**Code for Sustainable Homes Pre- Assessment**

**For the proposed development of 99 Camden Mews 06.08.2014**

**London**

**NW1 9BU**

The proposal is for a single family house comprising two bedrooms, two bathrooms, a living room, dining room, kitchen, workroom / studio and a roof terrace with planting.

The client aims to achieve Code for Sustainable Homes Level 4 rating based on the criteria established in the Technical Guide November 2010. Below you can find a summary of the pre-assessment, which has been undertaken to show how the client could achieve this.

1. **ENERGY:**

A high level of insulation, air tightness and orientation will limit the demand for energy.

Large south facing windows to the main living accommodation on the first floor and workroom/studio on the second floor will have self shading set backs and external sunshades and louvers to minimise solar gains, whilst maximising daylight to the interior.

The floors will be of exposed precast concrete plank and beam construction providing good thermal mass.

Good air quality and comfortable temperatures will be facilitated by passive cross ventilation by opening windows and vents in the front and rear elevations.

The following U values are proposed in compliance with Part L1A Conservation of Fuel and Power in New Dwellings 2013:

**Fabric Energy Efficiency:**

Floor U values: 0.10W/m2 K

Roof U values: 0.10W/m2 K

Party walls U values: 0.0 W/m2 K

External walls U values: 0.18W/m2 K

Glazing U values: 0.8W/m2 K

Glazed doors u value: 1.2W/m2 K

Solid Doors; 1.0W/m2 K

Air tightness: 5.0m3/h.m2 at 50 Pa

Glazing U value assumes triple glazing and thermally broken frames.

**Energy Source and Display:**

Condensing mains combi gas boiler, with weather compensation controls, gross efficiency of up to 98%, fan flue and room sealed, time and temperature control will be installed.

An Energy consumption display device to monitor primary heating and electricity consumption will be installed.

**Community Heating:**

The London heat map shows that there is no suitable existing or potential energy network supply within 1 km of the building. This form of energy supply has been discounted.

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**Internal drying space:**

Within each of the ground floor bathrooms: 2 x 2.0m length of extendable drying line will be provided.

**Energy Labelled White Goods:**

Fridges and freezers or fridge freezers will have an A+ rating under EU Efficiency labelling scheme.

Washing machines and Dishwashers will have an A+ rating under EU Efficiency labelling scheme

**External and Internal Artificial Lighting:**

All external and Internal space lighting by energy efficient lighting and controls will be provided.

**Renewable Energy:**

There is little scope for the use of renewable energy on this site, on the basis that areas suitable for PV or solar hot water location is minimal and will have little impact on the energy consumption, reliance being made mainly on a thermally very efficient envelope and orientation.

**Cycle Storage:**

There will be internal cycle storage for 2 No bicycles in the main hall.

**Home Office:**

There will be a designated workroom /studio on the second floor of the building.

**2.0 WATER**

**Indoor Water Use:**

It is assumed water usage will be limited to a maximum of 105 litres/person/day.

**External Water Use:**

A correctly specified and sufficiently sized system to collect rainwater for external use on the first floor terrace planting will be installed.

**3.0 MATERIALS**

**Environmental Impact of Materials:**

All materials will be reviewed and specified in accordance with the BRE Green Guide. Below is the key building elements:

* **Pitched Slate Roof:**

Pitched roof timber construction - timber trussed rafters and joists with insulation -roofing underlay - counterbattens and recycled natural slate.

* **Pitched Pre-weathered Zinc Roof:**

Pitched roof timber construction - timber rafters and joists with insulation - roofing underlay - boarding and weathered zinc with standing seams.

* **Flat Roof to garden terrace:**

Concrete plank and beam structure - screed to falls-seamless membrane - rigid water resistant insulation board- filtration layer - concrete pavers on adjustable paver supports

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* **Street Frontage Green Roof:**

Concrete plank and beam structure - screed to falls-seamless membrane - rigid water resistant insulation board - filtration layer - deep prefabricated linked metal planters with planting substrate - extensive planting.

* **Green Roof Other:**

Bauder semi-intensive substrate based system

* **External Brickwork Walls**

Recycled London Stock brick outer leaf – insulation - aircrete blockwork inner leaf - plaster - low VOC paint

* **External Timber Walls**

FSC certified UK sourced wide timber oak planks- insulation - aircrete blockwork inner leaf - plaster - low VOC paint

* **First Floor Construction**

Concrete plank and beam structure - insulation - screed with wet underfloor heating - FSC rated engineered timber floor.

* **Ground Floor Construction**

Insulated ground slab - screed with wet underfloor heating - FSC rated engineered timber floor bedrooms and common areas - Bathrooms areas-tiled floor

**Responsible Sourcing of Materials – Basic Building Elements:**

Basic Building Elements will be sourced responsibly, for instance:

* Concrete: BES 6001 excellent
* Timber: Timber FSC certified

**Responsible Sourcing of Materials – Finishing Elements:**

Finishing elements will be sourced responsibly, for instance:

* Stairs: Timber FSC certified
* Windows & Doors: Timber FSC certified
* Plasterboard: BRE very good
* Internal Fit Out: Timber FSC certified

**4.0 SURFACE WATER RUN OFF**

**Management of Surface Water Run Off:**

Proposal has water from roofs only, part of which will be captured for irrigation, remainder to existing street sewer.

**Flood Risk:**

The site is in an area of low flood risk.

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**5.0 WASTE**

**Storage of Non-Recyclable Waste and Recyclable Household Waste**

A ventilated internal space is provided for waste storage and recycling provision accessible to disabled people, collected periodically by the Local Authority collection scheme.

**Construction Site Waste:**

There will be a site waste management plan (SWMP) during construction to maximise the diversion of waste.

**6.0 POLLUTION**

**Global Warming Potential of Insulants:**

Insulating materials in manufacture and installation will have a global warming potential (GWP) of less than 5.

**7.0 HEALTH and WELLBEING**

**Daylighting:**

Kitchen will have a minimum average daylight factor of at least 2%, all other habitable rooms will have a minimum average daylight factor of at least 1.5%. At least 80% of the working plane in all habitable rooms will have a view of the sky.

**Sound Insulation:**

The building has been designed in layout to minimise sound intrusion particularly from vehicular street noise. For example, bathrooms have been positioned to form a buffer between the street and bedrooms.

The performance standards will be as required in Part E of The Building Regulation and the desire will be to exceed this metric.

**Private Space:**

Outdoor private amenity space, a terrace with planting will be provided at second floor

level.

**Lifetime Homes:**

The building has been designed in accordance with Lifetime Homes. Refer Appendix 2 of the Design and Access Statement ‘Lifetime Homes and Wheelchair Housing Statement.’

**8.0 MANAGEMENT**

**Home Use Guide:**

A simple guide will be provided covering information relevant to the non-technical home occupier post construction.

**Considerate Contractors Scheme:**

Constructors will be selected who are committed to best practice site management principles either using the Considerate Constructors Scheme or locally/nationally recognised alternatives.

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**Construction Site Impacts:**

Constructors will be obliged to operate site management procedures that monitor, report and set targets for CO2 energy use, water consumption dust pollution, surface water pollution and reclaimed materials.

**Security:**

Section 2 - physical security from Secured by Design - New Homes will be followed.

**9.0 ECOLOGY**

**Ecological Value of the Site**

The site is entirely built out on its footprint and is currently of low or insignificant value.

**Ecological Enhancements:**

With reference to chapter 10 (CPG) on Brown roofs, Green roofs and Green walls, it is proposed that the building will have the following green roof elements:

1. The addition of an extensive green roof arranged on tiered deep planters to allow for larger planting on the street elevation second floor garden terrace. Approx. 7.5 m2 roof area facing southeast.
2. The addition of a semi-intensive green roof on the rear elevation second floor garden terrace. Approx. 5.0 m2 roofarea facing northwest.
3. The addition of an intensive deep planter along the window wall first floor living room street elevation. Approx. 3.3 m2 roof area facing southeast.

The selection of flora will be based on visual enhancement to the setting and biodiversity, to attract insects particularly Bees and Lepidoptera. The extensive planting will be mainly ground cover flowering herbs and grasses. The semi-intensive planting will comprise a variety of herbaceous perennials and shrubs.

Although the flora will be selected for their self-sustaining qualities, irrigation will be provided from stored rainwater run off to alleviate very dry periods. This will be in accordance with BS7562-3; 1995, Planning, Design and Installation of Irrigation Schemes; Part 3.Guide to irrigation water requirements. The intensive planting will be similarly selected and irrigated as above.

All these planted areas are safely accessible, however the extensive green roof outlined in 1.0 will require a man safe safety harness and anchorage system for occasional maintenance.

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