

Lynch Architects revives coroner's court

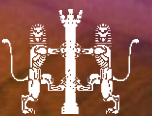
Lean design as a path to sustainability

Grenfell report's lessons for architects

The RIBA Journal

October 2024

£15/€30/US\$35





thrislington cubicles

uk +44 1244 520 677

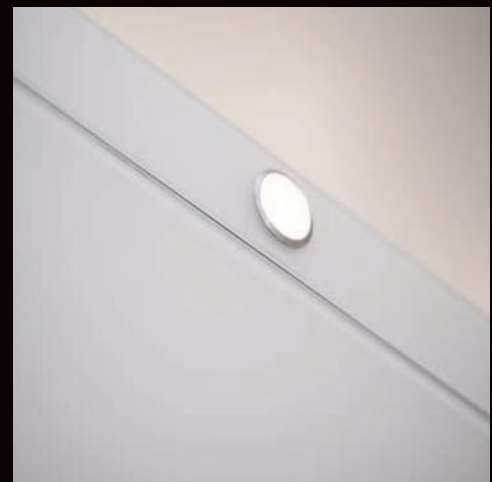
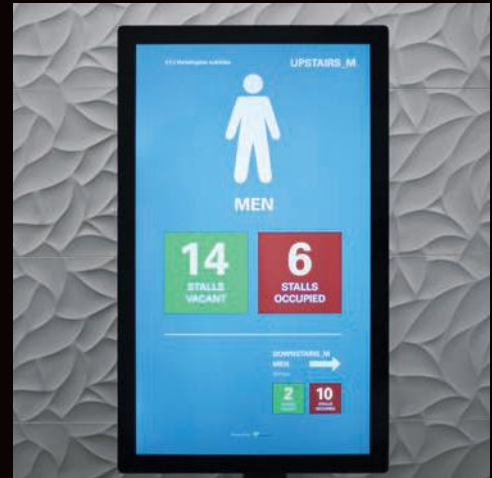
sales@thrislingtoncubicles.com

usa +1 833 878-4747

usprojects@thrislingtoncubicles.com

dubai: +971 4387 1357

mideast@thrislingtoncubicles.com



think smart

We love to design products that last, with an eye on the future, such as our new Smart washroom cubicle. Smart elevates the washroom experience for building users and provides real-time occupancy data to building owners, offering potential cost savings and increased public safety. Please call us at our office local to you, as per details at the top of the page, to see how our washroom expertise can help you.



Scan to watch a video of Smart in action
www.thrislingtoncubicles.com/smart

1 Buildings



08

KILIAN O'SULLIVAN

PICTURE POSTCARD 07

Children's Museum of Eau Claire, Wisconsin, by Steinberg Hart

COMMUNITY 08

IF_DO's gradual conversion of a derelict printworks in Hastings into a community building

MUSEUM 14

Stonewood Design creates an uneasy juxtaposition between a restored rectory and a Boer War concentration camp exhibition

JUSTICE SYSTEM 22

Lynch Architects brings calm and empathy to its restoration and extension of a central London coroner's court

MASTERPLANNING 32

Foster + Partners plans a speedy rebuild of the earthquake-struck city of Antakya in Turkey

PLACE 38

The expansion of Cambridge Biomedical Campus raises questions over infrastructure and planning

2 Intelligence



68

DANIEL SHEARING

SUSTAINABILITY 47

Levitt Bernstein gathers evidence on embodied carbon for Essex County Council

GRENFELL REPORT 48

A stark reminder of the responsibilities of all architects in the damning report

LOW-CARBON BUILDINGS 52

Simon Sturgis on taking on the greatest change to architecture in a century

LEAN STRUCTURES 56

RSHP's Ivan Harbour on The Emory hotel

LEAN STRUCTURES 59

Any waste is criminal, says Techniker founder Matthew Wells

CIRCULARITY 62

Material passports are a key way of aiding the reuse of components

MAKING BUILDINGS 68

Corstorphine & Wright's The Scoop is sculpted to frame the circular window of a neighbouring church

3 Culture



78

LUKE O'DONOVAN

PHOTOGRAPH 73

Greg Holmes talks books and buildings

LEADER 75

The architecture of reuse can throw up surprise revelations, says Eleanor Young

PRESIDENT 76

The RIBA is committed to providing architects with guidance following the Grenfell Tower report

PROFILE 78

Allies and Morrison managing partner Jo Bacon on running big projects and a large firm

REVIEW 83

Nick Newman on the relationship between architecture and protest

COMPETITION 85

Creating a demountable sports venue was the theme of Zero to Hero, this year's West Fraser SterlingOSB Zero competition

PARTING SHOT 98

Carlo Scarpa's refurbishment of the Castelvecchio Museum in Verona

On the cover

Lynch Architects' Westminster Coroner's Court, photographed by Pedro Cardigo

The circular roof has alternating 'spokes' of CLT panels, and CLT panels with robotically wound flax fibre
 Professor Jan Knippers on his experimental pavilion ribaj.com/flax-and-clt-pavilion



Colourful storytelling with Mat Barnes and Piers Taylor; a wealth of home extensions; using AI to keep the team in touch: ribaj.com

Celebrating visionary architecture

RIBA Stirling
Prize 2024

At Autodesk, we recognise that architecture is about more than creating spaces – it's about shaping our future. The RIBA Stirling Prize highlights regenerative and restorative architecture and celebrates the best new architecture in the UK that promotes wellbeing, drives sustainability, and transforms communities.



We are proud to sponsor this award and celebrate the extraordinary achievements of this year's entrants.

Their creativity and commitment to architectural excellence are not only redefining spaces, structures, and skylines, but also demonstrating the synergy between innovative design and a more sustainable and harmonious world.

Congratulations to all the nominees and winners for showcasing the latest architectural wonders across the UK. Your dedication is inspirational and demonstrates how architecture can have a positive impact on society.

We are honoured to support the **RIBA Stirling Prize** and share in the celebration of architectural innovation that drives sustainability and enhances our communities.



See how sustainability is a leadership priority in the State of Design & Make 2024 Special Edition:
Spotlight on Sustainability

Cityscape Global

11 - 14 NOVEMBER 2024
Exhibition & Convention Center,
Malham, Riyadh, Saudi Arabia

FUTURE OF LIVING

AT THE HEART OF GLOBAL REAL ESTATE
THE LARGEST EXHIBITION LAUNCHED IN SAUDI ARABIA'S HISTORY



Experience cutting-edge innovation and attend insightful sessions at the DnA - Design & Architecture stage, designed exclusively for you.



Explore transformative giga projects and forward-thinking sustainable designs.



Meet potential clients, connect with fellow architects, and showcase your work.

Scan to Register



cityscapeglobal.com



@CSGlobalKSA



@CSGlobalKSA



@CSGlobalKSA



Cityscape Global



CSGlobalKSA



@CSGlobalKSA

ORGANIZED BY

tahajuf
an
informa
company
تجاهلوف

SPONSORED BY



وزارة البلديات والإسكان
Ministry of Municipalities and Housing



1: Buildings

**CHILDREN'S MUSEUM
OF EAU CLAIRE,
WISCONSIN, USA**
STEINBERG HART
Read the full story: ribaj.com/eau-claire

Eau Claire in Wisconsin was built with timber. Handsome profits from sawmills and logging fuelled its rise in the mid-1800s, earning it the nickname 'Sawdust City', until the lumber industry collapsed at the turn of the 20th century. Today, trees are again playing a role – albeit small – in energising its economy. The Children's Museum of Eau Claire, designed by New York-based Steinberg Hart, is the latest addition to the city's efforts to remake itself: this time, as an arts and culture destination.

The two-storey museum is immediately recognisable due to its turret, porthole windows and a facade clad in high-performance precast concrete panels, etched to resemble tree bark. Inside is a forest of ash, sugar maple and Douglas fir, whose trunks and branches form the interior supports for the building. This forest references the

resource that made the town, using pre-engineered wood components made from unmilled timbers – one of the museum's many sustainable features. Passive design maximises daylighting and solar heating, while 224 roof-mounted solar panels and 21 geothermal wells beneath the facility generate heat and power. Core-and-shell construction ensures long-term flexibility, but here the whole trees that are employed as columns, and the round timbers serving as joists and girder trusses, are left exposed. This visibility promotes the importance of ecological sustainability and a connection to the natural world. Equally notable is the building's impact on the community. Last year, the museum attracted 116,884 visitors and generated around \$5.3 million for the economy – quite apart from its considerable boost to civic pride. ● Joel Hoekstra



Second edition

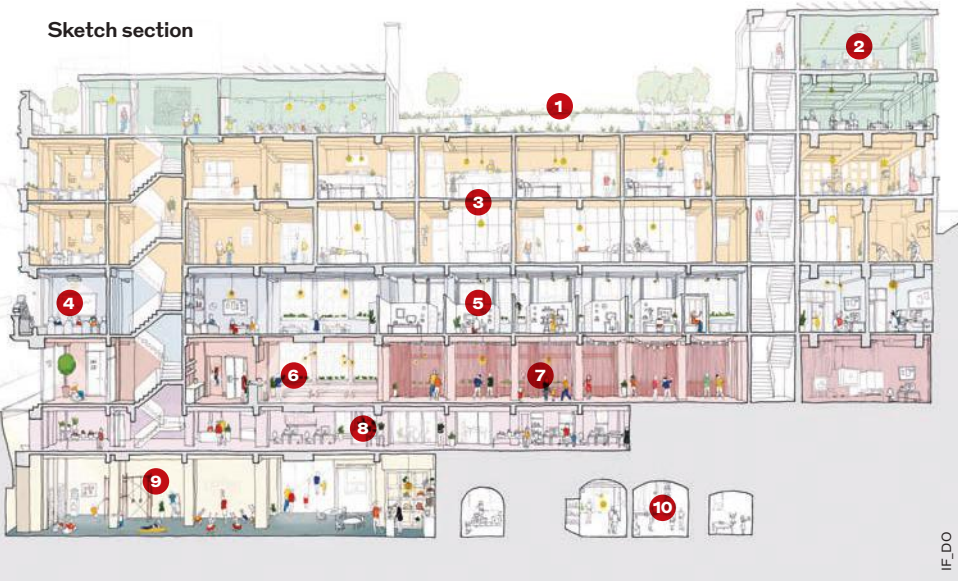
IF_DO has transformed a former newspaper printworks into a community building for social enterprise Hastings Commons

Words: Flo Armitage-Hookes Photographs: Kilian O'Sullivan

Below The restored faience facade was recently unveiled on the building's centenary.



Sketch section



'They want to put the money in the community and don't care about frilly fittings'

- 1 Roof terrace
- 2 Extension
- 3 Residential accommodation
- 4 Board room
- 5 Co-working space
- 6 Café
- 7 Event space
- 8 Creative technology hub
- 9 Gym
- 10 Vaults

Below The entrance lobby leads into a café and event space.

How many developers have remortgaged their own house to rescue a local landmark? In 2019, Jess Steele of social enterprise Hastings Commons did just this to secure a former printworks, home of the Hastings & St Leonards Observer, for the community.

Following the decline of the print industry, the building closed in 1984 and bounced between 13 owners with next to no repairs. '[It] was getting more and more valuable and more and more derelict. That spiral needed to stop,' asserted Steele in 2022.

Hasting Commons entrusted architect IF_DO with the multi-phase transformation of the Observer Building into a mixed-use community asset. It could also provide a template for the regeneration of other seaside towns. And so far, it seems to be working.

But with piecemeal funding and limited resources, the team has had to use money where it matters and build flexibility into the programme and function. '[Hastings Commons] want to put the money in the community and don't care about frilly fittings and anything superfluous,' says IF_DO associate and project lead Jamie Agnew. 'They want it to be meaningful.'

The first phase was completed in November 2022, comprising a co-working space, creative technology hub, gym, café and event space (which already hosts music, theatre, comedy, exhibitions, markets and even a wedding). Restoration of the facade was recently unveiled and a rooftop terrace,

pavilion and extension, designed with and for young people, is due to complete next spring. The final phase will create 14 flats with capped rent for local people.

Approaching the building, it's hard to reconcile the 3,800m² floor space with the four-storey frontage facing the road. However, peering down Prospect Place, the western elevation reveals its true scale. The building stretches back over 50m, with two lower basement levels and further top floors. It's factory-sized with a human-scale street presence.

The soft-white faience facade has a subdued, municipal-like grandeur. A

projecting central section is flanked by four simple columns on the upper floors and sits above two shallow balconies. Lettering takes prominence over detailing, announcing the building to passers-by and spelling out its former function.

Until July this year, the facade had been obscured behind netting and scaffolding. Decades of dereliction had left it forlorn and precarious. The tiles were cracked, stained, loose and sprouting. The windows had been smashed and graffitied and their lead seals nicked.

Although the plan was to retain as



Introducing...

FirePro[®] SP FireStop EN

A cavity fire stopping solution suitable for vertical and horizontal installation.



Tested for use with steel frame substrate, composite panel and masonry applications



120 minutes integrity and insulation in cavities up to 600mm*



Tested to BS EN 1366-4:2021

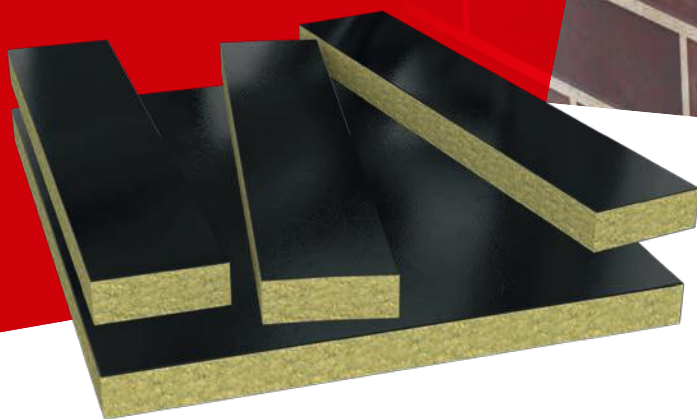


Tested to curtain wall standard BS EN 1364-4:2014



Suitable for 'installation from below'

*Subject to the application



Find out more:



[rockwool.com/uk/
sp-firestop-en](https://rockwool.com/uk/sp-firestop-en)

Buildings Community

many tiles as possible, their deterioration was worse than expected; 194 new tiles had to be fabricated, over half the mortar replaced and new stainless-steel brackets installed. IF_DO also worked closely with the local conservation officer and Historic England to devise a chemical mix to clean the facade without bleaching it a Colgate white. New windows were installed by a local firm. Apparently one worker found himself replacing a window he had broken while sneaking into the abandoned building as a teenager.

Inside was an empty shell and all internal services had to be replaced from scratch. The reinforced concrete structure had been wind-whipped and badly eroded by salt and moisture. Anti-carbonation coating was immediately applied to avoid more significant and costly structural repairs.

The client needed a building with low running costs. Energy-saving measures have been a happy byproduct. All external facing walls have at least 220mm of breathable insulation, and windows are triple glazed and fully sealed. Two air-source heat pumps serve all heating and hot water, lights have PIR sensors and LED bulbs, and grey water harvesting is used for the toilets.

These are big but largely invisible interventions yet they will underpin future development. Agnew explains that, in reality, the scheme has many



micro-phases due to the ebb and flow of costs and funding. He gestures to a few faience blocks perched next to the basement floor lift. They are the final replacement pieces for the facade's lower balcony but installation has been shifted back due to unexpected costs.

Funding has been sourced from different pots and is still being put together for the residential phase. Yet the project is not stuttering or stalling. Hastings Commons and IF_DO have choreographed a rigorous piecemeal approach, termed 'phased organic development', which balances forward-planning and flexibility.

Each phase anticipates and facilitates those upcoming without disrupting

completed areas or doubling up on work. Internal services have been designed to serve all existing levels. Soil pipes for the residential floors already run down through the co-working space on the first floor and into the sewers. Agnew points to tubes sticking up in the empty concrete expanse: 'That'll be someone's toilet, and that'll be someone's bath.'

Inside, the co-working space is bright, varied but definitely meeting the no-frills brief. Desks line one wall; freestanding plywood and glass pods the other. Ducts are exposed and power sockets hang down over desks. It could be more elegant but that wasn't the priority. The space needed to be affordable, maintainable and, crucially, flexible for



IN NUMBERS

£6.6m
Phase one cost

£3,100
Phase one GIFA
cost per m²

Above Freestanding plywood and glass pods offer privacy in the co-working space.

Left The co-working space is affordable, maintainable and flexible for future tenants.

Right Original features add character on a budget.

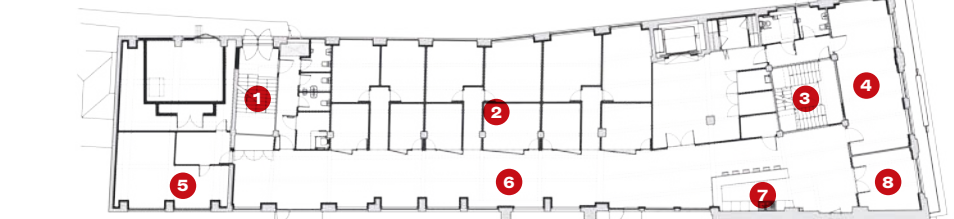




future tenants. Original materials are on show where possible – partly on account of cost, partly for character. Concrete floors have been cleaned and sealed, the kitchen area has untreated brickwork, and a boarded-up window has been repaired and painted a jaunty teal.

This is not a building for showing off. It's set apart from the main tourist thoroughfare and clearly designed for the existing community. Local engagement has been at the core of the project with IF_DO leading an extensive programme of activities.

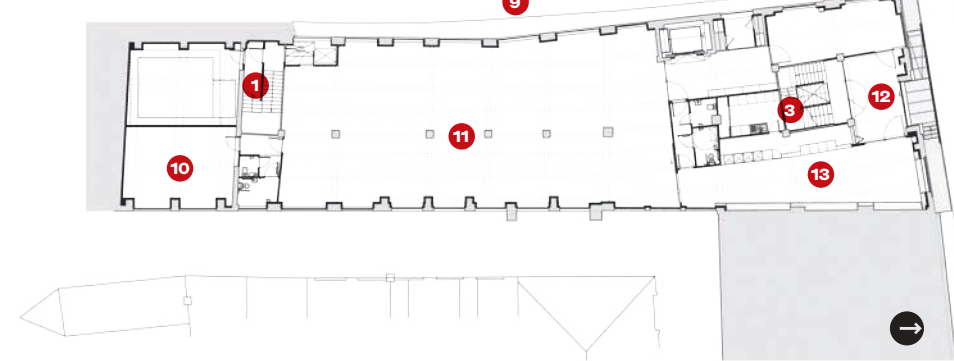
Hastings Commons is a different kind of developer. 'They practice what they preach,' Agnew assures me. Since 2014, the organisation has bought 11 derelict buildings in White Rock, a small central area of Hastings, and incrementally restored them for affordable use. The properties are currently a third owned by a community land trust (shares are just £1) but this will shift to 100 per cent once the buildings cover their costs. They are rightly proud of what is being achieved in Hastings, and Steele is sharing lessons learnt with groups around the country. On the 100th anniversary of its original opening, the building finally has something to celebrate again. ●



First floor plan



Ground floor plan



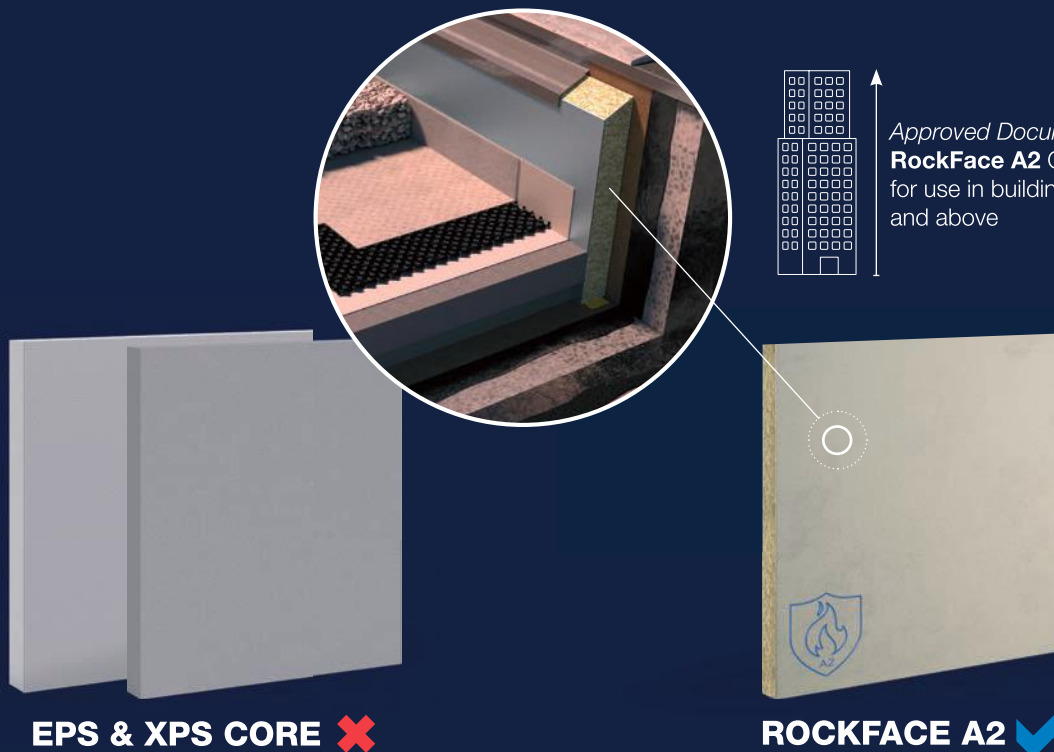
Above Main staircase, previously the editor's private stair core, has been extended down to the lower levels.

Below The event space is already in full swing and hosts a range of activities.

This is not a building for showing off; it's clearly designed for the existing community

- | | |
|--------------------------|--------------------|
| 1 Secondary staircase | 8 Meeting room |
| 2 Freestanding work pods | 9 Prospect Place |
| 3 Main staircase | 10 Lettable spaces |
| 4 Board room | 11 Event space |
| 5 Office | 12 Entrance foyer |
| 6 Flexible working space | 13 Café |
| 7 Kitchenette | |





EPS & XPS CORE ❌

ROCKFACE A2 ✅

NON-COMBUSTIBLE EXTERNAL UPSTAND BOARD

- Meets the latest requirements of The Building Regulations 2010, Fire safety Approved Document B.
- Suitable for insulating the external face of compartment walls in flat roof systems.
- Meets the thermal and fire performance requirements for balconies on relevant buildings.
- Will not develop smoke or promote flame spread when directly exposed to fire.
- Manufactured from stonewool with a factory laminated cementitious face.
- Fire tested; Euroclass A2-s1, d0 rating (non-combustible) certified by Exova Warrington.

NOW AVAILABLE CUT TO SIZE

RockFace A2™



For more product information visit:
www.radmat.com





War and peace



Museum of Emily by Stonewood Design uneasily combines a restored Victorian Cornish rectory with a stark exhibit on Boer War concentration camps

Words: Eleanor Young Photographs: Craig Auckland. Fotohaus

The War Rooms sit elegantly but rather threateningly.

When Oliver Sadler of Stonewood Design told me that one of the buildings at the tweely named Story of Emily Museum had to be very inward looking, and quite different from the Cornish stone walls of the rest of the buildings, I didn't quite get it. Though I know exhibition designers who use audio visuals like to have dark spaces to work with, having now been through the museum's War Rooms, it becomes clear. This is a vessel for a powerful exhibition for anyone in ignorance of the Boer Wars, the appalling scorched earth policy of Lord Kitchener, and the ensuing treatment of Boer and black people, who were put into nearly 200 British-run concentration camps on minimum rations with impossibly poor water supplies.

The museum tells it in a just-about palatable way by concentrating on the life story of campaigner Emily Hobhouse, who worked to draw the British public's attention to conditions in the camps.

Site plan



- 1 Car park
- 2 Blackthorn Grange Introduction Building
- 3 War Rooms
- 4 Café
- 5 Garden and glass house
- 6 Staff accommodation
- 7 Rectory and stables
- 8 Meadow
- 9 Viewing mound
- 10 St Ive Church



Site Section



War Rooms entrance.



IN NUMBERS

Confidential

Total contract cost

1,880m²

War Rooms

203m²

Blackthorn Grange and Introduction Building

340m²

Café

98m²

Outbuildings

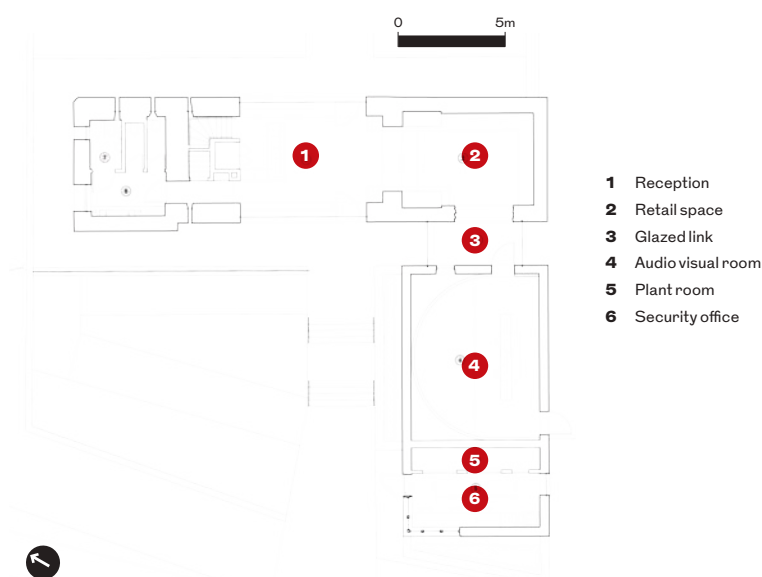
530m²

Chantry

300m²

Staff accommodation and facilities

Left An extension to Blackthorn Grange at the entrance to the museum with War Rooms behind.



Introduction Building floor plan

- 1 Reception
- 2 Retail space
- 3 Glazed link
- 4 Audio visual room
- 5 Plant room
- 6 Security office

Hobhouse grew up in the mid-19th century rectory – now grade II* listed – in the small village of St Ive, which is the other section of this museum. The architecture conspires with this museum structure. The War Rooms are tucked away at the back of the site, leaving the museum complex to revel in a feeling of countryside bonhomie, reusing farm buildings to create a lofty entrance hall, flanked by the stone form of the café with a dramatic modern conservatory facing onto a walled garden. Sitting in a dell, slightly sheltered from the wind and looking out through the courtyard to the stately Turkey oak, with the parish church on your shoulder, this is a set of resolved designs that tell you all is well with the world. Hobhouse's life, up to the age of 34 is told through the house, thoroughly remastered by Le Page Architects, with a tinkling bell and shelves of linen and candles to set off rooms of dinner sets and intense Victorian wallpaper.

Anyone who knows The Newt in Somerset, whose South African owner and founder was also behind this project, will recognise some of the tropes. This museum shares an emphasis on landscape and planting with a boardwalk from the flower-edged car park into the site and an 8m-high viewing mound catching the views, and the wind, from the land around Liskeard. These are not the only links though. The Newt was, in fact, the family seat of the Hobhouse family and RIBA Journal has previously published the garden museum and tree top walk and the Roman villa and museum there – all by Stonewood Design.

The slim courses of slate stone from local Yennadon and Lantoom quarries have a rusted warmth to them. They run throughout the site, sometimes varying in their dimensions and orientation: the staff houses, replacing 70s buildings, are in stone; the historic Cornish hedges are made of upturned stone planted with native hedging; while inside the restaurant they are laid

as if drystone walls. The entry building has had its stone repaired and repointed with lime mortar, with extra layers of insulation giving a solid depth to the walls. Subservient volumes are clad in timber; the gardeners' store and the entrance security building sit back quietly – although the latter is also important as it houses the semicircular volume where an orientation film plays.

The apparently frameless windows offer some hints as to the three most dramatic moments of these buildings, where glass appears apparently quite independent of steel or other structures, courtesy of work with engineer Tim Macfarlane of Glass. From the barn-like calm of the entry building we are

Credits

Client

The Newt in Somerset

Architect

Stonewood Design
Nicola du Pisanie, Oliver

Sadler, Hana Barnes

Structural engineer,

civils, fire, principal

designer, geotechnical

and environmental

engineer

Hydrock

M&E E3 Consulting

Engineers

Glazing consultant

Glass Light and Special

Structures

Exhibition designer

Kossmann.dejong

Exhibition curator,

historian, journalist

Na (Elsabe Brits)

Transport engineer

Pell Frischmann

Landscape architect

LT Studio

Quantity surveyor and

contract administrator

Synergy

Main contractor

(The Story of Emily)

Stonewood Builders

Main contractor

(staff accommodation)

JE Stacey



Top Inside Blackthorn Grange, the one-time farm building and house is now an airy double-height entrance to the museum.

Left A glazed link between the refurbished Blackthorn Grange and the screening room at the start of the experience.

High Security Rooflights

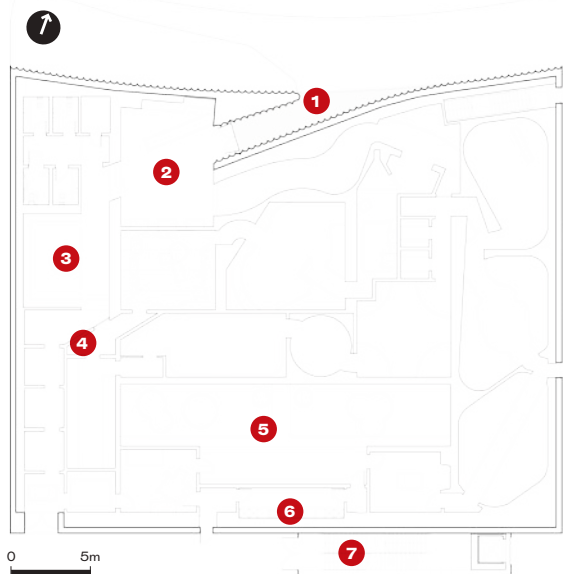


THE
ROOFLIGHT CO.
COTSWOLDS

01993 833 155
therooflightco.com



Certified
(B)
Corporation



War Rooms floor plan

- 1 Entrance
- 2 Reception
- 3 Shoe change/store
- 4 Exhibition
- 5 Internal garden
- 6 Kitchenette
- 7 Lift/access core

presented with glimpses of the rather mysterious War Rooms through the glass portal. Here the building is already becoming exhibition with the deconstructed arch looking like it has taken an explosive charge (stones are held in place by steel rods and glue). The second of the glass moments comes in the enclosed world of the War Rooms. A series of tiny dark rooms where you are introduced to characters opens up into a bright stoop (verandah) looking out onto a stretching veld. Here the glass is doing a lot of the exhibition's heavy lifting. Seven panels make up a 21m-long rooflight, under which fig trees are growing. This is pre-cambered glass, designed with a carefully calculated angle so that it would settle flat, thus allowing more slender glass.

But the glass *pièce de résistance* adds its own piece of theatre to the South African eating experience in the café. Here a 20 x 3m structural wall of glass (six layers in total) connects diners north towards the productive walled garden, the Victorian-style greenhouse and the nearby church where Hobhouse's father was a clergyman.

It is hard to tell if the absence of silicone joints or columns really makes a difference to the eating experience but it does somehow symbolise a luxurious generosity that tourists of the Grand Designs generation will easily relate to their coastal holiday homes. With an open kitchen and this large conservatory-restaurant, Stonewood has put some effort into avoiding overheating with solar control and photovoltaic-powered mechanical cooling for peaks.

There are other elements to the restaurant. The engineered timber floor lining the soffit above the open kitchen, the scalloped yellowwood from South Africa and the more contained room that can be turned into an independent space for school groups

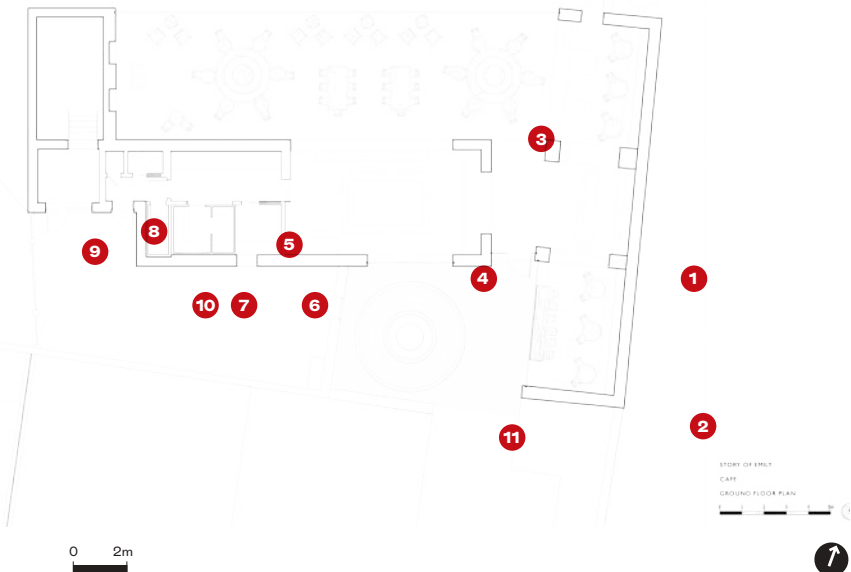
- Suppliers
- War rooms facade cladding** VM Zinc
- Large format glazing** Cantifix, Sedak
- Glazing MHB
- On-site carpentry installation** B&C carpentry
- Bespoke joinery** Oakwrights Bath, 4 Design Specialist
- Joinery, Sommerset
- Joinery Solutions, The Old Joinery Company
- Internal oak doors** Oakwrights Bath

Right The War rooms shoe store.

Below Mirrors are used to give a sense of scale to the exhibition of concentration camp tents.



The open kitchen and productive garden add animation to views from the café.



Café floor plan

- 1 Café bar
- 2 Café seating area
- 3 Glazed seating area
- 4 Kitchen
- 5 Back-of-house kitchen
- 6 Dry store
- 7 Fridge and freezer
- 8 Chemical store
- 9 Plant room
- 10 Changing room
- 11 Firepit

Right A huge expanse of glass sits between garden and café.

or private dining or just a quieter space at a busy time. But in fact it is the delicious reinterpretation of historic South African dishes and the energetic enthusiasm of the team that really make it – the latter all part of a well thought through visitor strategy of staff sharing their passions.

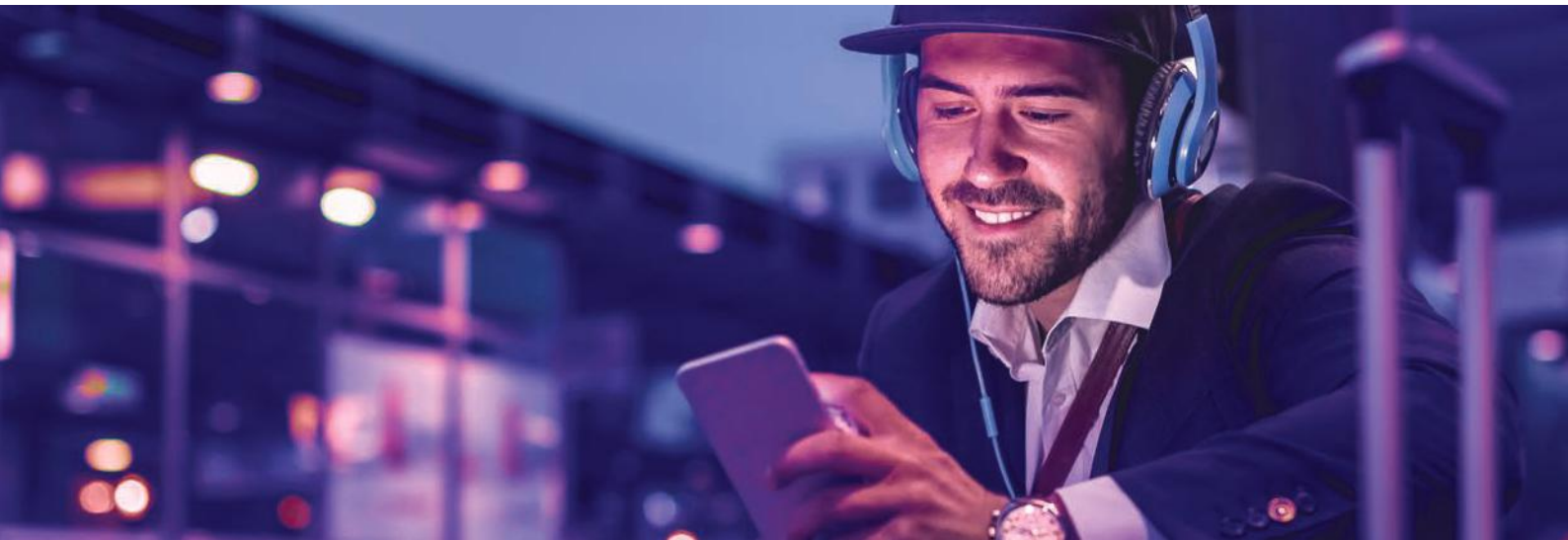
There is a whole gentle visitor experience available here without ever visiting the War Rooms. In fact that building has been designed to cut you off from the Cornishness of the rest of the museum. It is a little threatening in the change of scale. I read the colour of the scalloped zinc cladding as the colour of a sun-bleached military uniform and the peeling off of the facade into an entrance as drawing on the angles Libeskind talks of as ‘shard’ at his Imperial War Museum North. Inside is a staged, immersive experience designed by Kossmann.dejong. To get the most from it you have to submit to the changing

of shoes and moving from room to room strictly in time with the audio-visual cues. You can get quite lost in the deeply troubling story and lose any sense of the plan, which turns you around inside the War Rooms, now on a baked mud floor, now in a rocky gorge ringing with the sound of guns, now into miles of concentration camp, summoned up by mirrors. There are artefacts, rifles, children’s clothes and the echoing words of Hobhouse reporting on the horrors. It seems almost ridiculous after this experience to talk about the gold reception desk – gold was after all the wealth the British empire was after – and how the gold wallpaper covering was given longevity by the layers of resin applied by a local surfer.

It is likely the museum will be at its busiest on rainy days as holidaymakers seek shelter, just as they do at the nearby Eden Project. And at a time when most galleries, museums and attractions are reporting dramatic drops in visitor numbers, it has to be hoped that the architecture and the power of this story, that has long remained untold in Britain, will be enough to bring a steady stream of visitors. ●



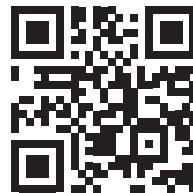
RAIN DEFENCE LOUVRES



Solutions for buildings. *Designed for people.*

Our Architectural Louvres deliver both outstanding performance and eye-catching aesthetics for your project to thrive.

Discover the range. →





A glass collar divides the existing building from the extension

Natural balance

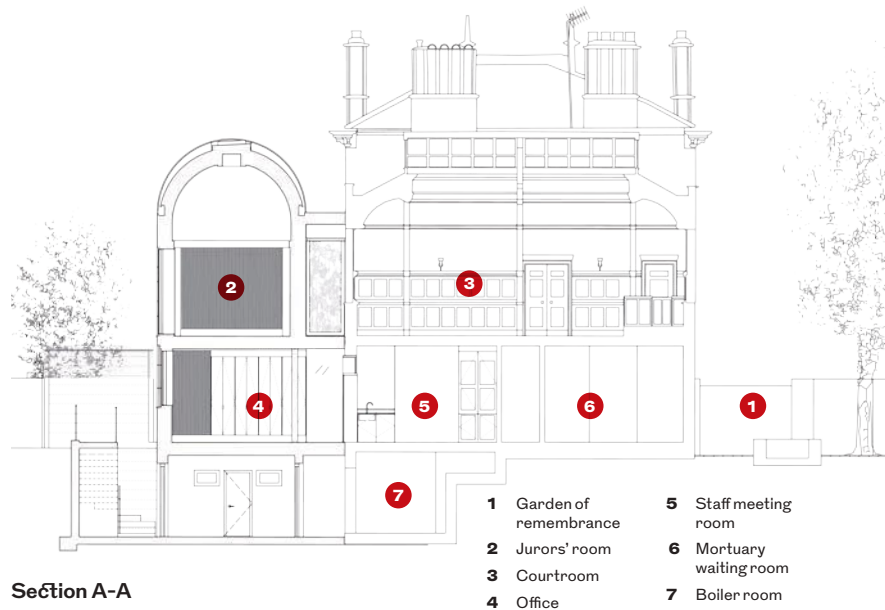
Using stained glass, gardens and natural materials, Lynch Architects has brought calm and empathy to its restoration and extension of a London coroner's court

Words: Timothy Brittain Catlin

Lynch Architects' complex ensemble of a restored and remodelled coroner's court, a new extension and two courtyard gardens is an exercise in working in the city at three scales simultaneously: the urban, in a place of portentous but uncoordinated government placemaking; the inhabitable monument; and the intimate, the delicate and the subtle.

The old building at the core of the project is, as it always has been, an active coroner's court for an extensive reach of central London, and it masks a mortuary built on the very large scale required for any major emergency. A comically inept foundation stone from 1893 – one word continues off the edge of it onto the wall beyond – tells us that the building was designed by GRW Wheeler, architect and surveyor to the united vestries of St John the Evangelist and St Margaret – that is, the baroque St John, Smith Square, and the venerable parish church by Westminster Abbey.

No one knows much about Wheeler for all the pomposity of his appointment, but here he successfully combined the elements that architects will have seen every week in *The Builder* and the *Building News*: cheerful red brick banded with stone, and the combination of early and late-17th-century details that was so popular at the time. It is a small but dignified building in Horseferry Road, a dog-legged route leading from Victoria Street to Lambeth Bridge that from the late 19th century was increasingly peppered with large state and commercial buildings.



Section A-A



JOHAN DEHLIN

RORY GAYLOR

Lynch Architects has treated this building with great respect. Its front door leads to a narrow corridor continuing straight ahead to the mortuary; to the left is a stair and above is the courtroom itself, a fine Victorian room now in perfect condition and complete with its fireplace and fittings. The rest of the existing building consisted of unremarkable offices, with at one point temporary accommodation on the top floor for families displaced while their homes in the borough were fumigated. The architect has opened up the western side of the ground floor with a little play of arched openings; beyond are two new spaces. The first is the court's now open-plan office area, but the second is located on the ground floor of the new extension and provides a friendly and warm space for families and visitors who in the nature of things may be upset by the court's proceedings.

IN NUMBERS

70.2 m²
Extension footprint

509.9 m²
Gross internal area

9.5m
Height of extension

Right The first-floor Victorian courtroom has been lightly restored.



NO CREDIT!!!!!!!

From the entrance, a series of arches defines thresholds and the reception desk



RORY GAYLOR

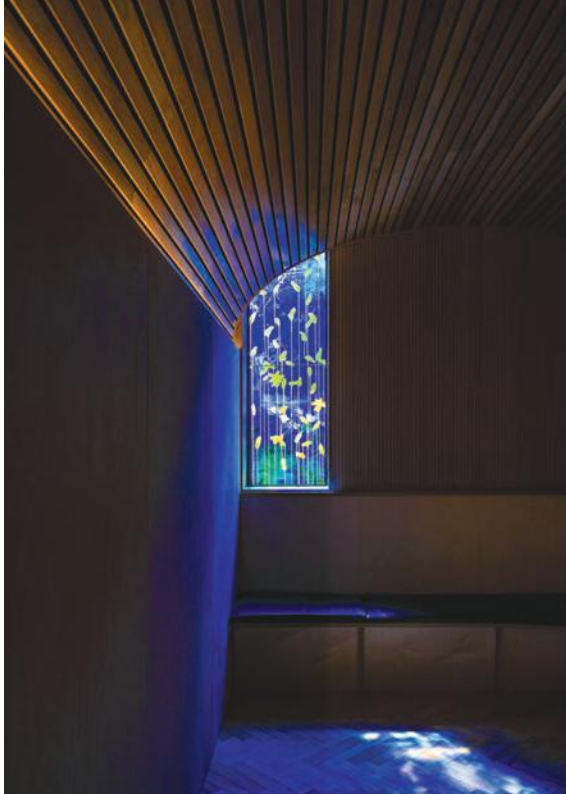
The external form of this extension is a monumental stone-faced north elevation with a barrel-vaulted roof, a bit like a very tall gravestone. This responds magnificently to two public buildings nearby: one is the 1935 Westminster Baptist church which also combines the Jacobean with the late Stuart but, interestingly, in a different way to the courthouse; the other is a red-brick Catholic church, gothic but about the same age. For many people who know the area well, this corner is also memorable for a rear view of Edwin Lutyens' chequerboard-faced flats in Page Street and for the surviving ancient urinal, patronised by taxi drivers, which for a long time shared its gas lighting with the nearby lamp post.

The new lower visitor space is lined in timber and has a vaulted ceiling which runs counter to the one above outside. It also provides a first

The curvature of the roof is echoed in a ground-floor visitors' waiting room



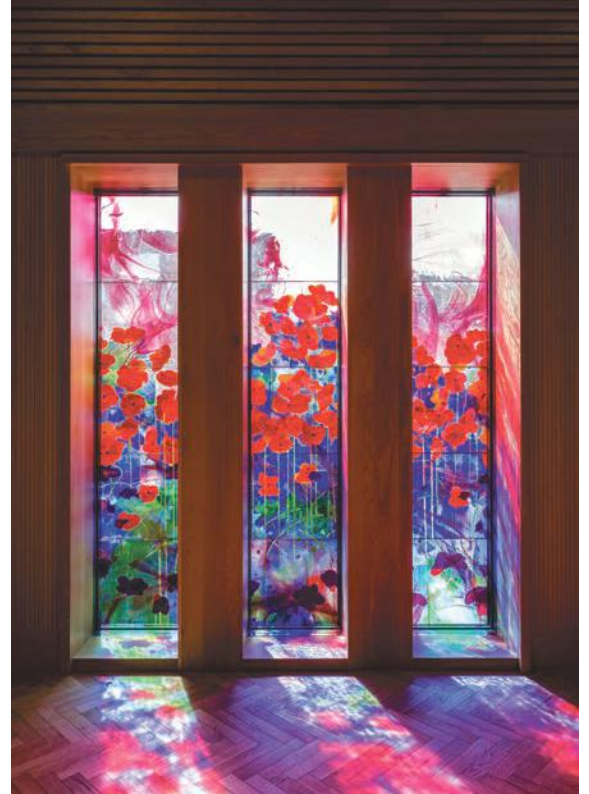
PEDRO CARDIGO



Left Stained glass windows by artist Brian Clarke are introduced in the waiting area.

Right Stained glass lends privacy to the jurors' room and recalls a colourful faience fireplace in the courtroom.

Below The oak-lined jurors' room in the extension can be used as a second court if required.



glimpse of the quite exceptional stained glass that is incorporated into the extension, all by Brian Clarke and of a quality that I have seen in no other recent building, mostly in blue and yellowy-gold. Clarke is an enthusiast for the arts and crafts era and his glass here is infused throughout with the jewel-like quality of the finest fin-de-siècle work. A subtle touch in this room is a short marble post between the entrance and the seating area: you can lean on it, but practice director Patrick Lynch adds that it provides an informal demarcation point between groups of people who might not want to stand close to one another, as well as – in its somewhat mysterious, totemic quality – an allusion to the fact that this is, after all, a building that deals with death and perhaps also with redemption.

Courtroom attendees rise through the old stairs and can reach both the old chamber and the upper floor of the extension. Lynch has designed a long, narrow space to divide the two. At either end of this is another blue and gold window; since a former window to the courtroom now faces this corridor, some of its colourful light permeates into it. On the new side of the corridor there are openings into two rooms, an office and a larger jurors' room that can be divided by folding doors and also double as a second courtroom. We are here below the barrel vault, which is split by a continuous longitudinal rooflight and lined, like the room below, with oak slats. But the lighting in here is extraordinary: Clarke's windows, which occupy the wall to the coroner's left, are a blaze of poppies against a blue background, with green, yellow and purple highlights. This is an astonishingly powerful and beautiful space which at once turns the project as a whole into something well beyond the ordinary.



Introducing Sycamore

tala.



Apply for a Tala Professionals account today.



Scan to apply

- + Clear trade pricing and volume discounts
- + Downloadable product assets
- + Expedited delivery options
- + Dedicated design consultations
- + Flagship London Showroom



tala.co.uk

Buildings
Justice system

Circular motifs recur in pale precast concrete elements in the garden of reflection.



Axonometric



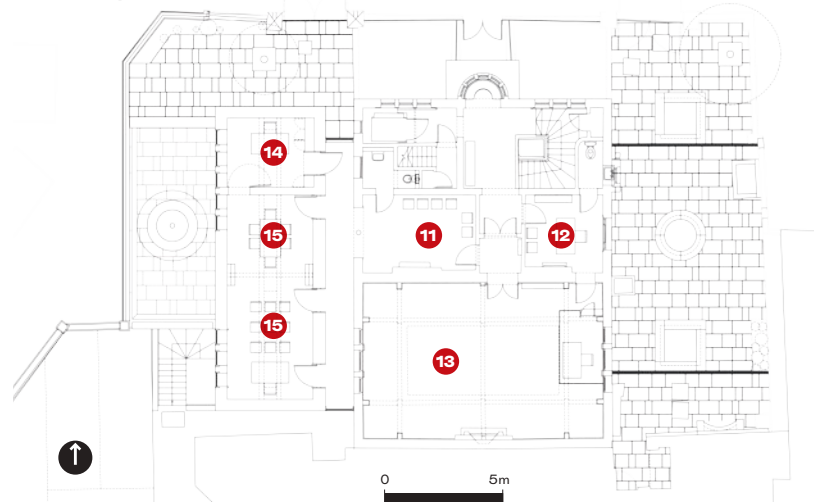
- | | | | |
|-------------------------|-----------------------|-------------------------|---------------------------|
| 1 Garden of reflection | 5 Family meeting room | 9 Mortuary waiting room | 13 Court |
| 2 Garden of remembrance | 6 Reception | 10 Press meeting room | 14 Court manager's office |
| 3 Entrance lobby | 7 Admin office | 11 Waiting room | 15 Jurors' room/ court 2 |
| 4 Office | 8 Staff meeting room | 12 Coroner's office | |

Ground floor plan

RORY GAYLOR



First floor plan



A pair of gardens flanks the building. That on the east side was completed in 2018 (RIBA Journal March 2020) and consists of a paved court with small geometrical planters and a blank aedicule resembling an unopenable door – inspired, as Patrick Lynch told Michèle Woodger at the time, by the ‘impenetrable doorways of Michelangelo’s San Lorenzo Chapel in Florence’. The final phase of the project has included a second contemplative space in the form of a water garden on the western side, reached through the visitor waiting space, with three objects in or by it, all sharing the circular theme of the extension: a round basin in the centre of the black granite pool planted with a tree; a roll-top low stone parapet protecting visitors from stumbling into it; and at the far end an abstract limestone screen.



RACHEL ELLIOTT

This is an astonishingly powerful and beautiful space which turns the whole project into something well beyond the ordinary

Credits
Architect
 Lynch Architects
Structural engineer
 Bryan Packman Marcel
M&E engineer
 Max Fordham
Timber frame engineer
 Eurban
Stone facade
 Szerelmey

This is a building rich in allusion. Lynch himself makes the reference to Louis Kahn's Kimbell Art Museum but is no doubt fed up with architect-visitors also making a comparison with van Heyningen & Haward's 1983 rare books library at Newnham College, Cambridge, then considered outrageous but now seen as canonical. But the closest comparison is surely with Erik Gunnar Asplund's Gothenburg law courts, not only because he turned an intimidating institution into a friendly space, but also because, in a similar way to here, his extension partly slides in, effortlessly, humanely, behind Nicodemus Tessin's pompous baroque facade of 1672. I have a feeling that Lynch's new-old building is one that will permeate the consciousness of both architects and visitors for a long time. ●

Timothy Brittain Catlin is an architect and historian whose most recent book is on Victorian architect Edwin Rickards

Left A new opening at first-floor level leads to a corridor aligning the jurors' room.

Below The extension's geometry picks up on arched windows and curved bays in the existing building.



LEFT: PEDRO CARDIGO; RIGHT: RORY GAYLOR

Specify V3 premium cubicle ranges and complementing washroom systems in ethically sourced veneers.

Push the boundaries of luxury commercial washroom design by specifying our V3 premium cubicle ranges, including Sahara, Infinite and Infinite Full Height, in a range of opulent and ethically sourced real wood veneers. Guarantee the wow factor by completing your washrooms with Vepps, the industry's leading IPS solution, and complementary vanity units all in matching finishes.

Discover our V3 cubicle ranges.

01474 353333
www.venesta.co.uk
marketing@venesta.co.uk



Discover our V3 cubicle ranges.



Our commitment to the environment.



We know washrooms.

Venesta

ARMOURCOAT®

SUSTAINABLE LUXURY FINISHES

POLISHED PLASTER • CLAY LIME PLASTER • ACOUSTIC PLASTER • SCULPTURAL PLASTER • CAST PANELS • DECORATIVE PAINT • RACKET COURT PLASTER

ARMOURCOAT.COM

Interior: Jolie Design
Photography: Billy Bolton

Armourcoat Limewash – natural ecological mineral paint finish

A new highly sustainable surface finish enables architects and designers to achieve top-level environmental and health accreditations without sacrificing aesthetics



Left Petra City 022
Above Sea Turtle 033
Right: Restful Waves 045.
All Armourcoat Limewash.



Armourcoat launches Limewash, a new ecological mineral paint finish created for the residential and commercial design sectors, inspired by the soft matt finish, lightly textured aesthetic of traditional lime wash paint. Manufactured in the UK using locally sourced raw materials, Armourcoat Limewash presents a naturally breathable, low-embodied-carbon finish, ensuring suitability for projects that centre upon minimal environmental impact and other sustainable considerations.

As an industry first, Armourcoat Limewash is set to be the only limewash paint finish on the market to deliver both Environmental Product Declaration (EPD) and Health Product Declaration (HPD) documentation. These fully detail its minimal environmental and health impact data to guarantee suitability for projects targeting BREEAM or LEED certification.

Armourcoat's technical and creative director, Duncan MacKellar, explains: 'Here at Armourcoat, we believe material transparency is fundamental to designing beautiful interiors that have minimal impact on our planet. Our goal as creative manufacturers is to reduce both embodied carbon and environmental toxins, and ultimately drive sustainable innovation within the built environment. With our Environmental and Health Product Declarations, architects and designers can be confident that all Armourcoat finishes align with efforts to create environmentally conscious, healthy interiors.'

Accredited with Indoor Air Comfort Gold certification, Armourcoat Limewash is free from solvents and volatile organic compounds (VOCs), with a naturally high alkalinity providing antimicrobial properties. Additionally, Armourcoat Limewash is an entirely non-combustible

finish, achieving an A1 fire rating for buildings requiring the highest level of fire resistance.

Limewash is the latest addition to Armourcoat's range of sustainable luxury finishes, all supplied with third-party certified environmental and health documentation. Via a brand philosophy centred upon sustainability through longevity, Armourcoat applies the most stringent of norms when it comes to manufacturing and formulations. This helps architects and designers exceed in project assessments for globally recognised accreditation systems, ensuring specifiers need not sacrifice sustainability for aesthetics. ●

ARMOURCOAT[®]
SUSTAINABLE LUXURY FINISHES

For more information, tel 01732 460668
email specsales@armourcoat.co.uk
or visit www.armourcoat.co.uk

Quick to the cut

Foster's masterplan for the ancient earthquake-struck city of Antakya in Turkey is part of a speedy rebuild that's vital to keep it alive

Words: Hugh Pearman



The terrible earthquakes that hit southwestern Turkey and neighbouring Syria in February 2023 left devastated cities and settlements across a wide area. The city of Antakya – site of ancient Antioch and capital of Hatay province – suffered the biggest shocks as tectonic fault lines in the area ruptured. Previously solid ground slipped violently or liquefied. The effect was like concentrated warfare: more than 24,000 died in one night; more than 30,000 were injured; 70% of all homes were destroyed. Most of the surviving population fled.

Along with the immediate multi-national relief effort, thoughts rapidly turned to the planned reconstruction of Antakya. The organisation that took the initiative was the Türkiye Design Council (TDC), a non-governmental organisation which began a rapid process of design development in consultation with the people of the province. They simultaneously built up a roster of likely architects and engineers, both local and

Above Promenades and seating areas along the River Asl are among improved connections to water.

Below Devastation followed the 2023 earthquake.



IN NUMBERS

240,000
damaged dwellings

90%
buildings damaged by
earthquake

850,000
displaced population

from overseas. And so it was that Bruno Moser, head of the Urban Design Group at Foster + Partners, found himself and his team in the wrecked city just a month after the disaster.

'It was heartbreaking,' he says. 'You looked in the rubble and saw people's photos, pieces of furniture – traces of life.' That October the practice was commissioned to develop a masterplan for a pilot area, learning from the urban and human history of Antioch and the often forcefully expressed views of the surviving affected inhabitants. Now the masterplan is completed and approved. The enormous task of rebuilding an initial urban area of 30km² is perhaps optimistically planned by the authorities to be done over 10 years. The wider city, in which many other architects are involved, covers 700km².

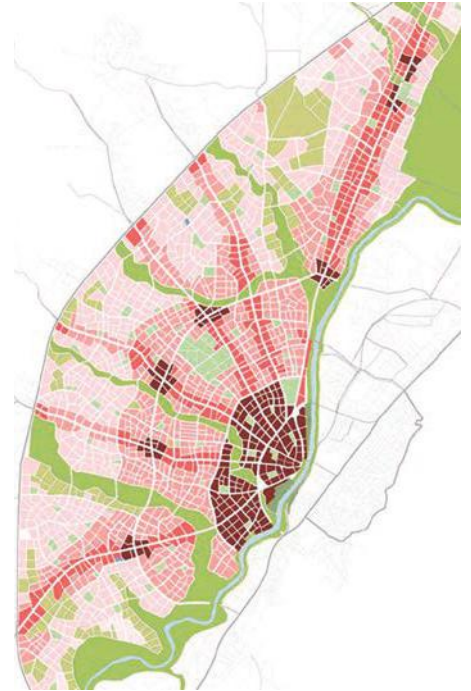
Nobody for a moment considered abandoning the city and building elsewhere, says Serhat Basdogan, general manager of the TDC and



Above Rebuilding on safe land involves the addition of green buffers alongside streams.



Above Aspirations include increased open space and pedestrian-friendly access to amenities.



Above The aim is to keep the city grain, and provide the same number of units in a more compact way.



The masterplan has eight principles, including improved, earthquake-resilient circulation.

TIMBER PROFESSIONALS WITH FAMILY BUSINESS VALUES

VINCENT TIMBER

Beautiful, sustainable timber products
for the future of construction



JOURNEY TO NET ZERO

We halved the CO₂ in our
production in 12 months.

SUSTAINABLY SOURCED

All our timber is certified
sustainable.

TIMBER - THE ECO CHOICE

The material with the
lowest carbon emissions.



www.vincenttimber.co.uk 0121 772 5511 sales@vincenttimber.co.uk



associate professor at Yildiz Technical University. The same overall capacity of the city before the earthquake – its homes and commercial buildings – will return to a place that will be recognisably Antakya. For obvious reasons it cannot be identical: one thing that is certain in this seismically active region is that earthquakes will sooner or later happen again, and that must inform the construction, form and siting of the new buildings and streets. But Basdogan talks of the spirit and history of this trading city as something driving everything else: ‘It’s a very special place for us. It’s a multi-layered culture, a very old Greek and Roman city. At the same time you had Jewish people, Orthodox Christian, Arabs, Alawites; altogether 18 or 20 different religions, all living there over thousands of years.’

Sited on its historic Levantine trading route following the Orontes river, close to both the Syrian border and the Mediterranean, its continued existence is seen as a priority both strategically and for the sake of its traumatised inhabitants. This, says Basdogan, is why speed is essential: if the process of rebuilding takes too long, the displaced population will increasingly drift elsewhere and lose its identity. Hence the way the TDC rapidly commissioned the pilot reconstruction masterplan.

This is a collaborative affair. Led by Fosters, the team includes Buro Happold on engineering and Milan-

Above Transport planning is based around ‘superblocks’ – neighbourhoods of 10-15,000 people.

Top left Community routes facilitate movement between neighbourhoods.

- 1 Commercial cluster
- 2 City high street
- 3 Local high street
- 4 Community route
- 5 Plaza
- 6 ‘Resilience route’
- 7 Surviving buildings
- 8 Residential 3-4 storeys
- 9 Residential 4-5 storeys
- 10 Mixed-used 6-8 storeys
- 11 Public building

based transportation specialist MIC-HUB, along with Turkish practices DB Architects and KEYM Urban Renewal Centre. It presents a city of boulevards broadly following the existing street plan radiating north-west from the river, but with buildings set back from those areas of land – usually near watercourses – which are prone to liquefaction in earthquakes. This allows for plenty of new public spaces, especially by the Orontes in the centre.

It’s a granular approach: there are 13 new districts, each with its own clear centre or ‘high street’, with public buildings such as schools, in turn broken down into neighbourhoods with smaller, predominantly pedestrian- and cycle-

The spirit and history of this city drives everything: ‘It’s a very special place for us’



Wider Hatay priority area.

based communicating streets. Active travel aside, public transport planning is bus-based: nobody is planning to build a subway system in a seismic area, and Moser points out that the city is not so huge as to need one anyway.

The area of the masterplan, says Moser, was originally built up only over the past century. Because of the contraction of the rebuilt area to firmer ground and a proposed overall reduction in height, that built area is redistributed but not extended. 'What we are trying to do is reduce the risk of sprawl, make the footprint more compact,' says Moser.

There are elements of design coding in play here. Some of this is engineering-led: Buro Happold has studied the quake resistance of various building forms and concluded that the most vulnerable are perimeter blocks, while the strongest are rectangular shapes with up to 1:3 width-to-length ratio, structural continuity, and basements as ground stabilisers. The appearance of every building can be different, says Moser. Diversity of architecture was always one of the attributes of the place. But certain aspects of the old city, such as generally solid walls with punched windows, give design cues. Orientation and massing is organised in response to sun direction and prevailing winds.

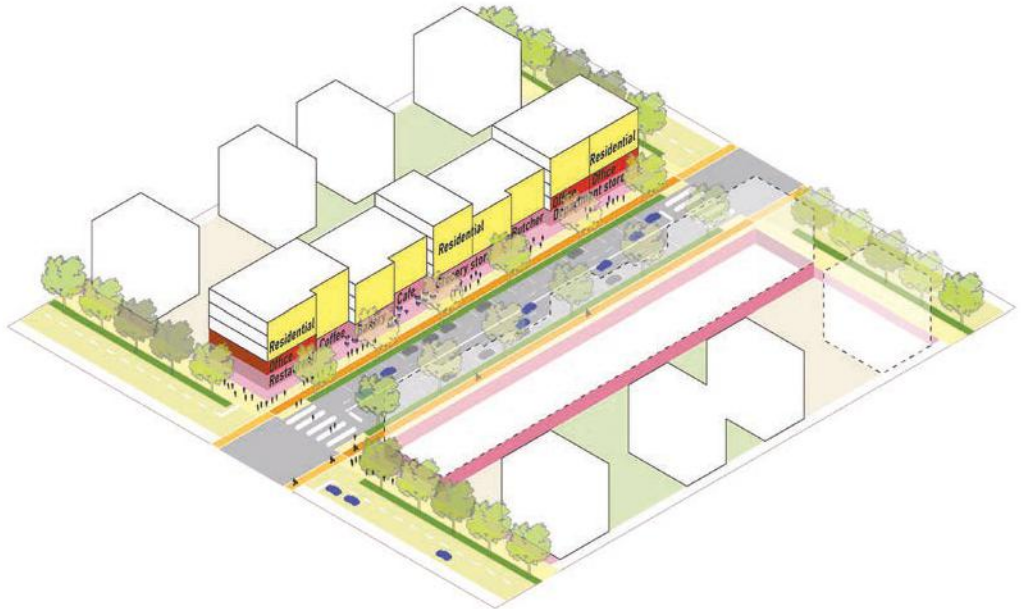
So now comes the big build. A priority area by the river is in the hands of local firms of architects, peer-reviewed by Fosters. Others will pitch in soon. One would not bet against Fosters doing individual buildings in time, but none is commissioned yet. As to the timescale, it's a balancing act. Turkey has a large and active construction sector but the supply of labour, materials, money and design time in the country will also be needed elsewhere. How it all pans out will hold lessons for other parts of the world urgently needing reconstruction, from Ukraine to Gaza. ●

Top Town squares double as spaces for emergency gathering and camping.

Right Restored high streets are 'social glue' within 'layered', mixed-use neighbourhoods.



High street with continuous frontage



Take a closer look at the New Vision 7 Entrance Doors.

It's the finer details that matter.

Discover unmatched durability and sleek aesthetics with the next generation of thermal commercial entrance doors from Reynaers Aluminium. With anti-finger trap functionality, Vision 7 is ideal for a range of ground-floor commercial applications.

- Slim visual width due to a narrow bulb radius of only 40mm
- Achieves U-value as low as 1.1W/m²K
- Unique post-installation adjustable bottom pivot



We are contributing to more sustainable buildings and developing circular products. Ensuring we reduce our ecological footprint while never forgetting we are a caring company.

With over 50 years of global product development, 7 testing centres worldwide, you can be reassured with Reynaers Aluminium.

Together for better
reynaers.co.uk/vision-7

Cambridge: expanding a campus, growing a city

While a lot is riding on Cambridge Biomedical Campus as a centre for scientific excellence, broader concerns over infrastructure, planning and government policy raise important questions

Words: John Jervis

Sitting at the centre of Cambridge Biomedical Campus is Addenbrooke's Hospital – an accumulation of low structures, many dating from the 1960s. It's a leading teaching and research hospital but not one of the great NHS megastructures. Some careful black-and-white photography of a concrete walkway might produce an evocative piece of nostalgia but the main impression is of dirty portacabins, streaked surfaces, a hidden entrance and confusing signage.



GEOFFREY ROBINSON / ALAMY STOCK PHOTO

Fifteen minutes' drive from Cambridge's centre (when the city's notorious traffic isn't playing up), the campus is the unexpected focus of the UK's life-sciences sector – one of the few industries in which we still rank among the world leaders. Ringed around Addenbrooke's, in rather more glamorous accommodation, is a series of world-leading research institutes which exist in beneficial synergy with the hospital and each other. Most notable is the Medical Research Council's

This image Cambridge Biomedical Campus at sunrise, with AstraZeneca's Discovery Centre in the centre.

Above A polite glimpse of Addenbrooke's Hospital.





ROBERT EVANS / ALAMY STOCK PHOTO

Laboratory of Molecular Biology – a Nobel Prize factory – but esteemed institutes and education centres abound, many attached to the university, along with other NHS institutions, including the Royal Papworth heart and lung hospital and the Rosie maternity hospital.

The campus is spread over 28ha, is worth an impressive £4.2 billion a year to the UK economy and, supposedly, supports one in every six jobs in the surrounding local authority areas. It was a pet project of former communities secretary Michael Gove, name-checked four times in this year's spring budget. The associated Case for Cambridge plan – a vision to 'unleash... Cambridge's full economic potential' as 'Europe's largest technology cluster' – included a £10 million investment in transport and development plans at the campus. Its undeniable allure has been enhanced by new commercial arrivals, in particular Abcam and AstraZeneca, the latter in an impressive Discovery Centre of faceted glass, designed by Herzog & de Meuron and claimed as the UK's largest R&D facility. Surrounded by chunky benches, winding paths and wild flowers, it has the 'Californian university' vibe that the campus hopes will eventually replace the weathered picnic benches elsewhere.

Phase two of the campus – another 28ha – is under construction, with two further developer-led phases in the planning stages and the ambitious intention of doubling its 22,000 staff over the next 20 years. On the current site, both a children's hospital and a cancer research hospital are approved for construction as part of the New Hospital Programme, while a further plot, already owned by Addenbrooke's, has been put aside for a planned rebuild. Given the new government's review of



YELLOW DUCK IMAGES / ALAMY STOCK PHOTO

Top A convenient train passes alongside the Medical Research Council Laboratory of Molecular Biology.

Above Royal Papworth Hospital NHS Foundation Trust, the UK's main heart and lung transplant centre.

Locals are not entirely supportive of plans for the campus

the programme, these projects are feeling shaky, although positive noises are now being made about the children's hospital.

Locals (who tend to be informed, educated and have a certain amount of time on their hands) are not entirely supportive of plans for the campus. Cambridge was the country's fastest growing city between 2011 and 2021. The proposal for the campus and associated housing driving further into the green belt (some owned by the county council) feels like another piecemeal step towards absorbing surrounding 'necklace villages' within conurbation – 'Where will it end?'. There's also a feeling that promises of increased healthcare provision in the campus's earlier Vision 2020 document have dwindled in the new Vision 2050. And appeals to residents' finer natures with the prospect of life-saving vaccines as a 'greater good' are met with questions about the benefits of focusing Cambridge's life sciences in this one location – there are around 30 science parks and hubs scattered around the city. In short, expanding the campus

Herzog & de Meuron's Discovery Centre for AstraZeneca, Cambridge Biomedical Campus.





HUFTON+CROW




The Hottest In Town Solid State Heat Pump

Introducing Anzen, the groundbreaking solid-state heat pump redefining home comfort. Designed for UK homes, Anzen effortlessly switches between heating, cooling, and heat recovery ventilation delivering upto 3 times the efficiency of traditional systems. Anzen makes clean energy transition desirable and accessible.

 **Heating & Cooling**
Evenly heat/cool your room within minutes

 **Heat Recovery Ventilation**
Removes damp and mold

 **1 Day Installation**
With minimal disruption to your home

Want to be the first to experience Anzen?
Reserve now at anzenwalls.co.uk



DAVID PORTER

may well benefit UK PLC, but what's in it for nearby communities is less clear. Proposed fitness classes and street food don't really cut the mustard.

All are agreed, however, that water, transport and accommodation are potential deal-breakers, curtailing expansion across the city, let alone the campus. The first of these is swiftly becoming critical. At the end of July, the city council voted to acknowledge a 'water crisis' but investment and solutions are thin on the ground. A proposed new reservoir would be a start for a city currently relying on extraction – the latest consultation has just ended – but would take a decade or more to realise. On transport, things are more hopeful. Cambridge South Station (in effect a private station for the campus on the provisional 'southern route' for East West Rail to Oxford) is nearing

Above left Interior courtyard of the Discovery Centre at the campus.

Above right Abcam's global headquarters, opened in 2019.

Below Cambridge South Station under construction, 10 minutes' walk from the centre of the campus.

ABCAM

completion, while there are planned rail upgrades to feeder towns such as Ely and Newmarket. There are also plans for a controversial elongation of Cambridge's guided busway ('the longest in the world') – the Cambridge Connect pressure group is staunchly campaigning for a light-rail alternative. But the city's ageing road network remains unaddressed, with a Greater Cambridge Transport Strategy at least a year away.

There is some consensus on the need for homes, including affordable housing. The campus has to offer attractive lifestyles, whether to researchers relocating from Munich or to underpaid NHS staff – its own housing study in May found that 30 per cent of employees were unable to afford open-market rents. The government's Case for Cambridge set an ambitious goal of 150,000 new homes by 2050 (already reduced from last year's 250,000 when Gove proposed 'beautiful new classical buildings, rich parkland, concert halls and museums'), doubling the size of the unsuspecting city. In the plan, these are optimistically described as 'terraced and semi-detached houses on the edge of Cambridge and mixed-use neighbourhoods with apartment buildings, offices, cafés and shops nearer the centre', while 'major new urban quarter opportunities' are being sought, with a view to adding 'approximately £6.4 billion to the economy'.

Two large brownfield expansion zones have already been earmarked in Cambridge's existing plans: the old airport to the east, to accommodate 7,000 homes, and the older sewage works to

Water, transport and accommodation are potential deal-breakers

CAMBRIDGE BIOMEDICAL CAMPUS



the north, which promises 8,000 homes but requires confirmation of a potential £277 million of government funding to relocate the works into the green belt near Horningsea.

With various award-winning developments over the last two decades – Stirling-Prize winner Accordia, and the recent Eddington and Marmalade Lane schemes – Cambridge, aided by its wealth, does have a good track record in ‘high density, high quality’ as well as in meeting affordable housing targets. And the targets are seen as feasible by the Cambridge City and South Cambridgeshire Councils, together known as ‘Greater Cambridge’. They are collaborating on a new, if distant, local plan – the submission date has just been pushed back a year. Under Flora Samuel, head of architecture at Cambridge University, an independent ‘urban room’ has also been established for Cambridge (an idea initiated by Terry Farrell), boosting participation in the planning process and, so far, reportedly meeting with a warm response from developers, planners and residents.

Unfortunately, both campus and city suffer from a very British lack of a coherence. Held together by a non-profit partnership, the campus is a composite of NHS, commercial and university stakeholders. Its current and future sites are owned by multiple landowners

– Cambridge colleges, the NHS trust, private bodies and the councils – with Prologis installed as the vigorous developer. There are multiple opinions about the status of masterplanning at the campus. Current local plan proposals merely request an updated one but others are less polite. Competitors in Germany and Singapore are certainly less fragmented and also benefit from high-quality publicly funded infrastructure. Perhaps it is the very chaos of British planning that allows the campus to compete.

Cambridge itself boasts an even more convoluted chain of command. As well as the two councils and the various shared bodies that make up Greater Cambridge – sometimes involving the county council and the directly elected mayor of Cambridgeshire and Peterborough – the university and colleges remain powerful (and, in the latter case, many are rich in both cash and land). Influential local business and academic organisations such as Cambridge Ahead and Cambridge Innovate have strong voices but the new kid on the block is the opaque Cambridge Delivery Group (under Argent’s co-founder Peter Freeman). This was announced in Case for Cambridge as a potential forerunner to a development corporation to ‘drive forward the government’s vision for Cambridge’. The plan’s foreword by



TIM CROCKER

Freeman states that ‘the level of growth proposed ... will necessarily require an unprecedented level of funding’. No more has yet been made public.

In both instances it seems that, despite talent and dedication, there is no organisation with the responsibility, accountability, remit – and certainly resources – to deliver any overarching plan, pulling out the required nettles along the way. Nor is there any regional body with the clout to make this happen. At present, it requires central government to maintain interest and turn on the taps. With this flawed model, it feels unlikely that the transformation of a provincial university town into a cohesive, thriving high-tech city can be realised as well as it should be. And there are certainly some who wish the attempt were not made, with the money instead employed to improve transport infrastructure across the country rather than placing all eggs in one tempting but small basket an hour from King’s Cross.

As I struggle to catch the correct bus back up to the station, a similarly uncertain German woman, fresh from a good experience at Addenbrooke’s, informs me that the centre of Cambridge is ‘grotty’, lacking in public space and amenities. It’s not a scientific survey but it does suggest Cambridge’s scattered leadership should not be complacent about the city’s abiding attraction as a destination for tourists, talent, companies or even life sciences – that it’s not just the campus that needs an updated masterplan. But who exactly is going to make that happen?



DAVID BUTLER

Left Marmalade Lane Co-housing, Cambridge, 2018, by Mole Architects.

Above Accordia housing scheme by Feilden Clegg Bradley Studios, 2008.

Wernick[®]
BUILDINGS

1934 **90 Years** 2024

WINNER!



Project of the Year for
Commercial/Retail/Offices
MMC AWARDS 2024

Specialising in modular construction for 90 years

Project: Southmead Hospital executive offices



WERNICK MODULAR BUILDINGS DELIVER...



MINIMUM
ON-SITE TIME



50+YEARS
DESIGN LIFE



SUSTAINABLE
CONSTRUCTION



FLEXIBLE
EXPANDABLE



FULL PROJECT
MANAGEMENT

CONTACT US TODAY

0800 18 18 22 | www.wernick.co.uk
buildings@wernick.co.uk

Find out more
Scan the QR code



Maximising precision in architectural planning with 3D laser scanning

Among PointSCAN's specialist 3D laser scanning services is the precise scanning of trees, enabling architects to assess how tree placement and canopy coverage could impact sightlines and shading in future years

Over the past decade, 3D laser scanning has become an efficient and cost-effective solution for collecting accurate on-site measurement data for architects, designers and planners alike. From creating accurate as-built models and topographical surveys to enhancing site analysis, 3D laser scanning has transformed the planning process. Capturing millions of data points in minutes, this technology ensures no detail is missed, reduces on-site time, optimises workflows and minimises errors, enabling architects to make well-informed decisions. Among the specialised services offered by PointSCAN is the precise scanning of trees, an increasingly vital aspect of project and planning submissions.

Trees, with their complex forms and canopies, present unique challenges in mapping and modelling for planning. PointSCAN's laser scanning technology captures intricate details such as tree height, spread, trunk diameter and overall structure. The ability to digitally prune trees and simulate growth stages allows architects to assess how tree placement and canopy coverage could impact sightlines and shading in future years. This precision is essential for complying with planning regulations requiring detailed arboricultural surveys, especially



in conservation areas or ecologically sensitive sites.

Accurate tree data plays a fundamental role in sustainable design and site planning. PointSCAN's 3D scans help architects understand how their designs will interact with the existing landscape so they can plan for tree protection during construction and identify opportunities to integrate natural elements into the built environment. This fosters better

Above Acquiring 3D arboricultural survey data to enhance designs and planning applications.

engagement with stakeholders by visually communicating how new structures will coexist with the natural environment.

Incorporating high-resolution scan data into topographical and elevation drawings allows architects to anticipate challenges related to tree preservation or removal early in the design process. With detailed models of the existing landscape, architects can make strategic decisions about building placement, landscaping and construction methods. This reduces costly revisions or delays due to unforeseen issues regarding tree protection or ecological constraints. ●

 **PointSCAN**

enquiry@pointscan.co.uk
www.pointscan.co.uk
01767 661400 - 0208 1591000



Find out how our 3D tree surveys can benefit your project



FOTOHAUS

Apply now to the MacEwen Award 2025

Our annual celebration of buildings that work for the common good is open for entries. Send us projects that bring real social benefit

If you've recently completed a project that you feel advances social or environmental goals, engaging with inclusion, sustainability, communities, health, or anything that contributes to the common good, this is your chance to bring it to wider attention.

The RIBA Journal MacEwen Award was launched in 2016 to discover and celebrate architecture with a greater purpose – architecture that perhaps takes a little bit more effort but that has significantly more impact as a result. Over the years, the award has grown and evolved. We've remained flexible as to what 'common good' can mean, learning from the diverse approaches taken by entrants in their projects and practices. But this award has always been dedicated to foregrounding

responsible architecture that acts in the wider interest, whatever the context.

The winner of this year's MacEwen Award was Snug Architects for its Hope Street project in Southampton, which offers a place of safety for women in the justice system. The project involved tireless lobbying, activity, funding and fundraising from Edwina Grosvenor and the charity One Small Thing. To MacEwen judge Isabelle Priest, the result felt transformative and bold, while fellow judge Je Ahn of Studio Weave commented: 'It is an architecturally refined [project] and deals with difficult thematic issues.'

The award brings together every scale of practice and project, and entries may create a wonderful sense of place, engage with local issues or tackle global challenges. But each should do so with dignity and joy, and an abiding concern for the common good. The evaluation panel consists of Kathy MacEwen, planner and daughter of Anni and Malcolm MacEwen; Robyn Poulson, BDP London; Steve Wilkinson, James Gorst Architects; Mike Worthington, People Architects; and John Jervis, RIBA J. As with all the awards we run at the RIBA J, the MacEwen Award is free to enter and aims to reach under-represented parts of the profession. ●

**THE DEADLINE IS FRIDAY 25 OCTOBER 2024 AT 14:00 BST
FOR MORE INFORMATION AND TO ENTER VISIT:
[RIBAJ.COM/BUILDINGS/ENTER-NOW-MACEWEN-AWARD](https://ribaj.com/buildings/enter-now-macewen-award)**

Above The 2024 MacEwen Award winner: Hope Street, Southampton by Snug Architects.

THE MACEWEN AWARD

The MacEwen Award is named after Anni and Malcolm MacEwen, the former an urban planner who pioneered a conservation-based approach to regeneration in both town and country, the latter a campaigning journalist and former editor of this magazine

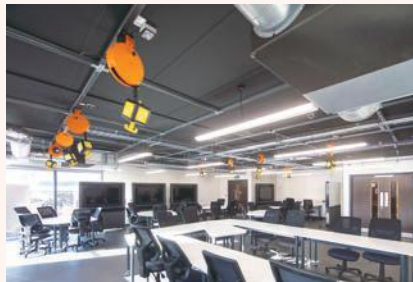
Modern methods of construction advancing sustainable architecture

As architects look to improve buildings' sustainability, modular construction offers a way to reduce both embodied and operational carbon emissions



Recognising ways to meet the requirements of changing regulations and policy demands is crucial in reshaping an architectural approach to sustainability. The ecological clock is ticking and designers have to take decisive action to mitigate the impact of global warming. Richard Hipkiss, development director of the Modular and Portable Building Association (MPBA) discusses with RIBA Journal how volumetric technology can support net zero objectives.

With its powerful combination of controlled deliverables and customisable outputs, modular construction supports key sustainability drivers and stringent building regulations. According to the World Green Building Council, construction and buildings in use are responsible for 39 per cent of all global carbon emissions. Of this, 11 per cent is linked to construction processes known as embodied carbon while 28 per cent is associated with operational emissions when a building is in use. So the challenge is two-fold.



Above Occupied by the Engineering and Design Institute London (TEDI-London) and designed by internationally renowned architect Hawkins\Brown. Premier Modular's MMC solution delivered a highly sustainable structure built in just nine months, minimising disruption to the local Canada Wharf community.



modular & portable
building association



Cutting carbon in construction

Designing for manufacture and assembly, achieves the optimal use of materials. In line with circular principles, any surplus materials are recycled or reused for future projects. A modular approach can reduce up to 90 per cent of waste when compared with traditional construction methods. The most compelling carbon benefits of modular construction come from the reduction in time on site and the optimisation of logistics. Data from members of the Royal Institution of Chartered Surveyors reveals impressive 50 per cent programme savings using MMC.

Reducing operational emissions

The precision manufacturing involved in modular construction supports energy-efficient design by limiting heat loss caused by thermal bridging, along with far greater accuracy in the construction process. Factory-manufactured buildings are highly accurate, well insulated and airtight, with air permeability of 1.5-3m³ @50PA being the norm.

Predictability of in-use performance is a substantial benefit in not only achieving net-zero goals but reducing primary energy requirements and in-use operational emissions for the lifetime of the building.

The MPBA collaborates with specialist technical advisors to enhance innovation in the design and manufacture of modular buildings. For more information visit: www.mpba.biz or meet modular experts at Offsite Expo on STAND B01.

2: Intelligence

**GATHERING EVIDENCE
ON EMBODIED CARBON**
CLARE MURRAY AND
RANIA KAPITANI,
LEVITT BERNSTEIN

Few architects can say they really know how much embodied carbon is locked up in the buildings they design. They will be aware that timber has lower embodied carbon than brick, or that some materials have a better end-of-life scenario than others. But we now urgently need to cut the amount of embodied carbon in developments to meet the UK's net zero commitments. In addition, local authorities are starting to set limits, targets or benchmarks, and require calculations, through the planning process.

Essex County Council recently commissioned us to carry out an evidence base for planning policy, which has now been made available for all local authorities in Essex to use when setting policy. Among the questions posed were, how do we know exactly where to set the limits, and how much more does it cost to use low embodied carbon materials? The industry has become much more familiar with reducing operational energy in the last couple of years, but when it comes to embodied carbon, there are still big challenges around the terminology – upfront, lifecycle, whole life, circular economy and so on – and even bigger ones around

the quantification of materials, and the carbon data for every material and mechanical system.

As part of the Essex Embodied Carbon Policy Study, we calculated and costed the upfront and lifecycle carbon of three low-rise house types using different construction techniques. The study demonstrates how traditional construction fares against low carbon options, giving plan makers and architects a good understanding of how their own designs might compare. It also serves as a handy embodied carbon explainer, investigating likely variations in upfront embodied carbon between data sources and material types.

The study was a collaborative project with Etude, Hawkins\Brown, Introba and Currie & Brown, and can be downloaded from the Research & Writing section of our website. With their help, we feel that it gives a full and revealing picture of how design decisions can have a positive impact in reducing embodied carbon emissions for a wide range of projects. ●

Clare Murray is head of sustainability and Rania Kapitani is a sustainability designer, both at Levitt Bernstein

Below As head of sustainability, Clare Murray is responsible for improving the environmental performance of Levitt Bernstein's work.



Below Rania Kapitani has been involved in the development of supporting guidance for the delivery of net zero design for local authorities.



LEVITT BERNSTEIN



Intelligence is officially approved RIBA CPD. Look out for icons throughout the section indicating core curriculum areas.

The Grenfell Report: lessons for architects

Last month's report placed particular criticism at the feet of architect Studio E. John Jervis summarises its findings and recommendations



Architecture for
social purpose



Health, safety
& wellbeing

The Grenfell Tower Inquiry Report, published on 4 September, comprises over 1,700 pages, with a 32-page executive summary, seeking to answer the question: 'How was it possible in 21st century London for a reinforced concrete building, itself structurally impervious to fire, to be turned into a death trap that would enable fire to sweep through it in an uncontrollable way in a matter of a few hours despite what were thought to be effective regulations designed to prevent just such an event?'

Across its pages, there is stringent criticism for many in local and central government, building regulation, construction and elsewhere. Particularly harsh words, however, are directed at the architecture practice Studio E as 'bear[ing] a very significant degree of responsibility for the disaster' with some of its failures having 'catastrophic consequences'. The report concludes that the practice's actions, along with those of its fellow participants in the refurbishment, suggest 'a number of common themes ... running through the story which, due to their nature, we think are likely to be repeated widely across the construction industry'.

In the course of the report, it is made clear that architects bear a significant responsibility for coordinating overall building regulations compliance, and cannot place undue and unchecked

reliance on the role of others, such as building control officers, contractors, specialist subcontractors and fire engineers.

Scope of obligations

An overarching criticism of Studio E is that it had 'a fundamental misunderstanding about the nature of its obligations' as lead consultant and designer. These obligations included advising on the need for consultants, specialists, subcontractors and suppliers; coordinating the design of all constructional elements, including work by consultants, specialists and suppliers; and determining materials, elements and components.

Instead, the practice treated subcontractors and consultants as 'solely responsible for their work and assumed, without enquiry, that it met the required standards'. In reality, the practice had 'an overriding obligation ... to ensure that the work was carried out properly and the choices of materials were suitable'.

This reflected a wider failure among contractors to 'identify their own responsibilities for important aspects of the design' – each assumed that someone else was responsible for matters affecting fire safety. This was exacerbated by the casual approach to contractual relations pervading the project, with the result that participants did not 'properly understand the nature and scope of the obligations they had undertaken, or, if they did, paid scant attention to them'.

It is suggested that this informality may be a widespread culture in construction, and 'a recipe for disaster if events take an unexpected turn. All those involved in whatever capacity in



a complex project need to understand clearly what they have agreed to do and what they are responsible for.' The report also states that the principal contractor is key in achieving this understanding as 'the only person who can ensure that clear, documented contractual arrangements are in place before a subcontractor or consultant begins work'.

Terms of contract

In this instance, there was a failure to grasp that, under the terms of a belated contract with principal contractor Rydon, the architect remained responsible for the design work it had already carried out, became responsible for any further work it was required to carry out, and had an obligation to take reasonable steps to ensure that all designs, whether produced by itself or any subcontractors, complied with statutory requirements. It also agreed to coordinate design work by contractors, subcontractors, consultants and suppliers, and the steps needed to obtain building control approval.

Studio E 'took an unduly narrow view of its responsibilities after the novation', checking drawings and specifications for 'architectural intent' only, and believing contractors and subcontractors were responsible for the design element

SARAH LEE



Above Commemorating the tragedy at Grenfell Tower.

of their work when in reality, as lead designer, its own responsibilities extended considerably further.

The practice also displayed 'a fundamental misunderstanding... that the function of building control is to provide a service to applicants rather than to enforce the regulations robustly for the benefit of the community at large' – it should not be seen as acting as an 'additional consultant' or 'safety net'.

Despite the practice's understanding that building control was 'primarily responsible for confirming compliance', it was Studio E's ultimate responsibility to coordinate the design of all constructional elements, including work by consultants, specialists or suppliers, and determine 'materials, elements and components, standards of workmanship, type of construction and performance in use', ensuring specified products complied with building regulations.

Lack of familiarity with building regs

Throughout, the report criticises the architect's lack of familiarity with and understanding of the significance of building regulations, leading to ignorance of how compliance with fire-safety requirements could be achieved,

with a tendency to rely on past practice. In addition, there was a failure to refer to guidance around fire performance of materials and cladding systems – including BBA certificates – and to take 'active responsibility' for the choice of materials throughout the project, including substitutions by contractors. Alongside the failure to devise a proper cavity-barrier strategy at tender stage, these were 'serious errors that had direct and catastrophic consequences'.

Poor record-keeping

Poor record-keeping is strongly criticised, including the failure to ensure that subcontractors' drawings were complete and accurate, and the endorsement of flawed construction drawings. This resulted in full information, including critical alterations to materials and specifications, not being communicated to building control or the fire-safety consultant. These oversights related to a lack of understanding of responsibilities, but also a general failure to drive forward the completion of the fire-safety strategy – a positive engagement that should be seen as within the remit of a 'competent architect' – and also to advise both landlords and contractor that this needed to be achieved.

There are other criticisms of Studio E along the way, including the inaccuracy of its final 'as-built' drawings; the inadequate internal peer-review processes and quality assurance systems at the practice, with an over-reliance on continuing professional development (CPD); as well as a general lack of familiarity with industry guidance.

'If you work in the construction industry and you don't feel the weight of responsibility you have to keep people safe, you are in the wrong job'

Recommendations to architects

Two specific recommendations to architects are made at the close of the report. The first urges the Architects Registration Board (ARB) and the RIBA to review changes already made to improve the education and training of architects since the tragedy.

At the RIBA, these changes have included creating a library of health and life safety CPD, introducing a health and safety test (to become mandatory in 2025) with a companion guide from RIBA Publishing, and launching a Principal Designer Register – all of which are annually reviewed.

The ARB, meanwhile, has introduced a mandatory scheme for CPD, applying to all registered architects, and new competency outcomes that all providers of ARB-accredited qualifications must meet.

The report's second recommendation to architects is for a statutory requirement that an application for building control approval in relation to the construction or refurbishment of a higher-risk building (Gateway 2) be supported by a statement from a senior manager of the principal designer under the Building Safety Act 2022. This would state that all reasonable steps have been taken to ensure that, on completion, the building as designed will be as safe as is required by the building regulations.

Among the many wider recommendations are proposals that the government 'draw together under a single regulator all the functions relating to the construction industry to which we have referred', and that 'to define a building as "higher risk" by reference only to its height is unsatisfactory'.

But the report's fundamental message is that safety must always remain the absolute priority, irrespective of participants' assumptions about areas of responsibility. As Thouria Istephan, partner at Foster + Partners, and a panel member on the inquiry, said at the launch of the report: 'If you work in the construction industry and you don't feel the weight of responsibility you have to keep people safe, you are in the wrong job.' ●

What's your clients style?

Soho...



The next generation of door is here. The new Origin OB-36+ system is available in 2 different collections. The Soho aesthetic is perfect for replicating a sought-after steel-look design, whilst the Contemporary style offers an elegant way to maximise light levels in a home. Both systems are 2025 Future Homes compliant for thermal efficiency and feature sightlines of just 36mm.



or Contemporary?



To start specifying Origin, call **0808 192 0041**
or visit origin-global.com/commercial

Bi-fold Doors | Front Doors | Internal Doors | Sliding Doors | Windows

origin-global.com

Building blocks for a new generation of low-carbon architecture

The transition to low-carbon buildings marks the greatest change in architecture in a century. Simon Sturgis outlines the detailed assessments that need to be made at every step



Sustainable
Architecture



Design, construction
& technology

Mark Carney, when he was governor of the Bank of England, stated: 'We can't get to net zero by flipping a green switch. We need to rewire our entire economy.'

This is not something that can be solved with an impressive BREEAM rating, or meeting energy targets; it requires a comprehensive overhaul in the way buildings are designed. To achieve truly low-carbon buildings, we will have to re-examine, from the earliest design stages, everything, including the overall shape, structural efficiency, envelope, materiality, energy use, durability, life cycle, end of life and so on. Nothing will be left unchanged.

This is therefore an exciting time for architects as the opportunities for architectural innovation are multiple. We are at the threshold of the greatest change in architecture since the birth of the modern movement 100 years ago.

It is driven by the climate crisis, which means that the planet is on course to increase temperatures by 3°C or more by the end of this century. This will lead to the extinction of whole nations (eg the Maldives) and coastal flooding in low-lying areas (eg East Anglia and parts of Florida) and other devastating consequences. To divert from this course

we are on requires behavioural change by all of us. The built environment is responsible for some 43 per cent of global emissions, and architects' actions can directly mitigate climate change, or, alternatively, make it even worse. Architects need to act.

In my previous RIBA Journal article (RIBA J March 2024 p50), I discussed the practicalities around whole-life carbon assessment and how to do it with reference to the second edition of the RICS Whole Life Carbon Assessment. I also covered the benefits, the business case and general assessment guidance for delivering low-carbon buildings. Of course, we deliver change through calculation but we also need to develop a 'carbon intuition' to help

us to make good, low-carbon design decisions without the need for detailed assessments at every step.

This will evolve with practice, such that we develop an understanding of how to look holistically at every design issue from the carbon and resource efficiency perspective. We need to be able to understand the impact of our design choices not just at practical completion but well into the future. We need to know

Below The Enterprise Centre at the University of East Anglia, designed by Architype, is clad in thatch. It may well last longer than double-glazed units and the neoprene seals around them. **Right** FCBS's CLT-framed offices show that very low-carbon life cycle thinking and material choices can be applied to a central London commercial building.



DENNIS GILBERTVIEWPICTURES



how our buildings will perform over many decades, how they can be managed and maintained, and in the longer term how they can be reused, adapted and ultimately dismantled and repurposed. Practical completion is no longer the cut off in terms of our responsibilities.

Reuse of existing buildings via retrofit or refurbishment is a fundamental part of reducing both carbon emissions and the use of new resources. The circular economy, as in recycling (good) repurposing (better) and reuse (best), of materials and buildings will be a central part of the net zero economy.

Westminster City Council is already in the process of enacting planning requirements that will have a clear presumption against demolition, and in favour of retrofit/refurbishment. This new policy is groundbreaking in its detail and will require meeting very

Reuse of existing buildings via retrofit or refurbishment is a fundamental part of reducing both carbon emissions and the use of new resources

stringent LETI whole-life carbon targets and will require that the whole-life carbon of a new building is less or similar to a retrofit option. This approach will mean that, within Westminster, architects and design teams are forced, to paraphrase Carney, to 'rewire their entire design approach'. Westminster is already attracting a lot of interest from other local authorities, both in the

UK and elsewhere, so we can expect these sorts of conditions to become increasingly prevalent.

But we still need new buildings, particularly for housing. So, what are the key issues architects need to focus on to ensure they are making inherently low-carbon choices, that will deliver good results and lower whole-life carbon?

- Assessing: Whole-life carbon assessments should be started at the outset of the project as the greatest carbon impacts are established at the earliest strategic design stages.
- Existing buildings: When the site already includes buildings, the first action should be to examine how best to reuse them. This is the easiest way to minimise carbon emissions and optimise resource efficiency. It is also the most circular approach to such a site.
- Shape: The overall efficiency of the shape of a proposed new building,

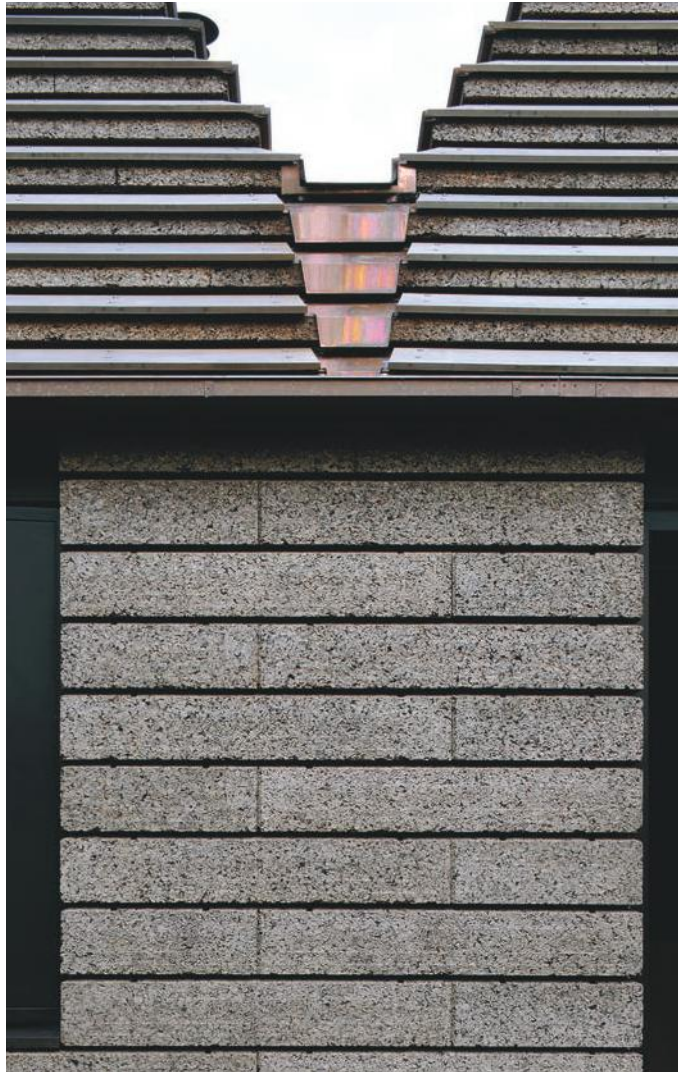
sometimes referred to as wall-to-floor ratio, is a key early determinant of overall carbon and resource efficiency. Complex external shapes require more material and also offer more surface to gain or lose heat. Compact, efficient shapes are inherently more carbon efficient.

- **Structure:** The nature and materiality of structure is a huge influence. Buckminster Fuller famously asked: 'How much does your building weigh Mr Foster?' – a prescient point that is arguably still valid (see p56 on lean structures). The lowest carbon structure may be to do with materials, or it may be to do with how efficiently you use the materials chosen. How elements are disassembled can be as important as what they are made of.

- **Envelope:** Fundamental issues when designing the envelope involve balancing low-carbon construction with long life/durability, and high-quality environmental performance. A key issue is glazing. Double-glazed units are a notoriously weak point in a facade as they don't last more than about 30 years. This leads to replacements not just of glazing but also framing. All-glass facades are, therefore, a major problem. The maintenance and replacement of elements needs to be thought through from the outset.

- **Energy use:** The new RICS Whole Life Carbon Assessment standard enables kWh to be translated into kgCO₂e. This is crucial as energy use can be designed to optimum efficiency as part of a carbon cost/benefit equation in conjunction with the facade design. Operational and embodied emissions trade off against each other to optimise both. This may seem a technical point but it is a revolutionary principle that will change the way we design facades.

- **Interiors:** Life expectancy and how you handle ageing and wear and tear are fundamental issues to resolve. The choice between selecting materials that age well versus the need for regular redecoration is a balance of choices. We can now assess the comparative lifetime carbon costs of materials that can age well without maintenance versus those that require regular refinishing.



Left Cork House by CSK Architects has innovative and unexpected use of unusual materials, from a completely renewable resource.

- **Materials:** Many regularly used materials can be perceived as either low or high carbon. This is usually an oversimplification. There are no default guaranteed low-carbon options. Timber is often cited as the solution but designers need to understand the disposal emissions costs as well as the sequestration benefits. In addition, if timber use increases from the current 4-5 per cent of construction materials to, say, 25 per cent, this would have a disastrous impact on global forestry. From the carbon perspective the optimum material for a task is the one that has the lowest environmental impact over its entire life cycle. The global supply chain is already innovating to adapt existing products and produce new products to meet

today's requirements.

- **Reuse, repurposing, recycling, and circularity:** Reusing materials in the next best thing to reusing entire buildings, provided this can be done efficiently. We should also be designing for future circularity so that our buildings can be maintained and reused with minimum future waste or energy use.

The above pointers give a small window into design thinking for lower carbon outcomes; they will change the nature and expression of architecture. Climate mitigation will be the driver of a new and exciting architecture. ●

Simon Sturgis is an architect, founder of Targeting Zero and lead author of the RICS Whole Life Carbon Assessment for the Built Environment, second Edition, 2023

Design considerations for solar PV retrofitting

What are the essential design considerations when retrofitting solar PV systems onto commercial buildings to ensure safety, efficiency and compliance with regulations? Justyn Irons, technical manager at high-performance building envelope manufacturer Garland UK, gives an overview



capacity is recommended. This is particularly important for low-pitched or flat roofs, where additional measures like ballast-reducing mounting systems or mechanically fixed structures might be required. These solutions help maintain the roof's waterproofing integrity while supporting the solar array.

Roof condition

Given that PV modules now come with product and performance guarantees of up to 30 years, it's vital to ensure the roof structure is in good condition before installation. A full envelope guarantee, covering both the roof and the PV system, is ideal for minimising future costs associated with roof repairs.

Energy needs and system design

The PV system should be tailored to the building's energy consumption patterns, focusing on meeting peak demand without overproducing energy that would be exported to the grid since financial returns from exports are minimal. For larger systems, you will need to engage with distribution network operators (DNOs) for connection approvals.

By addressing these design considerations, architects and specifiers can ensure that solar PV installations are both structurally sound and optimised for energy efficiency, contributing to the building's long-term sustainability and regulatory compliance.

Feasibility assessment

The first step is to assess the building's eligibility for rooftop solar PV installation. While solar PV installations typically fall under permitted development, specific conditions must be met, such as panel placement limits on roof slopes and walls. Planning permission is necessary for listed buildings or sites within conservation areas.

Structural suitability

Once eligibility is confirmed, evaluating the building's structural integrity is crucial and consulting a structural engineer to determine the roof's load

Read the full story here
and find out more at
Garland UK



Above A full envelope solution where the roof and PV system carry the same guarantee lengths provides the most efficient outcome for future savings.



garlanduk.com

Seductive imagery mustn't lead to a wasteful design

The Emory hotel offers lessons in leanness from collaborating engineers, to avoid unnecessary structure or enclosed spaces, so expending less carbon, says RSHP's Ivan Harbour

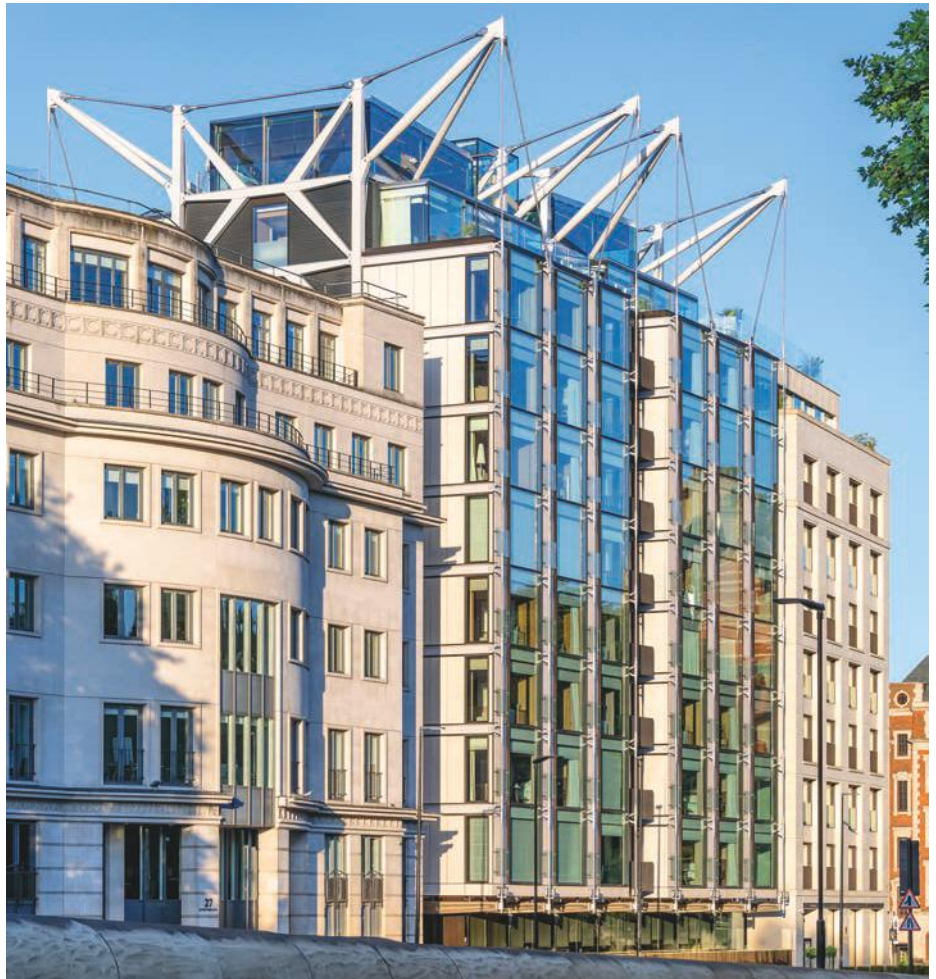


Design, construction
& technology

An architect once told me how disappointed he was that the hefty structure holding up his building didn't match his vision of lightness. No matter, once sandwiched behind a few layers of drywall, his vision was restored!

In the case of RSHP's design for The Emory hotel in London, the overarching image of the building reflects the most complex of the challenges it had to meet: how to overcome gravity where there was limited opportunity to come to ground? Gravity is a serious matter! Seductive imagery made without its consideration ultimately attracts excessive weight to counteract otherwise destructive forces. Architects cannot afford to be wasteful in this manner; it is our duty to the environment and the economics of construction not to be.

The Emory occupies an extremely confined site, perched above many of the operational spaces that support neighbouring hotel The Berkeley. From the outset, the team was confronted with an inordinate number of technical, spatial and logistics constraints. These ranged from the site's close proximity to Piccadilly Line tunnels, working alongside a hotel with over 90 per cent occupancy, to having to share many common facilities and the need to maximise room space without affecting accessibility in use, all on a very tight site. The project has revealed a level

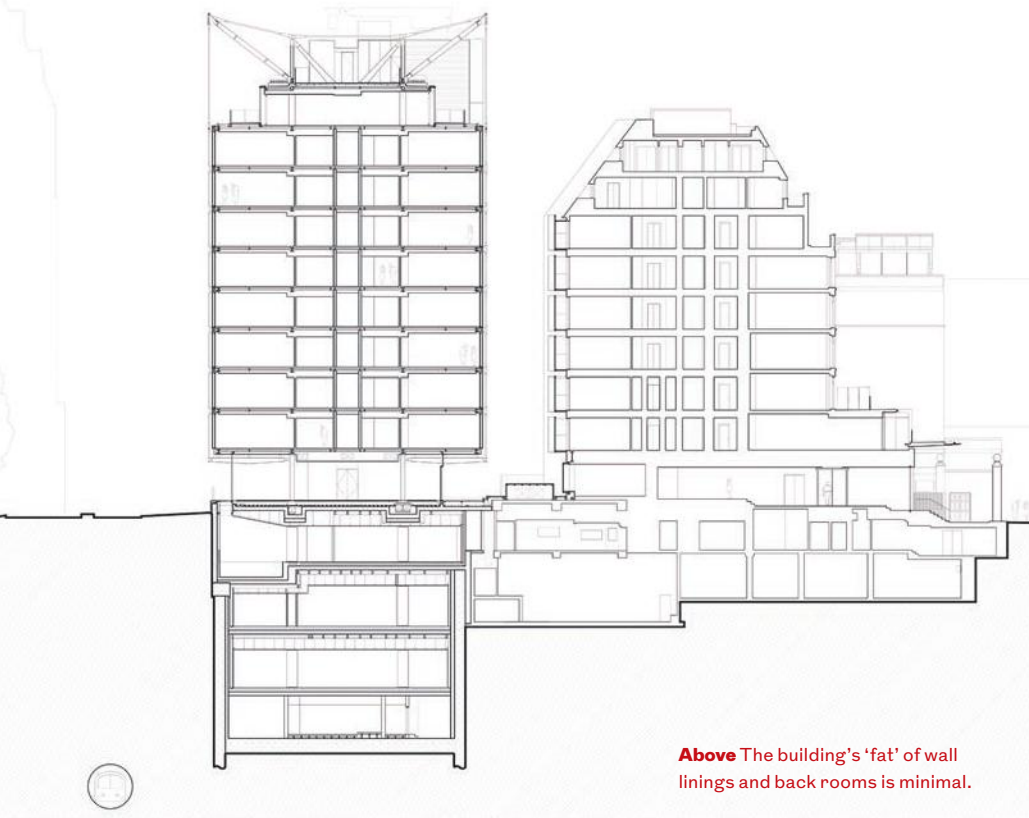


Above On The Emory hotel, RSHP had to devise a design that overcame gravity with limited opportunity to come to ground.

Client Maybourne Hotel Group
Architect RSHP
Site architect Oscionn
Executive architect Blair Associates Architecture
Structural engineers Expedition Engineering, WSP
Facade engineers Arup, WSP
New build facade and structural steelwork Bysteel

of spatial and logistic complexity that would normally be lost in a building's 'fat' – its wall linings and backrooms.

Rather than resolving these challenges on an ad-hoc basis, we collectively adopted a clear design strategy, integrating the engineering solutions alongside space planning, to inform how we could problem-solve while maintaining the integrity of the concept from which we ultimately evolved the architectural response.



Above The building's 'fat' of wall linings and back rooms is minimal.

creating uplifting, human-centric, spatial experiences.

A linear design process, whereby engineers take architects' information and fill in the gaps, ideally in one pass, with structure, pipes, ducts and wires squeezed into the architect's 'vision', can, by definition, never deliver a finely honed integrated design. On the contrary, I would describe this as 'sloppy' design, not to be mistaken with 'loose fit'. This is design where interiors are 'boxed-out' from exteriors and it encourages wasteful use of space and material.

If we are to have any chance of achieving net zero or better, we need to touch the earth much more lightly than this, and that requires our buildings to work harder, to minimise excess and maximise efficiency.

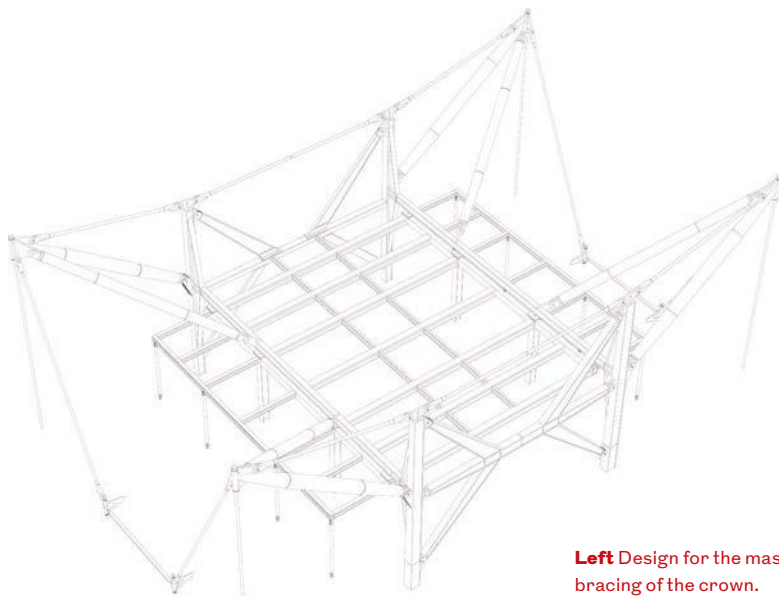
Only close collaboration from the outset, where architect works alongside engineer to conceive the design together, can lead to buildings that stand a chance of achieving this goal.

Rules for reducing weight

Some of the aspects and unwritten rules that I consider when approaching a design from the outset are:

- This not a solo occupation. It needs continual feedback and criticism, together with creative engineers in the room.
- The design should aspire to elegant simplicity for long-term relevance and durability. It is a mistake to assume that complexity in plan equates to interesting space.
- Integrated design works harder, minimising net-to-gross floor areas, optimising volume and improving value.
- The building's orientation, form, mass and fabric should always be designed to contribute passively to improved energy performance.
- Designing with rhythm and standardisation in mind will improve economy, efficiency, performance and quality.
- Don't have expensive hidden transfer structures. Designing these out is one of the most satisfying aspects of structural/spatial co-ordination. If they're really needed, then show them off! ●

Ivan Harbour is senior partner at RSHP



Left Design for the masts and bracing of the crown.

Resolving these constraints has generated a building uniquely defined by its location and a bespoke hotel in itself.

While sitting comfortably within the surrounding streetscape, The Emory maintains its independence, legible from its immediate neighbour despite being technically enmeshed with it. The building's most distinguishing feature is its unconventional structure – a key design strategy to balance the load paths to ground in a building with no conventional load-bearing core which oversails adjacent subterranean

spaces. This structure has even helped characterise the hotel's branding, lending both further integrity and timelessness.

Going beyond a linear design process

The close co-ordination across disciplines from the outset of design, necessary in a complex environment such as The Emory's, is long embedded in our practice, driven by our desire to create straightforward, rationally organised buildings that project and celebrate integrity while

SKELETAL CONSULTING ENGINEERS

“We’re the backbone to your development”

We are a team of Structural Engineers who are technically excellent, straightforward to work with and who care about the impact our projects have on the environment. We pride ourselves on the high quality of our designs and our collaborative approach to our work.

Our Services

- Sustainable structural engineering design of buildings
- Civil engineering design of SuDS and external works
- Embodied carbon analysis of building structures
- Site option appraisals and feasibility studies
- Structural surveys and investigations
- Geotechnical and geo-environmental investigations

mail@skeletalconsulting.com

www.skeletalconsulting.com



UK AWARDS 2025 → ENTRIES OPEN SOON

KEY DATES

Entries open: 17 October - 12 December 2024
Submit early to save: 14 November 2024
Webinars dates: TBC

Get ready to enter

Visit our website to read the latest guidance and register for a free webinar: architecture.com/awards

Email us to discuss your entry:
awards@riba.org

Projects photographed:
John Morden Centre © Jim Stephenson.
Green House © Kilian O'Sullivan.



RIBA 
Architecture.com

Lean design is nothing new, we just need to relearn it

Any waste whatsoever is criminal – and today’s technology makes it more avoidable, argues Techniker founder Matthew Wells



Sustainable
Architecture



Design, construction
& technology

Just the other day my IT friend was telling me the term ‘lean design’ comes from a post-war initiative by the Toyota Company: ‘improve process, reduce waste’. Everyone involved contributes ideas towards a continual improvement.

In construction it is an ageless and fundamental way of working. At design school in the 1980s, it was implicit in everything we were taught and tried to do. It didn’t need to be expressed.

There was no formal tuition on embodied energy, carbon footprint or the circular economy. The emphasis was on lightness and weight reduction. There were (very good) courses on aircraft structures, concrete shell design and construction techniques, how to make buildings safely and elegantly connected – nothing on dismantling, amending, safeguarding. But references to a moral coding were beginning to appear: architect Richard Horden’s exhortation to ‘touch the ground lightly’; Buckminster Fuller asking ‘how much does your building weigh?’

Lean design can manifest itself in many ways and at any time. Engineer Jacques Heyman put a cathedral’s structure through a modern design code to show that the stone structure was as refined as we could make it today. Design codes are continually updated but, with each iteration, carefully mediated to achieve the same acceptable safety levels.



DENNIS GILBERT/VIEW

Above Horden Cherry Lee’s Study Gallery in Poole follows the exhortation to touch the ground lightly.

So the emphasis was on lightness. Then it got subsumed into other sustainability concerns, reappearing in Frei Otto’s 2005 RIBA Royal Gold Medal address (he spoke of planning the reconstruction while in a prisoner of war camp, all based on a new form of ultra-light design) while this year’s Institute of Structural Engineers gold medallist, Werner Sobek, re-presented it almost as an apology for something not to be forgotten in the sustainability universe.

There can’t be a legal obligation towards lean design. We can do what we

want with resources if it adds value to life as lived now. But any waste whatsoever is criminal. Don’t temper back what can be achieved now for an uncertain future but don’t waste a thing.

Down-specing isn’t an essential part of lean design. Andrew Carnegie complained that bridge engineer Joseph Strauss treated structural steel as if it were silver – but the future standard of the American product was thereby set forever. Many structures operate on utilisations of 70 to 80 per cent of their capacity. The remainder amounts to pure loss and is there for the taking.

Lean design is an antidote to the construction industry repeatedly chasing ‘innovation’. The full palette

of materials is retained and ever expanding. Lean design is agnostic. That means different materials for different typologies; no more universal applications.

As with anything new, lean design starts with a partial embrace and even that with the greatest circumspection and risk aversion. Setting up a problem, then solving it flamboyantly, is the obverse of instead finding the line of least resistance where the cleverness goes almost unnoticed and is made by accumulation and nuance.

The presentation of architecture as high art, with every building potentially a masterpiece, may well be fading. And if the auteur is on the way out, the crafted can fill the void. We see Shaker simplicity celebrating the everyday – something beautifully made, and so economic in all its parts.

It is the internet revolution that now needs to be exploited. Everything has been tried before, and proper documentation will allow AI to roam freely – not to design (we'll do that) but, like a chess computer, to run through all the examples and ramifications and test against the 'leanest' criteria, offering sub-optimal models we can choose to develop or reject.

AI and the internet give us an infinitely deep referencing resource. We shouldn't lift out Bargain Breuer or Prouvé Pauvre, the motifs or even the forms, but get behind the appearances to the metasystems generating deep form. I've often speculated on an engineering student exercise whereby you take a classic example – the Forth rail bridge, Edith Farnsworth House, Mart Stam's chair – and engineer it down, manually or by machine.

The internet of things becomes vitally important for the next phase of lean design. Data-logging the actual environment by using the installations themselves as sensors should continually add experiential learning to our understanding of the environment.

In the hundreds of buildings that Techniker has constructed over the years, there are only two where future demolition or full reuse has taken centre



MARTIN CHARLES / RIBA COLLECTIONS

stage. Our Royal Victoria Dock bridge was copied from the French transporter bridges. It is erected without any bolts or welding and comes down as quickly as it goes up. An arts centre on the Old Kent Road, meanwhile, was intended to one day return to a pile of B&Q products to be offered at the side of the road. Allowing any more energy than necessary to be deferred to a decommissioning stage is wicked. Reconfigurable infrastructure might yet be more approachable and desirable an objective than currently imagined. Roman bridges were always demountable.

We have to start recording everything that happens to us in the design process. Everything. The waste is there in the contractual procedures, everyone knows it. Lean design offers an

We shouldn't lift out Bargain Breuer or Prouvé Pauvre, the motifs or even the forms, but get behind the appearances

Above Woodland Cemetery, Stockholm, the Monument Hall and Chapel of the Holy Cross: Gunnar Asplund's work embodies lean design.

alternative path to the recentring of our entire field of operations, moving it away from the notion of an ideal condition to strive towards one where we take our place in a benign world.

Our technology is the only thing that stops us getting wiped off this planet right now. It's a mixing desk of making the best of things till we're gone. It's not going anywhere and it's never going to get there. It's in the doing of things now. The technology will get more labyrinthine but there is nothing new to invent. The internet stores all the ways of doing. The deliverable of design has altered. It is no longer about invention; it is the simple accumulation of knowledge.

Which architect's work best embodies lean design? Why Gunnar Asplund of course. Working within a very clearly defined idiom – neoclassicism/modernism – the way things are arranged, physically realised and modestly expressed is utterly detached and complete within itself. ●

Matthew Wells is an engineer and founder of Techniker Consulting Engineers

EQONIC® Powering a Sustainable Future

Transform your sustainability landscape with our comprehensive clean energy solutions. As a leading innovator, we design and supply a wide range of energy storage products featuring our industry-leading EQONIC® battery energy storage systems and inverters.

Tailored Solutions for Every Sector

Industrial



Commercial



Residential



Why Choose EQONIC?

- Market-leading technology
- Tailored solutions
- Unparalleled support
- Sustainability focus



The EQONIC® smart Energy Storage Solutions (ESS) allow buildings to generate their own renewable energy, such as solar or wind power and purchase low cost energy at off-peak times, and store it for use when needed.

Comprehensive Services:

- End-to-end expert support
- Online monitoring
- Servicing and maintenance plans
- Fully Funded Solution (optional)

Transform your business with green energy. Reduce costs, boost sustainability, and enhance your brand's reputation with EQONIC's innovative and reliable energy solutions.

Passport to circularity

Material passports can enable reuse of materials as part of a circular economy. Adam Ozinsky of 3XN explains how it is implementing passports in practice



Design, construction
& technology

As our industry transitions to confront the challenges of climate change, it is increasingly clear that a low-carbon future and the circular economy are inextricably linked. Indeed, one of the surest ways of reducing carbon emissions is to prolong the life of materials by reusing them for as long as possible. But doing so at speed and at scale is a challenge, and with the myriad considerations that come with multimillion-pound developments, uncertainty remains the foremost obstacle to wider takeup of reuse.

Implementing material passports is one way of mitigating some of this risk. By codifying and validating the information associated with key products and materials, we can reduce future uncertainty. We call them

passports because, in the same way that a human passport identifies key information about a person as they travel, a material passport identifies the product or material as it moves through the supply chain.

We are witnessing greater interest and willingness across the industry to deliver material passports. In Europe, the protocols for Digital Product Passports (DPPs) are being worked through. These aim to develop a digital identity card for materials that stores key information to support circularity and transparency. Closer to home, Orms and Lancaster University have led the multi-year development of a UK framework that aims to promote material passport delivery in policy. However, we continue to grapple with the definitions, theory, use cases and tools – often at the expense of action. We need to help the industry demystify and standardise the process, so that we can accelerate that action.

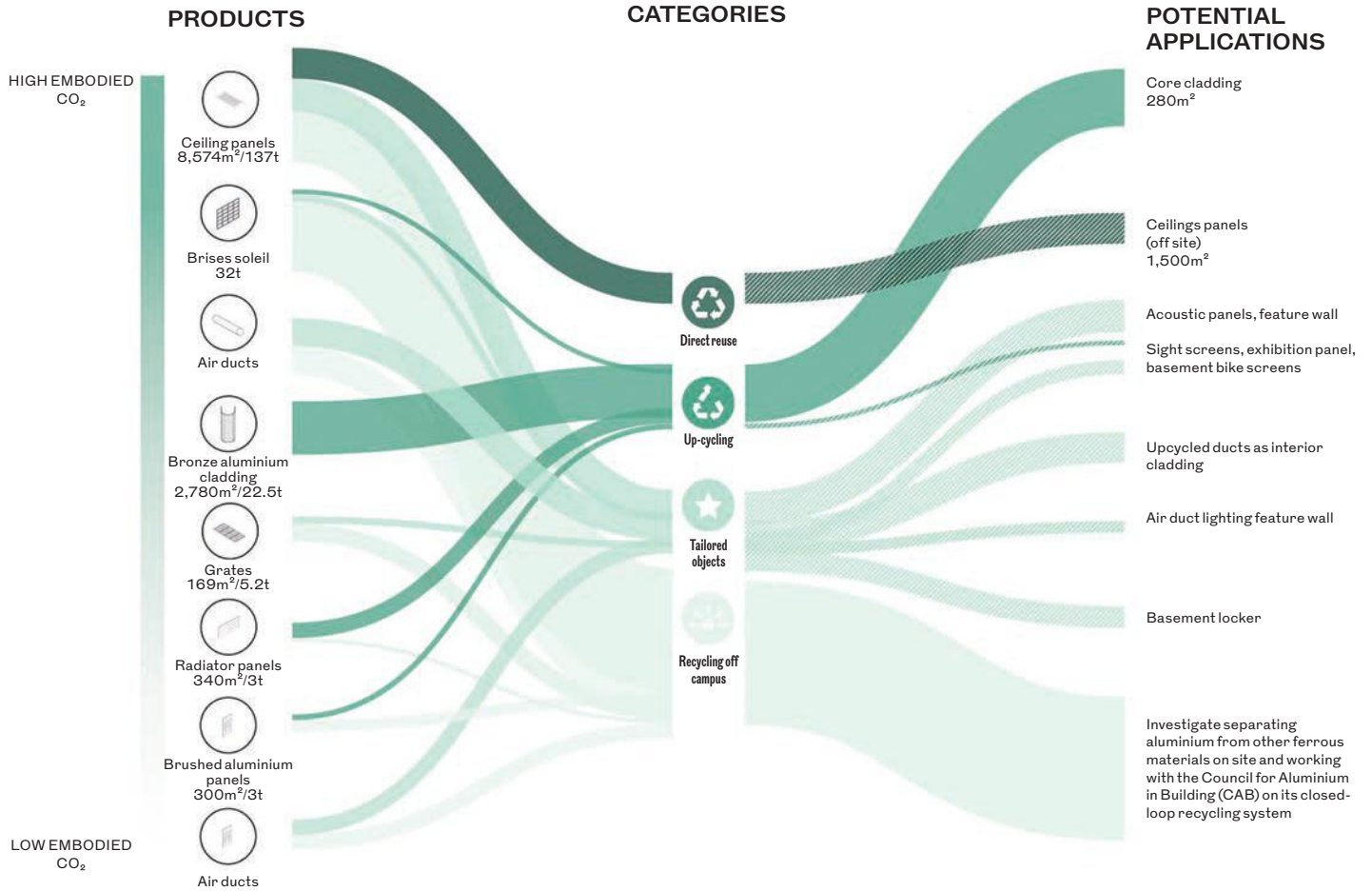
For more than a decade, 3XN's consultancy arm GXN has been acutely

Above 2 Finsbury Avenue, London, is part of British Land's Broadgate development. As overall sustainability consultant, GXN proposed a series of innovative material upcycling strategies.

aware of the importance of material provenance in facilitating reuse – even if we don't always refer to passports. We know a significant amount of information gets lost in how we design, procure and construct buildings, resulting in multiple challenges when we try to bring it all together.

One challenge is that the information sources for individual elements are not interoperable. Some information exists in digital models; some exists in specifications, purchase orders or delivery notes – and these don't talk to each other. This fragmentation is a function of a supply chain that is not integrated end-to-end in a way that upholds data integrity and transfer.

Another challenge is scalability. You can imagine the information described above, while fractured, is relatively



straightforward to gather and manage for a small house extension. But when scaled up to a 50,000m² commercial tower or a portfolio, the sheer amount of data to collect and structure becomes unmanageable.

This is exacerbated by the increasing disconnect between the design process and the procurement and (more so) manufacturing processes. Complicated supply chains mean the information chain of custody is more difficult to ensure across a network of designers, contractors and manufacturers.

In our practice, we have seen how much we can learn from doing. So we have developed and trialled some practical first steps in addressing these challenges and accelerating the effective implementation of material passports at scale.

Break it down

The first step for us is to define what the material passport should do, which

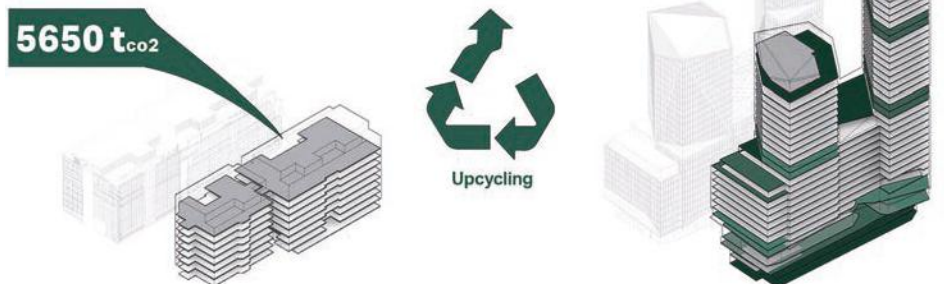
may vary for different organisations or different projects. Our recent work has focused on generating passports that expressly facilitate better reuse, recovery or recycling.

Having this purpose as a lens is important as it allows us to filter the materials we are interested in. It also simplifies the data collection requirements by focusing only on those that assist in delivering our aim.

Be specific

Having established a lens, next is being clear on what information we want to collect, when and from whom. In our research, almost all contractors asked for clarity on what was expected of them when delivering material passports. It is up to us to develop tailored information protocols for specific materials, as well as the tools that allow for this information to be collated, recorded and stored in a

Above GXN conducted a pre-demolition audit to map resources in the existing building at 2 Finsbury Avenue, identifying materials with potential for reuse or upcycling. From this came an Upcycling Catalogue (top) of tailored reuse and upcycling for the new scheme.





structured manner. Rather than aiming to collect an all-encompassing set of data for all materials, we have been specific about what information we require from the supply chain – at both a material and parameter level – while, in this case, focusing on improving the chances of better reuse, recovery or recycling.

As an example, for structural steel, you only need knowledge of basic geometry, manufacturing date, strength, certification and coatings since it will likely be tested before reuse. Carbon and circularity data may be useful for reporting but do not directly facilitate reuse. But having the protocols and tools is no guarantee of success. They must be backed up by clear specifications and reporting requirements, collaboratively developed, and secured in contract.

Start now

It is likely that the nebulosity of the term material passport has stymied action. In our work, which certainly builds on that of others, we've tried to take an alternative approach: let's try something now with real projects, real procurement teams, real information. And even if we get it slightly wrong, we'll learn something in the process of actioning it and we'll use that feedback to course correct.

What we've found with steel, as one of our trial cases, is that the specific information we're asking for already exists in the supply chain – it's just coming from disparate sources so

Above Dock Shed at Canada Water, south London, designed by Allies and Morrison, where the focus is on gathering data for potential reuse.

reconstituting it isn't always practical. It is our intention that by starting to ask for this information now, we can work with the supply chains to improve this data exchange such that it is practical in the near future.

Every building we deliver today without a passport is an opportunity lost. They may not rule out any of the checks required to reuse materials but, at the very least, they will save valuable time at the front end of redevelopment projects, and increase the chances of successful reuse in future.

The dream might be a set of standardised definitions and requirements, feeding into a common environment that enables the interoperability we all desire. To get there, we need the taxonomies, the schema, the policies around which there is already excellent work and cross-industry collaboration.

But to accelerate action, and to do so at speed and at scale, we need to start testing ideas, engaging with supply chains, and creating collaborative workflows to better share information. Only then will we understand some of the real-world barriers and what we can do to work through them. ●

Adam Ozinsky is senior associate at GXN, a strategic consultancy for the built environment founded by 3XN

HOW BRITISH LAND IS USING MATERIAL PASSPORTS

Material passports are one of the ways we can prepare our buildings for the circular economy of the future. In 2021, British Land trialled them using the Madaster system on 1 Broadgate. Working with 3XN, we put the design information into the platform. We extracted information from the BIM models and are now at the exciting stage of uploading actual as-built information from the project into the platform.

At the Dock Shed, which is part our Canada Water development, we are working slightly differently: with our own protocols and way of capturing data, with 3XN supporting. We had to look at what data we needed with the aim of facilitating reuse or recycling. That includes the location of items, their geometry, and some basic sustainability/circularity information. We focused on some of the biggest carbon offenders: steel, aluminium, facade glass and raised access floors. Now we understand how to ask for this information from contractors and subcontractors, what is readily available and what is not, and how to do quality assurance. As we learn, we are planning to roll it out across the Canada Water masterplan and the rest of the development portfolio.

We need to keep it simple – in three decades when we access the data, there will be a different design team and it will be hard to sift through all the possible material. To capture absolutely everything that goes into a building is resource heavy so we are simplifying what we ask for and storing the data centrally at British Land. On this test project it has been easy to get certain data for the steel frame via the steel contractor's model, but sustainability information that is disconnected from the model has been more difficult to acquire. The opposite is the case for products like raised access floors, where we have captured EPDs and warranties in a straightforward way.

In 2020, British Land launched a new sustainability brief with a requirement to look at material passports. By the time we had our own protocol in place, Mace was contracted on the Dock Shed and the whole team was willing to give it a go, dealing with different parts of the supply chain. We can already see that we need to better implement the requirement through the tender and the contract so contractors can prepare their subcontractors.

We will continue to trial platforms but also want to store data in house as there is a risk we'd need to be searching around for who has the password in decades to come. At 1 Triton Square, we were lucky enough to be able to retain and refurbish the whole facade 30 years on because we still had access to key information from the original construction. So it is possible.

Sandra Sezgin is senior sustainability manager at British Land

The future of sustainable tiling and manufacturing with Tile of Spain



Known for their decorative beauty and high-performance functionality, Spanish ceramic tiles offer a multitude of solutions to specifiers for an array of environments and end-use applications, both interior and exterior. Whether at home in a kitchen or in larger commercial spaces, ceramic and, particularly, porcelain type tiles are natural, plastic-free and made without toxic substances or volatile organic compounds (VOCs).

Not only do the products themselves provide incredible advantages but an environmentally conscious manufacturing process is key to the success of the Spanish tile industry. By working with manufacturers committed not only to the highest quality and design values but also to ensuring regulatory compliance and social responsibility, architects, specifiers and designers can have confidence in specifying tiles from Spain.

With the EU wanting to be climate neutral by 2050 and reduce greenhouse gas emissions by 55% by 2030, the Spanish ceramic tile sector is determined to adapt its production processes and also achieve net zero greenhouse gas emissions by 2050. It aims to do this by



making technological and innovative improvements to the production processes that focus on the idea of the circular economy.

Leading the way, the Spanish ceramic tile industry has led the development of a sectoral EPD for ceramic tiles at European level, on the basis of a representative sample of Spanish tile production. ASCER has spearheaded this sectoral environmental performance declaration, developed in 2019, with a significant number of ceramic tile manufacturers also developing EPDs for their products.

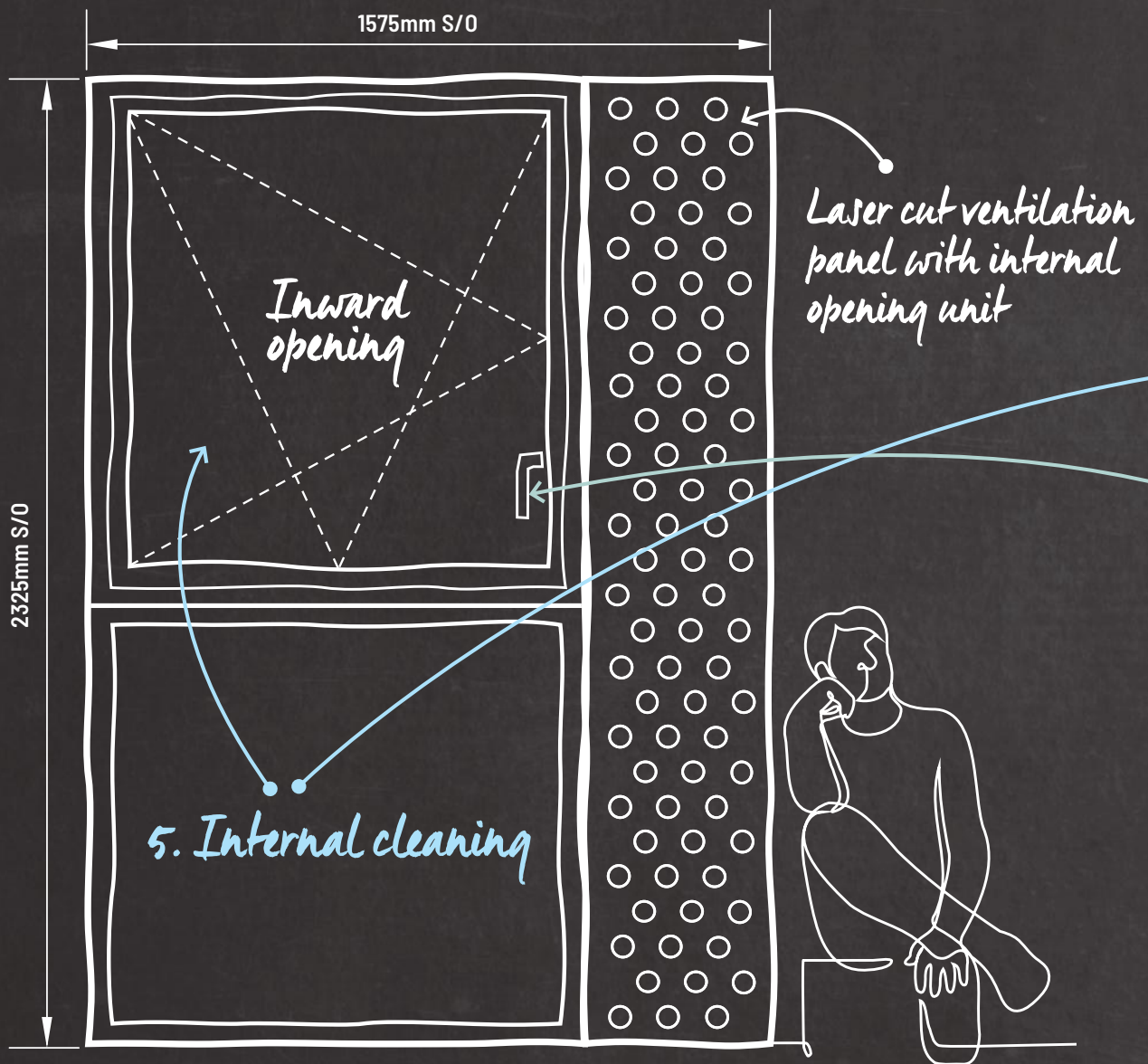
Within the factories, efforts will continue to increase the percentage and use of recycled materials, optimise energy demand and increase the use of renewable energies, while improving and adapting their facilities and technologies.

Visit www.tileofspain.com or call 020 7776 7785 for further information.

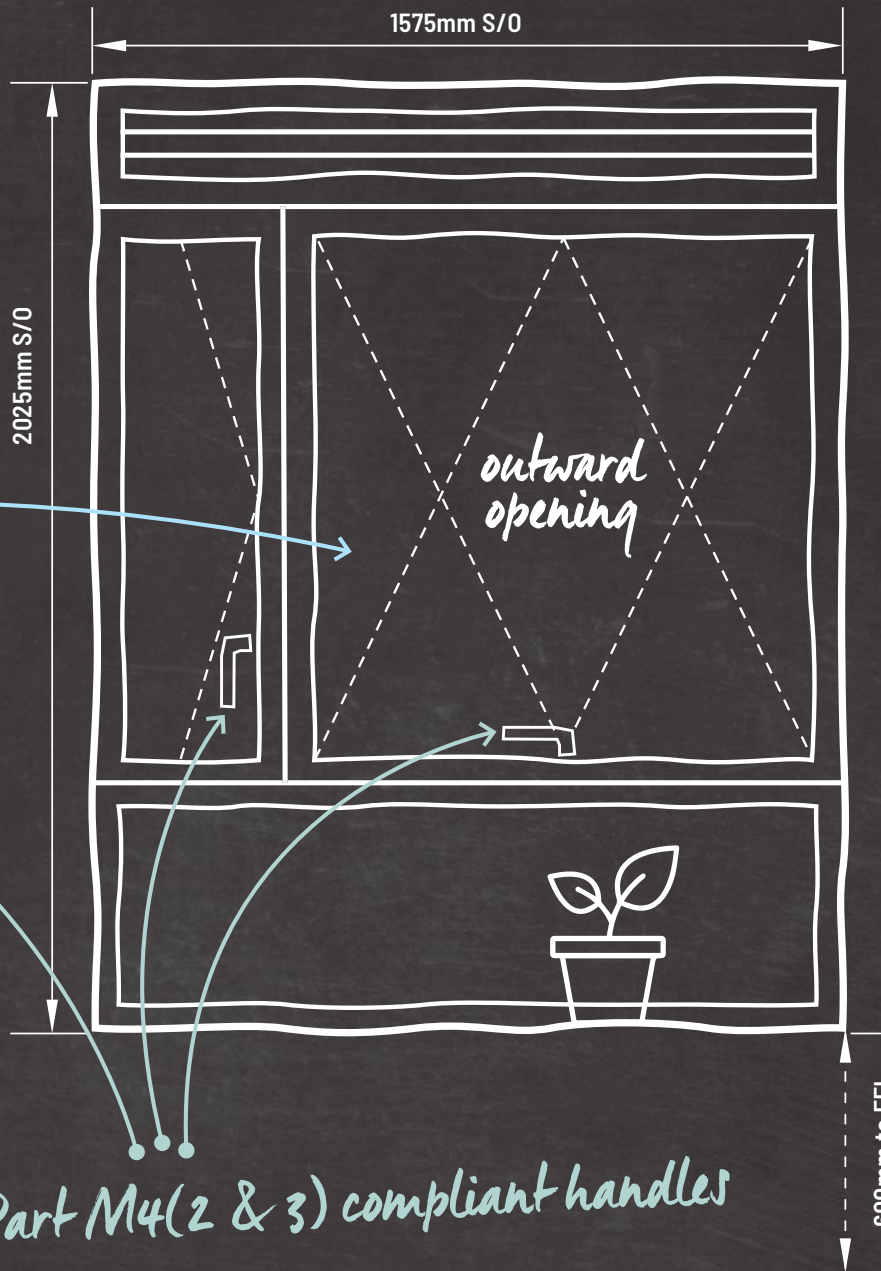
Top Dreamblue Tiles by Ecoceramic.
Above left Listelo Skin Tiles by Tempio.
Left Gris Levante Tiles by Arklam.

Pondering the key issues of window performance

At VELFAC, we know that meeting requirements of various building regulations, low-energy targets, and acoustic performance can be a challenge for many projects. That's why we have designed different window products to help specifiers achieve their ambitions, whilst also providing solutions to the thorny problems that regulations can bring. Come and talk to us to get advice on glazing, configuration and performance, and we will help you realise your vision.



1. Part O & F compliant ventilation solutions
2. U-values approx. $0.9 \text{ W/m}^2\text{K}$
3. Acoustic performance up to $R_w 43 \text{ dB}$



4. Part M4(2 & 3) compliant handles

Conical effect

Corstorphine & Wright's The Scoop office building has been sculpted to frame the circular window of a neighbouring grade II-listed church

Words: Andrew Pearson Images: Daniel Shearing



Conservation
& heritage



Design, construction
& technology

The Scoop is an extension to a former music school now converted to an office in London's Southwark by architect Corstorphine & Wright. It features a conical cut-out facade, sculpted to frame the circular window of the neighbouring 19th century listed church.

The cut-out enabled the existing building to be extended in front of the church to maximise its floor area. The semicircular cut-out is constructed in white glazed bricks supported on a bespoke stainless-steel frame built by Winthill Engineering.

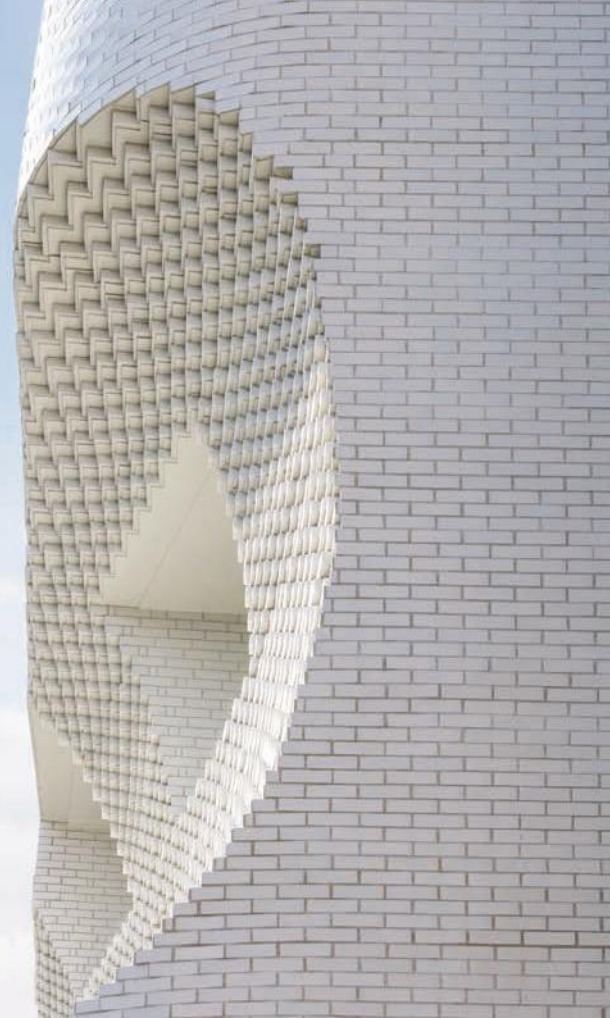
David Crosthwait, director, and Henry Jones, associate, at Corstorphine & Wright and Tom Blakeman, engineering director at Winthill Engineering, explain how the scooped-out section was built.

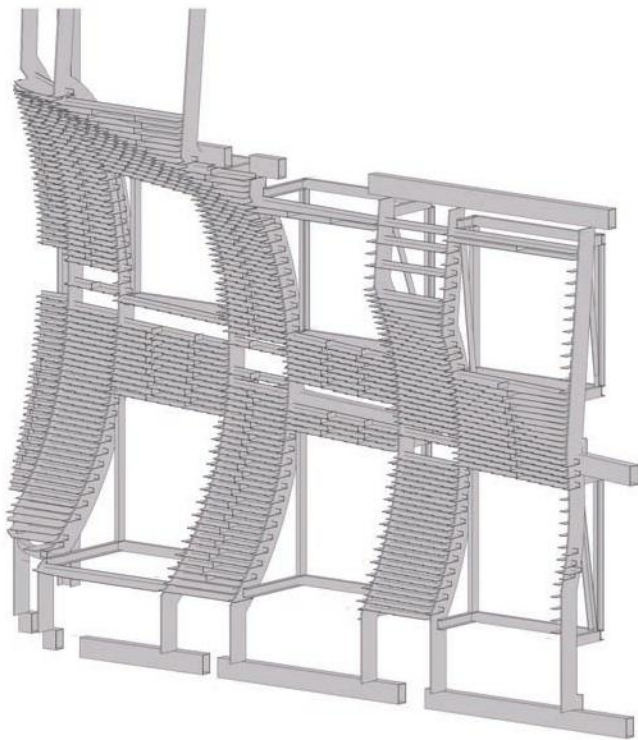
What was your brief for this project?

Henry Jones: Our client, THB Properties, bought this building, which had been home to a music school, to convert to a showpiece office space by extending the building as much as possible. We established that we could put an additional storey on the

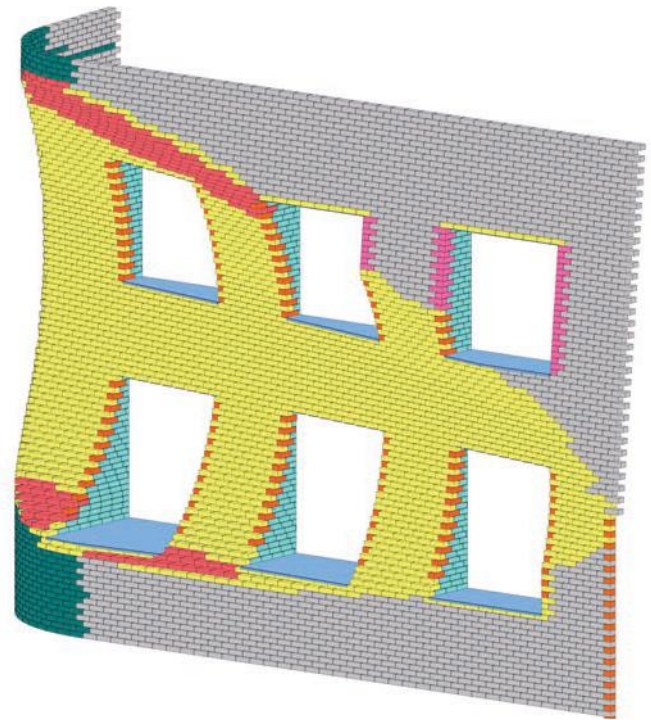
Above The Scoop is formed of a bespoke stainless-steel frame clad in white glazed brick.

Right Designed as it is, The Scoop effectively forms a 'viewing cone' for the rose window of architect Frederick Walters' 1892 Church of Most Precious Blood.





CORSTORPHINE & WRIGHT



KEY:	
Grey	Type 1: L - 215 x W - 102.5 x H - 65mm
Yellow	Type 2: L - 215 x W - 102.5 x H - 65mm
Light Blue	Type 3: L - 215 x W - 25 x H - 65mm
Red	Type 4: L - 215 x W - 215 x 100 x H - 65mm
Orange	Type 5: L - 215 x W - 102.5 x H - 65mm
Dark Green	Type 6: L - 215 x W - 215 x H - 65mm
Pink	Type 7: L - 215 x W - 102.5 x H - 65mm
Blue	Type 8: L - 215 x W - 102.5 x H - 25mm

roof. We also looked at extending the building out into O'Meara Street in front of the church. Our first attempt at this completely blocked off the view of the church and its big circular window from Union Street.

The window is its main architectural feature. It was an obvious focal point, so we used Grasshopper parametric software to establish a conical viewing corridor from eye-height on Union Street to the window.

Why form The Scoop out of a heavy material like brick?

David Crosthwait: The planners were incredibly supportive of the building but they were very keen that it was built using quality materials and they put conditions on that. We investigated every possible construction option before eventually deciding on brick. We would have taken an easier route if we could have achieved a similar aesthetic and build quality.

Initially, we built the void's compound curved brick wall virtually. We started with a flat vertical wall built from bricks laid with a stretcher bond. We then pushed each brick back horizontally by a slightly different distance to form the conical indent, which is how you get the brick-pixelated effect.

Why use white glazed bricks?

HJ: We developed a parametric tool using

Above left 3D schematic showing the stainless-steel brick supporting structure of shelves and ribs.

Above right Brickwork schematic to show the location and dimensions of each brick special.

Below The compound curves of the stainless-steel vertical ribs, ready to receive the horizontal 'shelves' that support the brickwork that forms the scoop.



Grasshopper to create the conical form and then to push back the bricks to hug that form. Because the scoop flattens out at the top and bottom, you end up exposing more of the brick faces than would normally be the case. We chose glazed bricks because they are very dense and the glazing makes them more durable and weather resistant.

We used Ibstock's London White Glazed Brick. They are standard 215mm x 65mm in elevation but their depth varies. The principle when cantilevering a brick is one-third overhang, two-thirds bearing, so we had to have special, extra-deep bricks made. The bricks' additional depth meant they developed a slight curve in the kiln which had to be accommodated on site by the bricklayers. Although we positioned each brick using parametric software we had to manually assign a brick type to almost every brick.

After we'd designed the form we did have discussions with precast brick panel companies about preassembling it in sections but they were not interested in a one-off so we ended up going down the site assembly route

DC: We had expected to use a fully hidden support system but there was a liability issue from having such a big overhang at the top of the curve with the possibility of a brick failing and hitting someone on the head. So, from a health and safety position, we took the



This image The architects had to work with Ibstock to develop special types of glazed brick with additional depth to deal with overhang as well as bearing load.

Left The Scoop allowed for office areas to be optimised while respecting the listed context.



view that the bricks needed additional support.

How are the bricks supported?

Tom Blakeman: Henry and David came to us with the digital model of the scoop. They had each brick positioned in three dimensions but floating, unsupported, in the air. We had to build a cantilevered structure capable of supporting every brick.

We came up with the concept of placing each course of bricks on a horizontal shelf. These shelves are bolted to a series of giant 9.5m-high vertical ribs, which are set back out of sight behind the brickwork. The ribs transfer the loads imposed by the scoop to the main building structure.

How was the structure built?

TB: The entire supporting structure is built from stainless steel for its weathering properties and because of the structure's height above ground.

The scoop is a compound curve so each shelf is a slightly different shape. The shelves were precisely cut in a zig-zag profile from stainless-steel sheet by a plasma cutter using dimensions taken from the CAD drawings. The back of the shelf was then bent upwards into a lip to increase its stiffness. A number was then etched onto the back of the shelf to identify it and its location on the structure. Finally, an Oyster White powder coating finish was applied to the entire stainless-steel structure for

additional durability and cohesion where the underside of the shelf is exposed beneath the bricks.

How was the structure put together on site?

TB: To simplify site installation, the 1.2m-long shelves were preassembled in a series of cassettes in our workshop. This ensured accuracy of assembly and reduced assembly time on site. Each cassette contains between two and ten shelves. Additional plates were inserted between the shelves to increase the cassettes' rigidity. On site, the cassettes were simply bolted to the ribs.

The giant ribs that transfer the loads from the scoop to the structure are each cut from a single 10m x 3m sheet of 20mm-thick stainless steel. The ribs incorporate small feet to attach them to the steel structure at each floor of the building. We were not responsible for installation but we were on site throughout to support the contractor.

Were any special bricklaying techniques used?

DC: We could not use normal bricklaying tolerances because of the shelf supports and the need to connect to the main steel frame of the existing building. In a normal building you could accept 10mm, 15mm or even 20mm tolerance, here the team had to do everything they could to keep within a 2mm to 3mm tolerance.

The white glazed bricks were meticulously laid by Grafton Brickwork.

We did the setting out drawings for every brick course with every brick set back by a specified dimension from the adjacent brick.

HJ: What was interesting on site was that a very precise design process became more handcrafted to take into account the variations in the fired brick dimensions. There was a really good back-and-forth communication on site with the bricklayers, the steel frame installers and fabricators to ensure everything aligned. The bricks are held in position using a mixture of special adhesives and standard mortar.

Is the scoop visible inside the offices?

DC: The giant structural ribs protrude inside the building so we had to infill between these using an insulated timber frame to form the interior wall. We used CNC-cut timber studs made from laminated plywood to shape the inside of the scoop to mirror its exterior curve. The windows punch through this internal wall in a series of steel-framed boxes.

How has this innovative solution been received?

DC: Feedback has been phenomenal. The thing I like the most is when pedestrians walking past the street, who would have otherwise not have given this building and the church a second thought, catch a glimpse of The Scoop out of the corner of their eye and then stop and take a picture. ●

Environmental innovations in decorative coatings

Kathryn Tormay, head of product at Crown Paints, delves into the latest innovations in the world of coatings



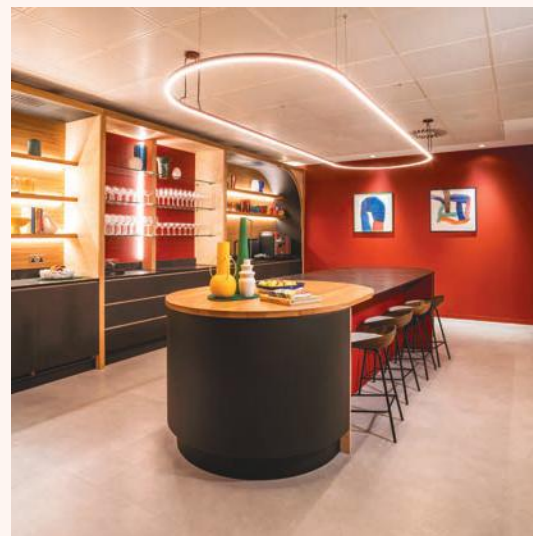
At a time where sustainability is paramount, environmentally aware product solutions are more crucial than ever.

The latest advancements in coating technologies offer architects a range of options that contribute to sustainable design. The right coatings can reduce the amount of carbon, improve indoor air quality and extend the life cycle of a structure.

At Crown, we're committed to producing paints that align with the highest industry sustainability standards. We recently introduced Crown Trade Clean Extreme Clean Air, a low VOC product certified as meeting BREEAM (Building Research Establishment Environmental Assessment Method) and LEED (Leadership in Energy and Environmental Design) regulations.

Clean Extreme Clean Air is equipped with innovative technology which actively contributes to purifying the air. By absorbing harmful chemicals like formaldehyde from the environment, the formula not only provides aesthetic enhancements but also contributes to a

Above and below Material Source Studio Glasgow.



healthier indoor atmosphere from the very first coat.

To help put these environmental considerations into practice, our expert colour studio team works closely with architects to bring their visions to life. Last year, we provided a specification service for the design of Material Source Studio, a Glasgow-based hub for architects and designers, with sustainability a key consideration.

Vibrant colours, including a striking brick red, bold green and deep navy, were paired with a neutral stone shade to promote a warm and welcoming environment, whilst upholding the vibrancy and social nature of the professional hub.

We worked with Material Source to bring the colour scheme to life through product specification featuring our Clean Extreme Clean Air and Clean Extreme Scrubbable Matt products.

Through our end-to-end approach to sustainability, recently recognised by Marie Claire with an award for Best Eco-Friendly Decorating Brand, Crown provides a canvas for architects and designers to ensure that every aspect of a project resonates with its unique requirements.

To find out more about Crown's specification services, visit www.crownpaintsprofessional.com/specification-services



TIMAINSWORTH ©

PREMIER
LOFT LADDERS



Fire rated steel hatch box offering up to **60-minute protection**

Thermally insulated & airtight hatch to **keep in the warmth**
(U value from 0.17 W/m²K)

Heavy-duty ladder for **strength & durability**
(load rating up to 250 kg/tread)



Explore our range of fire rated loft ladders & hatches...

www.premierloftladders.co.uk/fire-rated-loft-hatch

0345 9000 195 | sales@premierloftladders.co.uk

RIBA Academy

Net Zero Carbon Course

Webinar Series
6 November – 4 December

This new course is designed to equip architects with the knowledge and tools needed to achieve Net Zero Carbon buildings and effectively contribute to sustainability goals.



Find out more and register

architecture.com/RIBAAcademy



RIBA 
Architecture.com

3: Culture



Greg Holmes turned to architectural photography only once he had completed an English Literature degree at Manchester University. He feels that its 19th-century neogothic campus osmotically got under his skin in the years he studied there; but also, with his love of 60s and 70s music, its Brutalist faculty buildings too. He puts it down to mere nostalgia but I wonder if Jane Austen, Horace Walpole or Charles Dickens' evocations of buildings, so embedded in their fiction, might not have subliminally heightened his own imagination in the real world. He's not sure, but wistfully concedes that Bram Stoker's *Dracula* – arguably the world's first postmodern novel – still drives an unrealised desire to visit Whitby.

This image is one taken on a more exotic trip – to Japan and the Garden of Fine Arts in

Kyoto. Perhaps fuelled by his love of Manchester modernism, Holmes is a fan of Tadao Ando. This 1994 design, an open-air gallery, encapsulates Ando's characteristic silken concrete and glass, creating the subtle interplay of light and shadow for which he is famous. The experience, Holmes adds, is nuanced by an innocuous entrance leading visitors down into a canyon of ramps, waterfalls and pools, past life-sized reproductions, printed on ceramic tile, of works by the likes of da Vinci, Michelangelo and van Gogh.

There's an irony to the place that's summed-up in this shot: observers observed looking at Seurat's historic painting about watching. Softening its severity, Ando's modernism is suddenly seen through an unintended, postmodern lens. ●

Jan-Carlos Kucharek

Greg Holmes
Kyoto Garden of Fine Arts, Japan. 2019
Nikon D610 with Nikon 24-120mm F4 lens

Performance meets sustainability with **Sikalastic®-625 BMS**



A liquid applied roof waterproofing membrane that contains 35% lower carbon emissions!

Now that's a step forward in sustainable construction materials.

What is Sikalastic®-625 BMS?

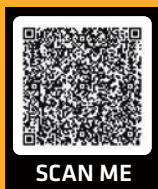
Sikalastic®-625 BMS sets a new standard for innovation in roofing solutions, incorporating biomass balance content and bio-based solvents. Offering architects, specifiers, and contractors an innovative product with all the inherent advantages of liquid applied membranes, while meeting the growing demand for sustainable construction.

Discover how Sikalastic® -625 BMS can protect your projects while enhancing sustainability.



Benefits of Biomass Balance

- Immediate availability of affordable, sustainable products
- Reduction in carbon footprint
- Boosting demand for renewable resources
- Biomass use can increase as availability grows
- Third party certification available to provide confidence in sustainability



Scan the QR code for more information

'It can be difficult to resource all the time designing workarounds or redesigning as these things require'



Reuse curveballs

The architecture of reuse can throw up surprise revelations once a project goes on site, says Eleanor Young

In the airy expanse of the 13th-century Messums West tithe barn in Wiltshire, the words of Barnabas Calder rang out clear and true: 'We need to throw the massive charisma of architecture behind reuse.' As author of *Architecture from Prehistory to Climate Emergency*, he set the tenor for a day of poetic and pragmatic reuse projects and understanding their value in reducing the contribution of construction to climate change.

As the projects were paraded, it was clear that once on site, listening to a building to see how it could be its best self could not be constrained to early plan of work stages. Revelations uncovered in the built fabric confound expectations.

Retaining the good-quality bricks of the RIBA Stirling Prize-shortlisted Park Hill in Sheffield was a core part of Mikhail Riches' strategy for the phase 2 refurbishment, but behind them the backing was crumbling.

On Smithfield General Market building the discovery of many extra metres of precise and thoughtfully detailed 7m-high vaults from the 19th century gave Stanton Williams extra room to play with on its scheme for the London Museum. To keep them beautifully visible, clear of the servicing, a trench was excavated around the perimeter. This revealed a dramatic, haphazard inconsistency in the depths of footings. 'We spent 10 times longer on servicing because of the up and down footings,' explained Paul Williams.

'Existing buildings throw up unknowns almost weekly,' he continued, recalling another project where a Civil War rampart, unknown to the client or Stanton Williams, was uncovered, requiring the design to be substantially reworked. It's hummock in the ground that now gives character to the Rhodes House gardens in Oxford. But who pays for the hours that the redesign will take?

At a time when many practices have shrunk, it can be difficult to resource all the time designing workarounds or redesigning as these things require. But the Grenfell Tower Inquiry report shows there is no room for skimping on designing thoroughly. The design team needs to be fully aware of the regulatory duties and landscape that are set up to keep us safe, taking exacting care to exercise those duties and ensuring that the right expertise is brought onto the job.

At the same time, we are seeing the current generation of architects receiving less in their pay packets through their careers. Practices are not making enough to support architects as they did in previous generations.

The RIBA and others have seen the extra responsibilities of principal designer as resetting the role – and so the fee levels – of the profession. And for building reuse, Calder is not alone in arguing that there needs to be a rethinking of fee structures to 'adequately reward architects for helping people stay in existing buildings'. If you know how, get in touch. We all want to hear. ●

ONLY ON RIBAJ.COM

Peter Morris Architects' Minty House taps into childhood memories of play

House extension and refurbishment
ribaj.com/minty-house

Below The General Market vaults, redesigned by Stanton Williams as the London Museum.



'The inquiry makes clear we need a fundamental shift in culture and behaviours'



Preventing another tragedy

The RIBA is committed to providing the guidance and support you need following publication of the Grenfell Report, says Muiywa Oki

Last month, the final Phase 2 report of the Grenfell Tower Inquiry was released. Bringing together an extensive collection of sensitive evidence, the report marks a significant moment for the bereaved, survivors and wider community as they seek greater understanding of the deficiencies that led to the tragedy.

It examines the complex sequence of events that led to the fire in the early hours of 14 June 2017. It looks at the myriad contributing factors in the years preceding, on the morning of, and in the aftermath of the tragedy. Ultimately, the inquiry concludes that the deaths of all 72 people who lost their lives were avoidable. The profound impact of this conclusion weighs heavily on the Grenfell community and far beyond – and it must never be forgotten. Its findings and recommendations are crucial and significant for the construction industry. We must create a safer built environment and play our part in ensuring that such a tragedy cannot happen again.

The inquiry makes clear that ensuring people's safety requires reform of structures and regulations. But what does that mean?

It means we need systemic change within the construction industry, and a fundamental shift in culture and behaviours. This is a collaborative endeavour involving our whole sector, and the RIBA has committed to playing a leading role. The education and training of the architecture profession are highlighted in the report's recommendations too.

While significant work remains, the inquiry acknowledges the steps the RIBA has taken to 'improve the education and training of architects' since Grenfell. This includes creating a library of health, safety and wellbeing CPD, introducing a Health and Safety Test (to become mandatory in 2025) and launching a Principal Designer Register, as well as the inclusion of Health and Life



Left One of the local memorials that sprang up after the Grenfell Tower fire. This one under the Westway.

Safety as a theme and value within our Education and Professional Development Framework. With the benefit of the report's comprehensive findings, we commit to reviewing the measures we have already introduced.

In total, the inquiry makes over 50 recommendations. Those with particular relevance for architects also include recommendations for urgent reviews of Approved Document B and of the definition of a higher-risk building for the purposes of the Building Safety Act. We've urged the government to act swiftly and decisively on these recommendations.

We are thoroughly reviewing the full 1,700-page report to ensure our response is comprehensive and informed. Following this, we will be publishing our detailed response. As your professional membership body, the RIBA is committed to continue providing you with the interpretation, clear guidance, support and actionable insights that you need to understand the impact of the Grenfell Inquiry on your day-to-day work, your business and the wider industry, as the situation develops. ●

[Read the RIBA's initial response to the Grenfell Inquiry Phase 2 report.](#)

Conference

Sustainable Development X Urban Conservation

Exploring innovative and practical approaches which demonstrate how conservation and positive sustainable development can work together.

23 & 24 October 2024 - Bath, UK

Speakers

Keith Bradley, FCB Studios | Susan Denyer, ICOMOS UK | Alex Ely, Mae Architects | Professor Georgie Gough, UWE | Andrew Grant, Andrew Grant Associates | Oli Henman, Action for Sustainable Development | Anna Hollyman, UKGBC | Dr Aoife Houlihan-Wiberg, University of Bath | Professor Elena Marco, UWE | Dr Monia del Pinto, University of Loughboro' | Paul Simons, World Heritage UK | Christina Sinclair, Edinburgh World Heritage Trust | Jonathan Smales, Human Nature

www.SDG-X-conservation-conference.org.uk



Water Tower, Tonkin Liu, External © Dennis Pedersen



OCT - NOV 2024

WHAT'S ON

Opens 11 October, Practice Space, RIBA, London

Sustainable Design in the Gulf

Discover projects from leading practitioners championing sustainable design in the Gulf region in this new display.

Opens 11 October, Architecture Gallery, RIBA, London

Difficult Sites: Architecture against the odds

Our latest exhibition explores remarkable feats of architectural achievement in the face of tricky terrain, awkward urban plots, challenging remodels, and more.

16 October, 6pm to midnight, London

Stirling Prize 2024 ceremony

Join us at the Roundhouse to celebrate the best of UK architecture.

Sponsored by Autodesk

5 November, 7pm to 9.30pm, RIBA, London

Stirling Prize 2024 winner's talk

Hear from the winner of this year's Stirling Prize, as they tell the story behind the project.

Sponsored by Autodesk

19 November, 6.30pm to 8pm, RIBA, London

RIBA + Vitra: Rethink Conventions with Lina Ghotmeh

Hear critically acclaimed architect Lina Ghotmeh talk about challenging architectural conventions.

Sponsored by Vitra Bathrooms

Plan your visit and book online:
architecture.com

RIBA 
Architecture.com



Large-scale projects and the design of a practice have provided equally enjoyable challenges to Allies and Morrison's managing partner

Words: Chris Foges Portrait: Agnese Sanvito

Bacon brings it home

What does a typical day look like for the managing partner of Allies and Morrison? 'My diary always looks like a toast rack,' says Joanna Bacon as we settle down in a meeting room at the 300-strong firm's London studio. 'Chock-a-block with meetings, but they are very varied.' Today she's already been to the gym. Next up is a studio tour for an overseas visitor, followed by meetings with tenants in the firm's mini-campus of three buildings behind Tate Modern. There's a catch-up about tables at the Stirling Prize, for which its King's Cross masterplan is shortlisted, and reviews with finance and project teams. Somewhere in there, too, Bacon will be selecting a model of the last major project she led – the 100 Bishopsgate tower in the City of London – for a forthcoming exhibition.

That high-rise, completed in 2019, was already in progress when Bacon took the job in 2012. Despite the manifold demands of leadership, she was determined to continue project work and is currently heading a compliance team novated to the contractor Multiplex, which is building the practice's 220,000m² 'town centre' for Elephant & Castle, half a mile to the south of us. Hard-hat site visits are still in the diary mix. There are limits, though: running complex schemes at design stage is too time-consuming. 'I couldn't possibly do that now,' she says, 'but I love being involved in the strategic overview; I'm good at setting up a team and getting them to take it on.'

Large-scale projects have been her specialism. 'They require a clarity of thinking about what you are doing and why, and breaking them down into understandable components.' She points to the BBC's Media campus in White City, west London, which Allies and Morrison won in 2000, a year before Bacon became a partner alongside founders Bob Allies and Graham Morrison. There she delivered a clutch of big commercial buildings



JASON HAWKES

Above Located in the City of London, 100 Bishopsgate incorporates a 40-storey tower.

Below Elephant & Castle Town Centre is a dense ensemble of commercial, arts and education buildings.

and swathes of new public realm. As the firm grew in response, Bacon took a lead role in reshaping it – a continuous process. 'Every so often you hear creaking and have to adjust a bit,' she says. 'For the last 20 years I've been thinking about how to professionalise everything from finance to HR and IT.'

With studios in Cambridge, Liverpool, Dublin – and soon Jeddah and Toronto – the practice is a world away from the one Bacon joined in 1987, a week after qualifying, as the fourth member of the team. Allies had been her tutor at Cambridge, and Bacon recalls spotting a job ad and cycling straight round with her CV. Early work included stints as project architect on the crisply detailed British embassy in Dublin, and a couple of Cambridge faculty buildings. She also developed her interest in the way architecture gets done. When the firm got its first tiny computers, it was Bacon who laid



LUKE O'DONOVAN

the network cables around the small studio.

Despite its size, the practice had an ambition and self-confidence that are equally apparent – in a low-key way – in Bacon, whose manner combines easygoing humour and brisk efficiency. She recalls a mahogany-table interview with the Crown Estate for a Regent Street masterplan. ‘One grandee asked “What on earth makes you think your practice is up to the task?” And I cheekily said, “Why do you think we’d come to the interview if we didn’t?”’

Her own career, she says, owes little to forward-planning but rather to following her interests. ‘You’re not going to get success if you are not enjoying yourself and inspired by work.’ Nor was she ever tempted to strike out on her own. ‘I have never gone home and thought “Why is my name not on the door?” – there was enormous pride and joy in the work we did as a partnership, including those projects where I wasn’t involved.’

There has been one break, when Bacon moved to Asia for three years in the late 90s, teaching in Hong Kong and then working as a site architect in Shanghai. While living overseas, she had two children which, she says, enforced good time-management on her return. ‘I used to say “I am going to turn into a pumpkin at 5.45. If we haven’t finished by then we are not working efficiently!”’ Until this year, she worked four-day weeks, initially spending the fifth at home, and latterly as a board member at the RIBA. ‘I felt that if I was no longer spending that time running around after my children, I may as well put it into something else,’ she recalls. ‘The RIBA – particularly the library – had been an inspiration when I was a student and it was give-back time.’

She wants to see a good work-life balance throughout Allies and Morrison, too, emphasising

Right The British Embassy in Dublin (1995) helped to establish Allies and Morrison as a contender for major public buildings.



DENNIS GILBERT

the importance of free weekends. Hers are spent tending a two-acre Dorset garden. It’s often said that architects have to put in crazy hours in order to be successful. Does Bacon disagree? Yes and no: ‘I may be good at time management but I’m never not thinking about the practice,’ she says.

One longstanding area of concern has been the experience of women in the profession. When Bacon picked her field in 1980, her father commented that women make ‘bloody awful’ architects – though he was later very supportive. Things have greatly improved, of course, and Bacon is proud that the firm achieved a 50/50 gender balance last year – and of the pay gap data it tracks. ‘But this is a long journey and the challenge is to make certain that female talent keeps moving up,’ she says. ‘We only have two female partners among 16 now and that’s not enough.’

Change will rely on the succession planning that has been underway for many years, with partners expected to step back at 65 to allow others to come through and build whole careers within the firm. For Bacon that will come in 2027.

So what attributes make a good leader in such a place? Bacon stresses collaboration and collective decision-making. ‘You have to be a good listener,’ she says, ‘and sometimes bite your lip.’ It’s vital, too, to have sensitive antennae, alert to future threats and opportunities. ‘You could get caught up constantly with the troubles of today, but you need to be able to stop and ask: what should I be thinking about now?’

The question is not merely rhetorical. Downstairs her next visitor has arrived from Shanghai to discuss possible collaboration in a city now primed for the practice’s historically-attuned urbanism. Bids for work in China have begun; an office might follow. It’s 10 o’clock, and shaping up to be another productive day. ●

Left Completed in 2005, the Institute of Criminology aligns with a new court at the Allies and Morrison-masterplanned Sidgwick site for Cambridge University.



DENNIS GILBERT



HOFFMANN GREEN CEMENT

Catalyst of
Carbon Transition



At Hoffmann, we push back the boundaries of innovation to meet the contemporary challenges of sustainable construction.

H-UKR cement combines durability, strength and versatility, making it ideal for innovative and responsible construction. Whether for residential, commercial or public infrastructure buildings, it is the preferred choice for projects that demand both performance and aesthetics.

H-UKR cement is now available from our partner CEMBLAND, for your most ambitious architectural projects.



Hoffmann Green Cement - SIRET 809 705 304 00016. Credit photo: Smartly/éclat - Credit agence: The New One.

Next
GENERATION

Pioneer of decarbonated cement

C E M B L E N D



www.ciments-hoffmann.com



Our Insulation Team produces reports for insulation values, condensation risk, and can discuss more detailed and technical aspects of your project.



High performance &
environmentally friendly
building products
from renewable sources

STEICO
wood fibre insulation

ECOLOGICAL | SUSTAINABLE | NATURAL | LOW CARBON

MIKE WYE

01409 281644

www.mikewye.co.uk

sales@mikewye.co.uk

RIBA PROFESSIONAL SERVICES CONTRACTS

An amended suite of contracts for 2024 is now available for the provision of built environment consultancy services across projects of all sizes and complexities, including a new addition - Building Regulations Principal Designer PSC 2024.

Produce, manage and sign your contracts online with RIBA Contracts Digital.



RIBA Chartered Members receive a £10 discount on each digital RIBA Contract purchased.

Find the right contract for your job and buy online:



What is protest architecture and why do we need it?

Nick Newman looks at the relationship between architecture and civil resistance

Earlier this year, I visited the exhibition *Raise The Roof: Building for Change* at RIBA's London headquarters – a reinterpretation of the very fabric of 66 Portland Place. Visitors are challenged to connect with the more problematic parts of the building's construction. Under particular scrutiny are the Jarvis Mural and Dominion screen, each of which depicts racist, imperialist scenes. The exhibition explains that such pieces are part of a building that was itself an advert for empire, celebrating the riches of its extractive global colonies and encouraging others to specify looted resources in their own projects.

Why is this the moment for such a challenging and self-reflective piece of work? One answer must be the shift in public awareness accompanying the Black Lives Matter and decolonisation movements sweeping the world.

Walking to the bookshop, it was not just the antiracism agenda that appeared to be having an impact at the RIBA. Recent publications such as *Collective Action*, *Inclusion Emergency* and *Queer Spaces* filled the shelves. Again, the books coincide with intense global protest on issues such as climate change, LGBT+ rights and social justice.

Protest can be thought of as useful ally to the architectural community, in that it is able to make rapid progress on issues that may be too complex or systemic to address in the ordinary course of events. But when societal norms shift following a wave of protest, change can be consolidated via new guidance, legislation and publications.

If protest is so useful to the architecture, what can be done by architects to support it? An emerging discipline known as protest architecture aims to provide an answer.

Protest architecture describes the use of structures and architectural design to facilitate civil resistance. Examples range from bamboo 'beacons' that use tensegrity principles to the open-source design of protest towers made from CNC-cut plywood. Likewise, urban design can



GARETH MORRIS

Above Protesters used a flatbed truck disguised as a Luton van to smuggle an oversized table into central London, as part of Extinction Rebellion's 2020 'Impossible Rebellion'.

Below: ER activists created bamboo protest 'Beacons' using tensegrity principles to block Rupert Murdoch's printing presses as part of their 'Free the Press' action.

influence the outcome of protest marches, and protesters can occupy civic buildings to subvert the symbolic power vested in them.

Architects can use their skills to conceive elegant structures that capture the spirit of a protest movement. They can elevate protesters at height, in structures that offer complex challenges for the private security or police teams tasked with removing them. Such skills might also be used to overlay satirical temporary 'retrofits' that subvert the symbolism of a building.

So successful has been the rise of protest architecture that the last UK government attempted to outlaw it, creating a series of new laws that clamped down on its implementation. Lengthy custodial sentences have been imposed under the new legislation, including for civil engineer Morgan Trowland, who was sentenced to three years in prison for occupying London's QE2 bridge with fellow climber Marcus Decker.

But governments and legislation are subject to change, and it seems that to new wave of architectural protesters are only strengthening their resolve to push forward with their agendas. These include creating new models of architectural education, such as the Anthropocene Architecture School, the establishment of new unions for architectural workers in UWV-SAW, and grassroots professional networks like ACAN, Black Females in Architecture and Future Architects Front.

Protest has always had a distinctly spatial quality; just look at any example, from the barricades of the French Revolution to the informal settlements of the Occupy Movement – and the location of anti-immigration rioting and counter-protests in recent weeks. For as long as protesters interact with the built environment, architects will find a useful role among their ranks. ●

Nick Newman is an architect, co-founder of Studio Bark and author of *Protest Architecture*

Protest Architecture: Structures of Civil Resistance (RIBA, £34) is available from the RIBA Bookshop



GARETH MORRIS

RIBA Books

Our new releases

Visit our online store, or stop by the Bookshop at 66 Portland Place, London and buy one of our new releases.



Visit our
website

RIBA 
Architecture.com

RIBA **Zero to Hero**



A remarkable diversity



Festival Plaza, Expo '70, Osaka. Designed by Arata Isozaki, Kenzo Tange and Atsushi Ueda. Sculpture by Taro Okamoto.

This is the third year I've been involved with the RIBA Journal SterlingOSB Zero competition as a representative of West Fraser. Each year, we challenge participants to push the boundaries of design and innovation, and this year was no exception. The diversity of the entries this year was remarkable, with each design offering a unique take on the brief. Some focused on harmonising with the historic architecture of their host city while others leaned into modern, sustainable practices. It was fascinating to see how each entrant interpreted the challenge, reflecting their own vision and creativity.

At West Fraser, we are constantly striving to find out more about how we can assist architects in their work. Carbon neutrality by 2030 is a target in all sectors and we hope that our carbon-negative UK-manufactured panels can contribute to these efforts.

Judging alongside people from such different areas of expertise made for really stimulating discussions on the merits of each entry. It gave me a better understanding of the challenges that architects may come across between their designs and real-world application.

I'd like to thank all of the judges for their time and input and for their reserves of knowledge about the processes that go into building a structure. But mostly, I'd like to thank not just our winners but all the practices and individuals that offered both their time and imagination to enter this year's competition.

**Claire Ironside, marketing executive,
West Fraser Europe**



Produced by
the RIBA Journal
in association with
West Fraser

Supplement editor
Jan-Carlos
Kucharek
Writer
Will Jennings
Design
Richard Krzyzak
Sub editor
Simon Aldous
Cover image
The winner: Sport
Climbing at Grant's
Quay Wharf by
Alcove Architecture
(Julian Evans and
Sian Briggs).

The games are afoot

The Olympics may have finished in Paris but in two years it will be the next Commonwealth Games and, with host cities looking to be sustainable in their design while still presenting a unique representation of the sports and their surroundings, the future architecture of venues is going to be an important aspect of any event. West Fraser's design competition this year, Zero to Hero, picked up on these themes, challenging architects to create a temporary sporting arena.

The brief called for the design of a demountable sports venue constructed from SterlingOSB Zero for either Edinburgh or London, with specific attention paid to how the proposal responded to its site. Sporting occasions are now both globally mediated affairs as well as serving live spectators. An intelligently selected location could serve to support both modes of enjoying the sports.

On the judging panel was Soaad Stott, principal and leader of EMEA events division at Populous. Stott was involved with the new Tottenham Hotspur stadium, worked on the 2021 Olympics and 2014 Commonwealth Games and was a project architect and lead consultant for three of the venues for the 2015 European Games, held in Baku, Azerbaijan. During the judging, Stott brought valuable insight into the fundamentals of venue design, including sightlines, the containment of sound and atmosphere, and niche particularities around the requirements for individual sports, from table tennis and judo to shooting.

Such knowledge around a breadth of sports was also offered by Mark Osikoya, chief executive of Commonwealth Games England. Not only concerned with the

organisation and celebration of sporting contests, Osikoya is driven by sport's capacity to reach new communities and open up access and participation to all. He showed a keen interest in applicants' thinking around urban space as a way of considering how a sport might be seen in new ways and trigger excitement.

Stephen Proctor co-founded Proctor & Matthews Architects in 1988 and brought those 36 years of architectural experience to the judging panel. He evaluated each project's structural viability or usability with a critical eye but was also acutely aware of each scheme's wider setting and how the proposed design held conversation with its context.

The most basic requirement was that proposed venues should use West Fraser's SterlingOSB Zero board as a significant constituent in their construction. West Fraser Europe marketing executive Claire Ironside kept a keen eye on this, and was most excited when she

saw evidence of its being deployed in surprising, ingenious or novel ways.

Holding the panel to account and ensuring the judging was completed in a sensible (if not a record-breaking) time was RIBA Journal deputy editor Jan-Carlos Kucharek. He has overseen the West Fraser/RIBA Journal collaboration since it began and brought seasoned knowledge of how SterlingOSB Zero had been used in previous iterations.

The competition brief required the proposed venue to have a minimum capacity of 1,000 people but no upper limit. The proposals that garnered accolades were the ones that grasped the nettle of the brief and were more adventurous in both scale and capacity.

During the judging, Stott and Osikoya also discussed how the spectator atmosphere in the pool, on the court or out on the field can create memorable sporting occasions and also push athletes to new levels of performance, so they were on the lookout for designs that worked to capture that energy within the venue rather than let it dissipate out.

Needless to say, proposals that portrayed a palpable sense of a crowd and the atmosphere so vital to the function of a successful sporting venue were preferred over ones that simply depicted empty stadiums. In so doing, they created a visual sense of the expectation of a thrilling final.

There was ongoing, engaged conversation from the judges around how applicants had considered the cities in their brief, especially when location was more than an aesthetic backdrop but a critical conceptual or architectural component of the proposal.

So, with no further ado, let the games begin ...

Judges



Soad Stott
principal and leader,
EMEA events division, Populous



Claire Ironside
marketing executive, West Fraser Europe



Stephen Proctor
founding director, Proctor & Matthews Architects



Mark Osikoya
chief executive,
Commonwealth Games England



Jan-Carlos Kucharek.
deputy editor, RIBA Journal (chair)

The judges were on the look out for designs that worked to capture the energy of the crowd within the venue rather than let it dissipate out

First place (£2,500 prize) Sport Climbing at Grant's Quay

Alcove Architecture – Julian Evans and Sian Briggs

It would be overstating it to say that the final adjudication was an Olympian (or Commonwealthian?) battle but agreeing on the finalists did, nevertheless, involve argument and persuasion. After the judges' deliberations, gold was awarded to Julian Evans and Sian Briggs of Alcove Architecture for their entry which reimagined how the modern sport of climbing might be improved as a spectator experience.

As viewers of speed climbing may have witnessed in the Tokyo and Paris Olympics, there is a thrill in seeing humans spider-scuttle up a vertical wall as easily as you or I rush to the bus stop. Evans and Briggs have placed this relatively new sport in an urban setting, here situated in London with views across the Thames to the verticality of the Shard.

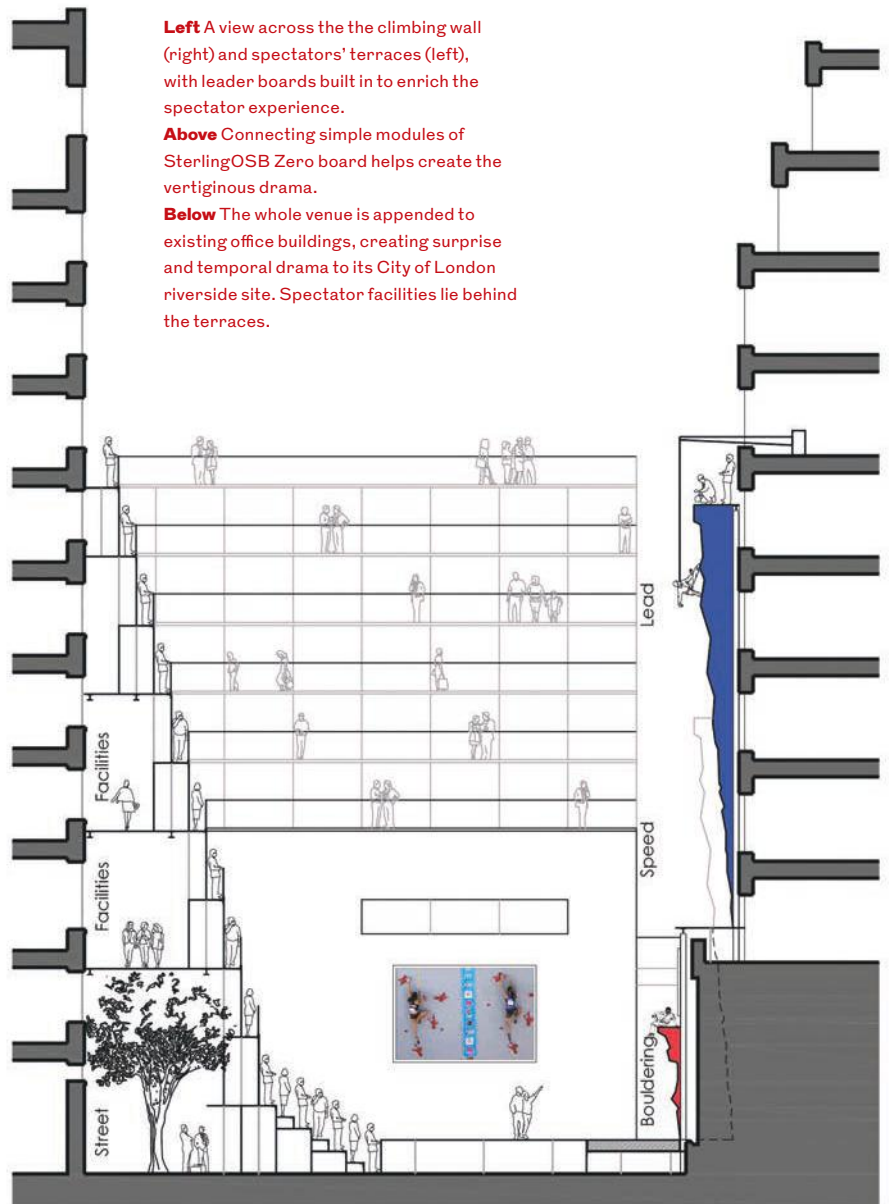
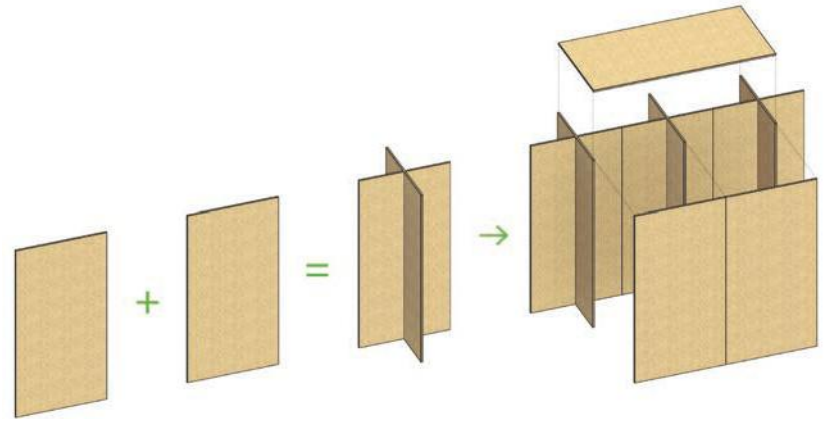
'You would turn off the street to it,' said judge Claire Ironside, envisaging approaching the venue. 'We are talking of atmosphere and here they are taking the excitement of the city into the design.'

In Alcove Architecture's design, spectators watch the action from tall banks of terraces that rise across from the climbing walls, offering intensity and proximity to the action. The structure is formed of West Fraser's SterlingOSB Zero, normally employed as a cladding material but here interlocked to form the stadium and set its parameters, creating what chair of the judges Jan-Carlos Kucharek described as 'a sheer mountain of spectators'.

Alcove's winning design also spoke the brief's request to consider the siting, turning 'a nondescript space into something' in the words of judge Stephen Proctor. Fellow judge Soaad Stott agreed, adding that she loved 'the idea of finding a building and slapping on the activity', while fully appreciating the thrilling, vertiginous proximity of the spectators to competitors – 'they would see and hear the action!' Congratulations to Alcove Architecture for making it to the top of the West Fraser podium!



Wharf



Left A view across the the climbing wall (right) and spectators' terraces (left), with leader boards built in to enrich the spectator experience.

Above Connecting simple modules of SterlingOSB Zero board helps create the vertiginous drama.

Below The whole venue is appended to existing office buildings, creating surprise and temporal drama to its City of London riverside site. Spectator facilities lie behind the terraces.

Commended (£500 prize) London Skeet

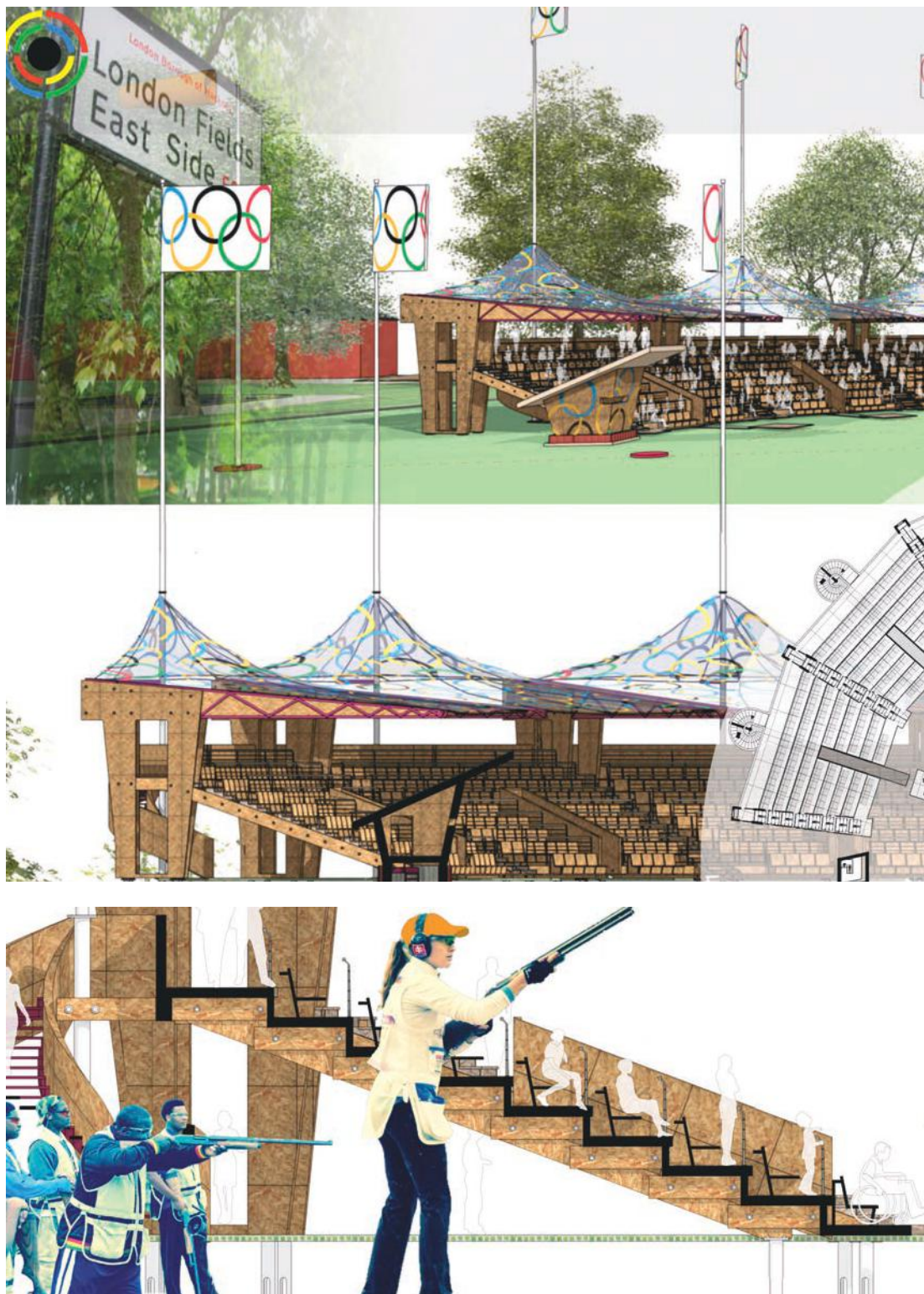
Vectorprojects Kenya – Dom Cox and Florence Shitemu

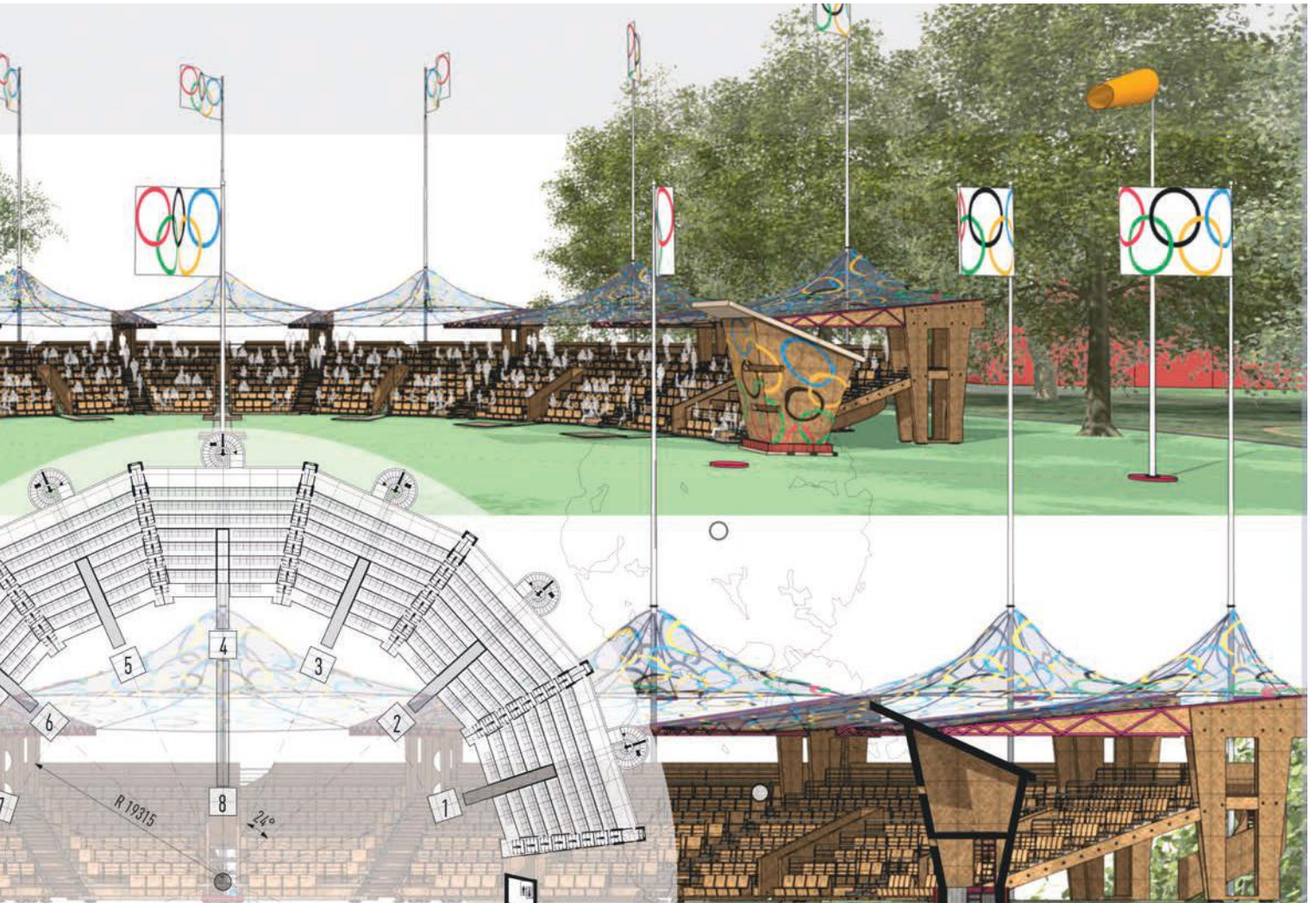
In his application, Dom Cox noted that the Paris 2024 Olympics skeet and trap shooting events were sited at Châteauroux, an 11th century castle 170 miles from the capital. It spoke to him about inequalities at the root of the sport, that participants mostly come from rural backgrounds where gun licenses are more likely to be issued. But the mega-sporting events taking place in urban centres led Cox to consider the inherent politics at play in relation to urban gun crime.

In a provocative but considered project, Cox and Shitemu proposed an arced arena with a flitched and laminated OSB seating structure, its translucent fabric awning supported on trusses. The political provocation was less in the architecture and more in the supporting argument – though West Fraser's Claire Ironside thought it used her company's products intelligently.

Fellow judge Mark Osikoya said that, for Commonwealth Games England, 'the underlying principle of taking elitist sports into areas that are not elitist, is a big focus', and acknowledged that shooting would normally take place at an elite facility.

Soaad Stott said that even if the membrane was translucent, sightlines at a skywards angle might not be advantageous for a sport where spectators need to observe the clay as it's shot in the air as much as the shooter on the ground. But these were easily resolved in an otherwise conceptually and structurally rigorous design that resonates all the more given Team GB's success in trap and skeet events at the Paris Olympics.

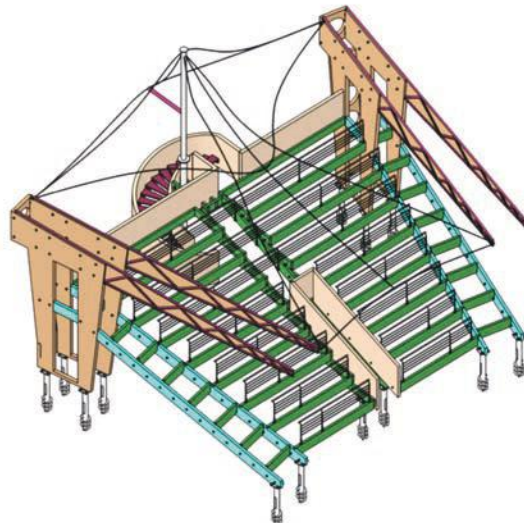




Above There was an intensity of experience inherent in Cox and Shitemu's design, concentrating eyes on the competitor.

Left The structure seemed simple and resolved, with a compelling political message that resonated with the judges.

Right Tapered SterlingOSB Zero trusses support the contentious fabric membrane roof over spectators.



The political provocation was less in the architecture, and more in the supporting argument

Commended Sportholder No.1

Kashdan-Brown Architects – Julian Kashdan-Brown

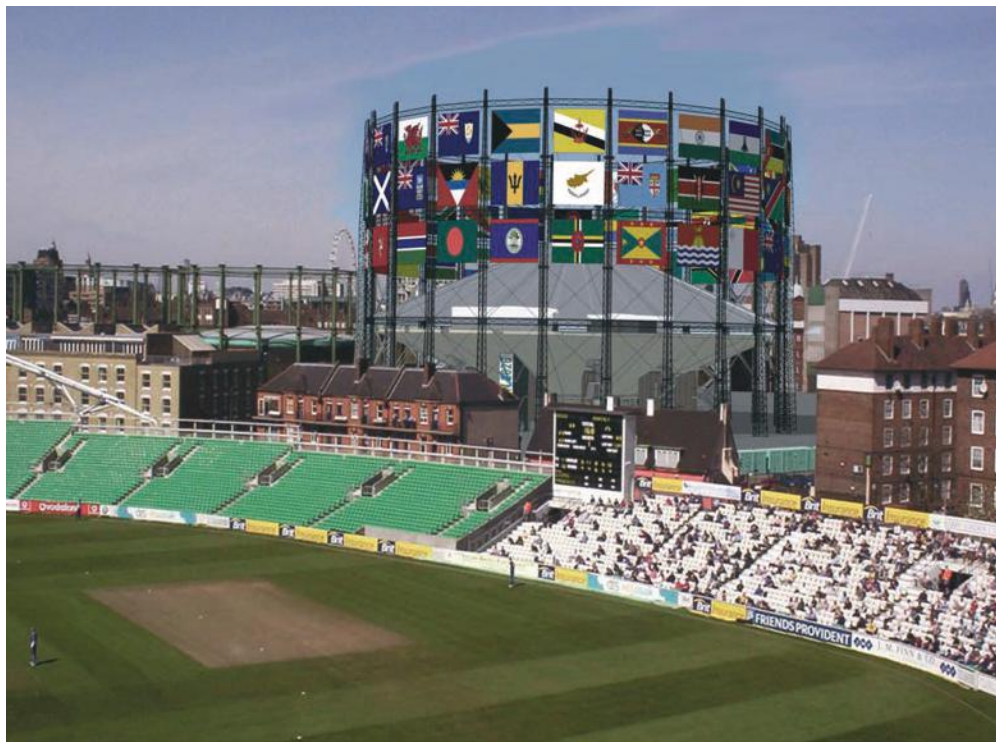
'A new Colosseum above the London skyline,' Julian Kashdan-Brown wrote in his application, describing a design in which 'gladiatorial individual combat sports are surrounded by an amphitheatre of epic proportions'.

It's a grand and romantic proposition for a space in which table tennis is listed as a possible function – which one would hope resulted in fewer deaths than the average gladiatorial battle – though Kashdan-Brown's multipurpose reimagining of a Victorian gasholder could also be used for sports with a more physical edge.

It was a versatile approach to design that impressed judge Mark Osikoya. 'Judo and table tennis are always in a dull conference centre,' he said, 'but sports like these could be in such a dramatic setting.'

Repurposed spaces could lead to compromised experiences for athlete, audience or media, but in this instance, judge Soaad Stott felt the gasholder approach could work well, noting that it could easily be blacked out for television requirements. But drawing on her stadium experience, she suggested that the 12 sectors of banked seating, formed of cantilever composite timber trusses, would provide better sightlines if steeper.

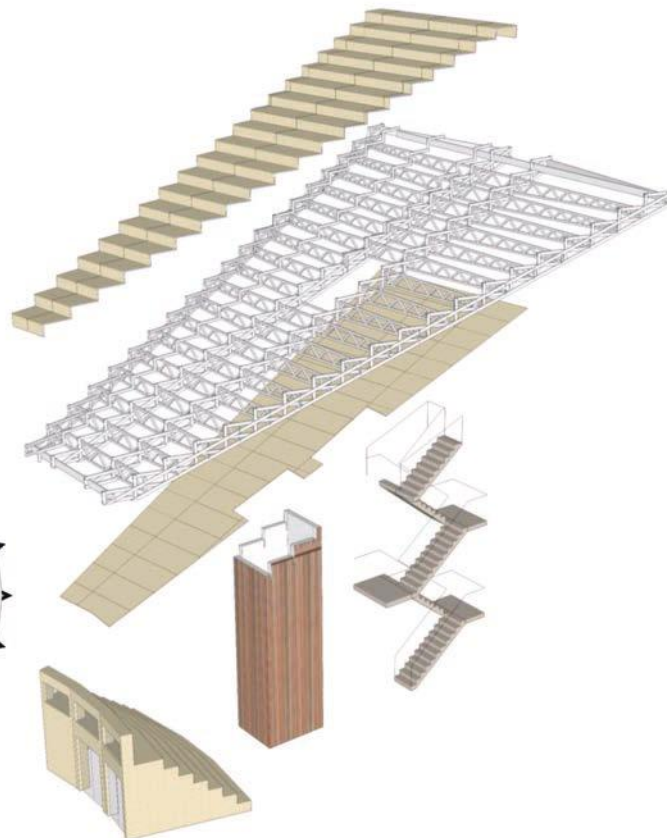
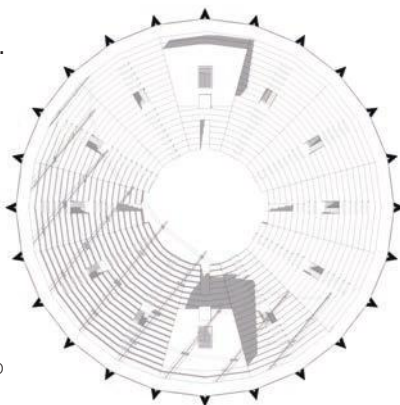
The panel admired Kashdan-Brown's reuse approach and, while his design was configured for a listed gasholder adjacent to Oval cricket ground, there was a conversation around a smaller, modular system that could be dismantled and relocated to new locations. 'Every city has gas cylinders,' said Stott. 'It could be so interesting if it could move.'



Above The proposition's UFO-like form installed in the Oval gasholder.

Right 12 audience tiers are formed from composite timber trusses cantilevered forwards and back from the sides of CLT lift shafts. Cross trusses of increasing cantilever complete the fan-shape of each sector. Covered with SterlingOSB Zero, these sit beneath a PTFE canopy.

Below The 20m diameter central stage would be eminently suitable for a number of spectator sports.



Commended Transformational Venue

woo architects – Matthew Walker, Helen Wilson, Kevin Owens

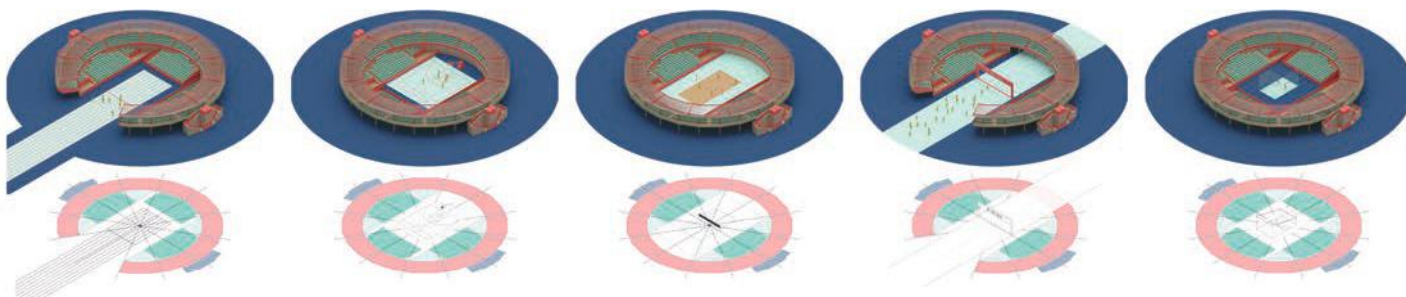
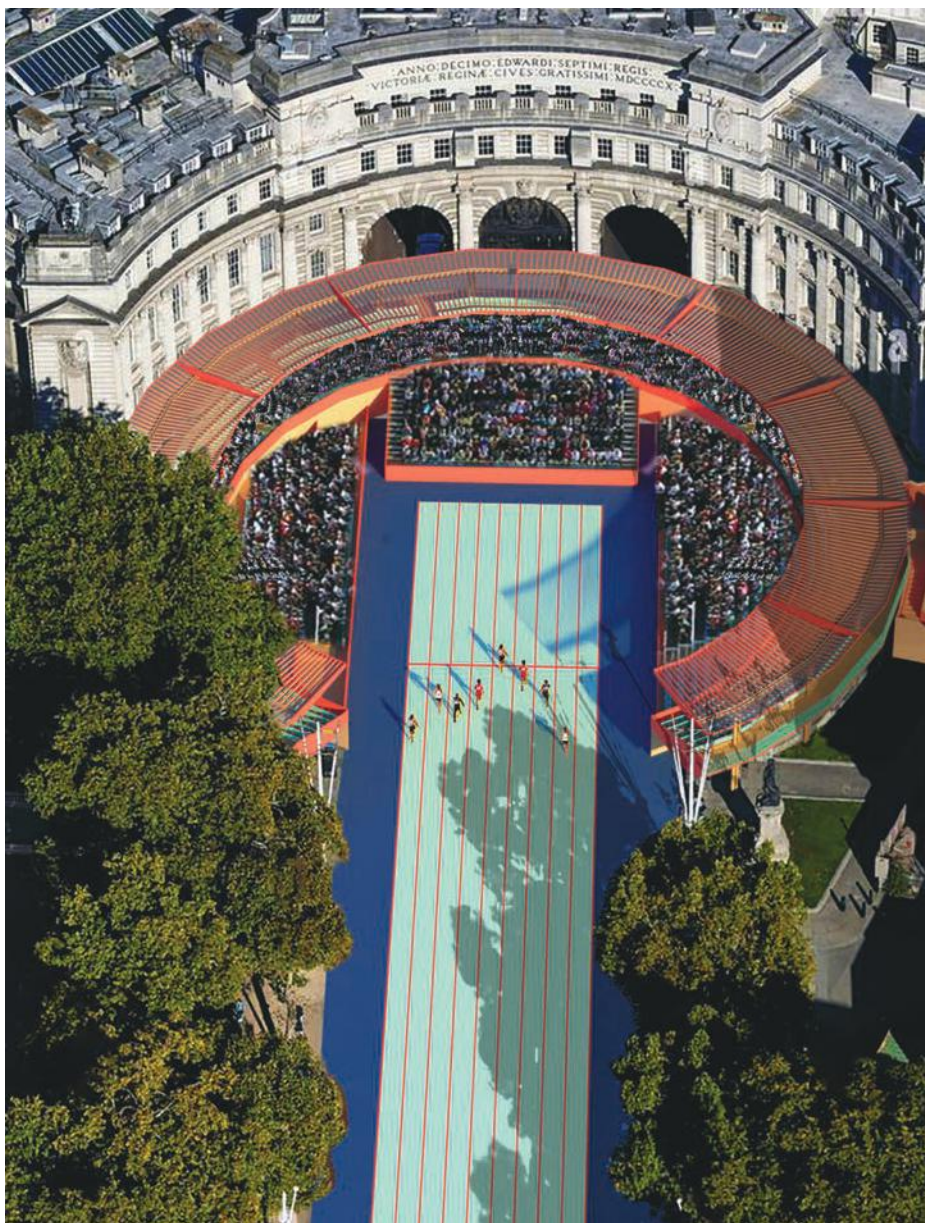
There is a grand portrait of architect Aston Webb in the leather-walled room at the RIBA where the judges were meeting. As Woo Architects' urban interjection was presented on screen, RIBA's Jan-Carlos Kucharek looked up at Webb and wondered what he would have made of the circular multisport arena designed to nestle into his Admiralty Arch at the end of the Mall. Fellow judge Stephen Proctor enjoyed this formal juxtaposition and 'diffusion of the colonial architecture'.

Design-wise, the arena is formed of 12 structural timber and board segments to form a seating ring. Various sporting components can be added to this key element as a kit of parts, allowing the circular form to offer a site for a variety of sports from archery to cycling. It was envisaged that a number of these venues could be used across the city, with Woo's submission showing it deployed in four locations across the heart of London.

'There is effort to progress what the Commonwealth represents,' said judge Mark Osikoya of the approach to the setting, 'and this could be a way of bringing those conversations to life – it is a colonial past not always addressed, but here it's front and centre.'

Right The gladiatorial nature of the form impressed the judges, embodying the excitement at the finish line.

Below The design's transformational nature allowed it to accommodate numerous urban-based sporting events, such as the marathon.



Longlisted

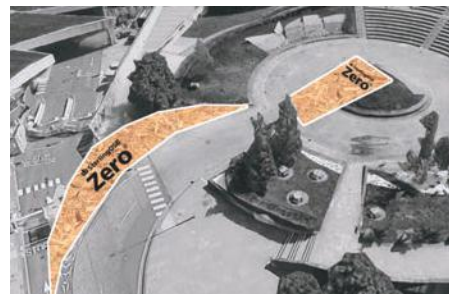
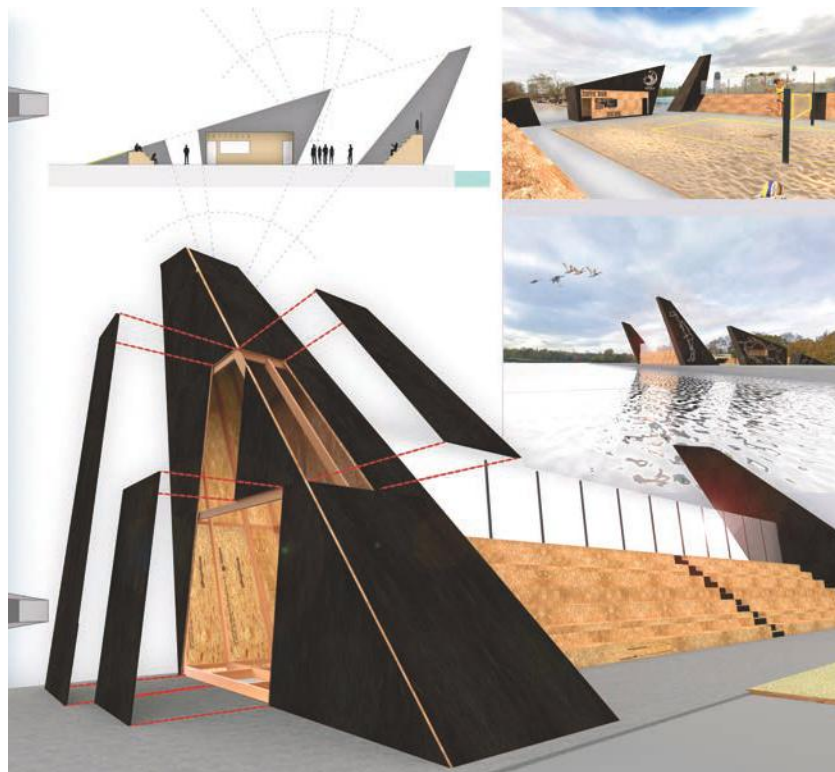
The Spike – Francesco Cuturi

Temporary international sporting venues offer the opportunity to present iconic architectural forms to mediated audiences – a strategy employed by Francesco Cuturi’s entry, which derives its name and form from the three phases of volleyball attack: approach, jump and spike.

Judge Soad Stott appreciated this sculptural approach, especially for a sport such as beach volleyball, which ‘has potential to bring in energy’ – though she questioned whether the scale of the design would suit the ‘hot cake’ numbers of tickets the event sells.

‘It looks more like a training venue,’ said Mark Osikoya, and the judges agreed it would work better as a space for public sport participation alongside a larger venue. Claire Ironside felt it used timber well, though agreed on the need to scale up – an observation that would no doubt be appreciated by the West Fraser sales team!

Right Judges appreciated the bold forms but wanted more size and animation from the proposal.

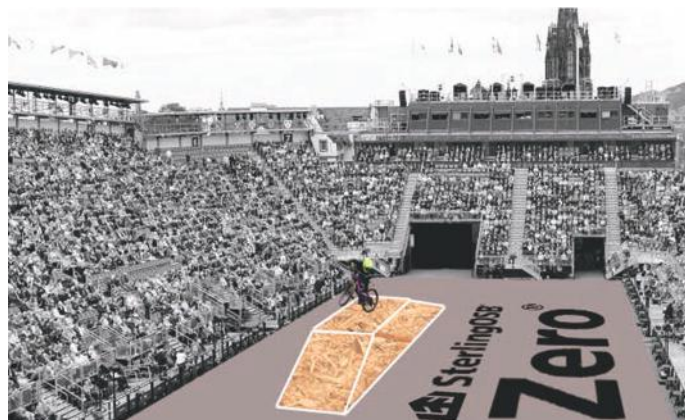


The Downhill Mile – Craig Higgins

Another project that sought to bring traditionally rural or nature-focused sports into a city-centre setting, Craig Higgins has designed a series of timber interventions to Edinburgh’s Royal Mile, turning it from a site of tourism and history into one of ramps, jumps, ramped curves and grandstands.

Soad Stott liked this aspect of the response to the brief and how it took sport into a new location. She appreciated the kit-of-parts approach of components that could be applied to various urban locations.

The judges agreed that it responded to the ‘conceptual and playful’ part of the brief, but less well to the need to include the stands needed for the many spectators such a sporting interruption into the city would be expected to bring.



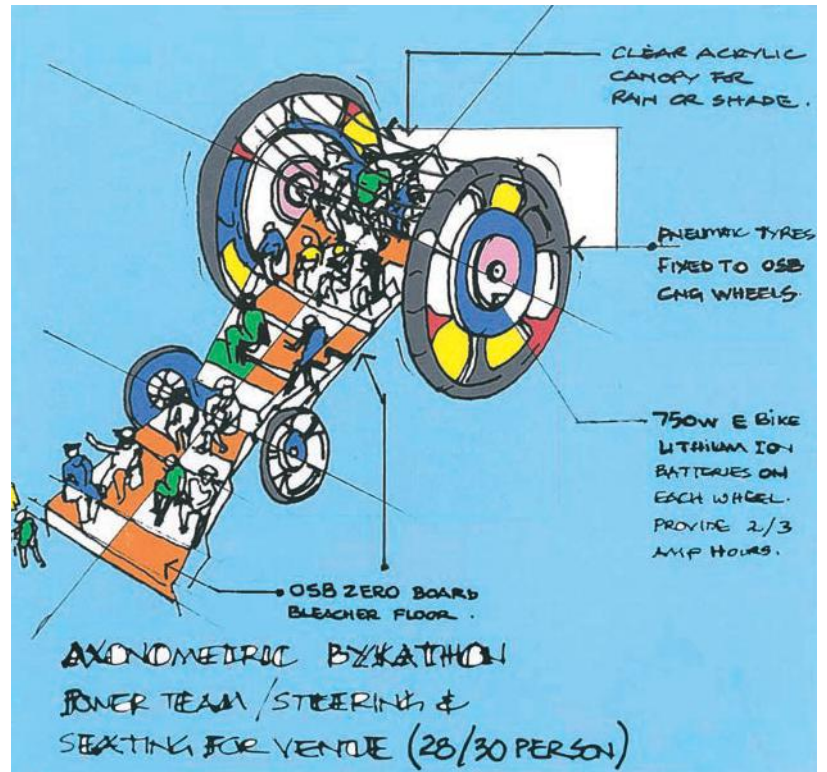
Above and top SterlingOSB Zero was well-employed for the biking obstacle course – but judges wanted to see more by way of spectator accommodation.

The Bykathon – Rob Pickering

'It's a bit Heath Robinson,' proffered RIBA's Jan-Carlos Kucharek, breaking the silence that had formed as judges worked out exactly what they were looking at.

Very much from the Archigram-school of provocative architectural ideas, Rob Pickering's Bykathon is a 5m-long 'interactive, human-powered, tandem cycle unit'. Eight of these would be cycled by groups from across the country to the host venue whereupon they would be grouped together to form a 1,000-seat venue. The wheels and seating would be formed of West Fraser's OSB Zero board.

The scheme was admired more for its vision of material use than its practicality, with judge Soaad Stott appreciating the playful spectacle that would be conjured as the vehicles arrived together to create the auditorium.



Right A proposition that was more a collective experience than a workable solution – but judges appreciated the boldness of vision.

Highland Stadium – Alex Jones

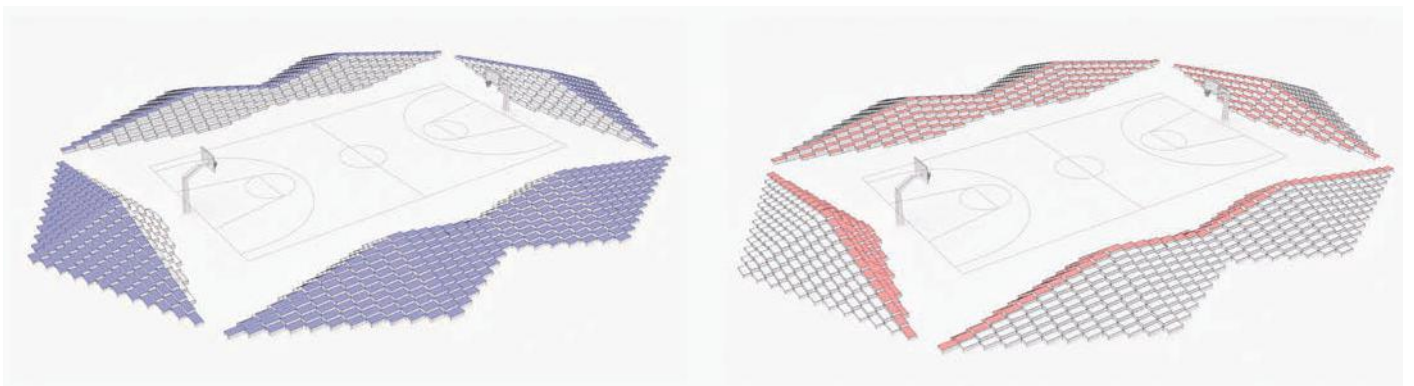
The fact that Jones approached the brief by designing a landscape rather than a traditional architectural object was enjoyed by the judges. His concept is formed of four mounds of stepped blocks formed of Sterling OSB Zero.

Spectators could sit on these blocks to face the central basketball or volleyball court, or the blocks could be used for more informal seating and congregating facing away from the venue.

'It's a strong, simple idea,' said judge Stephen Proctor, 'and could work for multiple sports on the outside, not only focusing on the interior.'

All agreed it was a shame the design was so mannered when it could have been imagined more playfully and on a more grandiose scale. As with other applicants, they wondered whether Jones had perhaps vastly underestimated the number of people who would want to watch Commonwealth Games events!

Below Jones was let down by a downbeat presentation that should have brought his simple but effective design more to life for the judges.





West Fraser

Unlike many, all of our OSB, particleboard and MDF sheet products are UK-made and net carbon negative - helping to reduce a building's carbon count and protect the planet.

uk.westfraser.com



bimstore.co.uk



West Fraser

SterlingOSB[®] Zero[®]
Strength you can build on

CaberFloor[®]
Systems you can trust

CaberMDF[®]
The professional's range

SUPPORTING YOU
IN PRACTICE
RIBA BUSINESS



RIBA PENSION SOLUTION

Make sure that you are getting the best deal for your practice and your employees. The RIBA Pension Solution is designed to meet the needs of all RIBA Members and offers strong performance and low annual charges.

You can switch at any time, it's quick and easy to do.

Contact us today to book an appointment or to find out more.

020 7307 3737
ribapension@riba.org
architecture.com/ribabusiness

RIBA 
Architecture.com



Castelvecchio Museum Verona, 1957-75

Carlo Scarpa (1906-1978) is considered one of the most important figures of 20th century Italian architecture and his work has been acclaimed internationally. Renowned for his love of crafts and understanding of materials, he was heavily influenced by the heritage of his city, Venice, as well as that of Japan. Among Scarpa's most important works are his interventions in museums housed in historical buildings, culminating in his refurbishment of the Castelvecchio Museum in Verona (1957-1975). The castle – which had been the ancient home of the della Scalas, the ruling family of Verona

between the mid-13th century and the late 14th century – was converted into a museum in 1924. Scarpa was asked to refit the exhibition spaces according to contemporary design ideas. His interventions included the radical transformation of seven big rooms of the Napoleonic Wing into the harmonised sequence of spaces featured in this photograph: the false frescoes from the 1920s were removed, the walls rendered in neutral shades and the sculptures displayed on simple concrete slabs, which appear to be floating above the floor, or on steel and wooden plinths. ●
Valeria Carullo

Editor
Eleanor Young

Deputy editor
Jan-Carlos Kucharek

Managing editor
John Jervis

Contributing editor
Chris Foges

Assistant editor
Flo Armitage-Hookes

Publishing director
Helen Castle

Corporate partnerships/
sponsorship
Richard Tomlin
+ 44 (0) 207 496 8329
John Ward
+ 44 (0) 207 307 3673

Advertising sales
Jennifer Collins
Zinc Media plc
+44 1625 667583
Jennifer.Collins@zinc-
media.co.uk

Advertising and digital
production controller
Barbara Tognini

RIBA marketing
Leona Tomeckova

Production
Richard Blackburn
Jane Rogers

Sub editing
Alysoun Coles
Simon Aldous

Design
Linda Byrne
Richard Krzyzak

Telephone
+44 (0) 20 7307 3735
Email
firstname.surname
@riba.org

Subscribe to RIBAJ:
Print + Digital
UK £180 ex VAT
RoW £225 ex VAT
Digital £90 ex VAT
subscriptions.ribaj@
riba.org

RIBA Journal
ribaj.com
Published by RIBA
1834 Ltd
Registered office:
66 Portland Place,
London W1B 1AD

Reprographics by
PH Media
Printed by Warners
Midlands plc



©Hufton+Crow



Book a tour of the Oscar Innovation Centre

Oscar Acoustics' new state-of-the-art headquarters in Halling, Kent showcases its recycled architectural acoustic finishes in a real-life setting.

Join the waiting list to book a tour to view the full fire-rated SonaSpray range in situ and see them come to life. Acoustic CPDs also available.

Call +44 (0)1474 854902.



OSCAR
acoustics



Building Drainage
Blue Roofs

The Ultimate SuDs System - on a roof

ACO blue/green roof attenuation system helps to meet planning conditions and building regulations

Ideal for a range of roofing finishes - green terrace or permeable paving

A unique benefit of The ACO patented system enables the water to be contained away from the roof waterproofing to optimise the resilience of the building

Can be combined with smart valves and rainwater harvesting

For more information on our blue roof system

www.aco.co.uk/blue-green-roofs

Free Webinar Available

Learn more about specifying the ACO system in our forthcoming webinar:

Blue Green Roof Drainage - Making Sustainable Urban Environments a Reality. October 15th 12.30pm.

To register visit: <https://bit.ly/Bluroofwebinar1024>

ACO. we care for water