

BREEAM Domestic Refurbishment Scheme 2014 Assessment

DESIGN DEVELOPMENT SPECIFICATION

Status: DESIGN – Final (26/08/21)

DEVELOPER: David Hasler

**SITE: Addington House, 73, London Street, Reading, RG1
4QA**

General development description

The site is in a central location within Reading with excellent access to local services, shopping and employment, being 0.3 miles walking distance south of the Oracle shopping centre and 0.5 miles south of Reading mainline railway station.

Addington House is a Grade II listed, mid-terrace townhouse, constructed in 1793 and named after Dr. Addington, physician to George III, father of the later Prime Minister. It consists of three storeys and a basement and is located on the east side of London Street.

The proposed works consists of the conversion of the existing offices with internal re-configuration of rooms and doorways at ground, first and second floors to form 8, one & two bed flats, as detailed below.

Ground floor:

Flat 1: 2-bedroom flat (72.3m²)

Flat 2: 1-bedroom flat (67.2m²)

First Floor:

Flat 3: 2-bedroom flat (72.3m²)

Flat 4: 1-bedroom flat (39.6m²)

Flat 5: 1-bedroom studio flat (26.4m²)

Second Floor:

Flat 6: 2-bedroom flat (69.2m²)

Flat 7: 1-bedroom flat (44.3m²)

Flat 8: 1-bedroom flat (36.6m²)

In addition to the flats, there will be cycle parking and waste & recycling storage for residents in the basement, but no parking or private/communal outside area, which remain as currently is.

David Hasler owns and is developing the site, with K2 Consultancy supplying planning and project management services. One of the planning permission conditions requires the flats to attain a 'Very Good' rating under the BREEAM Domestic Refurbishment scheme (2014) and it is with regard to this that this document pertains.

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1.0 Construction Details

1.1 Roof Construction

Roof 1 (Main roof over 2nd floor) – Retained clay tiles on retained timber rafters and joists with 100mm Rockwool Roll insulation between the joists and 300mm Rockwool Roll over, 12.5mm plasterboard ceiling and skim finish. Green guide reference 79916427, rating A2+, area – 150.10m².

Roof 2 (Flat 5 only) – Retained flat roof of felt finish on retained timber joists and retained plasterboard and skim finish. Green guide reference 79916428, rating A2+, area – 8.67m².

1.2 External Walls

Wall 1 – Retained and unimproved due to listing, 500mm solid brick walls with plaster finish. Green guide reference 79916430, rating A4+, area – 154.00m².

Wall 2 – Retained and unimproved due to listing, 400mm solid brick walls with plaster finish. Green guide reference 79916430, rating A4+, area – 41.11m².

Wall 3 – Retained and unimproved due to listing, 220mm solid brick walls with plaster finish. Green guide reference 79916431, rating A5+, area – 55.82m².

1.3 Floors

Ground floor – Retained timber floor boarding on retained timber joists, no insulation. Green guide reference 79916433, rating A6+, area – 139.52m².

Separating floors – Retained timber floor boarding on retained timber joists. Green guide reference 79916434, rating A6+, area – 288.40m².

1.4 Internal & Separating Walls

Wall 1 – Retained party walls – 210mm solid brick, plaster finish each side. Green guide reference 79916435, rating A3+, area 245.27m².

Wall 2 – New party walls (2/F) – 75 x 38mm studs, two layers of 15mm Soundbloc board each side, 25mm Isover Acoustic insulation (APR 1200). Green guide reference 818570061, rating A+, area 56.94m².

Wall 3 – Original walls to stairwell – Retained plaster on each side of 220mm retained solid brickwork. Green guide reference 79916435, rating A3+, area 154.32m².

Wall 4 – Upgraded original walls to stairwell – Retained plaster on stairwell side of 100mm retained solid brickwork, 25mm Rockwool acoustic partition slab in timber frame at 600mm centres and 12.5mm plasterboard and skim finish. Green guide reference 79916436, rating A2+, area 24.55m².

Wall 5 – New wall to stairwell (2/F only) – 75 x 38mm studs, two layers of 15mm Soundbloc board each side, 25mm Isover Acoustic insulation (APR 1200). Green guide reference 809760003, rating A+, area 22.15m².

Wall 6 - New internal partitions – 140mm timber studs with 15mm acoustic plasterboard both sides and skim finish. Green guide reference 809760003, rating A+, area – 167.28m².

Wall 7 - Retained partitions – 220mm solid brick, plaster finish both sides. Green guide reference 79916438, rating A, area 106.44m².

1.5 Doors and Glazing

All windows and doors currently scheduled to be retained and feature original single glazed, timber sash windows to the front elevation onto London Street and a mix of the same and uPVC windows to the rear elevations. Green guide reference 813100013, rating A+, area 28.48m².

Existing timber doors to the entrance and internally to be retained and new internal timber doors to be supplied from Jewsons or similar FSC accredited supplier.

1.6 Additional construction detail

All timber used in the scheme - roof, walls, flooring, internal & external doors, skirting etc., to be FSC, PEFC or similar scheme sourced. All plasterboard from Gyproc or similar accredited supplier who are BES6001 rated for all manufacturing processes.

Access is in accordance with Part M of the Building Regulations to all apartments.

The final room surface finishes (walls, ceilings, floors) will not be darker on average than the pre-development rooms as a result of the refurbishment.

2.0 Heating, Hot Water & Ventilation Systems

2.1 Heating System and Ventilation Systems

Space heating to be provided in all apartments by Dimplex Quantum HHR storage heaters with individual time and temperature controls, with electric towel heater in the bathrooms. All apartments will be connected to a 7-hour off-peak electricity tariff.

The approach to extract, background and purge ventilation will see Vectaire MINIBY-AT MVHR (mechanical ventilation with heat recovery) units installed in each apartment. This approach meets the requirements of sections 5 and 7 of Part F of the Building regulations in full.

2.2 Hot Water System

All apartments will have electric showers and point of use electric heaters for kitchen sinks and wash hand basins.

The hot and cold water system in each dwelling will be designed to avoid the risk of microbial contamination in line with best practice.

3.0 Electrical Systems

3.1 Internal Lighting

Low energy light fittings to be supplied in all internal locations to allow for an energy use from lighting figure of no more than 9W/m² of gross internal floor area.

3.2 External Lighting

External and communal area lights shall be provided as follows;

- Low-energy space lighting with a luminous efficacy greater than 45 lumens per circuit Watt shall be provided in communal areas, controlled by PIR movement detection for internal locations and daylight cut-off devices for external locations.

3.3 White Goods

A fridge/freezer and washer/dryer will be supplied to each apartment, but no dishwasher. A leaflet with information regarding the EU Energy labelling scheme and why purchasing energy efficient appliances is important will be provided to all flats on site.

3.4 Energy Monitoring Devices

An energy display device to electricity consumption data will be supplied to each dwelling. This unit will have self-charging sensors fixed to the incoming mains supplies and a visual display unit, which will display as a minimum the following information – local time, current mains energy consumption (kilowatts or kilowatt hours), current emissions (g/kg CO₂), current tariff, current cost, have visual presentation of data to allow for identifying high and low level of usage and historical consumption data in either daily, weekly or monthly billing periods

4.0 Renewable/Sustainable Energy Technologies

No renewable energy technologies are specified for this scheme.

5.0 Water Appliances

The following specification will apply for all units with flow rates controlled by flow restrictors or aerators (where required) -

- 8.0 litre/min showers
- 165 litre maximum capacity baths
- 6.0 litre/min kitchen taps
- 3.0 litre/min basin taps
- WC dual flush 6.0/3.0 litres
- Washer/dryer: Baumatic BWDI1485D – 5.57l per kg dry load

6.0 Waste & Recycling Facilities

A fixed waste bin for recyclable material is provided within the kitchen, *in addition to* and close to the fixed main waste bin. This recyclables bin will total at least 30 litres in storage capacity. Also, an interior container is to be provided for kitchen composting waste of at least seven litres capacity.

Reading Borough Council (RBC), the local authority, operates a once a fortnight collection of refuse and recycling (mixed paper, card and cartons, glass, cans, plastic bottles, pots, tubs and trays) from domestic properties. It also operates a weekly kitchen food waste collection scheme.

Adequate provision in line with RBC requirements for all external waste, food waste and recycling storage will be made in the communal bin store in the basement of the building.

7.0 External Features

7.1 Private Space

There is no private or communal external space supplied as part of this development.

7.2 Drying Space

Apartments will have drying facilities provided by a fixed Brabantia clothes line product (or similar) of at least 4m length located within bathrooms. As stated in section 2.1, all bathrooms will comply with the required sections of Part F of the Building Regulations with regards ventilation.

7.3 Ecological Protection and Enhancement

An ecological assessment and report have been undertaken for this site by Julian Thornber (MIEEM) of AA Environmental Limited. This has established that development will occur on land of low ecological value and that it is unsuitable for any ecological upgrade measures.

7.4 Cycle Storage

Communal cycle storage for sixteen bicycles is located in the basement of the building, with ground bolted hoops supplied in a locked and appropriately lit storage area which has adequate space available for the manoeuvring of cycles.

8.0 Acoustic Testing

Pre-completion sound testing will be undertaken by a UKAS registered company, with remedial work being undertaken to ensure compliance should any of the units fail and re-testing to occur to demonstrate said compliance. The aim is to show at least compliance with Part E of the Building Regulations.

9.0 Surface Water Runoff

The building footprint and impermeable area will remain the same post construction as for the pre-construction situation on site.

10.0 Home User Guide

A guide will be produced for the dwellings covering information on technical and non-technical issues relevant to the occupier. This will provide details on the operation and environmental performance of the home in accordance with that required under BREEAM Domestic Refurbishment 2014) and the Building Regulations. Additional information will also be provided pertaining to local amenities, public transport, recycling, responsible purchasing, emergency information and links to other relevant sources local and national information.

A meeting will be scheduled once all units are occupied to introduce the building management company and to present the home user guide to occupants and to deal with any initial queries relating to the units. This will be followed by a site inspection within three months of occupation and a helpline will be available for all occupants relating to the development for at least 12 months, post-completion, to be operated by the building management company.

11.0 Construction Site Impacts

The contractor will register the scheme under the Considerate Constructors Scheme (CCS) and will commit to achieving a CCS score of over 25 and will achieve a minimum score of at least 5 in every section.

The contractor will monitor and report on site impacts relating to energy and water use (a dedicated individual will be appointed to this task, with progress displayed on site). An initial target for energy use per month is no more than 1,200 units of electricity over a projected project period of four months (no other energy use is expected, with the same period applying to a monthly water use target of 0.3m³ or lower. The measures outlined below will be explained to all operatives on site and they will be encouraged to add additional measures of their own. These measures are expected to reduce energy and water use by approximately 20% over standard usage.

Energy & water saving measures:

- Consistent policy of turning off lighting when not required

- Consistent policy of turning off power tools and other equipment when not required
- Dedicated site shut down policy to include check that electrical appliances, lighting and water taps are all off when last operative leaves site
- Energy efficient lighting to be used during construction process
- Kettles to be used for hot water to only be as full as required
- Unused water to be stored in barrel for future use and not disposed of down drain
- Taps not to be run constantly when cleaning hands/equipment – policy of filling a bowl/sink to be required
- Equipment not to be left on charge overnight on site

All appointed contractors will also adopt best practice policies in respect of air (dust) pollution and water (ground and surface) pollution and these policies will be explained by a nominated individual to all new contractors entering the site prior to commencement of any work and displayed in a visible location for all contractors to see.

A Site Waste Management Plan will be created to include target benchmarks for resource efficiency in accordance with best practice; procedures and commitments to minimize non-hazardous construction waste at design stage (specifying waste minimisation actions relating to at least three waste groups and supported by appropriate monitoring); procedures for minimizing hazardous waste; and monitoring, measuring and reporting of hazardous and non-hazardous waste production according to the defined waste groups. This will result in at least 65% by weight or 70% by volume of non-hazardous construction waste being diverted from landfill. It will also see non-hazardous construction waste generated per £100,000 of project value of below 16.9 tonnes or 26.52m³.

This will be demonstrated at the end of the project through the provision of evidence from the waste management company and a finalised SWMP.

12.0 Safety & Security

Fire alarms will be supplied in accordance with BS 5839-6:2004 to at least a Grade D Category LD3 standard, in all units and will be mains operated, conforming to BS EN 14604: 2005 or BS EN 5446-2:2003 and will have a standby power supply, such as a battery (either rechargeable or non-rechargeable) or capacitor. They will be positioned in accordance with Part B of the Building Regulations, Fire Safety, Vol. 1 – Dwelling houses (2006) - Section 1 Paragraphs 1.11–1.18 and in accordance with the recommendations of BS 5839–6:2004 for a category L2 system.

There has been and will continue to be consultation with a SABRE accredited security consultant (Kevin Burrows – KABSEC) from an early stage and throughout the design and implementation of the scheme to ensure that the

development delivers appropriate security measures in line with the age and restrictions placed on the building

Key security issues identified and to be fully implemented include the following:

- New external doors to the apartments to be PAS24 compliant and to be secured with either a BS3621 or PAS3621 locking system;
- 'False' doors should be secured using a (minimum) 75mm long screw directly into the frame/casing. Screws should be placed at a maximum of 400mm centres prior to the installation of plasterboard.
- The locking mechanism on the main building entrance door to be amended to a multi-point lock which is compliant with PAS3621.