

# 9 & 11 MANSFIELD ROAD



## SUSTAINABILITY PLAN

September 2015 – Rev B



## Context

The London Borough of Camden (LBC) aims to reduce the environmental impact of development in the area through planning policy and guidance. Local policy, strategies, and the National planning policy framework have informed this sustainability plan for 9 & 11 Mansfield Road.

The following context is particularly relevant to Mansfield Road in terms of environmental sustainability:

- LBC wish to encourage developments that do not have reliance on travel by private motor vehicles and encourage walking and travel by public transport.
- Mansfield Road flooded in 1975 and the area had high surface water run off problems in 2002. Development in this area should robustly address flood risk.
- LBC target recycling at least 40% of waste produced in the borough by 2020.

Additionally the Council is committed to a number of key environmental objectives that are covered by this report and the accompanying Energy Strategy. These include:

- a. Promoting energy, resource and water efficiency
- b. maximising renewable energy generation and locally distributed energy
- c. building to high standards of sustainable design and construction
- d. reducing waste generation
- e. supporting environmental protection and enhancement
- f. minimising the environmental impacts of development including water / air pollution
- g. requiring sustainable urban drainage systems in new development, wherever feasible.

## This Sustainability Plan

The aim of this document is to demonstrate that sustainable design standards are integral to the development proposals for 9 & 11 Mansfield Road and that they have been considered at the very beginning of the design process. It is prepared as part of the submission to discharge planning conditions as “The Sustainability Plan” and includes a Code for Sustainable Homes pre-assessment in Appendix A.

Etude are Code for Sustainable Homes assessors and will register this scheme and the pre-assessment before implementation with Stroma, an independent verification body.

This document will be reviewed at completion and the development will be operated in strict accordance with this plan as approved by LBC.

In particular this document sets out how the proposed development will:

- Be energy efficient and minimise carbon emissions;
- Use water efficiently;
- Ensure a high degree of building accessibility;
- Encourage waste recycling;
- Improve biodiversity;
- Minimise pollution;
- Minimise the environmental impact of construction works.

This report is split up into three sections:

1

An overview of the policy context in terms of sustainable design and construction

2

Summary of the approach to sustainability with reference to Code for Sustainable Homes

3

Summary on an issue by issue basis of the environmental design and measures proposed for Mansfield Road

The site is located on the South side of Mansfield Road near Gospel Oak station. Abbotswood Homes are proposing to redevelop an existing house to create four separate apartments over three floors, a mezzanine and a basement.



Proposed North Elevation



Proposed South Elevation  
© Abbotswood Properties



Existing site

# Mansfield Road | Sustainability plan | Code for Sustainable Homes



The 4 No. apartments will target a **Level 4 rating under Code for Sustainable Homes** (CfSH) November 2010 and Addendum 2014 in accordance with Camden Development Policies DP22 and planning condition clause 4.6 (associated definition 2.24a).

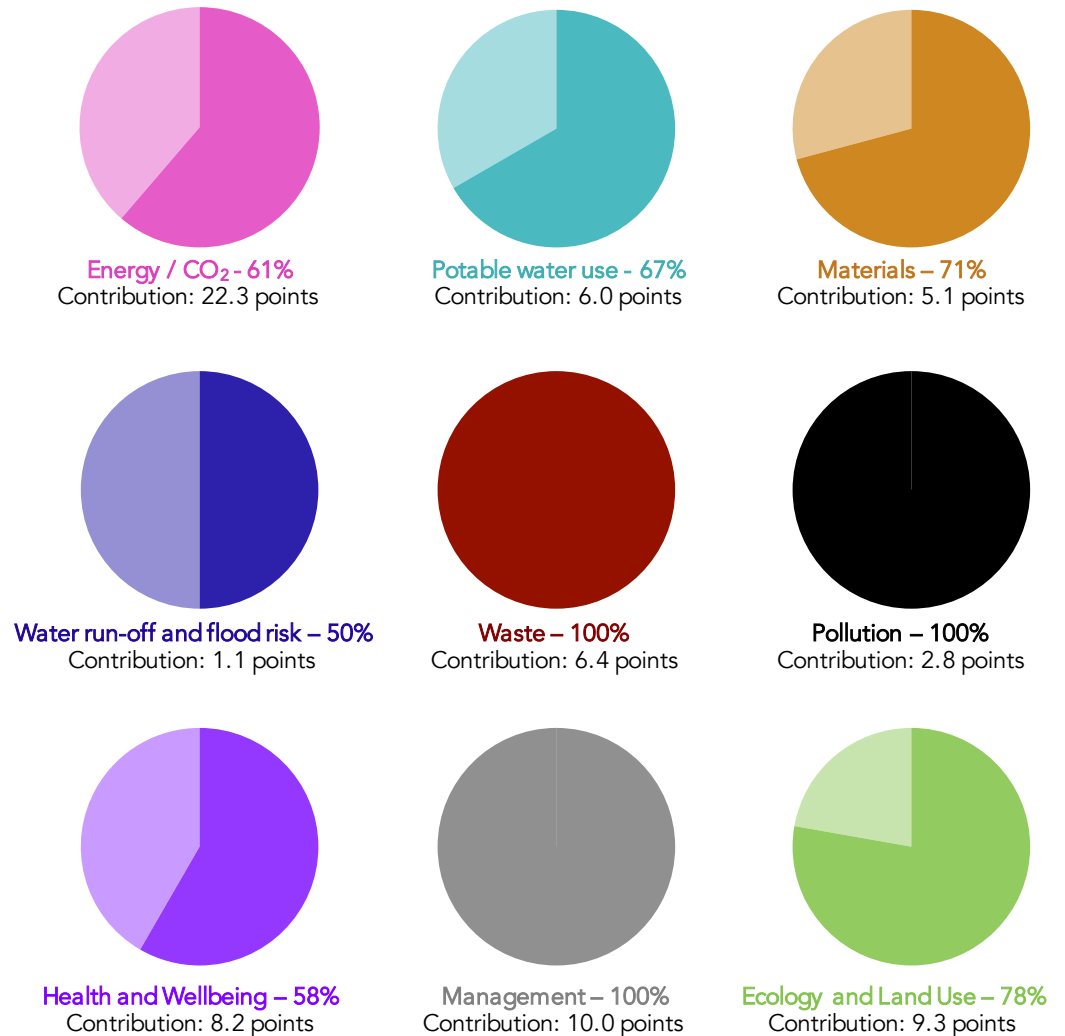
A Code for Sustainable Homes pre-assessment has been prepared and is submitted for information in Appendix A. This pre-assessment, which has been prepared by Etude on behalf of Abbotswood Properties, allows an initial evaluation of the likely rating to be achieved under a formal assessment. It does not necessarily provide the final list of credits which will be achieved but the list of credits currently targeted.

A score of 71.2% is achieved, 3.2% above the score required to achieve Level 4 (68%).

Despite exceeding the requirements for a level 4 rating under CfSH the assessment submitted does not fully comply with the planning condition clause; although 71% of the credits are achieved in the Materials category, only 61% and 67% are achieved in the energy and water categories respectively. This is below the required 68%. It is proposed that this is acceptable due to restrictions in this case and validation of this approach is sought from Camden Council. Justification for this is summarised as:

- An overly small roof area that could be suitable for including solar photo voltaic panels. By keeping the roof in keeping with surrounding buildings, and ensuring that each flat has access to private outdoor space, the development has negligible roof space sufficient for a PV array.
- The individual measures highlighted are already exceptional for a level 4 development.

A graphical summary of the proportion of credits targeted at 9-11 Mansfield Road compared with the maximum number of credits available in each category.



# Mansfield Road | Sustainability plan | Energy performance



## Energy efficiency

The design has sought to achieve the level of performance required to meet the energy reduction targets through exceptional energy efficiency alone. Passivhaus design criteria and modelling in the Passivhaus Planning Package (PHPP) have been carried out alongside the design modelling to assess the potential of achieving Passivhaus on this building.

The envelope will be exceptionally well insulated and thermal bridging eliminated as far as possible, glazing proportions have been optimised to allow beneficial passive solar heating in the winter whilst reducing the risk of excessive solar gains in the summer.

A number of energy analysis iterations were carried out pre-planning to help inform the architectural design and the energy strategy.

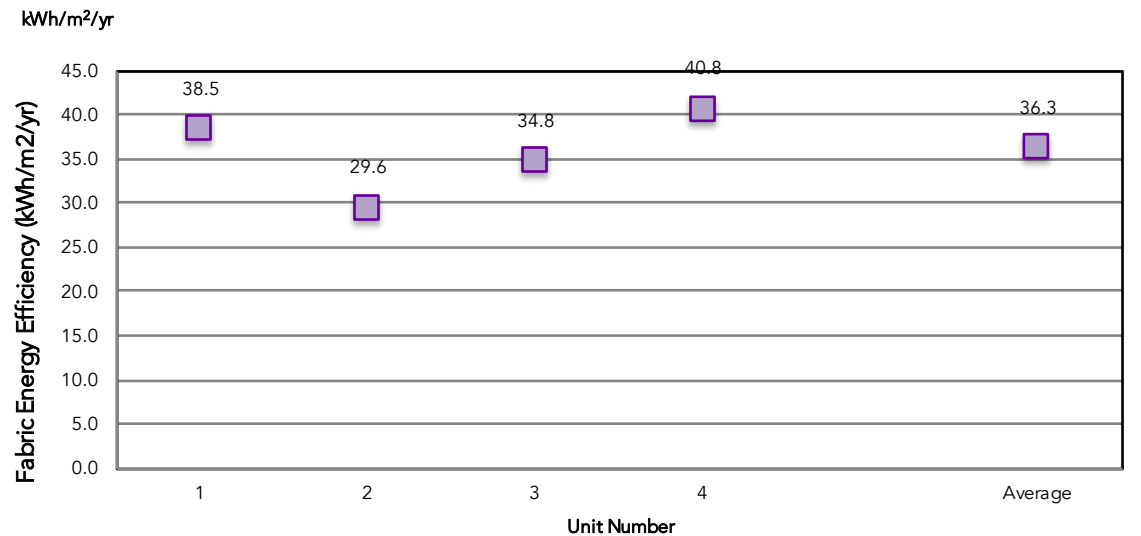
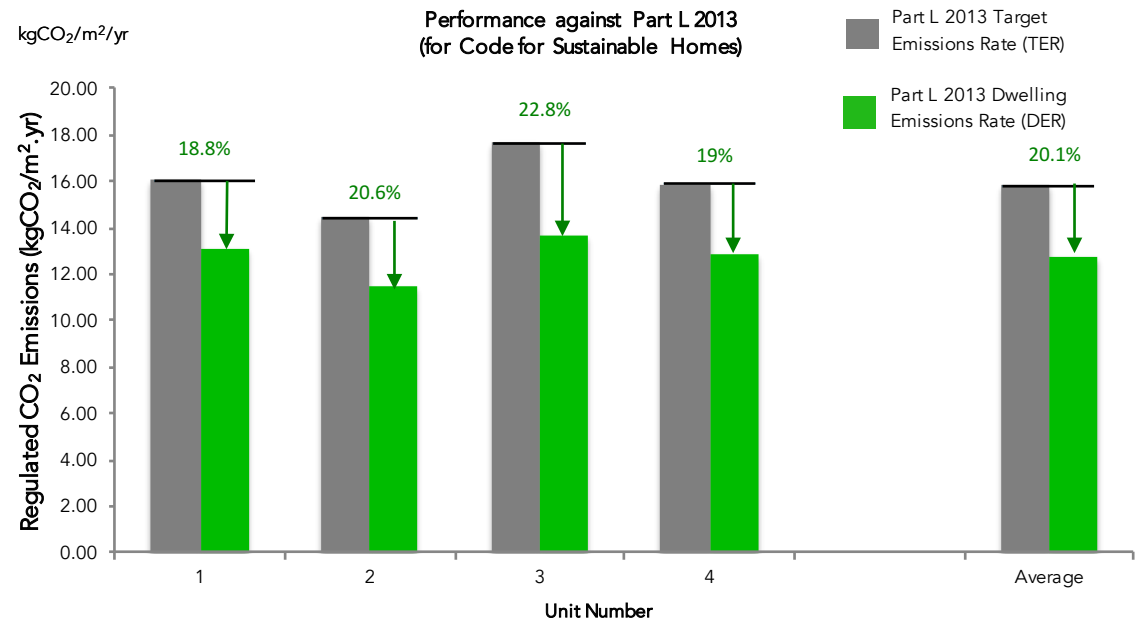
Overall an average reduction of 20% over building regulations Part L 1A 2013 is achieved. This is approximately equivalent to a 25% reduction over Part L1a 2010 as per CfSH Addendum 2014.

## Beyond regulated energy uses

All external lighting, lighting in common areas and security lighting (excluding statutory safety lighting) will be energy efficient and controlled to prevent unnecessary operation (e.g. daylight or PIR sensor).

Electricity consumption display devices will be provided in each apartment. The equipment will comprise a self-charging sensor fixed to the incoming mains supply to measure and transmit electrical energy consumption data to a visual display unit. The device will display current mains electrical energy consumption (kW / kWh), CO<sub>2</sub> emissions and current cost, enabling residents to understand, monitor and reduce their energy consumption.

Further detail on the energy performance and renewables strategy can be found in the second report "Energy Strategy".





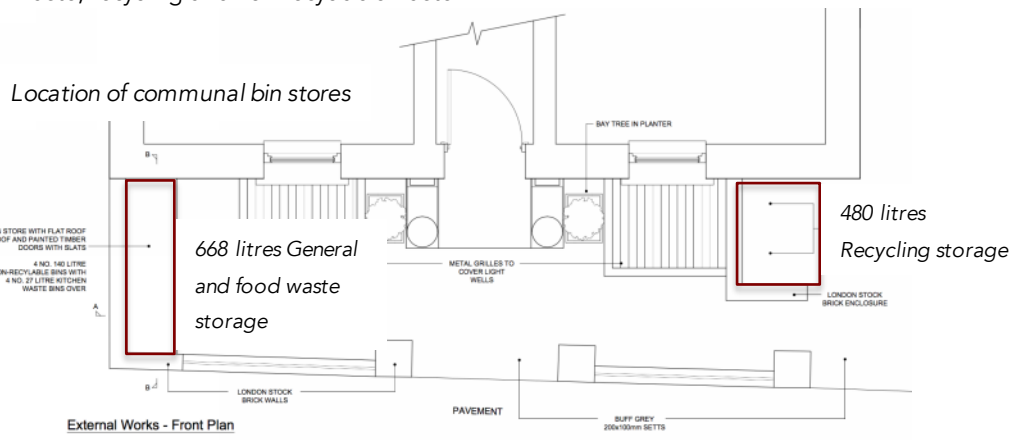
## Waste

In each unit, the following storage systems will be provided to maximise recycling rates:

- a bin for non recyclable waste;
- a 30-litre bin (minimum) for recyclable waste;
- a bin for food waste.



Two communal bin stores for the apartments will be located at the front of the building and will be directly accessible from the access road to the site. There is separate provision for food waste, recycling and non-recyclable waste.



In order to minimise construction waste and achieve a high recycling rate, a Site Waste Management Plan (SWMP) will be prepared and a high diversion rate from landfill for non-hazardous waste will be targeted (i.e. > 85%).

85%

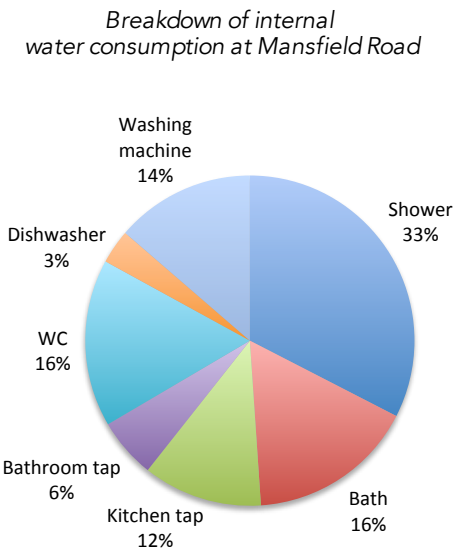
Targeted diversion rate from landfill

## Water

Water-efficient fittings will be provided in order to reduce internal water consumption to less than 105 litres/person/day. The following flow rates are targeted. According to the Water Calculator this would represent an internal CfSH water consumption of 97.8 l/p/day.

97.8 litres / person / day

- Shower: 8 litres/min
- Bath: 160 litres to overflow
- Kitchen tap: 5 litres/min
- Bathroom tap: 3 litres/min
- WC: dual flush 6 / 3 litres
- Dishwasher: 1 litre/place setting
- Washing machine: 7 litres/kg dry load



## Lifetime Homes

Although lifetime homes has not been targeted in this assessment many of the criteria are still met. This includes entrance level bedrooms and WCs, level thresholds, and door and corridor sizes.



## Environmental impact of materials

The Green Guide to Specification has been consulted and will continue to be used in order to inform the selection of materials. The objective is to minimise their environmental impact across their whole life cycle. The build-ups selected at this stage and their corresponding Green Guide Ratings are shown in the adjacent table.

## Responsible sourcing of materials

The procurement of materials will seek to favour responsibly sourced materials. Suppliers will be asked to supply, where feasible, evidence of compliance with the following schemes:

- BES6001:2008 (Responsible Sourcing Standard)
- FSC, PEFC
- CSA
- Certified EMS

Additionally, 100% of any timber in these elements will be sourced in accordance with the UK public procurement policy on timber.

Element	Description	Rating
External walls	Brickwork outer leaf, insulation, aircrete blockwork inner leaf, cement mortar, plasterboard on battens, paint	A+
Internal walls	Aircrete blockwork with cement:lime mortar, plaster, paint	A
Floors	Powerfloated in situ 30% PFA concrete slab, over insulation on polyethylene dpm laid on blinded recycled aggregate sub-base	B
	Power floated in situ 50% GGBS reinforced concrete floor slab	A+
Roof	Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and UK produced fibre cement slates	A+
Windows	Powder coated aluminium window with softwood internal frame, water based stain internally: aluminium profile < 0.87 kg/m and timber profile < 2 kg/m	A

# Mansfield Road | Sustainability plan | Ecology & Flood risk

## Ecology

A suitably qualified Ecologist will be appointed to carry out a survey to identify and recommend ecological enhancements. All key recommendations and 30% of the additional recommendations will be adopted as part of the design.

The site is currently an empty house with surrounding concrete hardstanding. There are no permeable surfaces or existing planting on the site.

It is assumed the site currently has low ecological value and this will also be confirmed by the Ecologist.



Satellite image of the existing site showing hard standing and no existing planting.

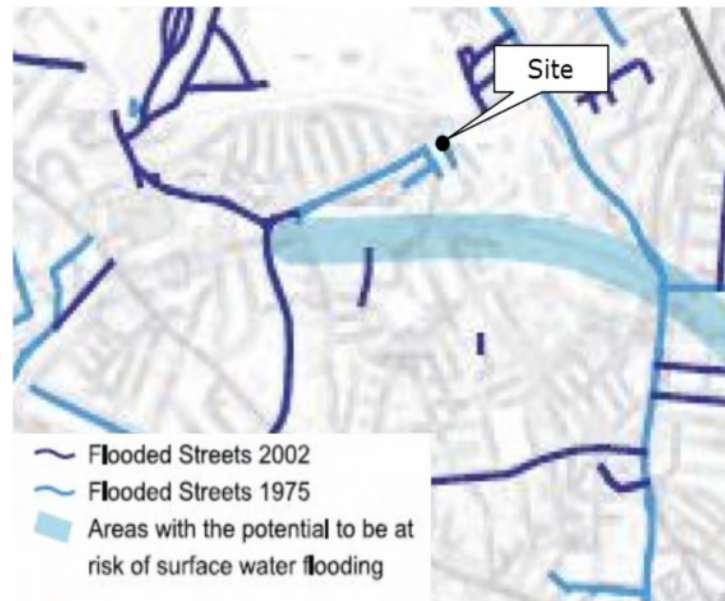
## Flood risk management

An initial assessment of the site's flood risk has been carried out as part of the detailed Basement Impact Analysis. This states:

*"It has been shown that whilst Mansfield Road has suffered flooding in the past the site in question has never flooded.*

*Based upon recent Environment Agency data the potential flood water depth for the area is 300 mm, the scheme addresses this risk by adjusting threshold levels and upstands around lightwells.*

*It is also highlighted that none of the proposed flats are entirely below ground level therefore complying with the Council's policy of not allowing self-contained dwellings to be built in basements."* Ramboll 2014



Extract from Ramboll study showing past flooding on the site.



# Mansfield Road | Sustainability plan | Transport and Construction



## Transport

The development will include a secure communal cycle store on the ground floor for use by the residents of the flats. The area will include space for a minimum of 4 cycles to be stored (i.e. one per flat.)

The flats do not have provision for parking in line with planning restrictions. Gospel Oak over ground station is less than a 1 minute walk away from and the B518 Mansfield Road is served by the C11 bus service.

## Considerate Construction

9 Mansfield Road will be registered under the Considerate Constructor Scheme and a score of more than 35 will be targeted (based on the new Code of Considerate Practice dated January 2013). A minimum score of 7 will be targeted in each of the 5 sections.

A number of procedures will be implemented in order to manage the construction site in a manner that mitigates environmental impact. It is particularly important given the proximity of existing dwellings. It is currently assumed that the following objectives will be supported by procedures:

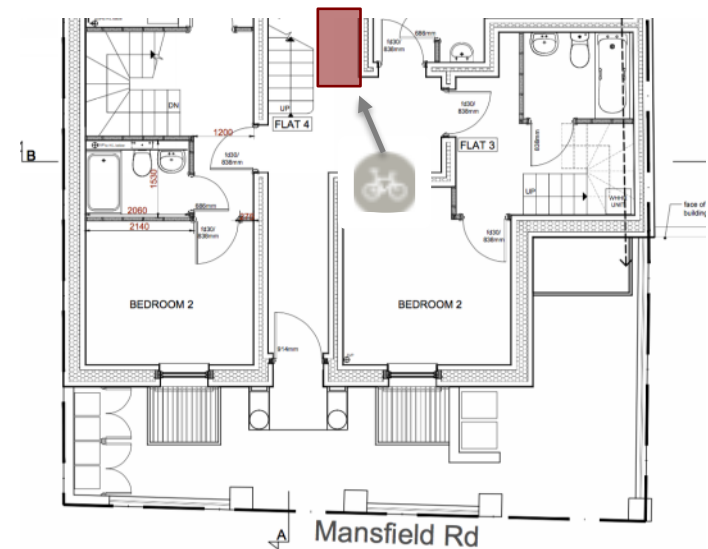
- Monitoring of CO2 production or energy use arising from site activities;
- Monitoring of water consumption from site activities;
- Best practice policies in respect of air (dust) pollution arising from site activities;
- Best practice policies in respect of water (ground and surface) pollution;
- Sourcing from all site timber in accordance with the UK Government's Timber procurement policy (i.e. legal and responsible sources).

## Air quality

Low VOCs paints and finishes will be used (e.g. floor coverings, wall coverings and ceiling finishes). High-efficiency low NO<sub>x</sub> gas boilers (with an emission rate of less than 40mg/kWh) will be specified to reduce the impact on external air quality.

## Light Pollution

Light pollution will be minimised through the appropriate design and specification of external lighting fittings. This includes using low power directional fittings with minimal spillover and control systems such as PIR detection and timer switches.



Ground floor level Communal Cycle Storage under stairs



# Mansfield Road | Sustainability plan | Summary



The proposals for 9&11 Mansfield Road include a number of exemplar energy and sustainability measures demonstrating that sustainable design standards in line with the LBC development policies and sustainability best practice have been considered at the very beginning of the design process.

The design measures will be incorporated during construction and a review carried out on completion to ensure that they are implemented.

Etude are Code for Sustainable Homes assessors and have registered this scheme and the pre-assessment before implementation with Stroma, an independent verification body.

The key sustainability features of the development are summarised opposite:

Exemplary level of energy efficiency

Low Flood Risk

Reduced stormwater run-off

Recycling and food waste storage facilities

Ecological enhancements

Code for Sustainable Homes Level 4

Water efficient fittings and appliances

High green guide ratings and responsible sourcing

Considerate construction

## Code for Sustainable Homes pre-assessment