

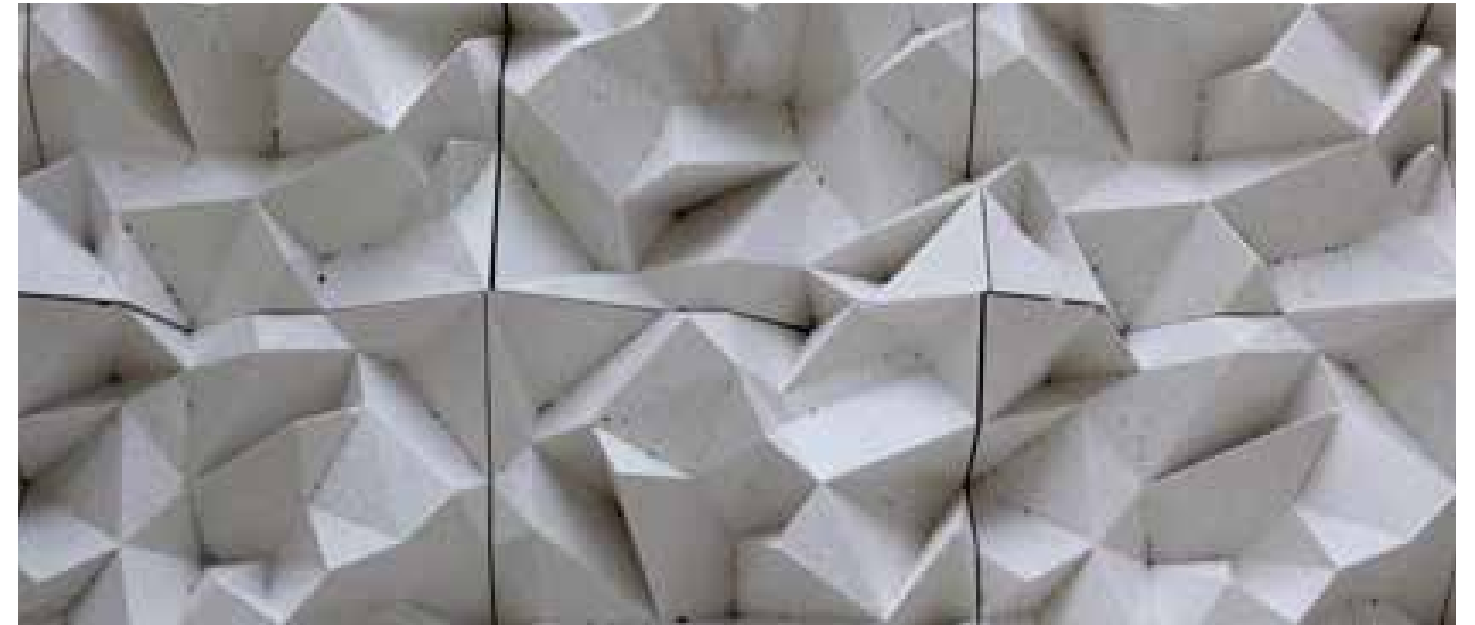
Acoustic Requirements

The is located in a busy area of central Liverpool on Renshaw Street, which is one of the main aterial roads dissecting the city. Environmental noise break-in will be mitigated to BS 8233:2014: 'Guidance on sound insulation and noise reduction for buildings' and BS 4142:2014 'Methods for rating and assessing industrial and commercial sound' This is considered to be an appropriate standard for student accommodation in city centre locations.

The criteria are <40dB LAeq,T in living rooms and <35dB LAeq,T in bedrooms, with individual noise events in bedrooms at night not regularly exceeding 45dB LAFmax. The envelope specification (for glazing etc.) necessary to achieve these internal noise levels will be determined from the results of a detailed noise survey done at key locations around the site, over a 24-hour period, that will include measuring when the nearby entertainment premises are operating.

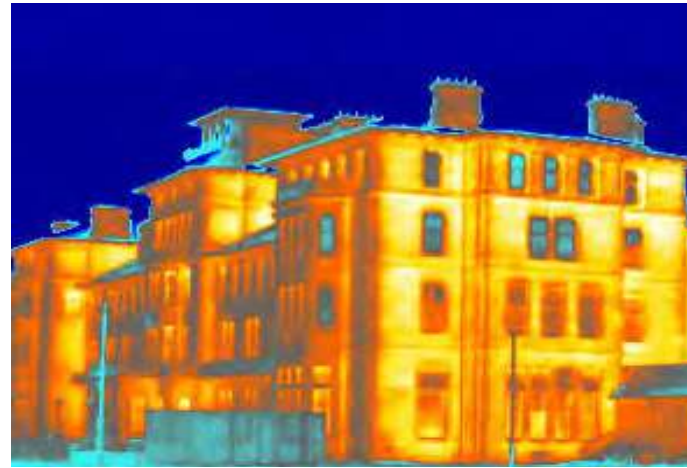
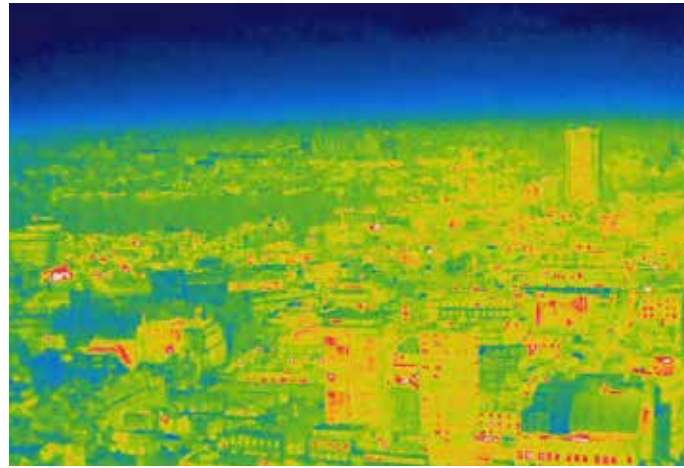
Noise from building services plant associated with the proposed development will be limited to no more than the existing background noise level (dB LA90). This will be achieved by selecting quiet plant and including any necessary screening, and/or attenuators on atmospheric terminations. It is the 'rating level' as defined by BS 4142:2014 'Methods for rating and assessing industrial and commercial sound' that will be controlled to no more than the existing background. Existing background levels will again be determined by survey - the lowest levels are likely to occur in the early hours of the morning and it is these that will be used to set the plant noise limits.

Noise from residents' activities will also be considered in the design but, given the nature of the location of the proposed development, it is unlikely that this will have the potential to cause adverse impact.



Overview

Mechanical & Electrical



1.0 Mechanical

1.1 General

The mechanical services shall be designed and installed in compliance with all local authority regulations and requirements and generally as per CIBSE recommendations. Operating and Maintenance manuals shall be provided together with drawings upon completion.

1.2 Incoming Services

The incoming gas and water supply shall enter the ground floor plant room.

1.3 Heating

Heating shall be provided from a central boiler plant which shall distribute LPHW throughout the building serving radiators in each of the flats and communal areas.

The heating will be zone controlled throughout the building to match the orientation of the building and thus its weather compensation. Each area shall be fitted with temperature sensors and shall control the system via a building management system.

1.4 Ventilation

Ventilation shall be provided to the building in accordance with the requirements of Part F of the building regulations.

Each cluster of flats shall be provided with a whole house style mechanical supply and extract system with plate heat exchanger recovery. Exhaust air shall be removed from ensuite bathrooms and kitchen with supply air provided to each bedroom.

All ductwork shall be installed in galvanised sheet metal circular ductwork. The installation shall be in accordance with DW144. All grilles and louvres shall have a paint finish in a RAL colour to be agreed with the Client / Architect.

The systems shall operate continuously on low speed with a boost operated via humidistat's.

1.5 Domestic Hot and Cold Water

Overview

Mechanical & Electrical

The water supply shall be derived from a main water storage tank in the ground floor plant-room and a boosted main shall deliver hot and cold water through the building to each flat. Hot water shall be generated via boiler plant linked to cylinders in the plant-room.

All water services pipework shall be carried out in table X copper to BS2871 Part 2, and sized to meet the demand. All pipework shall be insulated in accordance with all relevant codes of practice and British Standard specifications.

All testing shall be carried out in compliance with CIBSE guidelines.

Soils and waste shall be installed to each appliance in UPVC tube and shall connect to the underground drainage.

1.6 Controls

The building shall be controlled via a basic building management system which shall be located within the control panel located in a ground floor plant room.

1.7 Dry Risers

A dry riser shall be provided in each of the two main stairwells with landing valves on each floor.

1.8 Automatic Openable Vents

Automatic openable vents shall be installed on each floor lift lobby which shall open in the event of a fire alarm detector in that space being operated.

2.0 Electrical

2.1 General

The electrical services shall be designed and installed in compliance with BS 7671 17th Edition as well as all local authority regulations and requirements and generally as per CIBSE recommendations. Operating and maintenance manuals shall be provided together with as installed drawings upon completion.

1.2 Incoming Services

The incoming electricity supply shall be derived from the existing sub-station and telecoms shall be installed within underground buried heavy duty UPVC cable ducts which shall be routed to the plant room.

1.3 Mains Distribution

The new supply shall enter the building in the proposed plant-room. The new supply shall terminate within a new wall mounted MCCB panel which shall subsequently feed the sub mains circuitry supplying each of the distribution boards around the building that will serve the local circuitry within that area. When complete, the new MCCB panel shall include a minimum of 20% spare outgoing ways to facilitate future expansion of the electrical systems within the building.

1.4 Trunking & Traywork Systems

Generally, containment systems shall take the form of standard section galvanised steel trunking, tray and basket systems and conduits. Where possible all conduits shall be recessed within the building fabric where dropping to outlet positions.

A full galvanised steel cable basket system shall be installed between the server position and all structured wiring outlet positions.

1.5 Lighting

Lighting levels shall generally be as per CIBSE recommendations and shall comprise the following types of luminaires in the areas specified:-

Student Rooms	150 Lux @ Floor Level
Kitchens	200 Lux @ Floor Level
Store Rooms & Circulation Areas	150 Lux @ Floor Level
Toilets	150 Lux @ Floor Level
Plant / Laundry Rooms	200 Lux @ Floor Level

Overview

Mechanical & Electrical

Emergency lighting shall be designed in accordance with BS5266 which shall generally be in the form of inverter packs within recessed modular fittings and self contained bulkhead fittings over emergency exits and escape routes.

Emergency bulkhead luminaires are to be fitted over the emergency exit doors.

1.6 Small Power

Small power shall be served from a number of local TP&N MCB distribution boards located in each section of the building Typically a distribution board will serve a number of rooms as well as circulation spaces.

Cleaner’s sockets shall be located within all areas.

An induction loop facility shall be provided to the main entrance area/reception.

1.7 Fire Alarm

A fully addressable automatic fire alarm system shall be installed throughout the building. It shall be designed to BS5839 and local authority requirements and shall be designed to meet the requirements for a category L1 system.

The system will consist of an alarm panel located within the reception inter-linked with smoke and heat sensors and manual call points. Sounders and beacons will be incorporated into some of the detector bases and/or heads to provide audible and visual means of warning.

1.8 TV Aerial System

A main TV aerial system shall be provided to each flat

1.9 Structured Wiring

A main patch panel shall be located centrally within the building and cat 5e cable shall be linked between all data outlet points and the central patch panel. The outlet points shall be standard RJ45.

1.10 Door Access Control

The main entrance to the building shall be equipped with door access control. This shall comprise of a fob system which can be programmed to allow access to certain areas. The system shall be PC based and can be programmed to suit a changing requirement. An intercom system shall be provided to each cluster of flats linked to the main entrance.

1.11 Mechanical Wiring

All mechanical services linked to the control panel within the plant room shall be wired by the electrical sub-contractor.

1.12 Lightning Protection

The building shall be provided with lightning protection to comply with BS EN 62305 - 2006



STUDIO 6
SWAN SQUARE
13 SWAN STREET
MANCHESTER, M4 5JJ
TELEPHONE: 0161 8349703

STUDIO 5
UNDERLEY BUSINESS CENTRE
KIRKBY LONSDALE, LANCASTER
LANCASHIRE LA6 2DY
TELEPHONE: 015395 67208

STUDIO 4
TOFFEE FACTORY
LOWER STEENBERG'S YARD
OUSEBURN, NEWCASTLE UPON TYNE,
NE1 2DF
TELEPHONE: 0203 143 3497

STUDIO 3
DAY Architectural Ltd
C/O ATKINS
EUSTON TOWER
286 EUSTON ROAD
LONDON
NW1 3AD
TELEPHONE: 0203 143 3497

STUDIO 2
THORNCROFT MANOR
LEATHERHEAD
SURREY
KT22 8JB
TELEPHONE: 01372 300 102

STUDIO 1
61 BURLINGTON STREET
ELDONIAN VILLAGE
LIVERPOOL
L3 6LG
TELEPHONE: 07964 538940

WEB: www.day-architectural.com

EMAIL: info@day-architectural.com

Twitter: [@DAYArchitects](https://twitter.com/DAYArchitects)