PRICE&MYERS

59-61 Leighton Road, London, NW5 2QH

Sustainability Statement

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Project number: 25492

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1 Introduction

The proposed works at 59-61 Leighton Road comprises the addition of a single flat on the third floor of a new building that is almost complete. The development is located in the London Borough of Camden.

This report summarises the sustainable design and construction measures that have been incorporated into the project in order to meet the sustainability requirements of the Camden Local Plan and London Plan.

2 Policy

2.1 Camden Planning Policy

CS 13: Reducing the effects of and adapting to climate change

The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by:

a) ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;
b) promoting the efficient use of land and buildings;
c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:
    1. ensuring developments use less energy,
    2. making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralised energy networks;
    3. generating renewable energy on-site; and
d) ensuring buildings and spaces are designed to cope with, and minimise the effects of, climate change.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions

2.2 The London Plan

The London Plan 2015 requires compliance with the following policies relating to climate change:

Policy 5.2 Minimising Carbon Dioxide Emissions (refer to the supplementary Energy Report)

Development proposals should make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:

1. Be lean: use less energy
2. Be clean: supply energy efficiently
3. Be green: use renewable energy

As this is not a major development, the carbon reduction targets do not apply.

The other policies addressing climate change are as following:

- Policy 5.12 Flood Risk Management
- Policy 5.13 Sustainable Drainage
- Policy 5.15 Water use and Supplies
- Policy 5.18 Construction, Excavation and Demolition Waste

The development is a conversion and extension project for an existing historic building listed as a positive contributor in a conservation area. The design is therefore limited by the constraints of the existing building and need to maintain the aesthetics of the current building. The energy policy is therefore followed where possible, but adapted to circumstances of the building.

3 Sustainability Strategy

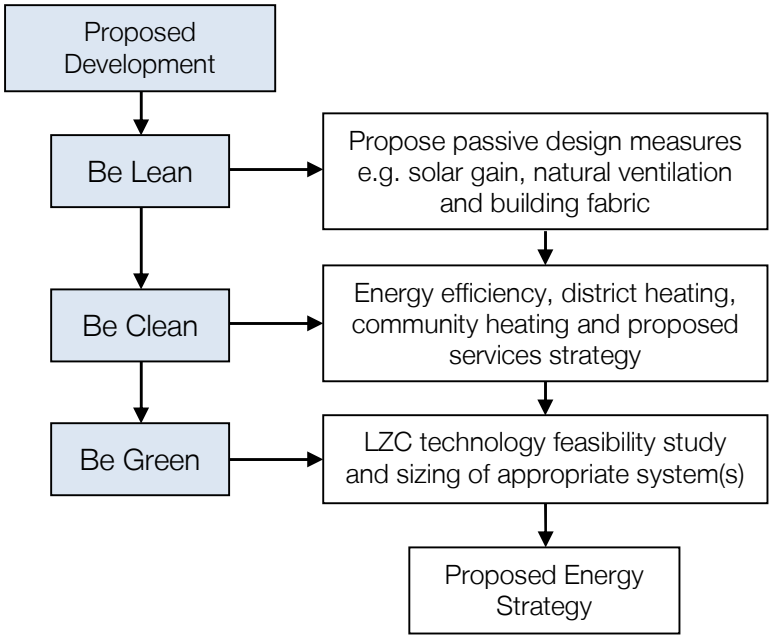
3.1 Energy and carbon dioxide emissions

The approach to reducing energy used by the proposed development has been to consider strategies and technologies to achieve a low energy and carbon footprint for the scheme.

The development will follow the energy hierarchy:

- Use less energy through passive design measures (Be Lean)
- Supply and consume energy efficiently (Be Clean)
- Utilise renewable energy sources to reduce carbon emissions (Be Green)

This energy strategy examines the energy performance of the proposed Maresfield Gardens development based on the following methodology:



The performance of the development in terms of energy consumption and carbon emissions is calculated at each stage of the assessment, ensuring that both regulated and unregulated energy is considered when determining the performance of the proposed energy strategy.

Passive Design & Building Fabric

As part of the Be Lean approach, passive design measures have been considered throughout the pre-planning stage to reduce energy demand.

To further improve the passive design of the development, the thermal fabric will be specified to exceed current Building Regulations targets minimum standards. Opaque elements will incorporate good levels of insulations and efficient double glazed windows will be used. The building will be reasonable airtight and careful detailing will reduce thermal bridging. The measures are detailed in Table 4-1.

Element	U-Value - Proposed
External wall	0.20 W/m2K
Roof	0.15 W/m2K
Heat loss floor	0.15 W/m2K
Windows / Glazed doors	1.4 W/m2K
External door	1.5 W/m2K
Element	**Measure**
Air Tightness	4 m3/m2/h

Table 3-1 Proposed Be Lean passive design measures

Energy Efficiency

Energy efficient equipment has been proposed to further reduce energy use in the development.

Table 3-2 shows the proposed services strategy and energy efficiency measures for the development.

Services	Measure
Space Heating	Condensing Gas Boiler 90% Efficient
Heating Controls	Time and temperature zone control
Hot Water Heating	Condensing Gas Boiler 90% Efficient
Lighting	100% low energy lighting

Table 3-2 Proposed energy efficient design measures

Low and Zero Carbon Technologies

The development will incorporate PV panels in order to further reduce CO_2 emissions. A 1kWp system is proposed, located on the flat roof. This will contribute a significant CO_2 saving.

Table 3-13 details the proposed PV installation.

Proposed PV system size	Panel tilt and orientation	Estimated number of PV panels & size	Solar panel type	Carbon savings
1kWp	30 deg, South	4 panels, ~6m2	High efficiency	869 kgCO2/yr

Table 3-3 Proposed renewable energy measures

Table 3-4 demonstrates the percentage improvement over the notional baseline level for the development incorporating PV panels for the residential units.

Site Wide	CO_2 Emissions (tonnes /annum)	CO_2 Savings (tonnes /annum)	% Saving
Building Regulations 2013 Baseline	1.41		
Proposed building with CO2 reduction measures	1.01	0.4	
			28%

Table 3-4 Site wide %improvement over Building Regulations Part L through the Energy Hierarchy

3.2 Water efficiency

Water fittings will be specified with the following or similar flow rates to meet the target water consumption of 105 l/p/day:

- Wash basin taps - 3 l/min
- Showers - 10 l/min
- Dishwasher - 1.1 l/place setting
- Washing machine - 7 l/kg load
- WC – 6/4 litre dual flush
- Kitchen taps - 5 l/min

A water meters will be installed to encourage residents to limit their consumption.

3.3 Materials and Waste

All the building elements will achieve the highest feasible rating on the BRE Green Guide to Specification. Materials will be specified to have a low embodied energy, taking into account whole life cycle analysis. All concrete will be BES:6001 certified to ensure responsible sourcing and cement replacements and recycled aggregates will be used where possible. Bricks and slate will also be BES:6001 certified, and sourced to minimise transport distances. All timber used in construction will be FSC certified.

The development will be designed to encourage recycling through the provision of containers in kitchens.

Construction site waste will be monitored by a compliant Site Waste Management Plan including procedures and commitments to sort and divert waste from landfill. Please refer to the Construction Management Plan for further details on how waste will be managed. At least 85% by weight or by volume of non-hazardous construction waste generated by the project would be diverted from landfill. Waste will be divided into 5 waste groups: bricks, concrete, timber, metals and tiles and ceramics.

3.4 Nature conservation and biodiversity

The site is occupied by an existing building. There is no immediate indication that the site has potential for supporting any protected species or supports BAP habitat or notable habitats. The site is considered to be of negligible ecological value. Measures will be taken during construction to minimise impact on ecology by timing works appropriately and following best practice guidance.

3.5 Climate Change Adaptation

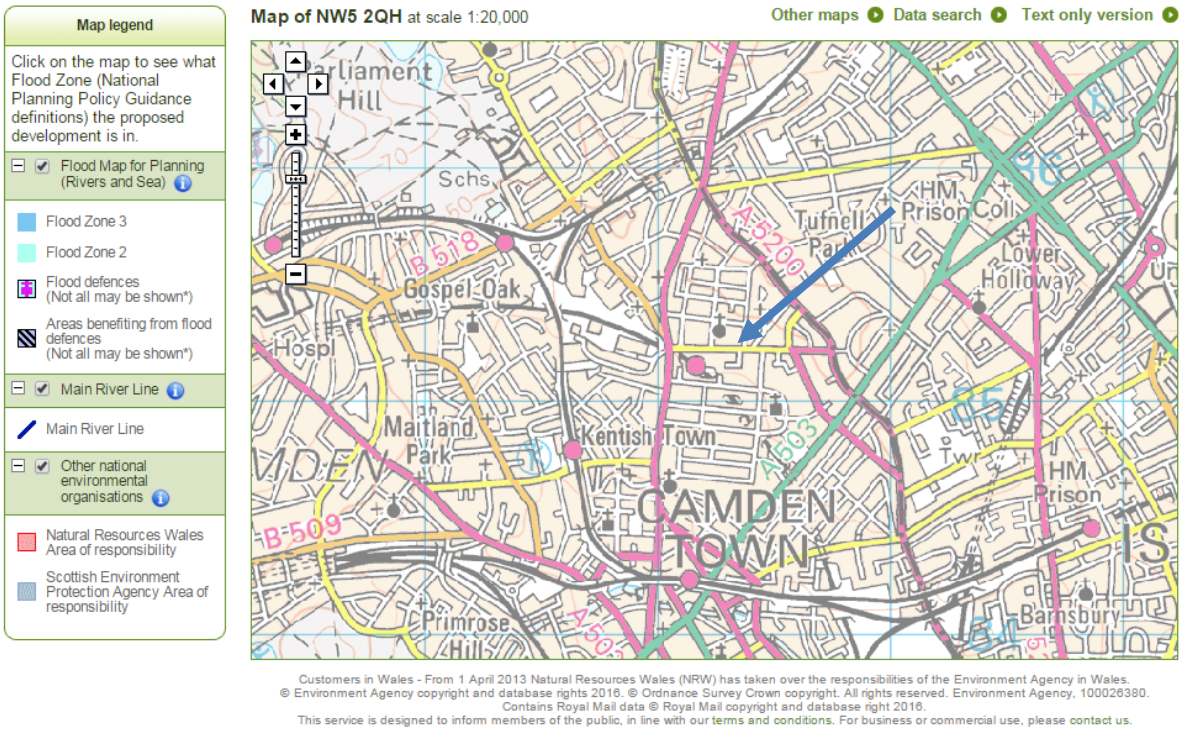
Tackling increased temperature and drought

The impact of solar gains has been incorporated into the SAP analysis for compliance with Part L and the risk of solar overheating has been concluded to be low for the development.

Windows will incorporate low emissivity coatings to reduce solar gain, and overhangs are built to some of the windows. Adequate cross ventilation and minimum extract will be specified to avoid overheating.

Flooding

Surface water drainage strategies will ensure that the peak and volume of surface water run-off rates will not be increased due to the development. Sustainable Urban Drainage Systems (SUDS) will be incorporated to offset the increase in impermeable area. Please refer to the Basement Impact Report by TWS for further information. The site is located in a Low flood risk zone as classified by the EA, as shown below.



3.6 Pollution Management

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Air quality

Effective wheel/body washing facilities to be provided and used as necessary also spraying areas with water to dampen down dust when conditions dictate. Use of road sweepers whenever the need for road cleaning arises and sheeting of vehicles carrying waste materials of-site.

Insulating materials and heating systems will be specified to keep pollutants to a minimum. Boilers will have low NOx (Nitrous Oxides) emissions and insulation will have a low Global Warming Potential (GWP).

Noise

The development will improve on the minimum standards in will Building Regs Part E where possible, providing a good level of sound insulation between dwellings.

Light pollution

External lighting will be designed to minimise light pollution and only lighting required for safety will be on overnight.

4 Conclusion

The development employs many sustainable design and constructions measures. The design team have made reasonable endeavours to improve the proposed design, within the constraints of the existing building. The environmental impact and energy use associated with the project will be considerably lower than for a project that is built to standard Building Regulations compliance.

The development achieves a 28% improvement over Part L as well as reduction in water use below 105l/person/day.