-up: "I am already hearing stories of organisations looking to reduce their occupied space by anywhere between 20% and 40%. The switch to home working during lockdown may have whetted some appetites for major property savings."

But conversely, social distancing measures and a repurposing of space to become more of a social hub may mean firms actually need to increase their office space.

Graham Harle, global chief executive at consultant Gleeds, says that organisations are looking to provide "better quality" space. He says: "I've seen lots of buildings being repurposed in this way. A year ago companies were going for higher density buildings, but now space is centred around creativity and innovation, and at a much lower density."

**82%**

In a Leesman survey of employees, 82% said their home environment enabled them to work productively

Moriarty does however hope that there will be a reinvention of the workplace. "There are too many studies now showing that around half of employees can be unsatisfied with the space that their employer provides for them. We must do better."

Home working may even have exacerbated this dissatisfaction. Leesman surveyed hundreds of thousands of employees on whether their office environment enables them to work productively. Around 63% of respondents said that it does, but when home workers are asked the same question of their home environment, that figure rises to 82%.

Chris Kane, former head of corporate real estate at the BBC and author of *Where is My Office? Reimagining the Workplace for the 21st Century*, fervently believes that the workforce won't be going back to a new normal. "We're facing a completely new reality here about how people want to work. Staff are ultimately exercising choice in terms of where they want to work.

"This is a real opportunity to rethink how we work, where we work, when we work, and figure out what space is required and where it's required."

**"The switch to home working during lockdown may have whetted appetites for major property savings"**
Chris Moriarty, Institute of Workplace and Facilities Management

So what might the office look like? Given the insatiable appetite for more remote working, workspaces could be configured in future with fewer fixed desks and more meeting spaces – large and small – to accommodate the surge in video calls and face-to-face collaborative tasks. Ultimately, thinks Kane, the space will be more flexible and multi-use – and that could see a fundamental shift in how they are leased and operated.

"We will see a huge swing to a demand for a mix of fixed and flexi-space. Forget the old landlord or developer mindset of lease it and forget it; we'll move to more of a hotel model where the space is operated as a service."

### Flexing space to meet demand

So offices will be run as drop-in meeting spaces, and firms will flex their space up and down as demand shifts? Perhaps, although Moriarty feels it won't be quite as seismic as Kane suggests.

"I expect and hope to see a more flexible approach which allows productivity, collaboration and innovation to flourish through combining multiple settings. But the workplace must always be built from the employee out – this is essential.

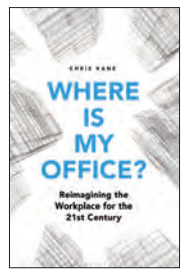
"My hope is that organisations will take the opportunity to learn from this experience, listen to the data, and more importantly, listen to their employees."

Peggie Rothe, Oldman's colleague and Leesman's chief insights and research officer, says that removing quiet space for individual work and focusing solely on open, collaborative spaces is counter-productive.

She says: "You'd be creating a situation where employees would come into the office and be social all day long. I don't think that's practical from any point of view. Offices will still need to support both types of working."

The coronavirus pandemic has fundamentally changed how office workers operate and some workplace and fit-out specialists experts are predicting a repurposing of space.

But the conversations they are having on multi-use, flexible space are not new; the workplace sector has been making their case for the last 10 years. The pandemic has simply accelerated the action behind the talk. Offices don't necessarily need a drastic change, but decision-makers see now as a perfect opportunity to do so.

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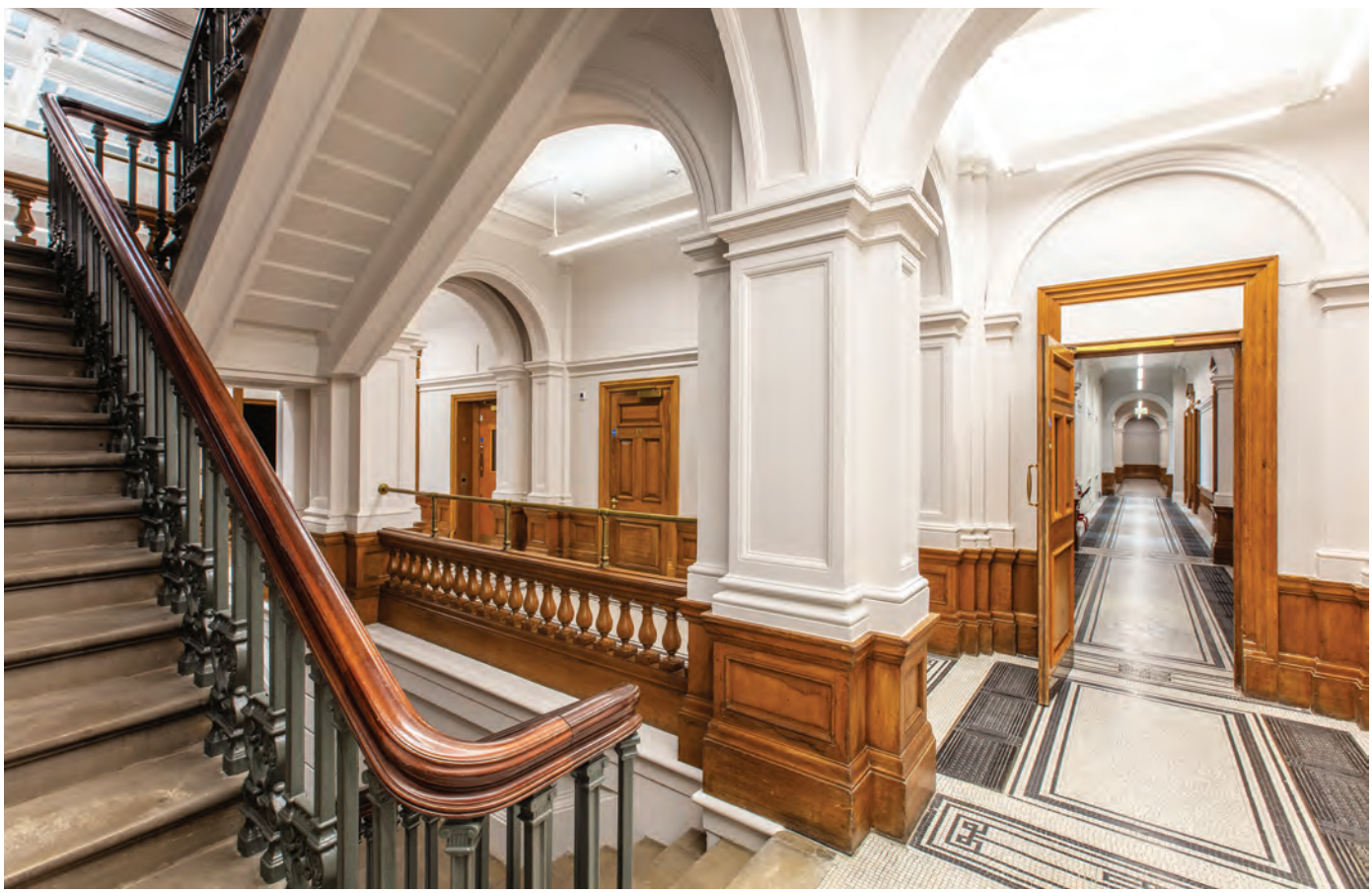
## Covid-safe offices

**The British Council for Offices (BCO) produced two guidance notes, offering its members advice on office design after covid-19. The BCO advises practical measures to minimise risk to a building's occupants:**

- **Automatic doors at building entrances**
- **Screens used to protect reception staff**
- **Touch-free devices, such as lift buttons**
- **Natural ventilation (actively use operable windows, rather than air conditioning systems)**
- **Clear-desk policy to facilitate cleaning**
- **Consider expanding cycling facilities**
- **Humidity level monitoring – there is some evidence that people are more susceptible to infection when relative humidity is below 30%**
- **Newly installed lifts will be wider and shallower, allowing for faster loading and unloading, and easier social distancing**
- **Lifts should use mechanical extraction to boost ventilation.**

# CONSERVATION IN THE CORRIDORS OF POWER

WILLMOTT DIXON INTERIORS' REFURBISHMENT OF THE HISTORIC OLD ADMIRALTY BUILDING IN WESTMINSTER IS FINALLY COMPLETE. **WILL MANN** WAS GIVEN THE GRAND TOUR



Heritage features such as oak panelling and terrazzo flooring were retained and restored

**The oak-panelled corridors of the Old** Admiralty Building reek with history. Backing on to Horse Guards Parade in the heart of Westminster, it has been the headquarters of the British Navy, home of Winston Churchill when he was First Lord of the Admiralty, and where naval intelligence officer and James Bond author Ian Fleming worked.

More recently, the OAB, as it is known in government parlance, has been undergoing a major refurbishment. Willmott Dixon Interiors (WDI) has been reconfiguring the Grade II-listed building with a CAT B fit out, creating over 250,000 sq ft of commercial office space across five floors, including a basement.

This has been a cut and carve operation on a staggering scale. The OAB is a rabbit warren of more than 650 rooms and the refurbishment has involved 1,000 penetrations, most of them to fit new MEP services. Heritage works have been a requirement of every corridor, room and staircase. And then there was the asbestos.

Historic maps were moved into storage during the refurbishment

GREG KING

**"We didnt know where the asbestos was located so we had to assume it was present when planning any intrusive work that would disturb the building fabric"**
Chris Linfoot, Willmott Dixon Interiors

"The design by BDP was about delivering a modern office, while striking a balance between the restrictions of the Grade II-listed masonry building, which was difficult to open out, and the presence of asbestos," explains Chris Linfoot, WDI's project director.

"Amosite is ingrained in the building fabric. It wasn't possible to remove the asbestos so our work here has been to manage it. That has been the most difficult aspect of the project."

The OAB dates from 1895, making it relatively modern compared to its neighbours. The masonry building comprises three wings: the north, where the main entrance fronts The Mall, was completed first, followed by the west, then the south in 1912. Its last fit out was in the 1990s, and it has been used since by various government departments. In June 2015, BAM was appointed to refurbish the building, with an anticipated contract value of £45m, but the job was retendered and awarded to WDI via the Scape Framework two years later.

There were two contracts for the project, one for the enabling works and one for the fit out, using a traditional NEC form, with a mix of options A and C.

The fit out scope of work included new MEP services, about 30% of the contract value, ceilings, partitions, raised floors, window refurbishment and secondary glazing. WDI worked in JV with Willmott Dixon Construction to deliver the enabling works packages, which included demolition strip and structural alterations.

The presence of amosite meant WDI had to prepare a full asbestos management plan, in line with the Control of Asbestos at Work Regulations, working with two specialists, Decontaminate UK and eBrit Services. This included controlled working conditions, air locks, establishment of safe routes through the building and constant air monitoring.

"We didn't know where the asbestos was located so we had to assume it was present when planning any intrusive work that would disturb the building fabric," Linfoot explains. "That has been the case for all the MEP penetrations. Clinker blocks in the doorways also contained asbestos, so if we wanted to remove the door frame, that had to be done under controlled conditions. Even some of the doors had AIB (asbestos insulating board) panels in them. We had to create a sealed tent in which asbestos-trained carpenters could remove the board.

"It has affected every aspect of our work and required numerous Health & Safety Executive notifications plus visits from their inspectors.

"The amount of time we spent on managing the asbestos inevitably grew over the duration of the project. It was challenging – but we have achieved it.

"The tenants who occupy the OAB will also have to follow the asbestos management plan for the building," he adds, "which means a 'no drill policy'; they won't be able to put nails into the walls to hang pictures."

Structural alterations took place in nearly every room. Typically, these are about 1m square to accommodate the modern MEP services. Each of these required its own temporary works support structure before steel and concrete lintels were installed.

Some of the structural works knocked two rooms into one. "In one case, we had to put in extra structural steel and additional foundations in the sub-basement to support the new ▶

**Project team**

**Client:** Central Government
**Main contractor:** Willmott Dixon Interiors
**Architect:** BDP
**MEP engineer:** Hoare Lea
**Programme:** June 2017 to October 2020
**Value:** Undisclosed
**Key subcontractors:**
**Demolition:** Deconstruct UK
**Asbestos:** Decontaminate UK and eBrit Services
**Heritage plastering:** AVV Solutions
**Ironmongery:** John Planck
**MEP:** Halsion

Giant chillers were craned into the courtyard over the top of the building

INSIDE OUT GROUP

The chillers were lifted in over the top of the OAB from Horse Guards Parade using a 350-tonne crane

# 350t

frame, as the existing masonry building wouldn't support all the extra weight," explains Linfoot.

Another structural consideration was the neighbouring MOD building, which ties into the OAB at ground and basement level on the north elevation. "This causes a pulling effect on the building and led to stress cracks appearing over the years," says Linfoot. "So we had to insert Helifix metal rods into this elevation to effectively bind the wall together."

The biggest structural addition was the frame to support the chillers in the main courtyard. Here, a building was demolished and around 100 tonnes of steelwork erected plus a concrete slab to support the giant chillers and pipework.

"The chillers were lifted in over the top of the OAB from Horse Guards Parade using a 350-tonne crane, in a single day," says Linfoot. "City Lifting had to supply us with a higher-than-normal capacity crane as we needed a wider angle to lift the chiller units over the antenna wires running into the neighbouring MOD building."

The heritage features are strongest in the corridors, which the new MEP services mostly avoid. During structural works, heritage areas were protected with ply and decorative features removed and stored in the basement, including cornicing and around 400 oak doors.

"The original cornicing was moulded on to the ceiling and these sections were removed and later reinstated by our restoration specialist – AVV Solutions – who had to make good every individual cornice," says Linfoot.

"A lot of the plaster on the walls had de-bonded – we used a 'knock test' to check this – and in these cases the plaster was removed under semi-controlled conditions because of the asbestos risk. This was replaced with lime plaster. The drawback here is the time it takes to dry, probably a week for two coats.

"Logistics was key to managing this work. We created a programme where eBrit would hack off the plaster, then AVV would follow through to replace it, moving from room to room. It gave continuity to the work."

The project has also restored the original terrazzo flooring, oak panelling and wrought iron balustrades in the dark grey of the original colour scheme. Ironmongery for new doors has been matched with retained doors, radiators have been painted and the original glazed tiles re-exposed in the lower levels.

"The volume of the heritage works has been the challenge along with cataloguing all the items we put in storage," says Linfoot. "This process was started by Deconstruct UK, who started on the job under BAM, logging the heritage items using spreadsheets, which we continued."

**Left:** De-bonded plaster was removed and replaced with lime plaster

**Below:** Wrought iron balustrades were restored to the original colour scheme

**"We were constantly finding things that were not expected. We had around 1,600 variations during the fit out, and 750 during the enabling works"**
**Chris Linfoot, Willmott Dixon Interiors**

Structural works were designed in 2D but Linfoot says a digital asset model of the new MEP has been created. "The MEP elements of the model are BIM Level 2 compliant, with asset data in COBie format, which the end user will be able to use to manage building services operations," he explains.

WDI's work on the project completed last month. The original completion target was late 2018 but both programme and cost will be well in excess of original estimates.

"We were constantly finding things that were not expected – inevitable on a complex refurbishment like this," says Linfoot. "We had around 1,600 variations during the fit out, and 750 during the enabling works."

He adds with relief that covid-19 had little impact: "We were nearing the end of our programme and the number of workers was quite low, so social distancing was easier to manage, plus we have plenty of space here to spread out welfare facilities and site offices."

The 2,400-capacity office will house the Government Art Collection, with other tenants to be confirmed.

# FIT OUT GETS TOOLED UP FOR BIM

A NEW BIM TOOLBOX DEVELOPED BY THE FIT-OUT TRADE BODY SHOULD ACCELERATE THE SECTOR'S DIGITAL PROGRESS

**"You need to be agile. You need to be reviewing things again and again. Developing the deployment plan and driving the adoption are crucial"**
Mark Norton, ISG

JON CHALLICOM

Norton: "I think people look at BIM and immediately they get worried"

**As arguably the most time-poor part** of the construction process with staggeringly short notice of new work, how can the fit-out sector keep up with the push for BIM and digital adoption?

This summer fit-out trade body the Finishes and Interiors Sector (FIS) updated its 2016 BIM toolbox, not only in response to ISO 19650, but also because BIM and digital construction has moved on so much since the toolbox was first published.

Mark Norton, head of BIM for fit out at ISG in the UK, and chair of the FIS digital construction working group that rewrote the toolbox, is keen to point out that while the sector is time-poor, it has made plenty of digital strides: "I wouldn't say fit out is the poor relation by any means. BIM is on the up in the fit-out sector."

Prior to the pandemic-enforced lockdown, FIS members' demand for BIM training was strong, Norton says, and in the two months since its launch, the toolbox has been downloaded more than 100 times.

The 62-page toolbox should be required reading for all 500-plus FIS members. Section A provides an introduction to BIM and considers the business case for its adoption. Section B looks at the development of BIM capability, implementation of a BIM deployment plan and delivering on a BIM project. The toolbox also includes a glossary of the acronyms that dominate the BIM landscape.

Norton says: "I think people look at BIM and immediately they get worried; they're thinking about hardware and software costs – it's like an iceberg.

"It's the training and cultural change, the deployment of it, is where you should be investing your time and money – and sometimes that's the last thing to be considered, but it should be your primary driver."

Norton is keen to remind and reassure FIS members that adopting BIM is not a 'one size fits all' exercise: "I have this conversation with a lot of people: 'How do I start a BIM journey?' It's really what fits for your organisation, for what you deliver."

He cites an example: "We work with a lot of contractors of various disciplines: we had someone tiling the floors on a job and they asked 'What do we do about BIM?' We answered: 'We know you can lay that floor tile – we just need the data on the floor tile. So fill out a spec sheet of what it is and how to get it in the future, and we'll pass that on to the client.' So a data sheet was sufficient for that contractor."

His advice to FIS members is: "You need to be agile. You need to be reviewing things again and again. Developing the deployment plan and driving the adoption are crucial."

Even at a business the size of ISG, BIM and digital construction is in a constant state of evolution. Norton founded ISG's BIM and digital construction team seven years ago; the team now comprises 20 staff in London and a further 10 in the rest of the UK and Europe.

"It's been an educational process: we're still learning from our clients and vice versa," he says, noting that there's almost a competitive edge among clients now, challenging each other and their supply chains to adhere ever closer to BIM best practice and to achieve ever-greater results.

"They want their next project to be the best BIM project. We've just finished a project in the City and we had just one variation on site: one! Everything went as smooth as you like, which is testament to all the hard work that the team put in at the beginning.

"And success goes viral."


**The FIS BIM Toolbox can be found at www.thefis.org/knowledge-hub/bim-toolbox.**

BIM & Digital

# NINE THINGS WE LEARNED AT DCS 2020

THIS YEAR'S DIGITAL CONSTRUCTION SUMMIT TOOK PLACE VIRTUALLY LAST MONTH. AS THE PRESENTERS AND PANELLISTS DEMONSTRATED, THE INDUSTRY'S DIGITAL ADOPTION IS ONLY ACCELERATING AS A RESULT OF THE PANDEMIC. BY **NEIL GERRARD**

**1. Covid 'aftershocks' will drive digital construction adoption**

The 'aftershocks' of Covid-19 will be with construction for years to come, making digitally enabled ways of working the norm. That was Construction Innovation Hub impact director David Philp's prediction while speaking in the Buildots-sponsored webinar that opened the Digital Construction Summit 2020.

Philp stressed: "We've seen a seismic shift towards digital, how we collaborate, share information and use this thing called the common data environment. If these are fully embraced, it is going to help us be more sustainable, more productive and more effective across the whole [building] life cycle."

**"We need to address some of the real-world issues around interoperability"**
Fiona Moore, CDBB

**2. Progress is accelerating towards interoperability**

Fiona Moore, information management consultant at the Centre for Digital Built Britain (CDBB), explained the vital work being done on interoperability, to enable the easy exchange of data between proprietary technologies – essential for BIM to thrive and to deliver benefits.

"There are lots of clever proprietary solutions out there that help supply chains to collaborate and exchange information and all of those are valid, but quite often this falls over when information is passed across the contract line and the procurer has no way of housing that information and making proper use of it," she explained.

Moore said the BIM Interoperability Expert Group has identified a series of workstreams to enable BIM interoperability. The four primary workstreams are: classification, COBie and industry foundation class (IFC), education and skills, and standards.

**3. BIM is an essential foundation for the National Digital Twin**

CDBB digital director Mark Enzer provided an update on the National Digital Twin Programme and highlighted the important role that BIM has played in establishing it.

"The foundation that has been laid in the work that we have already done in BIM is an essential foundation for the National Digital Twin. We couldn't even imagine it without that foundation being laid. It shows us just how important information is and how

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DIGITAL CONSTRUCTION SUMMIT 2020

we need to manage that information through the asset life cycle," he noted.

**4. 360-degree hard hat cameras help TfL fire safety work**

A complex fire protection project for Transport for London at London's Victoria coach station was aided by innovative digital technology from Oculo, Ringway Jacobs contract director Chris Goodacre explained.

Oculo's tracking tool involves workers clipping a 360-degree camera to their hard hats while they take a designated daily route through the site, to build up a full digital record of site progress.

"While covid has been a driver to change, we were already moving to virtual ways of working and different technology prior to lockdown," he said.

**5. Cache is king for remote construction sites**

Internet connectivity on site is not always a prerequisite for effective collaboration, said Carole Filion, Egnyte's product marketing manager, during the session on common data environments.

"Yes, some connectivity is required, but it doesn't have to be high speed or always available for that matter," she explained. "By syncing files to laptops or mobile devices for offline access, productivity can continue uninterrupted in the field. Files sync back to the cloud once within wifi or cellular range.

"Another option is to cache frequently accessed content to a storage device in the cabin. In this setup, users get very fast access to their content without tying up bandwidth," she added.

**6. Simple is beautiful with Willmott Dixon's supply chain strategy**

Willmott Dixon digital manager Andrew Gamblen explained how use of visualisation and smartphone apps had been key in engaging the supply chain.

Speaking in the PlanRadar-sponsored webinar on communicating digital solutions to site teams, he said: "Visualisation is a great way to engage with them, whether with high quality renders, VR and AR. And keep the user experience simple: it must be intuitive with minimal training necessary."

**7. An HSE digital pilot aims to design out safety risks**

A team involving the Health & Safety Executive (HSE), Atkins, software house 3D Repo and the University of Manchester is calling on the industry to trial its Discovering Safety designer risk suggestion tool. HSE inspector Gordon Crick highlighted the need to design out risk with a 'digital rehearsal': "Identify the risk and make the change in a predicted state so that you're doing it before the costs and challenges of correcting it on site arise. We can enforce cooperation and coordination, but collaboration comes from the heart."

**"Digital tech can help designers deal with risks before they get to site"**
Zane Ulhaq, Atkins

**"Use visualisation to engage digitally with your supply chain"**
Andrew Gamblen, Willmott Dixon

Atkins digital engineering manager Zane Ulhaq, who has been seconded to the Discovering Safety team, explained that the audit trail generated encourages designers to deal with risks as they arise. "A designer could be challenged when it becomes apparent they didn't document risks until the end," he said.

**8. Awareness still lacking of Building Safety Bill's digital implications**

As part of the debate on the Building Safety Bill, in partnership with i3PT Certification, panellists agreed that cultural change was required to get to grips with the digital and data requirements of the looming legislation.

Paul Nash, chair of the CIOB Quality Commission, said: "It still surprises me how few people are aware of what's coming down the tracks and the need for change. Awareness and education is key. We need to be actively promoting the good work that's being done by organisations like Clarion who are adopting the 'golden thread' principles. Don't wait for legislation to make changes that are required now."

**9. Project teams ignore data sharing tools too often**

Project information sharing is still too chaotic, observed Chapman Taylor Architects' Stephen Higgon in the Atvero-sponsored session on the potential of data to transform the industry.

The senior information manager said that 92% of project design teams are using email to collaborate rather than the system they are meant to use, according to internal research. Some 80% struggle with version control. "Nearly two hours of every day are lost to time spent searching for and gathering information; and this work overload decreases productivity by 68%," he said.

CPD

# CPD: BESPOKE ALUMINIUM ACCESS STRUCTURES

YOU CAN DO MORE WITH ALUMINIUM ACCESS TOWERS THAN YOU THINK. IT'S EVEN POSSIBLE TO COMMISSION A BESPOKE STRUCTURE DESIGNED FOR YOUR SITE – HOWEVER TALL, WIDE OR AWKWARD IT MAY BE. BUT DO YOU KNOW THE KEY SAFETY CONSIDERATIONS? THIS CPD, IN PARTNERSHIP WITH THE PREFABRICATED ACCESS SUPPLIERS' AND MANUFACTURERS' ASSOCIATION (PASMA), EXPLAINS

**Ask most people to imagine an aluminium access tower and they'll think of something that comes in a kit with an instruction manual. What they might not know is there are individuals qualified to mix those kits together and build something totally bespoke. It's a service that offers big benefits for savvy construction managers who need to give their teams a safe way of working at height, even when budgets and deadlines are tight.**

**Above:** A bespoke access design made up of two towers with a bridge

**Above right:** Linked towers provide 18m of uninterrupted access

## The capabilities of aluminium towers

These days, there's a whole range of standard towers available – mobile access towers, cantilever towers, towers with bridges, linked towers, towers on stairways and large deck towers.

In association with PASMA prefabricated access suppliers' and manufacturers' association

If none of those suit the requirements, a bespoke tower can be designed for a site, however tall, wide or awkward it may be. A standard tower allows workers to operate at up to 8m outdoors and 12m indoors, but these restrictions don't apply here.

Access tower specialists can build any type of tower, standard or non-standard. But while there are dedicated training courses available for each type of standard tower, meaning any worker can be trained to build the tower they need, bespoke towers can only be planned and assembled by a qualified access tower specialist.

With clever engineering and prefabricated aluminium components, they build structures that can reach the top of a building, with platforms at every level along the way, and span the whole facade too. They can create large deck areas or squeeze into tight spaces.

They can set towers up on stairwells and add advanced features like cantilever frames over obstacles, bridges to span doorways or beams for working above swimming pools. Their structures are adaptable and can be mobile. In short, access towers are as flexible as the client needs them to be.

### Hire and assembly

When you're looking for a company to install a complex tower structure for you, the service you need is known as 'hire and assembly'. It includes:

- equipment rental;
- consultation;
- specification;
- design;
- assembly; and
- dismantling.

### Why pick aluminium?

There are many advantages of choosing an aluminium tower:

- Quick to build and dismantle – suiting tight timescales.

**"While there are dedicated training courses for each type of standard tower, bespoke towers can only be planned and assembled by a qualified access tower specialist"**

- Lightweight – this is essential when the floor or ground can't hold steel or powered access.
- Low carbon footprint – it travels in a transit van, not a 10-tonne truck.
- Aesthetically pleasing – shiny aluminium looks good in high-profile locations.
- Flexible – it gets into awkward spaces.
- Collective fall prevention at all times – no harnesses required.
- Competitively priced.

All of this makes aluminium a safe, convenient, cost-effective and environmentally friendly solution for almost every job – with one main exception. If heavy materials need to be stored or moved on the platforms, an aluminium structure might not take the load, in which case, steel is more suitable.

### Advances in safety

The first complex aluminium structure ever built was a 200ft (61m) tower commissioned by the US Army in 1948. Not long afterwards, they started appearing in the UK too. Here, the service can be traced back to the early days of tower production in the 1950s.

Over the decades, safety standards for working at height have continually improved, and access towers are no exception.

As the subject matter experts on towers, PASMA, a not-for-profit trade body, has a key role in driving up standards in hire and assembly. It encompasses two areas: good ▶

## Case study: 22 Bishopsgate, London

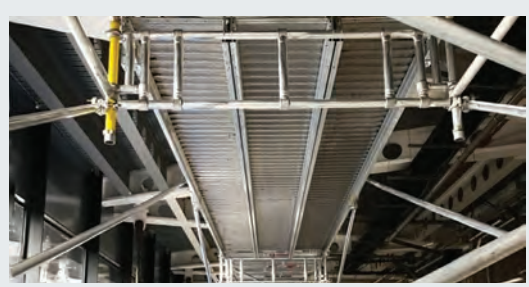
Bespoke towers were used by Ridgeway and Instant UpRight for Multiplex on this project

**The challenge:**
- Tallest building in the City of London.
- Very busy construction site.
- Need access to ceiling at 28m in a facade atrium.
- Slab stops short of facade with 9m voids over three extended abutments.
- Multiple levels of escalators.
- Ongoing access required for mechanical and electrical services.
- Fast up and down solution needed.
- Detailed temporary works procedures.

**The solution:**
- Collaborate with manufacturer's engineering team.
- Create design using building information modelling (BIM).
- Use mobile tower structure that can be moved in and out for ease of access to mechanical and electrical services.
- Use Spandecks and cantilevers to bridge 9m gaps.
- Use components from stock for fast turnaround.

**Service delivery:**
- Assemble central tower structures on abutments.
- Add cantilever platforms.
- Install Spandecks.
- Job completed 10 working days after initial enquiry.

Spandeck walkway systems were used to give fast access to high ceilings on this very busy site in the City of London



For more information about working with bespoke aluminium access structures visit pasma.co.uk/hire-and-assembly

An aluminium tower structure that has been designed for fitting cladding

working practices and training for access tower specialists.

**1. Good working practices**

PASMA is a membership association which brings together members from across the tower industry, including manufacturers, hire centres and training companies, with one thing in common – a commitment to raising tower safety standards.

In 2010, it launched a dedicated membership category for companies who install complex tower structures, known as Hire & Assembly Members.

For the first time, a light was shone on the working practices of the sector. A code of conduct was established, setting out what safety standards should be expected from these companies.

PASMA encourages all businesses involved in erecting non-standard towers to adopt its standards and become Hire & Assembly Members. Those who do are assessed prior to joining and receive annual audits, allowing them to prove their ongoing commitment to safe working practices.

For each build, they collaborate with tower manufacturers to prepare the necessary paperwork. This consists of:

- design drawing;
- design certificate with calculations and component schedule;
- verification report;
- assembly, use and dismantling plan;
- risk assessment;
- method statement; and
- information on safe use to be displayed at the base of the tower.

They must use safe equipment, which is achieved by ensuring every structure complies with either BS EN 1004 (the standard for mobile access towers) or BS 1139-6 (the standard for towers which use prefabricated components in advanced configurations).

Another important requirement is that they must have a competent workforce. They achieve this by employing access tower specialists who have been trained by PASMA.

**"PASMA introduced formal training and assessment to a previously unregulated role and has raised standards as well as creating a way to demonstrate competence"**

**2. Training for access tower specialists**

An access tower specialist's job is to assemble towers. This includes any standard configuration tower, like mobile access towers, cantilever towers, towers on stairways, linked towers and towers with bridges. But crucially, they can also build bespoke, complex structures from design drawings, created to meet the unique needs of a site.

They must be capable of leading the project from start to finish.

- Plan the build.
- Select safe equipment.
- Read design drawings.
- Assemble and dismantle.
- Make engineer-approved alterations.
- Tie structures into buildings.
- Inspect towers.
- Lead teams effectively.
- Conduct safe handovers.

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### PASMA training scheme

For many years, access tower specialists learned on the job. It's what they did all day every day, so experience soon built up. But with no nationwide training scheme, the knowledge being handed down wasn't consistent, comprehensive or assessed. There was no reliable way to verify competence.

These days, that's not an option on most construction sites. Managers need to be certain that everyone on their project is skilled and qualified to do their job.

PASMA developed its demanding Access Tower Specialist training scheme for this very reason. It introduced formal training and assessment to a previously unregulated role and has raised standards as well as creating a way to demonstrate competence.

This is how experienced tower operatives in today's world learn the advanced skills they need to work with bespoke structures safely.

### Skills and knowledge

Delegates leave with an in-depth understanding of the most relevant product standards and work at height legislation/regulations, as well as technical knowledge of design constraints, loading criteria, enabling components, component lifting techniques, tying in, design drawings, hazard identification and safe assembly techniques.

Bespoke towers can go wide and they can go high. They can go around, over and under obstacles, give access to multiple levels, provide large deck areas and be adapted to meet evolving requirements. They can also remain in place long term if needed.

Doing all of this with lightweight, prefabricated aluminium components requires specialist skills which are taught exclusively by PASMA in the Access Tower Specialist course.

### Choosing a supplier

These developments give managers a reliable way to select competent suppliers. When you want a bespoke access tower, follow these three steps:
1) Choose a supplier who is a PASMA Hire & Assembly Member
2) Verify competence by asking to see their PASMA card and checking that it covers level 'S' (for Access Tower Specialist) or 'R' (for Professional Tower Rigger, as they were formerly known).
3) Check it's a valid card by entering the details into the PASMA Card Checker: pasma.co.uk/check-a-card

With your team expecting a safe place to work at height, make sure your tower is supplied and built by an appropriately skilled and qualified workforce.

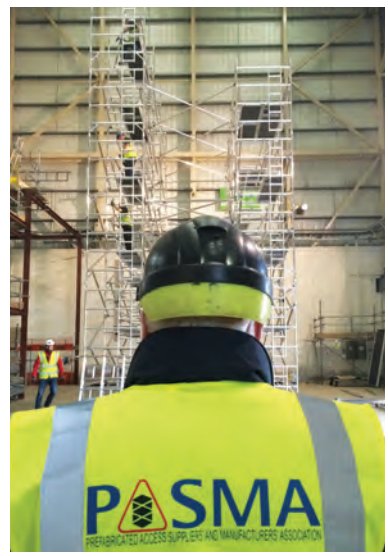
### Action points

- Consider aluminium for your next work-at-height project.
- Update your access tower procurement policies to specify PASMA members only.
- Update your site access policies to permit entry to PASMA-trained access tower specialists.

**Find out more by visiting pasma.co.uk/hire-and-assembly.**

**Right:** Operatives take part in the PASMA Access Tower Specialist course

**Below:** Training involves the construction of bespoke complex structures




KENTEC TRAINING

**To test yourself on the questions on the right, visit www.constructionmanagermagazine.com/cpd-articles**

KENTEC TRAINING

## CPD Questions

1: In what year was the first complex aluminium structure built?
**a) 1948 b) 1978 c) 2008**

2: How can you verify that someone is qualified to assemble complex aluminium structures?
**a) Ask for photos of their previous work**
**b) Ask for their PASMA card and check it covers level 'S' or 'R'**
**c) Ask for their PASMA card – all cardholders hold this skill**

3: What product standards are most relevant for complex aluminium towers?
**a) BS EN 12811-1**
**b) None – they're still in development**
**c) BS 1139-6 and BS EN 1004**

4: Which of these can a hire and assembly business NOT do for you?
**a) Rent the equipment to you for the duration of your project**
**b) Assemble the structure**
**c) Train your employees to dismantle the structure**

5: What do you call someone who assembles towers for a living?
**a) PASMA trained operative**
**b) Access tower specialist**
**c) Scaffolder**

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# STRUCTURAL STEEL DESIGN AWARDS 2020

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## Introduction

In their 52nd year, the Structural Steel Design Awards continue to shine a spotlight on quality

**Over the years, the Structural Steel Design Awards (SSDA) have highlighted and rewarded many of the best examples of excellence, ambition and innovation in our built environment. Now celebrating their 52nd year, the 2020 Awards, jointly sponsored by the British Constructional Steelwork Association and Trimble Solutions (UK) Ltd, continue that great tradition. This year's collection of entries demonstrate UK excellence in steel fabrication, design and construction.**

**Once again, there has been a high number of quality entries and this year there are a wide variety of projects entered. Scales of entry ranged from sports grandstands, through prestige office buildings, to smaller educational and leisure projects and spectacular footbridges.**

**Twenty-two projects made the shortlist, from which the judges presented six awards, six commendations and two merits. Due to covid-19 restrictions, there was no gala presentation this year, while the judging panel, who normally visit the shortlisted entries, had to interview project team members via Microsoft Teams and Zoom.**

**The SSDA's cross-industry judging panel comprises: chairman Chris Nash, Bill Taylor and Oliver Tyler representing the Royal Institute of British Architects; Richard Barrett representing the steelwork contracting industry; Paul Hulme representing the Institution of Civil Engineers; and Sarah Pellereau, Professor Roger Plank and Julia Ratcliffe representing the Institution of Structural Engineers.**

MAIN PHOTOGRAPH: JIM HOLDEN; OPPOSITE PAGE PHOTOGRAPHS: HUFTON+CROW

# HISTORIC LINK RESTORED

A STEEL FOOTBRIDGE HAS RECONNECTED THE TWO HALVES OF TINTAGEL CASTLE FOR THE FIRST TIME IN MORE THAN 500 YEARS

**Tintagel Castle in Cornwall is one of** the UK's most popular historic sites and draws more than 200,000 visitors a year and up to 3,000 a day in the peak summer season.

Positioned on two rocky coastal outcrops, Tintagel Castle is a spectacular site, divided by a steep gorge. The main part of the castle is on a headland, which was once linked to the mainland and its gatehouse by a narrow strip of land that was lost to erosion sometime during the 15th or 16th Century.

Subsequently, visitors crossed a wooden bridge at the foot of the void and climbed a series of vertiginous steps onto the island. This restricted access caused significant congestion in the summer months and detracted from the visitor experience.

**Above:** Two 33m steel cantilevers project from the rocky outcrops

Produced by the BCSA and Steel for Life
in association with Construction Manager

**What the judges said**
**"Every steel component has been carefully detailed for constructability and durability, elevating the graceful aesthetic"**

The opening of the new footbridge has alleviated this problem and restored the original link, allowing visitors to once again walk in the footsteps of the site's medieval inhabitants.

Project architect William Matthews says: "The design of the footbridge is relatively simple – two 33m-long cantilevers which reach out from each abutment and don't quite meet in the middle.

"The central gap serves two functions; technically it allows each bridge half to expand and contract with variations in temperature; and poetically it creates a threshold between the mainland and the island. A series of 16m-long rock anchors tie the bridge halves into each cliff face."

The palette of materials is equally simple. Painted mild steel has been used for the main chords, duplex stainless steel for the cross bracing, deck trays and balustrading, with Delabole slate laid 'on edge' for the deck finish, and untreated English oak for the handrail.

Each material was selected for its durability as the site is in an extremely harsh marine environment. Architecturally the aim was to create a bridge which was resolutely contemporary in its design and fabrication, but also timeless and complementary to its setting.

The steel element was chosen as a lightweight solution and one that could be fabricated offsite into deliverable pieces. Getting the steel elements to site was just one of the challenges that needed to be overcome, as the gatehouse can only be accessed by one narrow lane. A multi-axle vehicle was used to deliver the steelwork and navigate the winding road.

Lifting the steel into place was another significant challenge, with no room or access for a crane in the gorge, which is more than 60m-deep. A cable crane was installed, more commonly used in mountainous regions such as the Alps, to supply materials and even personnel to otherwise inaccessible locations.

The cable crane had a 5 tonne lifting capacity, could pick up steel elements from a small holding area on the headland and subsequently fed the construction of the bridge's two cantilevers.

All of the steel elements were fabricated by Underhill Engineering into fully assembled and erectable pieces; that included top and bottom chords, bracings and cross members.

Summing up, the judges said every steel component has been carefully detailed for constructability and durability, elevating the graceful aesthetic.

The project is a triumph: a credit to English Heritage's vision and the entire team which employed mostly local fabricators, supported by Alpine construction specialists.

**Top right:** Steel was chosen for its durability in a harsh environment

**Below:** The bridge is finished with a slate deck and English oak handrail

**Award:** Tintagel Footbridge, Cornwall
**Lead architect:** Ney & Partners
**Co architect:** William Matthews Associates
**Steelwork contractor:** Underhill Engineering
**Main contractor:** American Bridge UK
**Client:** English Heritage

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EXTERIOR PHOTOGRAPH: CHRIS WAKEFIELD; INTERIORS: PAUL RAFTERY

# STEEL PASSES SCHOOL EXAMINATION

OLD AND NEW STEELWORK ELEMENTS HAVE BEEN COMBINED TO CREATE A MODERN EDUCATIONAL FACILITY

**Originally opened in 1976 as a Herman** Miller furniture factory, this Grade II listed industrial building was purchased in 2016 by Bath Spa University and converted into a new home for Bath Schools of Art and Design.

One of the key ambitions of the project's design was to retain as much of the existing steel-framed building as possible, and to this end the original steel facade frame has been kept. It supports a flexible modular system of glazed and solid panels, as well as the primary structure of continuous secondary roof beams that create 20m-long internal spans.

Beyond the challenges of retaining and refurbishing the existing frame, a new steel structure raises the roof by 1m, supports a new roof deck for extensive plant equipment, supports a rooftop extension above the existing building, and encloses two wings of flexible workshops and studios, as well as providing a substantial new mezzanine level.

**Above:** The original steel facade frame now supports a modular system of glazed and solid panels

Grimshaw Architects' principal Ben Heath says: "The use of steel delivered the large uninterrupted flexible volumes which allow for its adaption over time. It also provides the aesthetic for the building at a number of scales from the structural frame and expressive structural connections right down to the steel brackets which support the services, lighting, signage and furniture."

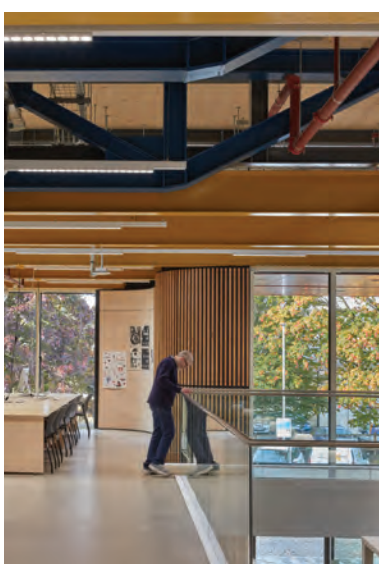
The project's unique design has also become a mandate to teach differently. In the past, teaching practices adapted to suit the

**What the judges said**
**"Structural additions were separated from the existing, requiring careful installation, and the facade sensitively upgraded... The result is a building of exceptional quality"**

building, but this building informs teaching in a different way – putting flexible creative enterprise at its heart.

To facilitate this, the new steel roof is raised by Vierendeel steel trusses, allowing a flexible network of 'plug and play' services to run at high level. This allows the spaces below to be reconfigured as required. The modular facade system also allows the elevation to be easily reconfigured to respond to changing internal requirements.

The mezzanine floor beams have additional web openings to allow for future servicing and both the mezzanine and rooftop pavilion are designed to allow the internal layout to be reconfigured to suit future needs. All structures are framed to be independent of the existing frame to allow for future removal or adaption without detriment to the original.



Within the building, reflective areas encourage students to indulge in discourse outside of their usual disciplines. Communal open spaces encourage 'bumping into' of staff, students, professionals and visitors, providing unknown opportunities, while professionalised spaces – such as the gallery, art shop, rooftop, a publicly accessible cafe and riverside landscape – are designed to engage enterprise activities and the local community.

In summary, the judges said this project involved a major repurposing of a Grade II-listed industrial building, thus validating key concepts of the original 1970s design – adaptability and sustainability. Structural additions were separated from the existing, requiring careful installation, and the facade sensitively upgraded to improve performance. The result is a building of exceptional quality ideally suited to its new use.

**Award:** Bath Schools of Art and Design
**Architect:** Grimshaw Architects
**Structural engineer:** Mann Williams
**Steelwork contractor:** Littleton Steel
**Main contractor:** Willmott Dixon
**Client:** Bath Spa University

**Above:** Flexible structures allow the internal layout to be reconfigured

**Below left:** Exposed steel brackets support the services, signage and lighting

## Steel exoskeleton lights up LSE

Exposed steelwork plays a structural and aesthetic role in this educational building

AKT II

**Commendation:** Centre Building, London School of Economics
**Architect:** Rogers Stirk Harbour + Partners
**Structural engineer:** AKT II
**Steelwork contractor:** Billington Structures Ltd
**Main contractor:** Mace
**Client:** London School of Economics

**Constructed in two parts, with a six-storey and 13-storey element, and interlinked by an atrium, the Centre Building project replaces four previous buildings that were demolished on the London School of Economics (LSE) campus.**

**The overall superstructure system of steel beams and columns, concrete cores and precast concrete floor slabs facilitates simple and flexible floorplates, which can easily be adapted for future uses.**

**Exposed steelwork, internal and external, gives the building a distinct and contemporary appearance. At either end of each block, exposed SHS bracings bookend the project and form a highly visible steelwork element. This exoskeleton bracing, which sits approximately 300mm outside of the building envelope, is also a structural requirement, sharing the stability with two concrete cores.**

**The judges said it is a carefully crafted building, worked into an extremely constrained site. Close collaboration between the design team and steel fabricator has produced a high-quality appearance to the steelwork with careful attention to the connection details and paint finish.**

# BRIDGES EASE CONGESTION

STEELWORK PROVED TO BE THE IDEAL MATERIAL TO CONSTRUCT THE LONGEST BRIDGES ON A MAJOR £1.5BN ROAD IMPROVEMENT SCHEME

**Opened earlier this year, Highways** England's £1.5bn A14 improvement scheme between Cambridge and Huntingdon is said to have relieved congestion, unlocked economic growth, improved safety and enhanced the local environment.

There are numerous bridge structures along the route of the scheme including the scheme's showpiece bridge, a 750m-long viaduct over the River Great Ouse, and two identical 1,050-tonne bridges to carry a major roundabout at Bar Hill Junction over the new A14.

Weathering steel was used for all three structures to provide the required durability with minimal future maintenance.

The River Great Ouse viaduct required 6,000 tonnes of steel, comprising 76 separate main girders and 800 cross girders. The ladder deck bridge spans the river itself and a large area of floodplain on either side.

Supported on 16 pairs of piers, most of the main girders required were 40m long, 2m deep and weighed 50 tonnes. The section of bridge that crosses the river has a longer span requiring more complex girders, with larger, deeper haunches to carry the greater load.

A time-saving construction method adopted on this viaduct was the use of precast concrete slabs for the deck rather than the more traditional insitu concrete deck slab. This meant that the concrete deck units could be installed

JAMES WALKER

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**What the judges said**
**"Innovative solutions were employed by the design team to minimise disruption and optimise the programme"**

simultaneously while steelwork erection was still in progress further along the bridge.

This construction sequence demanded close coordination and also meant that every piece of steelwork had to be fabricated to extremely tight tolerances to ensure a precise interface with the precast concrete slabs.

The viaduct was completed on budget and ahead of schedule.

The installation of the twin bridges at Bar Hill Junction over the new A14 maximised the advantages of offsite steel fabrication and rapid assembly to improve programme times, reduce environmental impacts and minimise disruption to road users.

The multi-girder bridge decks, each measuring 47.5m in length comprise three pairs of braced main girders supporting GRP permanent formwork and an insitu concrete deck slab. Overall, each deck contains 330 tonnes of steel and 720 tonnes of concrete.

The original plan was to erect the bridges piece-by-piece using a crane. This would have involved closing the A14 for a number of weekends, causing significant disruption. However, a more cost-effective scheme was developed that allowed both bridges to be constructed offline prior to installation, and then installed using self-propelled modular transporters (SPMTs).

The A14 was closed to traffic at 9pm on a Friday to allow the sections of the existing A14 carriageway to be infilled and surfaced. The fully concreted bridge decks were then lifted from the trestles onto the SPMTs, and manoeuvred at less than 1mph onto and along the carriageway. The decks were positioned by the SPMTs and lowered precisely onto the concrete abutments.

Both bridges were installed during a single 11-hour period and the road was clear for reopening at noon on Sunday, an incredible 18 hours ahead of schedule

The judges were impressed with the innovative solutions the project team employed to minimise disruption, optimise the programme and ensure flawless execution on site.

**Above:** One of the Bar Hill Junction bridges is manoeuvred by self-propelled modular transporters (SPMT)

**Opposite:** The River Great Ouse Viaduct required 6,000 tonnes of steel

**Award:** A14 Cambridge to Huntingdon Improvement Scheme
**Structural engineer:** Atkins, CH2M Hill Joint Venture
**Steelwork contractor:** Cleveland Bridge
**Main contractor:** A14 Integrated Delivery Team
**Client:** Highways England

ARUP

## Steel bridges Cork's River Lee

Steel was used to create an elegant bridge with an uninterrupted 66m span, which provides a practical and visually appealing new pedestrian and cycle route in the heart of the city

**Commendation:** Mary Elmes Bridge, Cork City
**Architect:** WilkinsonEyre
**Structural engineer:** Arup
**Main contractor:** Keating
**Client:** Cork City Council

**Honouring Mary Elmes, known as Ireland's Oskar Schindler, this transformative bridge link is part of Cork's drive to become a more accessible, sustainable city.**

**The design features a central spine beam that transitions from below to above the deck along the span introducing a small arch effect, which increased stiffness in bending and contributed to the slender appearance of the bridge. To further increase the structural efficiency, the pedestrian walkway is integrated into the structural system.**

**Meanwhile, combining the shallow slender arch with transparent mesh parapets allowed the design team to deliver an understated but visually appealing design with uninterrupted views of the river and cityscape.**

**The bridge was fabricated offsite in nine sections, assembled at a shipyard downriver from its eventual home and transported up the River Lee on a custom-made barge. It was then lifted into position by cranes located on each quay during an overnight road closure in a tandem lift.**

**Summing up, the judges said the elegant and deceptively simple design of this bridge has turned a new pedestrian and cycle city centre river crossing into something of a destination in its own right.**

Produced by the BCSA and Steel for Life
in association with Construction Manager

THIS PAGE: MATT BROWNE SPORTSFILE; OPPOSITE PAGE: ROGER O'SULLIVAN (TOP); AECOM (BELOW)

# STEEL IS FIRST PAST THE POST

THE REDEVELOPMENT OF IRELAND'S CURRAGH RACECOURSE HAS RELIED ON STEEL CONSTRUCTION TO CREATE ITS CENTREPIECE GRANDSTAND ROOF

**In order to maintain The Curragh's** position as one of the world-leading racecourses, a redevelopment of the spiritual home of Irish flat racing has been undertaken to meet anticipated future demands.

At the heart of this scheme is a new grandstand, which is crowned with a dramatic soaring cantilever roof that recognises the planar landscape in which it is set.

According to project architect Grimshaw, the 7,200 sq m cantilever roof design was key to creating the architectural vision, with the envelope surfaces tuned to mask the depth of the structure and create a gravity-defying illusion with cantilever spans ranging from 27m in the central area to 45m in the double-cantilevered corners.

**Above:** A steel cantilever roof crowns the new grandstand

The roof structure, supported on the exposed precast concrete grandstand frame below, consists of a regular arrangement of steel cantilever trusses tapering into open plated sections at the tips to create the razor-sharp leading edge as well as simplifying fabrication. Additional spine trusses follow the diagonal hip line of the roof corners, creating a two-way lattice frame with optimised planar geometry.

Aecom project engineer Michael Orr says the main challenge for the Curragh Racecourse was the design of the steelwork forming the doubly cantilevered roof and specifically the detail design and fabrication of the

**What the judges said**

**"Behind this bold architectural statement lies a highly accomplished level of detailed design, precise fabrication and accurate construction"**

complex three-dimensional nodes supporting the dramatic overhangs.

"The nodes, and their interfaces with the exposed concrete structure below, required intensive collaboration between Aecom's designers and the steelwork contractor to resist the high concentrations of load from the two-way spanning structure, and to ensure all tolerances and pre-setting requirements could be achieved," he explains.

The roof design also allowed the MEP plant to be concealed within the roof space with no detriment to the overall form. The result is a total steelwork mass of approximately 115kg/sq m for the majority of the roof area.

Integrating the structural solution with the building envelope was also key to the success of realising the team's mutual vision. For the long-span double-clad roof, Aecom's structural engineers and facade engineers worked hand-in-hand to deliver a holistic design solution, minimising the overall quantities of structural steelwork by ensuring all steel surfaces were fully coordinated with the cladding fixing requirements. This included integrating with the MEP, lighting and rainwater collection systems without compromising the structural or visual integrity.

"Structural steelwork was used as it was the only cost-effective solution that could meet the demands of the design, in terms of achieving structural performance and creating the architectural drama of the slender cantilevered roof," adds Orr.

Summing up, the judges said a blade-like aerofoil roof is now the dramatic centrepiece to this open landscape and world-famous sporting venue. Behind this bold architectural statement lies a highly accomplished level of detailed design, precise fabrication, and accurate construction to the most demanding of tolerance requirements. A great team effort.

**Award:** The Curragh Racecourse Redevelopment, Kildare
**Architect:** Grimshaw Architects
**Structural engineer:** Aecom
**Steelwork contractor:** Kiernan Structural Steel Ltd
**Main contractor:** John Sisk & Son
**Client:** The Curragh Racecourse Ltd

**Above:** The complex roof design involved careful coordination with the facade

**Below left:** Steel cantilever trusses taper at the tips to create a sharp edge

## High Standard

A 1970s concrete-framed former council office has been reinvented as a boutique hotel

TIMOTHY SOAR

**Commendation:** The Standard Hotel, London
**Architect:** Orms
**Structural engineer:** Heyne Tillett Steel
**Main contractor:** McLaren Construction
**Client:** Crosstree Real Estate Partners LLP

**Before construction work began on the Standard Hotel on London's Euston Road, structural engineer Heyne Tillett Steel (HTS) tested the capacity of the structure, foundations and ground to reveal their spare capacity. Once complete, they were confident that the concrete frame and under-reamed piles could be pushed to allow the conversion of the building and a three-storey extension to be added to the structure.**

**To support the required three additional floors that start at level nine, new supporting steel perimeter columns from the first-floor transfer slab was the preferred option. Adding the three storeys, a 30% increase to the weight of the building, only required discrete strengthening to four existing columns.**

**HTS says the use of steel enabled the new floors to be lightweight and shallow in depth. Steel also adhered to tight hotel vibration criteria and the long-span existing office column grid below.**

**The judges said through forensic analysis of the existing building and highly intelligent design responses, this project showcases the role of structural steel in repurposing and enlarging this existing building, maximising the retention of embodied carbon. This has created a new landmark on one of the capital's principal arteries.**

Produced by the BCSA and Steel for Life
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# A NOD TO A FAMOUS ENGINEER

The exoskeleton extends beyond roof level to create sheltered gardens

THE BRUNEL BUILDING HAS AN EXPOSED STEEL DESIGN AND IS NAMED IN HONOUR OF ISAMBARD KINGDOM BRUNEL, WHO BUILT THE ADJACENT PADDINGTON RAILWAY STATION

PHOTOGRAPHS: DIRK LINDNER (THIS PAGE); JACK HOBHOUSE (TOP, OPPOSITE PAGE)

**With his tall stovepipe hat, Isambard** Kingdom Brunel is an instantly recognisable figure from history. As well as his headwear, the engineering innovator was famous for his bridges, tunnels and ships – and now an eye-catching commercial block, next to his Great Western Railway terminus in west London, has been named in his honour.

Known as the Brunel Building, the structure would have undoubtedly delighted the engineer with its exposed engineered steelwork and multiple connections.

"As well as offering recognition to Brunel, as his first-ever bridge was once located on the northern boundary of our site, the steel design has enabled us to express the structure in a contemporary way and create the desired clear internal spans," explains Fletcher Priest Architects' senior project architect Chris Radley.

The architectural brief was to create a landmark building which provided a high-quality, innovative, people-centred workspace and which would re-engage the site with the canal.

Within the structure, services are exposed to maximise flexibility and workspace volume. This logic is continued externally with an exoskeleton positioned outside the facade.

The exoskeleton structure extends beyond roof level to create glazed, wind-sheltered gardens on the 15th and 17th floor levels. It also shades the large expanses of glazing, affording scenic panoramic views across the west London skyline.

**What the judges said**

**"Expressed structural steelwork in the external frame and floor structures is dramatic and dynamic; all is detailed with great care and attention"**

Despite the bespoke nature of the building, a regular 6m floor beam spacing was used with precast lattice slabs set down into the web zone of the supporting steel plate girders. The services and structure are seamlessly integrated, enabling a more efficient use of the available structural depth and maximising floor-to-ceiling heights.

A semi-unitised curtain-wall cladding system with an insulated strong-back system provided a considerable amount of repetition, together with flexibility where required.

For the steelwork design, floor beams span directly from core wall out to the exoskeleton. One consequence of this is that the location of the floor beams on each level varies to meet the exoskeleton support. This means that beam location varies slightly on each floor and thus beam spans and service opening locations also vary. The project team used digital workflows to optimise and communicate plate thicknesses, weld sizes, connection designs, pre-cambers, movements, and fabrication and installation information.

Close collaboration between all parties allowed the various stiffness factors, tolerances and construction sequence impacts to be considered and individual pre-camber values agreed for each beam. This provided a challenge for the contractor and MEP subcontractors, which they solved, in part, by projecting the MEP subcontractor information onto the relevant ceilings while the operatives installed the required equipment and service runs.

In summary, the judges said this project shows how a proactive client working with a talented team can produce a commercial office building of the highest integrity. Expressed structural steelwork in the external frame and floor structures is dramatic and dynamic; all is detailed with great care and attention. A roof garden provides a welcome extension to the public domain. ●

**Above:** The curtain-wall cladding of the facade is wrapped by the exoskeleton

**Below:** Floor beams meet the exoskeleton support

**Award:** Brunel Building, London
**Architect:** Fletcher Priest Architects
**Structural engineer:** Arup
**Steelwork contractor:** Severfield
**Main contractor:** Laing O'Rourke
**Client:** Derwent London

## Changing station

A steel-framed link connects Waterloo's former international terminal with the main station

© MICHAEL COCKERHAM

**Commendation:** Waterloo Station Roof Infill
**Architect:** Aecom
**Structural engineer:** Mott MacDonald
**Steelwork contractor:** Bourne Group Ltd
**Main contractor:** Wessex Capacity Alliance
**Client:** Network Rail

**London's Waterloo Station has been transformed by the Wessex Capacity Alliance's (WCA) programme of works, which included rebuilding the former international terminal (WIT), allowing its platforms to be brought back into use.**

**As part of this, an infill roof structure has been delivered, bridging the gap between the three-pin arch roof of Grimshaw's WIT terminal, and the trussed 1920s steel roofs forming the main station concourse.**

**The infill roof is a rectangular steel-framed box, 52m long by 18m wide and 26m high at the western end, tapering along one side to accommodate the shape of the former Eurostar structure and oversailing the two station roofs.**

**It requires two 508mm-diameter circular hollow section (CHS) columns to support it in the middle. As well as providing support to the roof, the CHS columns allow a central area with a 26m clear span. Forming the main span of the roof is a 4.2m deep x 52m long spine truss, weighing 27 tonnes.**

**The central spine truss supports eight pairs of gullwing trusses sitting perpendicular to the main structure, forming overhangs on either side.**

**The judges noted that the steel frame, sympathetically designed to reflect the detailing of the existing structure, and ingeniously erected in a live station, facilitates a huge increase in station capacity.**

Produced by the BCSA and Steel for Life
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CONSTRUCTION SHOTS ON OPPOSITE PAGE: SIMON CARR PHOTOGRAPHY

# CUTTING EDGE DESIGN

KNOWN AS THE SCALPEL, 52 LIME STREET IS A DRAMATIC, SLEEK AND GEOMETRICAL ADDITION TO THE HIGH-RISE CITY OF LONDON LANDSCAPE

**Rising to 42 storeys high, 52 Lime** Street has since its inception been dubbed the Scalpel, because of its dramatic architectural shape that features an inclined northern facade, which has a diagonal fold line running from top to bottom.

This striking facade is formed by a series of cranked plate girder columns, spaced at 6m centres. For the double-height ground floor these columns are vertical, but from the first floor they are cranked and slope inwards all the way to the building's pointed top.

The tower leans in such a way that it is invisible behind the dome of St Paul's Cathedral when approached from the west along Fleet Street, while the roofline falls away sharply to the south in recognition of the overall composition of the City cluster.

The structural frame consists of a composite design with steelwork supporting metal decking and a concrete slab. All of the floor beams are 670mm-deep fabricated plate girders with service holes to allow service integration within the structural void.

The use of steelwork is said to have allowed the scheme to achieve a greater

**What the judges said**
**"Ground-breaking savings in both costs and embodied carbon have been achieved by innovative solutions"**

floor space, which was one of the client's specifications, while steel's speed of construction is always an important consideration on a city-centre project.

Unlike many commercial buildings, the Scalpel's main core is offset and positioned along the south elevation, which allows the structure to maximise its internal floor space with spans of up to 20m.

Cost also plays an important role in any project and the use of a BIM model helped the team ensure the steel frame was as efficient as possible.

"We made a considerable weight saving as all of the beams have varying flanges and webs depending on the relevant loadings," explains Arup project engineer Steve McKechnie. "All of this was worked out automatically via the BIM model."

Steelwork contractor William Hare undertook a complex construction sequence to complete the project. One of the main challenges was one of the final elements – the iconic triangular attic.

Positioned at the peak of the structure, the 10-storey triangular attic houses the plant and maintenance walkways. To make the erection of the attic structure as smooth as possible, it was trial erected in the fabrication yard, so the extremely complex fabrication and tight tolerances could be fully tested and proven.

Following the trial assembly, the structure was dismantled and transported to London in the largest possible pieces, in order to reduce the piece count and allow for erection on site by tower cranes.

Taking its place within the cluster of prestigious tall buildings in London's financial centre, the distinct inclined outlines of the Scalpel complement the surrounding profiles.

Ground-breaking savings in both costs and embodied carbon have been achieved by innovative solutions, while maximising letting areas, the judges said. They also praised the project's advanced use of BIM and full-scale trials.

**Award:** 52 Lime Street, London
**Architect:** Kohn Pedersen Fox
**Structural engineer:** Arup
**Steelwork contractor:** William Hare
**Main contractor:** Skanska
**Client:** WRBC Development UK Limited

**Opposite:** The Scalpel's distinctive shape above the City

**Top**: The glazed elevation is fitted to the steel frame

**Below**: The use of steel enabled faster construction

## Barts goes big on flexibility

Steel is central to this new office building's flexibility

**Commendation:** One Bartholomew, Barts Square, London
**Architect:** Sheppard Robson
**Structural engineer:** Waterman
**Steelwork contractor:** William Hare
**Main contractor:** Mace
**Client:** Helical

**One Bartholomew is a 12-storey building offering approximately 20,000 sq m of Grade A office space with a BREEAM 'Excellent' rating and is the latest element of Barts Square, a new mixed-use development in Farringdon, central London.**

**Flexibility is at the heart of the building's steel-framed design. The structure is adaptable to the anticipated changing requirements of its users, as there are generous floor-to-ceiling heights, alongside an efficient floorplate.**

**William Hare erected 2,350 tonnes of steel for the scheme. The steel frame gains its stability from a reinforced concrete core and the diaphragm action of the floor slabs.**

**Some of the project's largest steelwork elements are at ground floor, where a series of deep cantilever transfer beams extends the facade to the boundary and above the basement perimeter piles.**

**These deep beams required extensive work to ensure they could be lifted into position, while the design had to make sure the splice connections did not interfere with the large service holes.**

**The judges said the project showcases how steel can deliver a highly flexible long-span commercial building within an urban context.**

**Other finalists:**
- The Balfour, Kirkwall, Orkney
- Barton Square, Intu Trafford Centre, Manchester
- Boeing GoldCare Aircraft Hangar, Gatwick Airport
- Bridgewater Place Wind Amelioration Scheme, Leeds
- One Bank Street, Canary Wharf
- Drake Circus The Barcode, Plymouth
- National Infrastructure Laboratory, University of Southampton
- The Wave, Coventry

**Produced by the BCSA and Steel for Life in association with Construction Manager**

## Steel gives new life to London's Post Building

A new steel frame incorporates retained elements in a former sorting office

**Commendation:** The Post Building, London
**Architect:** Allford Hall Monaghan Morris
**Structural engineer:** Arup
**Steelwork contractor:** BHC Ltd
**Main contractor:** Laing O'Rourke
**Client:** Brockton Capital LLP and Oxford Properties Group

**Located on London's New Oxford Street, this former Royal Mail sorting office has been redeveloped into a new mixed-use scheme by incorporating large retained steel elements within a new steel frame.**

**A horseshoe-shaped zone in the middle of the site containing ground, first and second floor levels was left in place. These floors were originally used for mail sorting duties, while the building's upper four floors, now demolished, accommodated administrative offices and a plant level.**

**Retaining a large steel frame required steelwork contractor BHC to use more than 200 tonnes of temporary steel propping and bracing, as the frame's original stability system had been demolished.**

**A series of existing transfer beams have been slimmed down from 2.0m-deep to 600mm-deep members to allow mezzanine floors to be inserted and maximize the available headroom within the existing floor-to-floor heights.**

**An entirely new steel frame has been erected around the retained portion completing the lower three floors and filling up the entire site's footprint.**

**In summary, the judges said this is a great example of a steel-framed building being adapted to give a new life for a different use.**

## York's sustainable bridge solution

Using weathering steel for a pedestrian and cycle link minimises weight and disruption

**Said to be reminiscent of Viking longships, Scarborough Footbridge spans the River Ouse in York providing a new pedestrian and cycle link between the city centre and main railway station.**

**The weathering steel bridge comprises two 22m-long main river spans which are formed of prefabricated box girders with integral curved parapets and cantilevered deck plates.**

**Meanwhile, two 10m-long side spans cross over the existing river footpath and are formed of prefabricated u-troughs with integral parapets and deck plate to match the main river spans.**

**Stability of the cantilevered main spans was achieved with mechanical uplift bearings. Tensioned straining wires run through integral eyelets on the parapets, which are anchored into masonry-clad anchor blocks at either end of the structure.**

**Aecom regional director, transportation, Peter Robinson says: "To minimise weight and maximise prefabrication, steel was the obvious choice for the scheme.**

**"Steelwork was also beneficial as it helped form a lightweight, aesthetic structure that required minimal work at height over water and therefore caused minimal disruption to the operational railway."**

**The judges said the bridge wholly fulfils the brief, promoting sustainable transport for all users through the city.**

**Merit:** Scarborough Footbridge, York
**Architect:** Network Rail
**Structural engineer:** Aecom
**Main contractor:** AmcoGiffen
**Client:** City of York Council

## Defying Gravity

A steel-framed extension looks out over the rooftops of Dublin

**The Gravity Bar that sits atop the Guinness Storehouse in Dublin has undergone an expansion in order to accommodate an ever-increasing number of visitors.**

**Opened in 2000 and offering views across the Irish capital, the Gravity Bar needed more space and the solution was to build a rooftop extension. This consists of a new steel-framed structure that links to the existing bar and more than doubles the available floor space.**

**The extension is a disc-shaped structure, connected to the existing bar via a new semi-circular structure.**

**The main steel frame is supported on four CHS columns, supported from the existing structure. Before these were installed, the Edwardian steel columns below were strengthened with stiffener plates. The floor of the new bar structure is formed from a grillage of box girder beams and UB section infills.**

**In summary, the judges said this popular bar sits above Dublin's most visited tourist attraction and the works were carried out with the building remaining operational throughout.**

**Merit:** The Gravity Bar, Guinness Storehouse, Dublin
**Architect:** RKD
**Structural engineer:** Arup
**Steelwork contractor:** Steel & Roofing Systems
**Main contractor:** PJ Hegarty & Sons
**Client:** Diageo

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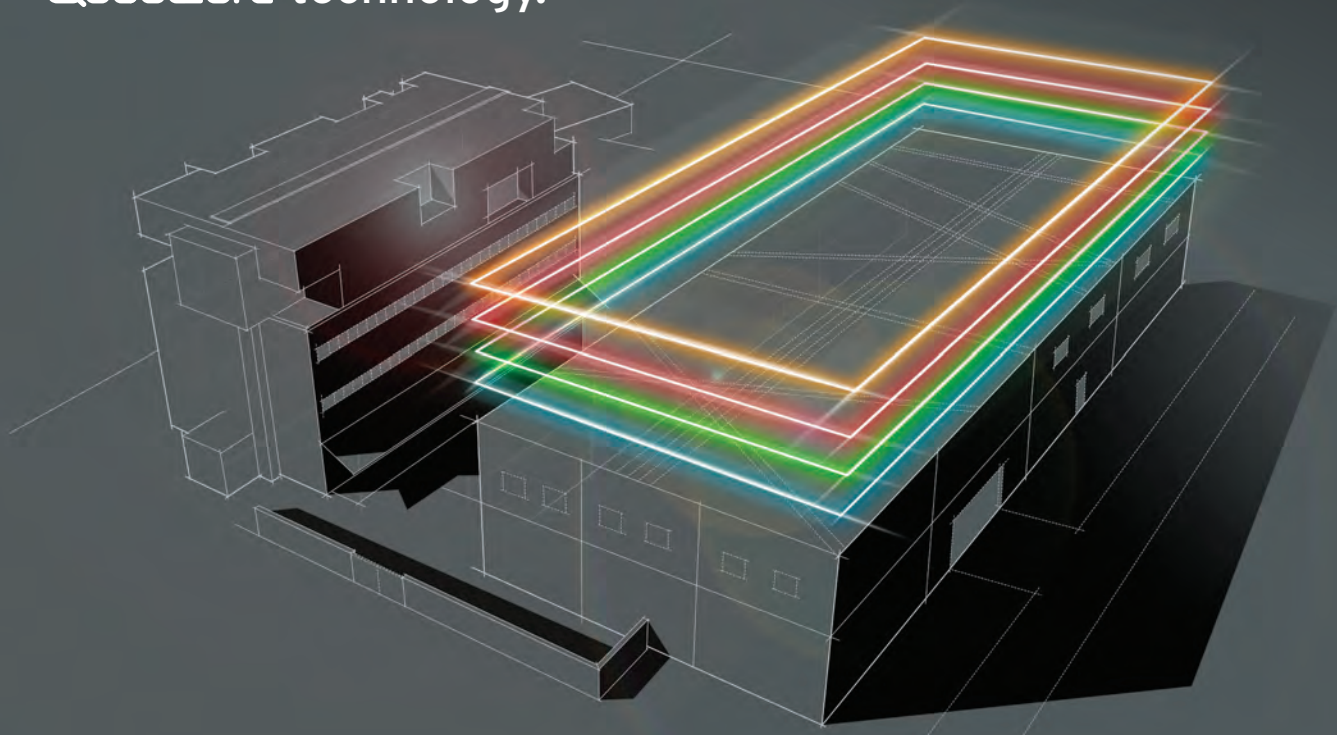

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# Legal

**Nicola Conway**
Trowers & Hamlins

# Do consultants amend JCT contracts just to boost their fees?

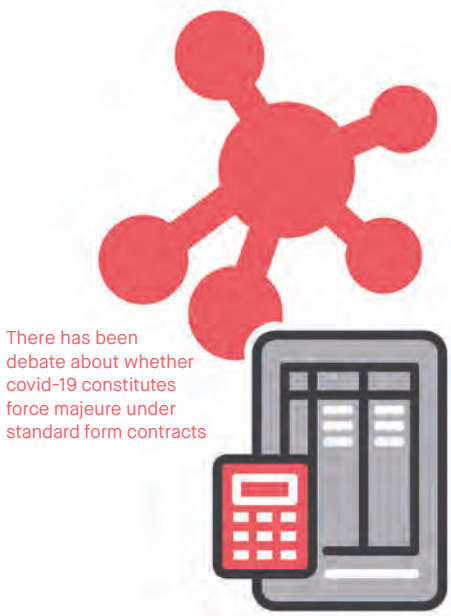
CONTRACTORS OFTEN GRUMBLE ABOUT AMENDMENTS TO JCT CONTRACTS. **NICOLA CONWAY** LOOKS AT THE ARGUMENTS

**There is a commonly held view that, while** the Joint Contracts Tribunal (JCT) suite of contracts are not closed books, clients are often encouraged by advisors to make unnecessary amendments to the contract under the guise of balancing of risk – which results in uncertainty and complicated, lengthy disputes.

Lawyers are more than familiar with this argument. Drafting a 'one size fits all' contract for every project is of course no easy feat and the JCT suite remains the most widely used form of contract in the private sector. However, it is natural for clients to seek to tailor any contract to their unique circumstances and, more often than not, amendments will be made to a contract during negotiations.

While contract amendments are viewed by some as a cynical exercise in generating fees for professional advisors, those amendments mostly look to reduce disputes rather than increase uncertainty between the parties. The amendments often encourage conversations between parties that would otherwise not take place prior to entering into the contract, and this ultimately benefits both parties.

By way of a topical example, there has been considerable debate about whether the current coronavirus pandemic constitutes *force majeure* under standard form contracts. The JCT's choice to leave the term – which has no established definition in English law – undefined has already led to thousands of hours of lawyers' time being incurred advising clients on whether contractors will benefit from an extension of time, or the right to terminate their JCT contract.



There has been debate about whether covid-19 constitutes force majeure under standard form contracts

**"The amendments often encourage conversations between parties that would otherwise not take place prior to entering into the contract, and this ultimately benefits both parties"**

There is very little previous judicial opinion on how *force majeure* should be interpreted and the industry is expecting a wave of litigation to follow. This is not a mess born of lawyers' interference; even before the pandemic, we would often advise clients to delete *force majeure* wording in the JCT contract because it is inadequately defined.

There are many more common amendments that clients demand. Take for example, the JCT Design and Build 2016. The title is a misnomer; the contractor is not in fact fully responsible for all of the works' design and relief is given to the contractor for errors in the content of the upfront design, the employer's requirements (ERs).

### Responsibility for the ERs

Many clients, who are not necessarily construction experts, will understandably be seeking a 'single point of responsibility' for defects in design and construction. This is equally an expectation of their funders, tenants and other interested parties. Therefore, well-advised clients often amend the standard form contract so that the contractor takes the responsibility for the ERs and the contractor's proposals, as well as mistakes, errors or discrepancies within or between the contract documents.

Likewise, most parties would expect the building contract to be freely assignable without the contractor's consent, which is not the standard position under the JCT. This is particularly the case when the client wishes to secure finance for the project or where it wants to dispose of the property on completion to a buyer or asset operator. Flexibility on assignment is market standard these days and is not ordinarily considered to be contentious.

Another key area for dispute is ground conditions. The JCT is silent on this risk, but the common law position is that the risk of unforeseen ground conditions rests with the contractor. Adding specific provisions dealing with ground conditions allows for the parties to discuss the issue and draw out any project specific issues at the outset, ensuring the position is clear to both as to where responsibility lies.

If JCT amendments are drafted correctly, then the contract should operate to resolve issues as and when they arise on site without leading to lengthy and costly disputes. ●

**Nicola Conway is a senior associate at Trowers & Hamlins.**

# architectural acoustic finishes

Radius Payment Solutions HQ, Crewe.

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# CIOB Community

Education

## CIOB launches online course in mental health in construction

MASSIVE OPEN ONLINE COURSE ENCOURAGES DISCOURSE ON MENTAL HEALTH IN THE SECTOR FROM PARTICPANTS AROUND THE WORLD

**"This course is a positive and welcome step in building the tools we need, both as individuals and as organisations"**
Professor Charles Egbu, CIOB past president

The CIOB recently published a report, Understanding Mental Health in the Built Environment

**The CIOB has launched a new massive** open online course (MOOC) titled Mental Health in Construction.

Participants on the course, which began on 12 October, will learn to understand signs and symptoms of poor mental health and understand how to manage their own mental wellbeing, as well as that of their colleagues.

They will also hear about how to change construction's culture to end the stigma around mental health.

The course encourages discourse from those across the globe and would be of value to anyone involved in the industry with an interest in improving its record on mental health.

The CIOB's extensive work on mental health includes a recent report, *Understanding Mental Health in the Built Environment*. It has also worked with organisations such as the Alzheimer's Society to raise awareness and launch continuing professional development (CPD) courses such as its Dementia Awareness course.

CIOB past president Professor Charles Egbu said: "This course is a positive and welcome step in building the tools we need, both as individuals and as organisations, to start working toward a brighter future and better mental health, in work and in life.

"The entire construction industry needs to continuously work on the structure and environment that negatively impact workers' mental health – no one person can solve this on their own." ●

**www. ciobacademy.org**

Skills

## Conservation conference goes virtual

LIVE EVENT ON 5 NOVEMBER

**Originally planned for April, the CIOB's annual Conservation Conference will now be held as a virtual conference on 5 November.**

**The event will explore the impact of the loss of traditional craft skills. This has reached critical levels as an ageing workforce retires, along with insufficient apprenticeships and a 'framework' which is not fit for purpose.**

**This comes against the background of an unprecedented number of large projects where these skills will be essential, such as the Palace of Westminster and Notre Dame Cathedral.**

Reconstruction of Notre Dame de Paris

Story for Community? Email Nicky Roger
nicky@atompublishing.co.uk

Funding

## CIOB 'optimistic' about Green Homes Grant

TUTTLE DESCRIBES NEW RETROFITTING SCHEME AS 'AN OPPORTUNITY TO DO GOOD'

**The CIOB has said it is "optimistic"** about the government's Green Homes Grant programme, which launched at the end of September. The new scheme aims to encourage homeowners to retrofit their homes to make them more environmentally friendly.

The grant will help fund 600,000 homeowners in England – via a £2bn pot – to install insulation, heat pumps, draught-proofing and other measures to help households to cut energy bills.

The government will fund up to two-thirds of the cost of home improvements up to £5,000. Those homeowners with low incomes, including those on certain benefits, are eligible for a grant covering up to 100% of the cost of works up to £10,000.

The CIOB said while it had previously been supportive of the initiative, which has the potential to boost construction by delivering a pipeline of labour-intensive repair, maintenance and improvement work, it has also been clear in its calls for improvements in quality.

Amid concerns raised by industry bodies including the CIOB, the government will require contractors carrying out work under the scheme to be signed up for TrustMark accreditation. The CIOB has also commented that it is vital for TrustMark to be adequately resourced if it is to ensure that all firms participating in the scheme meet the standards required.

Eddie Tuttle, director of public policy, research and public affairs at CIOB, was optimistic in his overall view: "There is an opportunity here to do good in the short term and in the longer term – we at the CIOB would like to see the Green Homes Grant as one part of an ambitious, long-term national retrofit strategy. As well as helping to drive towards greener homes and energy efficiency, this would provide a clear and much-needed boost for the construction industry and the provide some of the certainty that businesses need to create stable, green jobs this year and beyond.

"We are pleased that the government has recognised concerns about the possibilities of poor-quality workmanship and rogue traders and has sent a clear signal with the need for TrustMark accreditation."

### CIOB ONLINE CONFERENCE EXPLORES QUALITY

The CIOB is holding its online World Quality Day event on 12 November.

Industry leaders will present a range of topics crucial to construction quality reform. A live Q&A will follow.

Staying up to date has never been more important. The industry is being reshaped by legislation including the new Building Safety Bill. There is a once-in-a-generation opportunity to change the culture of quality in our industry.

This event will explore what the future might hold for the built environment, construction quality and our homes and places of work.

To book your place visit https://events.ciob.org/ehome/200212525.

Research

## Member digs deeper in digital twin technology

A CIOB MEMBER IN AUSTRALIA IS PIONEERING EXCAVATOR RESEARCH

**Dr Samad Sepasgozar from the Built Environment Department at the University of New South Wales Australia is developing a digital twin of an excavator, enabling improved diagnostics and analytics.**

**Of all the emerging technologies shaping the future of construction the 'digital twin' is predicted by experts to shake up the entire construction industry faster than even before.**

**"A digital twin is a digital replica of a physical entity utilising internet of things – enabling two-way communications between them," says Dr Sepasgozar.**

**"At the strategic level, the digital twin is a new game-changing approach to construction automation. The idea is that for every physical item in the world, there could be a virtual replica with which it connects, housed in the cloud, collecting vital data on the physical item's performance in real time."**

**He explains: "Industry players might confuse this with building information modelling (BIM). But unlike this previous technology, the digital twin also enables users to control equipment, so, it enables job-site tasks to be performed remotely, which is useful for working through disruptions like covid-19."**

Webinar

## Midlands quality lunchtime session

GET IT RIGHT INITIATIVE AND VIEWPOINT EVENT FOCUSES ON REDUCING ERRORS

**The CIOB Midlands is hosting a webinar with the Get it Right Initiative (GIRI) and Viewpoint focusing on Reducing Errors and Improving Quality.**

**The hour-long lunchtime session on 2 December will start with an overview from Tom Barton, executive director of GIRI.**

**GIRI research suggests the industry spends between 15% and 25% of total project costs dealing with the consequences of avoidable error. Barton believes the initiative is a real opportunity for the industry to improve productivity and reputation.**

**The webinar will look at how changing cultures across a business right from the start can reduce avoidable error and project costs.**

**Also speaking is Viewpoint construction software business development manager Stuart Ryder, who has a keen focus on enhancing efficiency around project data and communication management. He will discuss how technology can be harnessed to reduce error.**

**The session will include regional case studies and an opportunity to quiz the panel.**

**For more information contact Sonia Short: sshort@ciob.org.uk.**

Professional review

# PR champions help new MCIOB cohort

CIOB VOLUNTEERS REVIEWED 30 APPLICATIONS BETWEEN THEM. SO WHAT MADE THEM DO IT?

From left: Heather Jones, Paul Mansell and Gary Berns

**The CIOB Midlands & Eastern team saw** a big increase in members applying for professional review since lockdown and has been grateful for the PR champions who helped review applications.

John Hodgins FCIOB, Paul E Mansell MCIOB, Paul Hurst MCIOB, Heather Jones FCIOB, Gary Berns MCIOB, Paul Vega FCIOB and Matthew Clarke MCIOB reviewed over 30 reports in five months.

**Heather Jones, strategic lead 3C building standards, Partnership of Cambridge City, Huntingdon DC and South Cambs DC**

"I volunteered to be part of the PR process as I wanted to give something back to both the CIOB – having been a member of many years and participated in local hubs in England and Wales – and also to the industry.

"I firmly believe the CIOB is supportive of its membership and it is a two-way process. It is also very rewarding when you receive feedback and thanks from the candidate when they have achieved their professional membership."

**Gary Berns senior surveyor, Kier Living, Central Region**

"Being a PR champion has provided me with the tools to give back to the construction industry through the CIOB. I have been fortunate throughout my career in construction to have worked amongst other willing individuals that have been able to help me fulfil my aspirations both with the CIOB and RICS.

"Volunteering to carry out PR reviews for candidates who wish to become a Chartered Member has placed me in a position to be able to return the favour to others who share the same ambitions."

**Paul Mansell, managing director at Broseley Projects (mentor for the CQI), consulting general manager at Haywood and Jackson**

"For many years when I was working to become MCIOB my experience of attempting to get the correct information was difficult to say the least.

"I contacted several organisations to solicit help and guidance but all wanted to charge for their time which was very expensive, so I took the task on myself and managed to contact the right people within the CIOB. I completed the application and was awarded MCIOB.

"I promised myself if I could help any future applicants to become MCIOB I would do all in my power to do so. This is why I became a PR champion – it brings me great satisfaction to see the applications I have reviewed and the applicants become MCIOB."

Appointment

## New boss for Isle of Man body

CORELLI BENTHAM IS CEO OF CONSTRUCTION ISLE OF MAN

**Construction Isle of Man, a new representative body for the Isle of Man's construction industry, has appointed Corelli Bentham as chief executive officer.**

**Bentham is a chartered quantity surveyor with over 30 years' experience working in the construction sector in the Isle of Man, UK, Hong Kong and China, and was previously head of construction at University College Isle of Man (UCM).**

**The CIOB has worked with Bentham and the college for many years and the Isle of Man falls under the Liverpool Hub.**

**Brian Butler, chair of Construction Isle of Man, called Bentham "the right leader for the newly formed industry body", adding how pleased the new body is to have her as CEO.**

**"Her breadth of experience in construction, both in the field and in education, should help focus Construction Isle of Man in its formation and assist with the promotion and development of the industry," he said.**

**Bentham said she is thrilled with her new position.**

**"This is a challenging role. My emphasis will be on improving the image of construction and developing strong communication with government to make informed decisions," she said.**

**"The formation of Construction Isle of Man will benefit both the industry and the general public by raising quality assurance and health and safety standards. All key construction trades and professions are represented on the board and we will work collaboratively for the benefit of the whole industry to give the industry the positive exposure it deserves."**

**Construction Isle of Man is a public-private partnership jointly funded by Business Isle of Man, within the Department for Enterprise, and industry for its first three years of operation.**

**It combines the Construction Federation, Construction Forum, Chamber of Commerce Construction Sector, and Think Construction into a single point of contact for industry and the public.**

Profile

# Gausden celebrates her golden career anniversary

CHRISTINE GAUSDEN RD, A CIOB FELLOW AND A TWO-TERM CIOB TRUSTEE, IS CELEBRATING 50 YEARS IN THE CONSTRUCTION INDUSTRY

**A multi-skilled project manager with** international experience, Christine Gausden has been responsible for the delivery of projects for prestigious public and private clients.

And as an academic, she has specialised in project, construction, risk and facilities management. She is research active in BIM4FM, best practice, collaborative working and employability.

"From childhood, my inspirations were a combination of architecture and a long-standing love of technical drawing, which I taught myself. I did have ambitions to train as an architect, but these were thwarted by the prevailing view at the time this career choice would be a waste of time for a girl," she says.

"I simply could not accept this, and any barriers served to further motivate me. I found a role as an architectural technician, rapidly acquiring qualifications on the way." Gausden passed the RICS professional exams in building surveying and the CIOB professional exams and what followed was a varied career as a project manager in the built environment.

"The most satisfying projects, for me, were those which were most challenging logistically – the undertaking of major refurbishments, whilst needing to retain an operational environment," she says.

"My most enjoyable project was the delivery of the Selfridges Oxford Street masterplan, over a three-year time frame, including new shop fronts, new escalators and new floors, all whilst allowing this iconic store to remain open and completely operational."

Gausden recently has used her experience in the role of an academic and mentor to young people. As well as being a CIOB Trustee, she sits on the UK BIM Alliance Communities Leadership Team and is chair of BIM4FM.

She became a CIOB member in 1981, becoming the second female fellow of the CIOB in 1995, and chaired the first CIOB Women in Building committee.

"I first volunteered with CIOB on the Building Matters tour. This was an actual roadshow, in an especially adapted Routemaster bus," she explains. "I spent time talking to students and schoolchildren, trying to persuade them as to the various perspectives of a career in the built environment."

Gausden, who has crossed the Sahara as a competitor in the Marathon des Sables, is constantly seeking fresh challenges.

"I am presently seeking to further research and engage in projects looking at best practice and standards in industry, primarily from the perspective of the wider social impact of the built environment," she says. "I have achieved 50 years of work experience to date and still have much to offer. I am looking forward to new opportunities and new projects to explore."

**"The most satisfying projects, for me, were those which were most challenging logistically"**
Christine Gausden, CIOB Trustee

Business

# Pandemic startup appointed to Kent zero-carbon housing scheme

CONSULTANCY TO WORK ON PROJECT ETOPIA HOMES

**A consultancy practice set up by a CIOB member during the height of the covid-19 pandemic has been appointed by Project Etopia for a housing scheme in Kent.**

**Project Etopia is the first housebuilder to reach carbon neutral status through its pledge to the UN Climate Neutral NOW Initiative and partnering with One Carbon World. The Kent scheme will deliver 50 zero-carbon residential homes in Eastry, just outside Sandwich and close to Canterbury.**

**Kent Construction Consultants is a multidisciplinary practice delivering quantity surveying, project management and construction management services throughout the south east.**

**The consultancy was founded by Charles Kenward MCIOB (pictured), who has a 15-year commercial background in quantity surveying and has delivered complex schemes for clients such as Sir Richard Branson on Necker Island, as well as strategic developments for organisations and trusts such as Buckland Hospital and Chelsea and Westminster Hospital.**

**Kenward has secured several key residential and commercial clients since establishing the independent practice in the coastal town of Westgate-on-Sea.**

**"As residential demand increases throughout the UK, we are extremely excited to be partnering with the global sustainable housebuilder who think beyond normal construction methods to actually optimising how energy, construction and intelligent technologies can be integrated to ensure the end product is not only modern today, but for years to come," he said.**

# BRINGING VALUE TO EMPLOYERS IN CONSTRUCTION

**As the world's largest and most influential professional body for construction management and leadership. Our members work worldwide in the development, conservation and improvement of the built environment.**

At the CIOB, we work with companies and consultancies of all sizes, across the full range of the built environment, to form and maintain the reputation of our industry, to influence and change policy for the better and to bridge the academic world with that of day-to-day construction practice.

Together we can deliver professional excellence and drive up standards and professional ethics in construction, find out how today.

**LEARN MORE ABOUT OUT PRODUCTS AND SERVICES.**

www.ciob.org

CIOB

THE CHARTERED INSTITUTE OF BUILDING

Heritage

# Greendale works on priory conservation

CIOB CHARTERED BUILDER UNDERTAKES PROJECT TO PRESERVE WALLS OF HISTORIC CHRISTCHURCH PRIORY IN DORSET

**Work on an historic church by a** CIOB Chartered Builder was nearing completion as *Construction Manager* went to press.

In July Greendale Construction's small works division was awarded the contract to repair, rebuild, stabilise and refurbish a number of walls around the historic Christchurch Priory, with work due to complete by the end of October.

Dating back to 1094, the Dorset priory was first constructed as a Norman church on the site of an old Saxon priory. The stone and brick walls cover a wide area around the priory and quay, and the contract included rebuilding works adjacent to the mill stream.

Bournemouth, Christchurch and Poole Council worked with architect Columba Cook and the council's senior conservation officer to ensure all works were carried out within ancient monument guidelines.

Greendale removed vegetation and tree growth, and dismantled cappings for a careful rebuild using like-for-like materials. Shoring and underpinning was used when necessary.

**From left:** Columba Cook (architect), Greg Norman (site manager), Rob Hooker (Greendale director) and Gareth Pritchard (BCP Council)

Greendale director Rob Hooker said: "We are very pleased to be the main contractor on this wonderful historic project in a beautiful location. The works will save these walls for future generations to enjoy, and we look forward to working with the team to achieve a successful handover at the end of October." ●

**"The works will save these walls for future generations to enjoy, and we look forward to working with the team to achieve a successful handover"**

Rob Hooker, Greendale Construction

Members of the CIOB's marketing team scooped Team of the Year

Marketing

## Winning ways

CIOB TAKES PRIZE AT MEMCOM 2020 AWARDS

**The CIOB marketing team scooped the top prize recently at the Memcom 2020 Awards. It picked up Team of the Year (Membership Organisation) in the People and Organisation categories, seeing off some high-profile competition such as the CIPD, the British Association for Counselling and Psychotherapy, the Royal College of Physicians and the Royal Society of Chemistry.**

# Diary dates

HIGHLIGHTS OF THE CIOB CALENDAR FOR THE COMING MONTH. ALL EVENTS ARE ONLINE WEBINARS UNLESS OTHERWISE STATED

### Everything You Wanted to Know About Construction Disputes, But Were Too Afraid to Ask

**10 November, 6-7pm, London**

Join three legal and construction experts as they look at what is important in the resolution of disputes during the covid-19 crisis.

- How have the courts responded and what options are open to you for dispute resolution?
- Why might you go to court when other options are available?
- How do solicitors and barristers help?
- What do you need to know if you have to 'go legal' and what can you do to minimise the cost and risks should you find yourself dealing with delay, disruption or a claim on a construction project?

Speakers will include Edward Carolan of Lindford Consulting, Sam Bawden of Holmes & Hills, and Carlo Taczalski of Crown Office Chambers.

**Contact: ABernal@ciob.org.uk**

### Autism & Neurodiversity in the Construction Sector Webinar

**12 November, 1-2pm, Sheffield**

This session will increase awareness of autism and neurodiversity among construction businesses.

Leaders in construction are already managing autism in the workplace and on site. Understanding how to get the most out of neurodiverse staff, and tapping into their talents is in the interest of companies and the industry as a whole.

From this webinar you will:

- Understand the potential benefits of being an autism/neurodiversity understanding business in the construction sector.
- Start to recognise autism and neurodiversity in the workplace and on site.
- Understand which services are available to construction employers to improve their knowledge of autism at work, and how to access these services.

### V-South East Construction Expo

**18-19 November, 9am-2.30pm**

The CIOB will be taking part in the annual South East Construction Expo, which this year has been replaced with a virtual conference bringing together clients, contractors, developers, consultants and other related industries across the UK.

Using the latest technology, the expo will give a unique networking and learning environment with great content, live Q&A and expert speakers.

Interactive areas will allow you to connect and engage, and to tailor your day according to your interests. You will be able to move in and out of rooms just as at an in-person event and enjoy informative speakers, network and book onto one of the Meet the Buyer sessions.

**To find out more and book a free place, please visit: www.constructionexpouk.co.uk/virtual-construction-expo.**

### BREEAM

**26 November, 5.45pm-7pm, Hampshire**

Guest speaker Abby Bartlett, associate (sustainability) at Ridge and Partners, will provide a summary of the BREEAM methodology, explaining how it improves the overall sustainability of schemes with local case studies with the emphasis on the importance of sustainability in construction.

Please note this a live webinar and there will be an opportunity at the end of the session for Q&As.

**Contact: cbenjamin@ciob.org.uk**

### Building Climate Resilience – a Look at Sheffield's Flood Defence Programme

**26 November, 12-1pm, Sheffield**

Join specialists from Environment Agency and Sheffield City Council to look at how built and nature-based defences are being used in South Yorkshire to address the risks of flooding.

Sheffield, the city of seven hills, has been impacted by flooding many times over the years. Addressing flood risk is crucial to its future, under increasing influence from climate change.

The session will showcase a partnership approach to delivering solutions in the city. Key learnings will be the role of a holistic and integrated built and nature-based approach and how this can be developed.

**Contact: cseymour@ciob.org.uk**

**For more information, to register and find more events, visit the CIOB website: ciob.org.**

## CIOB WELCOMES TRUSTEE

Keith Blizzard, chartered quantity surveyor and non-solicitor partner at Harrison Clark Rickerby, has been chosen as a trustee for the CIOB. He joins 15 others on the board, responsible for setting policy and raising standards in the construction industry.

Blizzard (pictured) brings a wide range of skills and experience to his role. He is also a chartered construction manager, arbitrator, panel adjudicator, and teaches construction law at several universities.

"I am very honoured to be appointed to an organisation that represents the best in construction management worldwide," says Blizzard, who will serve for three years, and has been appointed as a trustee champion for Asia, including China, Hong Kong, Singapore and Malaysia.

Alex Pimley MCIOB

# Meet a member

ALEX PIMLEY, DIRECTOR, THE CONSTRUCTION CONSULTANTS

**What made you choose construction? What else would you have done?**

I started out in retail but realised it was not the long-term career for me. I have always been interested in buildings and knew how important they were to all of us, given the amount of time we all spend in them! I did a second degree at the University of Reading and got my first job at Rider Levett Bucknall in the building surveying department before moving to Sydney for a few years where I worked for Knight Frank and DTZ as a project manager. I would have probably ended up following my brother into insurance if I didn't go into construction.

**What do you love about your job?**

Every day is different. You meet a lot of people and it's a job that forces you to constantly develop and improve. It's a career that also rewards you if you work hard.

**What would you like to change about the industry?**

Professional bodies such as the CIOB have done a lot to improve people's perception of the industry but we all still have a way to go. We need greater diversity and improved gender mix at all levels and more support for potential employees that don't go through the usual university route. I struggled getting into the big companies via the graduate training schemes and a lot of really talented people are daunted by them as they cater towards a particular type of graduate. We need a big push on the vocational routes in my opinion.

**What do you do with your spare time?**

I try to spend as much time as possible with my son Arthur and wife Emma while desperately trying to beat my father in-law at golf... We love the outdoors so try and spend as much time enjoying it as possible.

Me and my project

# Leisure time

WATES CONSTRUCTION DELIVERED A LANDMARK CARBON-NEUTRAL LEISURE CENTRE AT BRAYWICK PARK

**National contractor Wates Construction** has completed works at Braywick Leisure Centre, a major leisure and community hub for Windsor and Maidenhead Council, marking the first project delivered for Wates via the Major Works – UK framework, part of the Scape National Construction framework.

The £33m facility at Braywick Park was built to replace the ageing Magnet Leisure Centre, and features a 10-lane swimming pool, training and splash pools, a 200-station gym, four squash courts, sports hall, cafe, all-weather football pitch and 240 parking spaces.

Improved sustainability was vital for the council and, as well as being delivered as a carbon-neutral project, the centre has been designed to use 70% less energy than its predecessor.

**Above:** LED lighting has been used throughout the building's interior

**Below:** The complex £33m facility uses 70% less energy than its predecessor

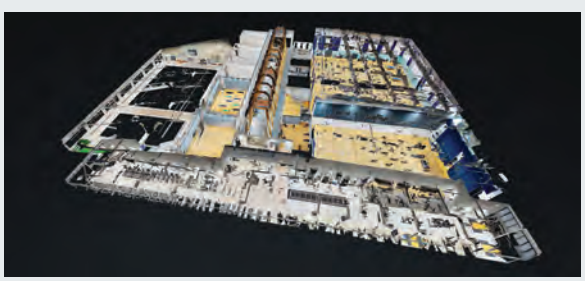
Wates worked closely with architect Burke Richards and engineering consultant Hoare Lee to meet this target, with rainwater collected, stored and redirected to flush waste systems, LED lighting used throughout, and extra insulation deployed to reduce heating requirements. A collaborative culture was established from the very beginning between all partners, particularly with regard to the complex building services needed for plumbing and heating a large leisure build.

Community engagement was sought at every opportunity and, as well as investing £13,000 into supporting social enterprises, tree planting and gardening events, several initiatives to educate and inspire were delivered.

The project team arranged several site visits, networking events and assemblies for local schools as well as 13 work experience placements for students. Through Wates' Building Futures programme, 17 jobseekers passed their CSCS test, with one employed as a gateman since November 2018.

Work started on the project in July 2018 and it was officially handed over as scheduled in September 2020, despite challenges posed by covid-19.

Alec Jackman, business unit director for the southern home counties at Wates Construction, said: "Regenerating leisure hubs like this is essential to supporting healthy, sustainable communities, and every part of the Braywick Park site has been designed with the people who'll be using it in mind.



**"Regenerating leisure hubs like this is essential to supporting healthy, sustainable communities"**
Alex Jackman, Wates Construction

He added: "We are currently working on several Scape projects across the country, and we hope this project will be held up as an example of how supportive this procurement framework can be. By working in close partnership with the council, our delivery partners, a local supply chain and the wider community, we could overcome any obstacles easily, and I'd like to thank everyone who worked on this landmark project and made it such a success."

Mark Robinson, Scape Group chief executive, said: "The last six months have created challenges that would have made it easy for a project as ambitious as this to lose sight of its sustainability goals. However, it is to the immense credit of Wates and the council that they have gone above and beyond to ensure that this investment will maximise its impact across the local community in terms of physical, social and environmental health.

"Sustainability is becoming more important than ever for projects delivered by local authorities, and it is our intention that our frameworks will continue to accelerate their delivery while becoming carbon-neutral as standard by 2028."

Braywick is the latest completion for Wates in the leisure sector, with other major projects currently being built including Sandwell Aquatics Centre and Halton Leisure Centre in Widnes, both also procured via Major Works – UK, part of the Scape National Construction framework.

Partnership

Sir Robert McALPINE

# Creating value through quality at Sir Robert McAlpine

QUALITY IS NOT AN ADD-ON – IT IS AN INTEGRAL PART OF THE COMPANY'S CULTURE, BOTH ON SITE AND BEYOND

**The theme of this year's World Quality** Day is about creating customer value, something the project teams at Sir Robert McAlpine are constantly focusing on, as Paul Heather, managing director for London, explains.

"Quality is amongst our pillars of excellence for successful project delivery," he says. "The drive to consistently provide the very best end product is an ongoing journey as we are continuously seeking new and innovative ways in which we can add value for all of our clients. Quality will always be an integral part of our culture at Sir Robert McAlpine."

Sammy Brady is a quality manager with a passion for instilling a positive quality culture where everything is transparent, and everyone is engaged and willing to give their best. She works on site at 21 Moorfields, a very technically complex project that will see the future London headquarters of Deutsche Bank stand right above Moorgate station.

"I don't ever want quality to be a frustration for people," she says. "So it's about bringing it to the forefront of everyone's mind, and weaving quality in everything they do without them even realising it."

Brady worked closely with the client from the start to understand their requirements. It prompted her to review Sir Robert McAlpine's quality management processes to see which could be adapted to really push the boundaries and deliver value.

Using digital technology to streamline the way information is shared has been a key element. Understanding everyone's needs across site and acknowledging every request by sourcing easier solutions also helped gain the trust of all involved. Brady has created an open environment where ideas are encouraged.

**"Our Training Partnership with the CIOB provides us with a unique advantage as we prepare for the Building Safety Bill"**
**Simon Neal, regional quality manager**

Creating value is also about going the extra mile. "We want our clients to feel confident when they appoint us to do a project," stresses Nicola Markall, head of technical compliance.

Markall has contributed her expertise to the Building Safety Bill Consultation, which is set to change the way we record information and how we control quality. "We recognise that there is a lot of work to do," she says, "but even though it hasn't become legislation yet, we want to become early adopters, because it is the right thing to do."

Her role is dedicated to making sure everyone in the company understands what the bill is about and how it will affect the way they work. One work stream is focusing on assessing competences and upskilling people. Another group is looking to put in place the digital system necessary to capture the golden thread of information required by the bill, providing a solid, reliable audit trail to every action.

The company's collaboration with the CIOB supports the process, as Simon Neal, regional quality manager, explains: "Our Training Partnership with the CIOB provides us with a unique advantage as we prepare for the Building Safety Bill. We're increasing the number of members year on year through our professional development programme; the return is that we have a growing community of professionally qualified people who have met the competencies set by the CIOB and are committed to driving improvements across the industry."

In its recommendations, the company proposed that the Building Safety Bill applies not just to high-risk buildings, but to all buildings. After all, it makes good business sense to have in place a system that facilitates excellence in project delivery, without defects.

Sir Robert McAlpine is working on the 21 Moorfields project in the City of London

# Training & Recruitment

Job spotlight
**Charlotte Claughton** Senior project leader, project delivery, In-House Services and Estates, UK Parliament

# THE WEEK IN WESTMINSTER

CHARLOTTE CLAUGHTON ON WHAT IT'S LIKE TO WORK ON THE REFURBISHMENT OF ONE OF THE WORLD'S MOST ICONIC BUILDINGS: THE HOUSES OF PARLIAMENT

MARK DUFFY

**What is a typical day in your job?**
Before coronavirus changed how we work, a usual day would involve arriving into Westminster around 8am. The project team always beat me to our office, which is located on the Northern Estate of Parliament. The team administrating the refurbishment of Elizabeth Tower is primarily formed of architects, cost consultants, building services and structural engineers, and project managers.

No two days are ever the same. One morning I can be drafting reports, followed by an afternoon spent on the scaffolding with our skilled contractors, presenting papers to the Commons Finance Committee, coordinating access for ceremonial events with the Keeper of the Great Clock, scrutinising change requests or hosting knowledge sharing workshops. The life of a senior project leader is never quiet, nor dull!

**Does working in Parliament require any specific skill sets or training?**
I initially studied architecture and stumbled into project management completely by accident. However, as client-side project managers, my colleagues in the project delivery team have broad and varied backgrounds from mining engineers to quantity surveyors, systems specialists and building surveyors. Some are newly qualified; others have years of experience. The thing that unites us is an appreciation of our roles as custodians of the Palace of Westminster and its incredible heritage.

**What are the most challenging and rewarding aspects of your work?**
Parliament has a vast and complex network of stakeholders, each with their own unique and occasionally conflicting needs. Balancing these can be a challenge. But it's all worth it, because I get to work on one of the most iconic buildings in the world. What better job could there possibly be? I'm surrounded by an incredible team, who are as proud as I am. Over the next few months, we'll be removing more of the scaffolding and I cannot wait for everyone to see Big Ben again. ●



## Rules of disengagement

As furlough ends, redundancies may be inevitable. **Trevor Drury** clarifies the rules around the issue

**Companies in the construction sector will have benefited from the government's furlough scheme. That scheme ended in October, and although the chancellor has announced the new Job Support Scheme, this is not as generous as the furlough scheme.**

**Employers with reduced turnover, less cash and lower or negative profits will inevitably have some difficult decisions to make with regard to redundancies.**

**An employee is entitled to, as a minimum, statutory redundancy, as set out in the Employment Rights Act 1996 (ERA 1996), although an employee's contract of employment may provide a more generous redundancy payment. To be eligible for statutory redundancy, an employee must have two years' continuous service.**

**Employees dismissed due to redundancy have the right to a redundancy payment based on their length of service, age and pay up to a statutory maximum. Many employees on furlough have recently received less pay than their normal wages but legislation was brought in, effective from 31 July 2020, to ensure that redundancy pay is based on an employee's normal wages. This also applies to the statutory notice pay, where notice must be given of between one and 12 weeks depending on length of service.**

**Dismissal on the grounds of redundancy may also give rise to potential wrongful dismissal and/or unfair dismissal if the employer fails to provide:**

- **proper notice;**
- **consultation;**
- **a fair basis for selection;**
- **consideration of alternative employment; and**
- **a process for the employee to appeal.**

**A case of wrongful or unfair dismissal could be referred to the employment tribunal.**

**If dismissed on grounds of redundancy, the employer must give the employee a written statement of how the redundancy payment is calculated.**

**If there is a dispute over the right to receive payment or the amount, an employee can refer the dispute to the employment tribunal.**

**Where an employer is legally insolvent and payment has not been made, application can be made to the Redundancy Payment Office.**

**It is hoped that the chancellor's interventions will protect many of the jobs that may otherwise be at risk.**

Trevor Drury is a barrister at 12 Old Square Chambers and specialises in construction law and employment.

CIOB | AUTODESK.

# Plotting your digital construction journey

Autodesk and the Chartered Institute of Building (CIOB) have teamed up to create this new infographic. It'll help you visualise your journey, create a roadmap and define your next steps - leading to better project outcomes.

You'll also have the chance to benchmark yourself against others by taking part in a digital maturity survey.

**View at: www.autode.sk/ciob-digital-journey**

QUINN

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# QUINN IS BECOMING MANNOK

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**- LIAM MCCAFFREY, MANNOK CEO**

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