

Housing & Community

Case Study



Building Services Design
Consulting Engineers



New Student Accommodation 168 Pitfield Street, Hackney, London



The Requirements

New student halls of residence were required for the University of the Arts' students in London. The accommodation needed to be basic but contemporary. Opened in September 2008, the buildings contain 514 rooms, each with en suite facilities. The client required electric panel heating throughout the space.

The Solution

To achieve Building Regulations L2 compliance, extreme compensatory carbon dioxide emissions reduction measures were evaluated, as achieving compliance was set to be difficult with electric panel heating. Measures included utilising much lower U values for external walls and windows, and increased air tightness to reduce unwanted heat loss. BSD also designed local heat recovery ventilation systems, a natural gas-fired combined heat and power unit, and associated thermal storage banks.

CO₂ emissions had been calculated at 200% of the allowed value before the measures had been put in place. The designed systems and building fabric adjustments managed to reduce the total by 51% to achieve compliance.

Total Project Value £18,000,000

Design Team

Architect: bbr Architects
Project Management: EC Harris
Main Contractor: HG Construction

“ BSD was part of the integrated design team, working from the client's brief and performance specifications. The building needed to meet strict energy consumption requirements and yet be easy to maintain. The project was constructed on a tight site integrating many composite components manufactured off-site. This required careful planning due to the location of the site and the number of delivery vehicles expected. The whole project was delivered within budget, meeting specification and quality requirements, and ahead of schedule. ”

Ian Saunders,
Commercial Director, HG Construction Ltd.

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Project Experience



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Customer: Leicester Housing Association
Total Project Value: £7,000,000
The Requirements: Refurbishment and remodelling of two 12-storey residential blocks – a total of 140 dwellings
The Solution: • Full M&E design • Remodelled plant rooms • Provision of district heating to each dwelling via hydraulic boards



Customer: Homerton College, Cambridge
Total Project Value: £10,000,000
The Requirements: New 256-bed student accommodation, and living accommodation with en-suites for 56 Junior Research Fellows; VoIP telephones with fibre optic structured cabling across the site, and Internet connections in each room
The Solution: • Detailed M&E design • A new substation • HV infrastructure • LV switchboard and sub-distribution • Low energy general and emergency lighting • Telecommunications • Fire alarm and security intruder detection, door access and CCTV • Disabled refuge installation • A gas fired condensing boiler • Under floor heating



Customer: Golden Hill, Romsey, Hampshire
Total Project Value: £5,000,000
The Requirements: New build luxury 10-bed home, summer house and garage
The Solution: • Full M&E design • Ground source heat pumps and gas-fired condensing boilers as back-up • 42-zone underground heating system • Solar thermal panels for domestic hot water and the swimming pool • Concealed VRF comfort cooling units • Air conditioning for a 30-seat cinema and swimming pool hall • Nuclear shelter and panic room • Emergency generator • Wind turbine



Customer: Lumiere Building, Manchester
Total Project Value: £9,000,000
The Requirements: 138 prestigious new build apartments
The Solution: • Full M&E design for the apartments, the lift, and the car park • Smoke ventilation