

# Further & Higher Education

Case Study



Building Services Design  
Consulting Engineers



## Homerton College, Cambridge



### The Requirements

BSD worked on a number of projects with Homerton College over a period of three years, including the refurbishment and extension of a bar and butchery within a Grade II listed building. No fixed pipework was allowed to be seen internally or externally, and original quarry floor tiles could not be disturbed. The kitchen had to be refurbished and existing storage space was converted into offices. A two-storey extension was also included to provide committee meeting rooms, as well as an additional public access entrance. In addition, the entire fibre optic infrastructure needed to be replaced across the campus.

### The Solution

Working within the constraints of a listed building, BSD had to look at alternative methods of routing the services. This included taking out an old lift shaft that was ideally placed to serve the building, as well as using existing service trenches. The service trenches continued into the new extension under raised flooring. The M&E designs incorporated feature lighting, air conditioning, and AV equipment in the extension. To replace the fibre optic infrastructure, horizontal bore holes were used to overcome preservation orders for an orchard and a meadow.

### Total Project Value

£10,000,000

### Design Team

Architect: Martindales Architecture Project Management: Capita Symonds Main Contractor: R G Carter Group

“ BSD took a proactive and creative approach to working within the limitations of a conservation area and came up with workable solutions. For the most part, BSD had to work around occupied areas, which was achieved with minimum disruption. ”

Keith Waters.  
Estates Manager, Homerton College.

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Project Experience



**Building Services Design**  
Consulting Engineers



**Customer:** Cranfield University  
**Total Project Value:** £3,000,000  
**The Requirements:** New build PhD offices and lecture theatre. A 2,000m<sup>2</sup> three-storey building within Cranfield University's campus  
**The Solution:**

- Mechanical services
- VRF comfort cooling throughout the building
- Centralised mechanical supply and ventilation, with heat recovery



**Customer:** Cambridge Regional College  
**Total Project Value:** £2,800,000  
**The Requirements:** New build college buildings for Hair, Beauty and Catering, as well as a new Motor Vehicle Workshop, and a Sports Hall extension; part of a £23m single site project  
**The Solution:**

- Engineering services
- Offsetting the buildings' carbon footprint with a biomass boiler and a 60,000 litre rain water collection tank



**Customer:** Cambridge University  
**Total Project Value:** £700,000  
**The Requirements:** Refurbishment of the Judge Institute of Management Library  
**The Solution:**

- Full design of M&E services
- Architectural lighting
- Power
- Displacement ventilation
- Air conditioning
- Swirl diffusers in the flooring



**Customer:** Moulton College, Northampton  
**Total Project Value:** £1,500,000  
**The Requirements:** New build classroom as part of an extension at the University  
**The Solution:**

- Full M&E design
- VRF comfort cooling throughout the extension
- Centralised mechanical supply and ventilation, with heat recovery
- Additional existing building refurbishment with new trickle ventilation and VRF comfort cooling
- Electrical lighting controlled via daylight sensors with tutor override