



AJ SPECIFICATION

COLOUR & TEXTURE

Avanti Architects
Groupwork + Amin Taha
Eric Parry Architects

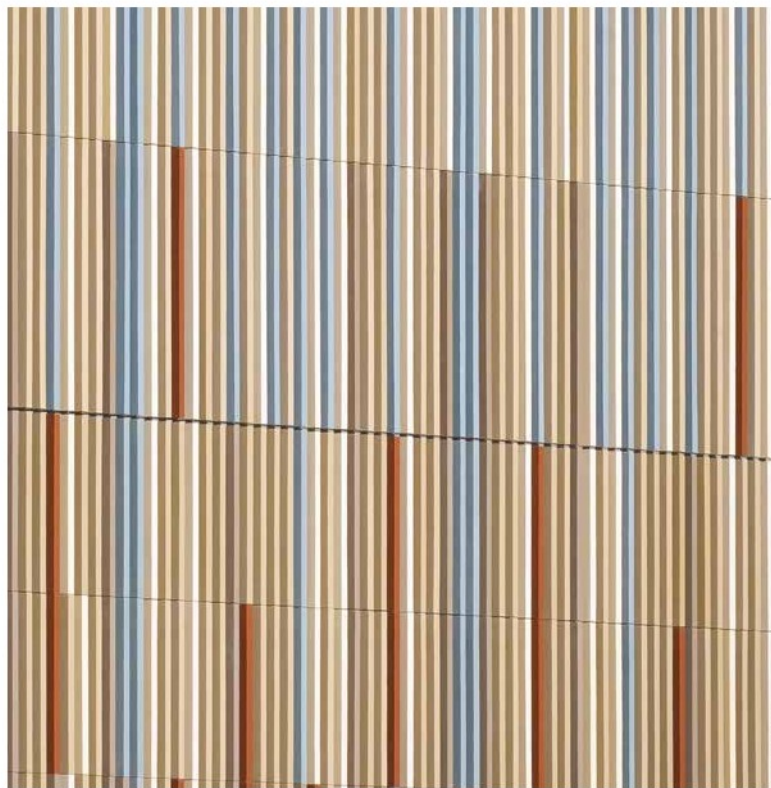
FROM THE EDITORS

BREAKING AWAY FROM THE GREY

The case studies in this month's issue counter architecture's tendency to view the use of colour as superfluous, says *Jon Astbury*

There is a tendency in architecture, ever since the rigours of the Modernist period, to approach the use of colour and texture with caution – considering it dangerously akin to ornament and of straying into the realm of the superfluous or fussy. It often seems to be something that's fine to be appreciated as an essential material characteristic, but is more suspect when added to the face of a structure, be this for reasons of taste, honesty or budget. It is no coincidence that some of architecture's most divisive styles and characters have been notable for their engagement with colour in their work: the Postmodernism of Stirling and Wilford or more recently FAT, and the blobs of Future Systems or Will Alsop. Even Adolf Loos' unbuilt Josephine Baker house showed a preoccupation with the chromatic.

Most architecture of course remains wedded to the ever-chic safety of 'default grey' – although it is worth mentioning AL_A's Millennial Pink toilets at the V&A extension here – but this month's three case studies assess some fresh takes on colour and texture. So we see it being used as a means of bringing joy and clarity into a Children's Hospital in Sheffield by Avanti Architects, as a subtle hint to interior usage at Eric Parry's Welding Institute, and as a means of interpreting memory and heritage in a monolithic terracotta monument in Islington by Groupwork + Amin Taha Architects. In all cases, process comes to the fore, and Carl Trenfield further explores this idea in Overview, tracing the development of his firm's way of working over four projects, and considering the relationship between digital fabrication and craftsmanship.



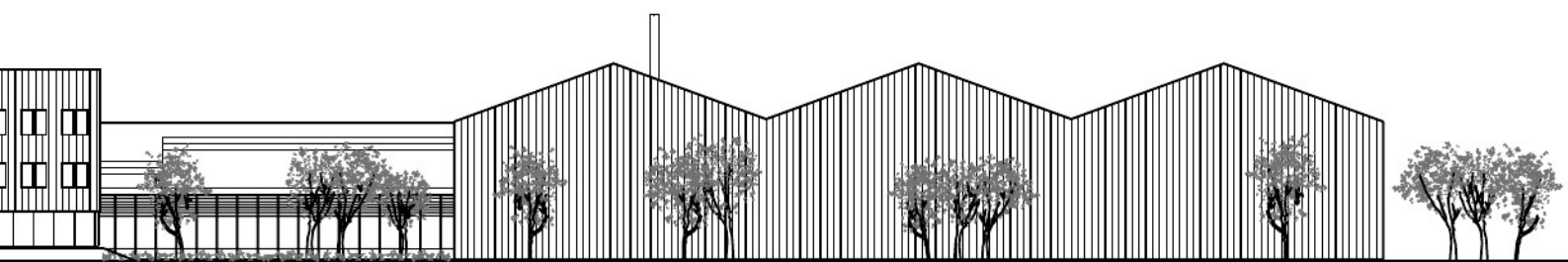
Terracotta baguettes on the façade of Eric Parry Architects' Welding Institute, Cambridge

DIRK LINDER



THE WELDING INSTITUTE BY ERIC PARRY ARCHITECTS

Photography by Dirk Lindner



The Welding Institute (TWI), developed at the site from 1946 as a government research institute, has grown into a world-leading organisation dealing with joining technology at every scale.

Eric Parry Architects' brief was to masterplan the site, including the context for the listed Abington Hall, creating a 20,000m² facility of varied use and allowing the demolition of numerous outmoded facilities.

The new TWI facilities are housed in three buildings:

Building One contains the reception and the library, as well as the Granta Conference Centre, a restaurant and café, and also the training centre and management accommodation, including a new boardroom.

Building Two is dedicated to teaching laboratories and administrative accommodation for the National Structural Integrity Research Centre (NSIRC) a state-of-the-art postgraduate engineering facility, and includes shared laboratories with TWI.

Building Three is a world-class testing facility with associated specialist laboratories, welder training workshop and office accommodation.

They are all joined by the Street, a 135m-long route that acts as a physical and social hub between old and new buildings. On its eastern edge is a café overlooking the landscape, and at its western edge is a service yard and the engineering hall.

Eric Parry Architects



Site plan



Project data

Start on site October 2013

Completion March 2015

Gross internal floor area 20,840m²

Form of contract Design and build

Construction cost £42.5 million
(including demolitions, enabling works and landscaping)

Construction cost per m² £1,980

Architect Eric Parry Architects

Client The Welding Institute

Structural engineer

Glanville Consultants

M&E consultant Hoare Lea

Quantity surveyor AECOM

Services engineer Hoare Lea

Landscape architects

Land Use Consultants (design),
Josephine Morrison (implementation)

Fire consultant Hoare Lea

Acoustics Hoare Lea

Project manager Glanville

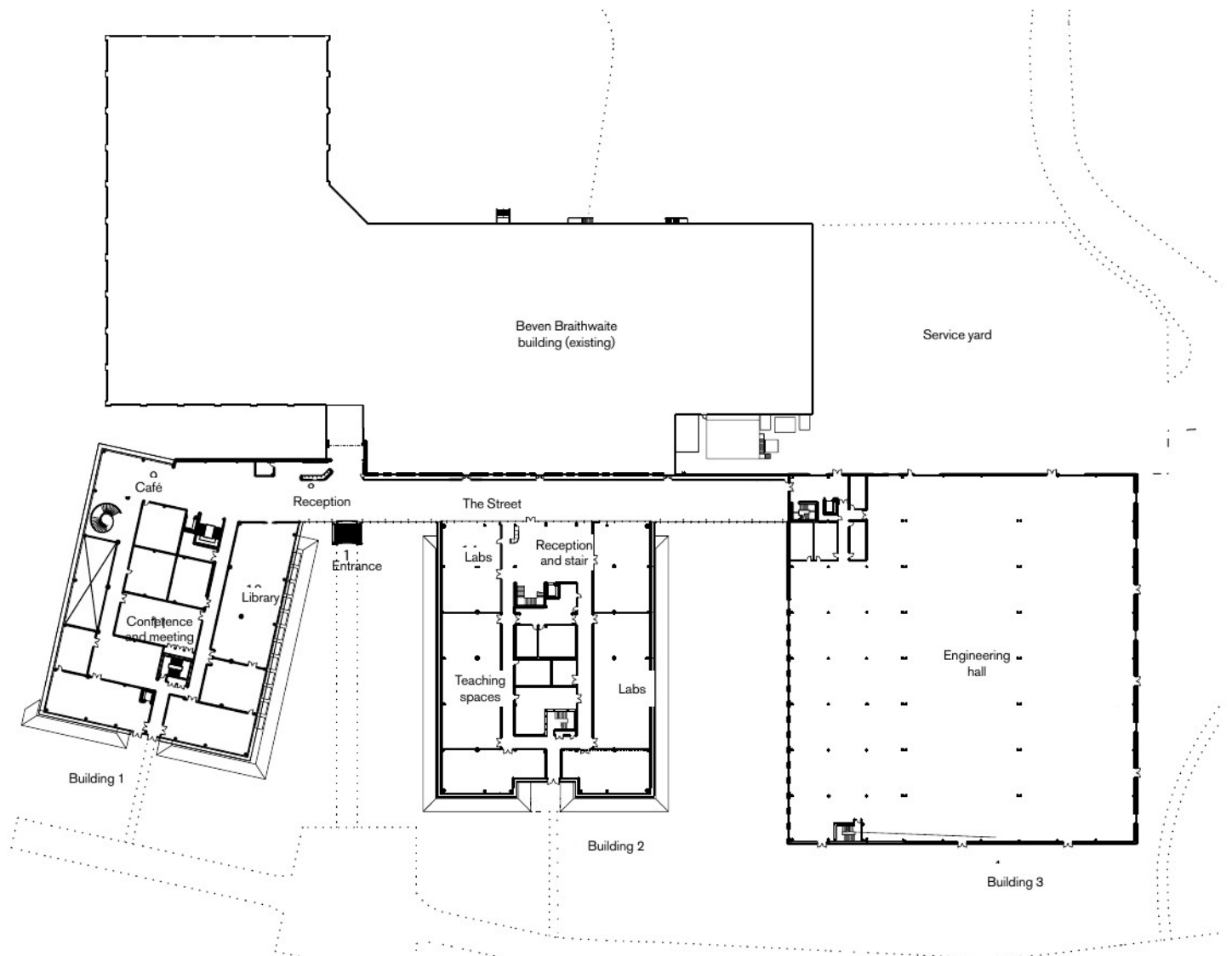
CDM coordinator Glanville

Approved building inspector MLM

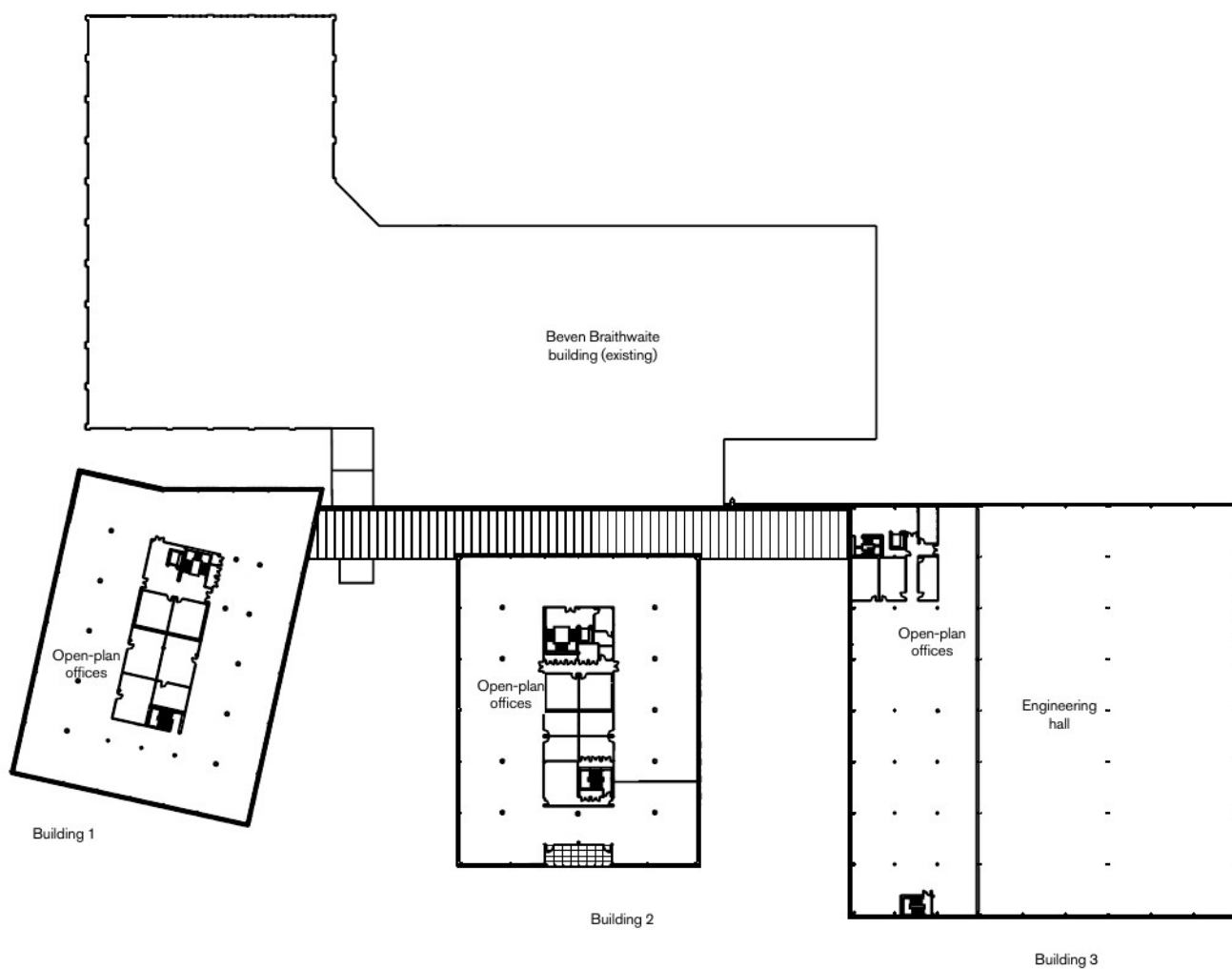
Main contractor SDC Builders

CAD software used Bentley

MicroStation and AECOsim



Level one plan



Level two plan

Specification statement

The Welding Institute was developed to achieve exceptional levels of sustainability through optimisation of the buildings' orientation, U-Values that exceed the Building Regulations by 43 per cent, air tightness that exceeds Building Regulations by 50-55 per cent, and low-carbon systems.

Passive design analysis was key to improving energy performance. Particular attention was given to façade design, orientation and spacing to find a compromise between annual daylight levels and summer solar gain.

The building fabric improves upon the Part L 2010 Building Regulations, and achieves a high standard of air tightness with figures below $5\text{m}^3/\text{m}^2\cdot\text{hr}$.

High-performance LED luminaires have been used throughout. The lighting is linked to passive infrared detectors and photocells for presence and absence detection and daylight linking controls via a fully addressable lighting control system.

The development meets more than 25 per cent of its regulated energy demand through on-site low and zero carbon

technologies. The high-efficiency combined heat and power (CHP) unit and photovoltaic (PV) panels provide heat and electricity, reducing the reliance upon grid-supplied electricity. Extensive sub-metering has been installed to record the buildings' energy performance.

Active approaches taken with mechanical design include high-efficiency condensing boilers; central air handling units for mechanically ventilated spaces, incorporating thermal wheels capable of up to 70 per cent recovery of extract air heat energy; heat recovery installed with the variable refrigerant flow system within each building; and roof-mounted stack units assisted by low-level air intake which naturally ventilate the Street.

Meter readings for electricity, gas, water and solar panels show reduced carbon emissions compared with data from the thermal model developed for the buildings for the Part L analysis; and that metered electricity output generated from the PV panels is better than design-stage calculations.

Hoare Lee Engineers





Specification

Terracotta Baguettes

NBK Ceramik
100 x 50 x 1,500mm unglazed,
six colours

Windows and Doors

Schueco
Anodised Finish

Anodised Aluminium

United Anodisers
Anolok 543

Rainscreen board behind baguettes

Marley Eternit – Tectiva Board
T20 pebble finish

Terrazzo floor

Quiligotti
597 x 597mm tiles: from 42mm

Internal glazed office partitions

Planet Partitions
Various

Ceiling tiles

Armstrong ceilings
600 x 600mm suspended ceiling

Feature lighting

iguzzini lighting
Various

Reception Desk

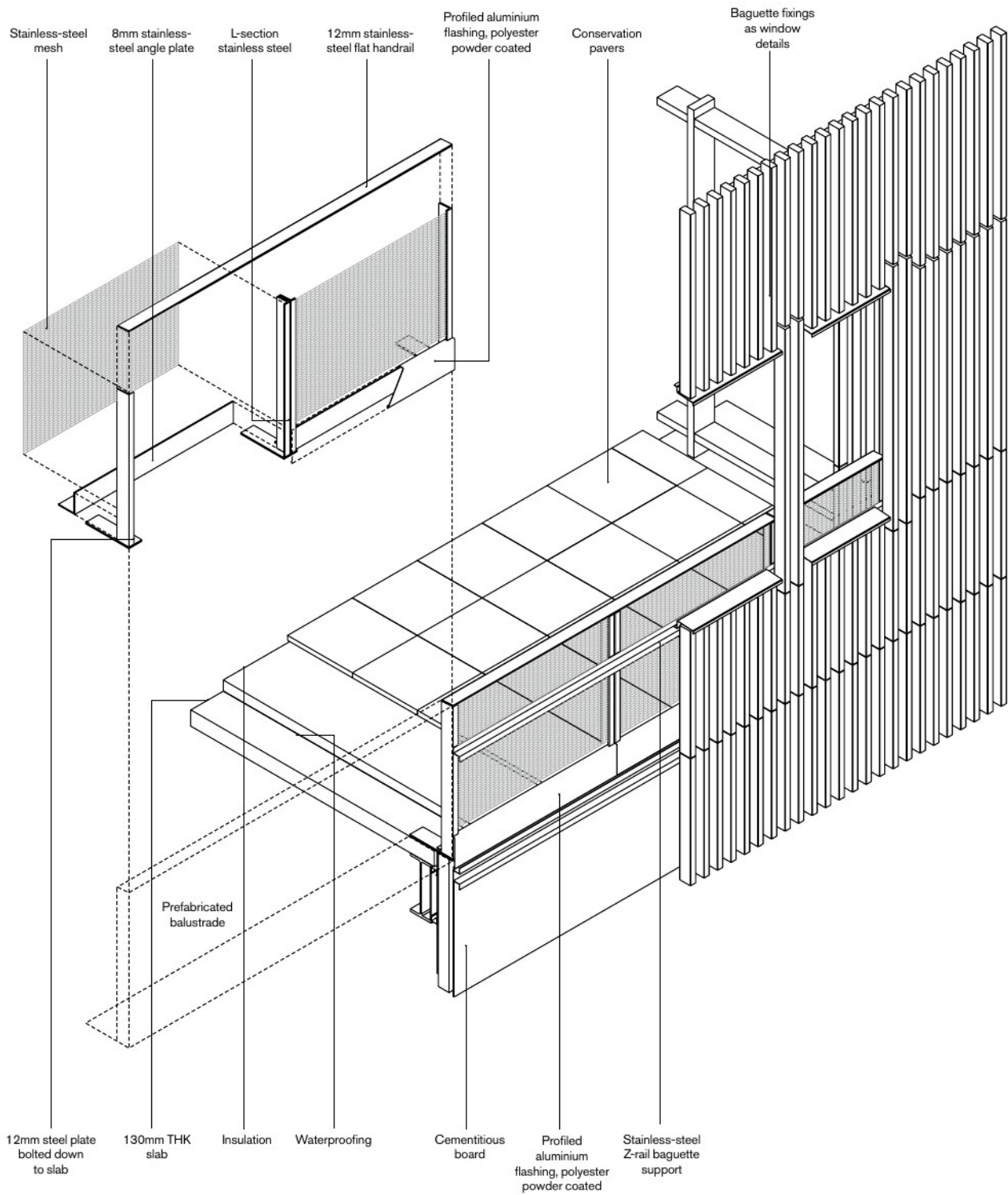
Isomi – Mono
Various

Roof lights

Luxcrete
Roof Lights product ref R254/150

Catering Equipment

C+C Catering Equipment
Various



Isometric facade detail

0 0.4m





The Welding Institute by Eric Parry

26 OCTOBER, 2017

AJ Specification case study: pastel-coloured terracotta baguettes unify three separate structures in Cambridge

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Site plan





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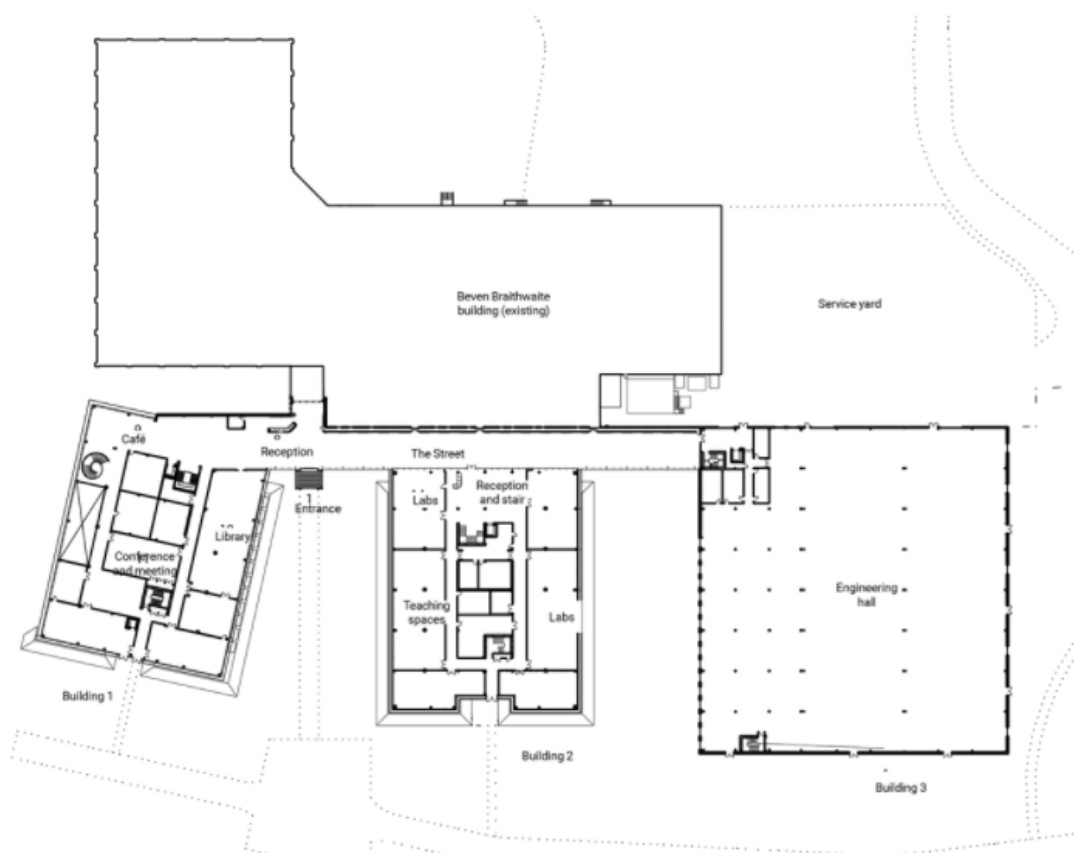
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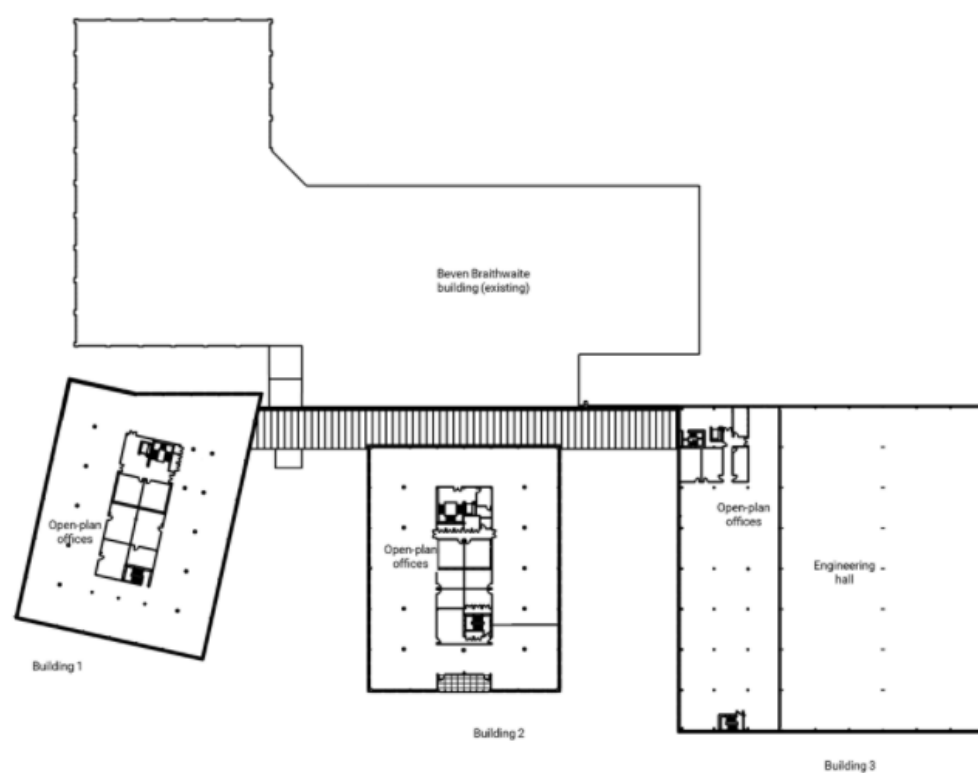
Long elevation



Level one plan



Level two plan



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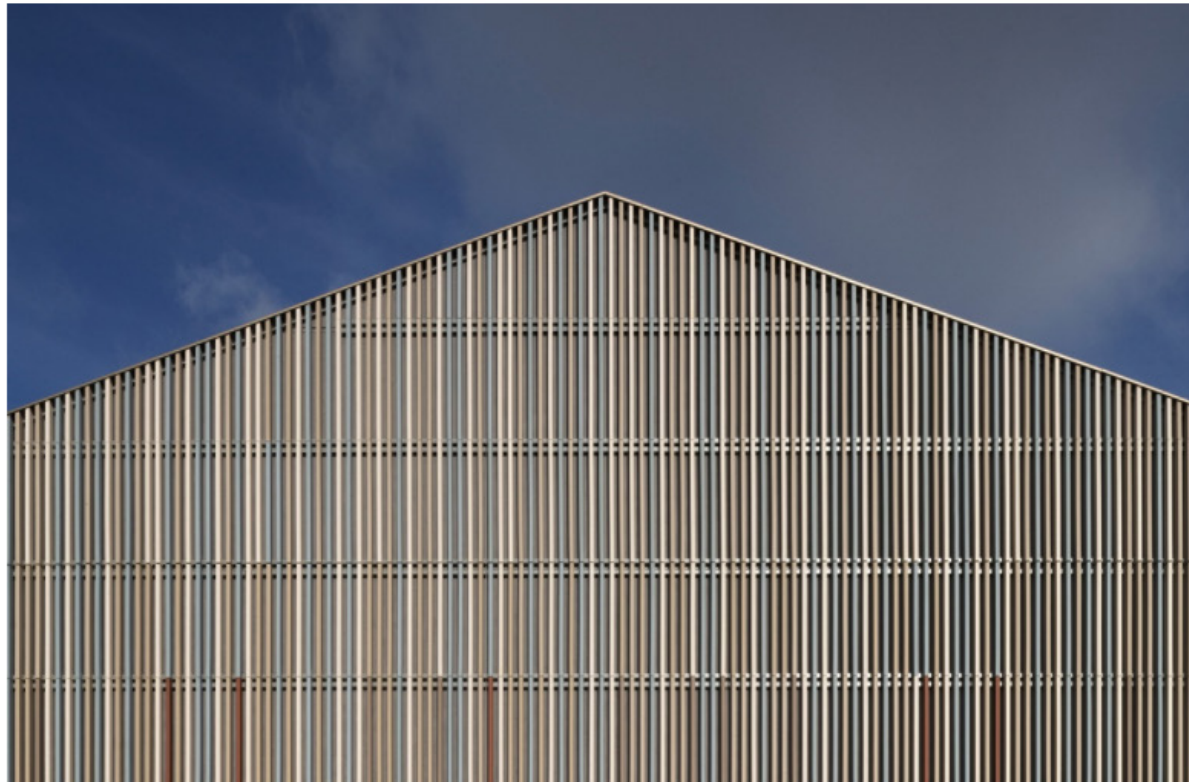
Project manager Glanville

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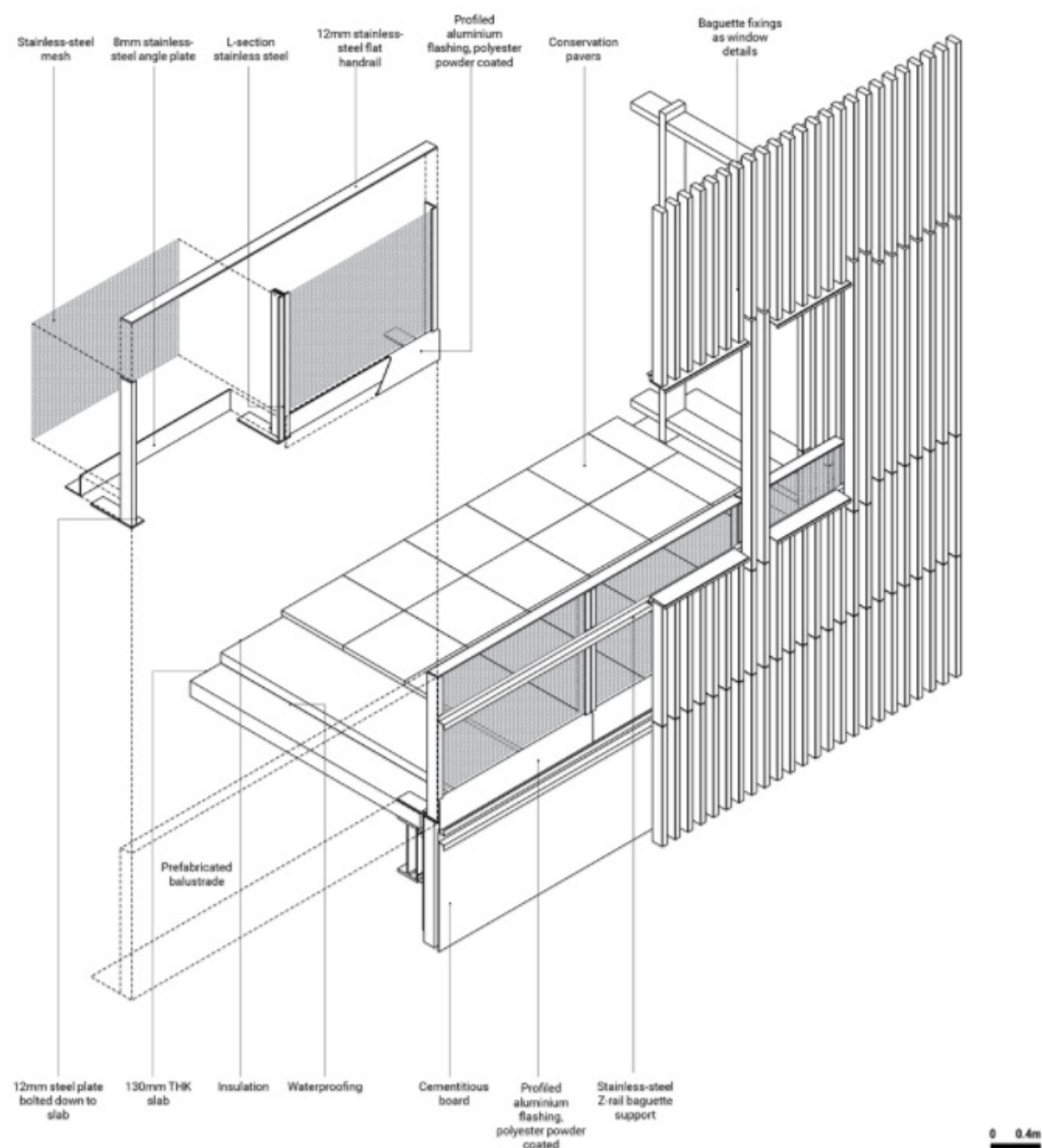
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Main contractor SDC Builders

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Isometric façade detail



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Ceiling tiles Armstrong ceilings, 600 x 600mm suspended ceiling

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Roof lights Luxcrete, Roof Lights product ref R254/150

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🔖 TAGS

CAMBRIDGE

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