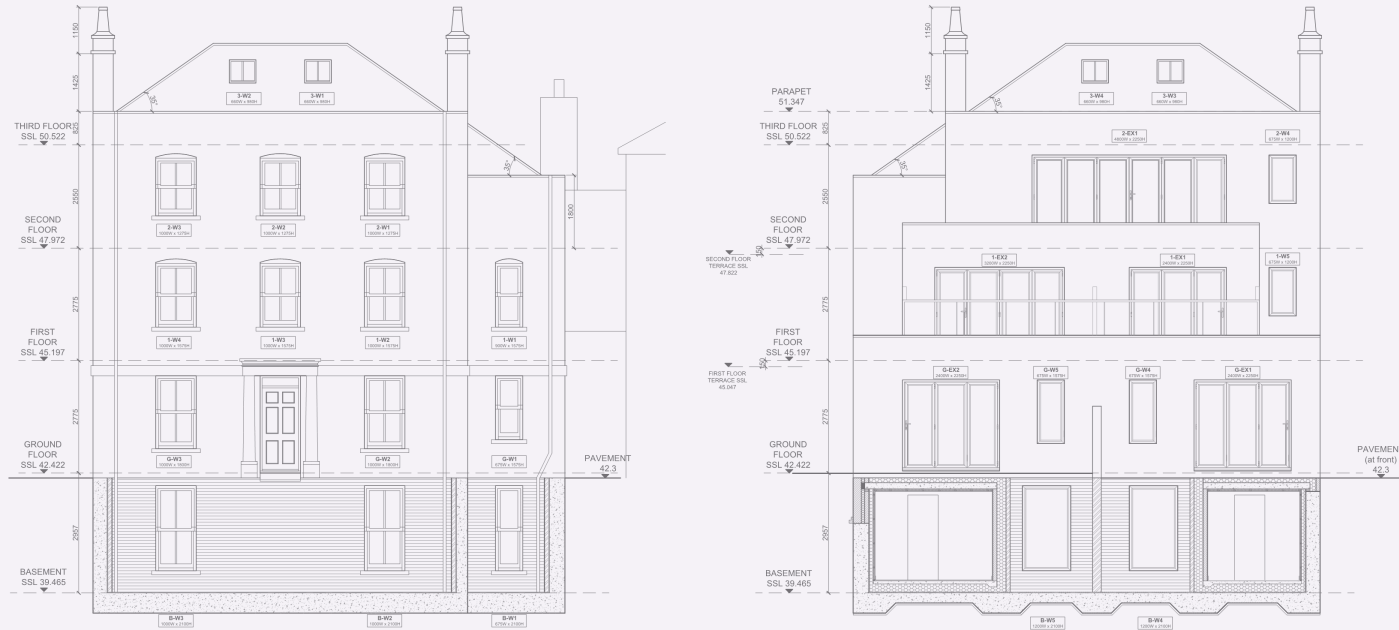


9-11 Mansfield Road | Sustainability



Context

Summary



Code for Sustainable Homes Level 4 pre-assessment – Rev C

Conclusion and next steps

9-11 Mansfield Road | Code for Sustainable Homes | Summary



9-11 Mansfield Road is targeting a Level 4 rating under the Code for Sustainable Homes (CfSH), November 2010 version (with 2014 addendum). This pre-assessment, which has been carried out by *Etude* on behalf of *Abbotswood Properties*, allows an evaluation of the likely rating to be achieved under a formal assessment.

It can also be used as a guidance document so that the most relevant credits at this stage are taken into account in the design.

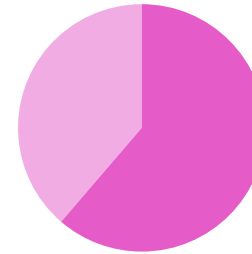
Based on the assumptions summarised in this pre-assessment report, a score of **71.2%** is achieved, i.e. 3.2% above the score required to achieve Level 4 (68%).

As it can be seen from the adjacent graphical summary, the current Code for Sustainable Homes pre-assessment does not fully comply with planning obligation 4.6 (and the associated definition 2.24) :

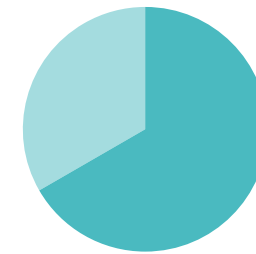
- the proportion of **energy credits** targeted is **61%** (against 68% in the planning agreement). Achieving 68% would require the installation of roof-mounted PVs;
- the proportion of **water credits** targeted is **67%** (against 68% in the planning agreement). Achieving 68% would require the installation of more water efficient fittings and/or a rainwater recycling system for toilet flushing ;
- the proportion of **materials credits** targeted is **71%** (against 68% in the planning agreement), which is compliant.

Overall, the proposals comply with the requirement to achieve Code for Sustainable Homes Level 4. Our recommendation is to contact Camden Council to explain and seek to validate this approach.

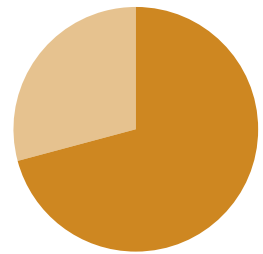
This is a graphical summary of the proportion of credits targeted at 9-11 Mansfield Road compared with the maximum number of credits available in each category.



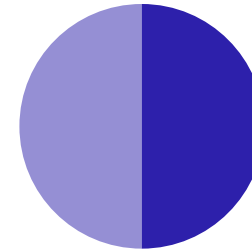
Energy / CO₂ - 61%
Contribution: 22.3 points



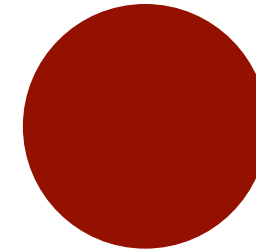
Potable water use - 67%
Contribution: 6.0 points



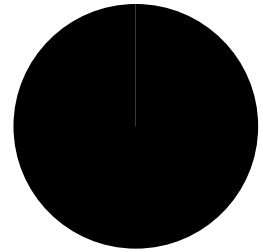
Materials - 71%
Contribution: 5.1 points



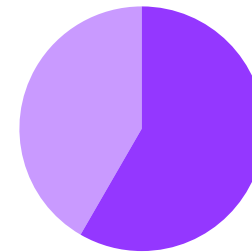
Water run-off and flood risk - 50%
Contribution: 1.1 points



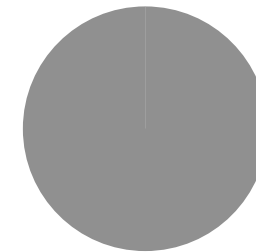
Waste - 100%
Contribution: 6.4 points



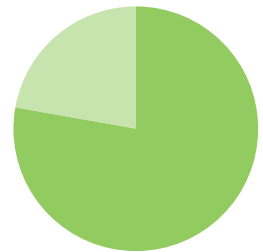
Pollution - 100%
Contribution: 2.8 points



Health and Wellbeing - 58%
Contribution: 8.2 points



Management - 100%
Contribution: 10.0 points



Ecology and Land Use - 78%
Contribution: 9.3 points

9-11 Mansfield Road | Code for Sustainable Homes | Context



Abbotswood Properties are seeking to redevelop the site located at 9-11 Mansfield Road in order to provide 4 new and energy efficient apartments. The site has a calculated Public Transport Accessibility Level (PTAL) of 4.



North Elevation



South Elevation

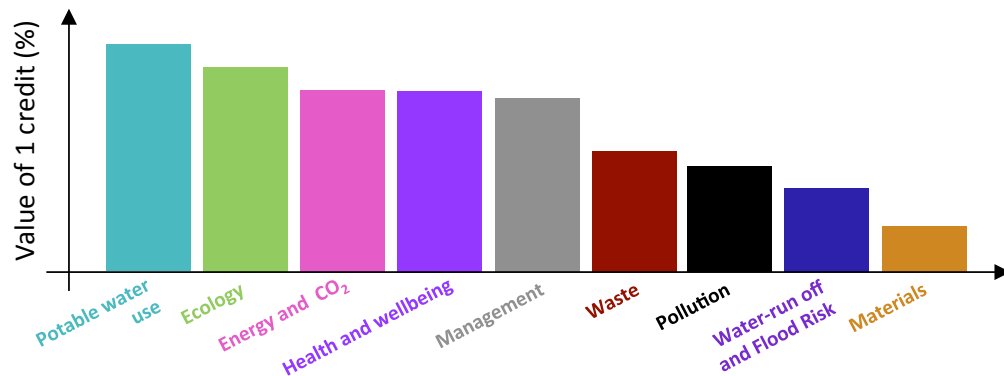
9-11 Mansfield Road | CfSH | Introduction

The Code for Sustainable Homes (CfSH) is an Environmental Assessment Methodology developed and administered by the BRE for the Department of Communities and Local Government (CLG).

Its aim is to reduce the residential development’s impact on the environment by:

- Reducing **energy use and CO₂ emissions** while allowing residents to monitor their energy use;
- Reducing **potable water use**;
- Minimising **pollution**;
- Managing **water run-off and flood risk**;
- Promoting **materials** with the lowest environmental impact;
- Managing construction and household **waste**;
- Improving **health and wellbeing** (e.g. comfort, amenity, Lifetime Homes);
- Incorporating beneficial **management** processes (e.g. considerate construction, home user guide);
- Enhancing the site’s **ecological value**.

One credit in each category has a different weight in the overall score:



There are 6 Code for Sustainable Homes levels depending on the overall score and whether the specific mandatory credits have been met.

CfSH Level	Minimum score	Maximum potable water use	Minimum % reduction over Part L 2013
1 (★)	36%	120 l/person/day	-
2 (★★)	48%	120 l/person/day	-
3 (★★★)	57%	105 l/person/day	-
4 (★★★★)	68%	105 l/person/day	19%
5 (★★★★★)	84%	80 l/person/day	100%
6 (★★★★★★)	90%	80 l/person/day	Zero Carbon

Caution

This document is a Code for Sustainable Homes pre-assessment report. Its aim is to indicate which credits could be targeted in order to achieve a 'Level 4' rating and to **summarise** the requirements associated with each credit.

For these credits to be delivered, it is crucial for all team members to review the full requirements associated with each credit contained in the Code Technical Manual. The latest version (Nov 2010) of this Manual, with the addendum (2014) has been used to prepare this pre-assessment and can be obtained:

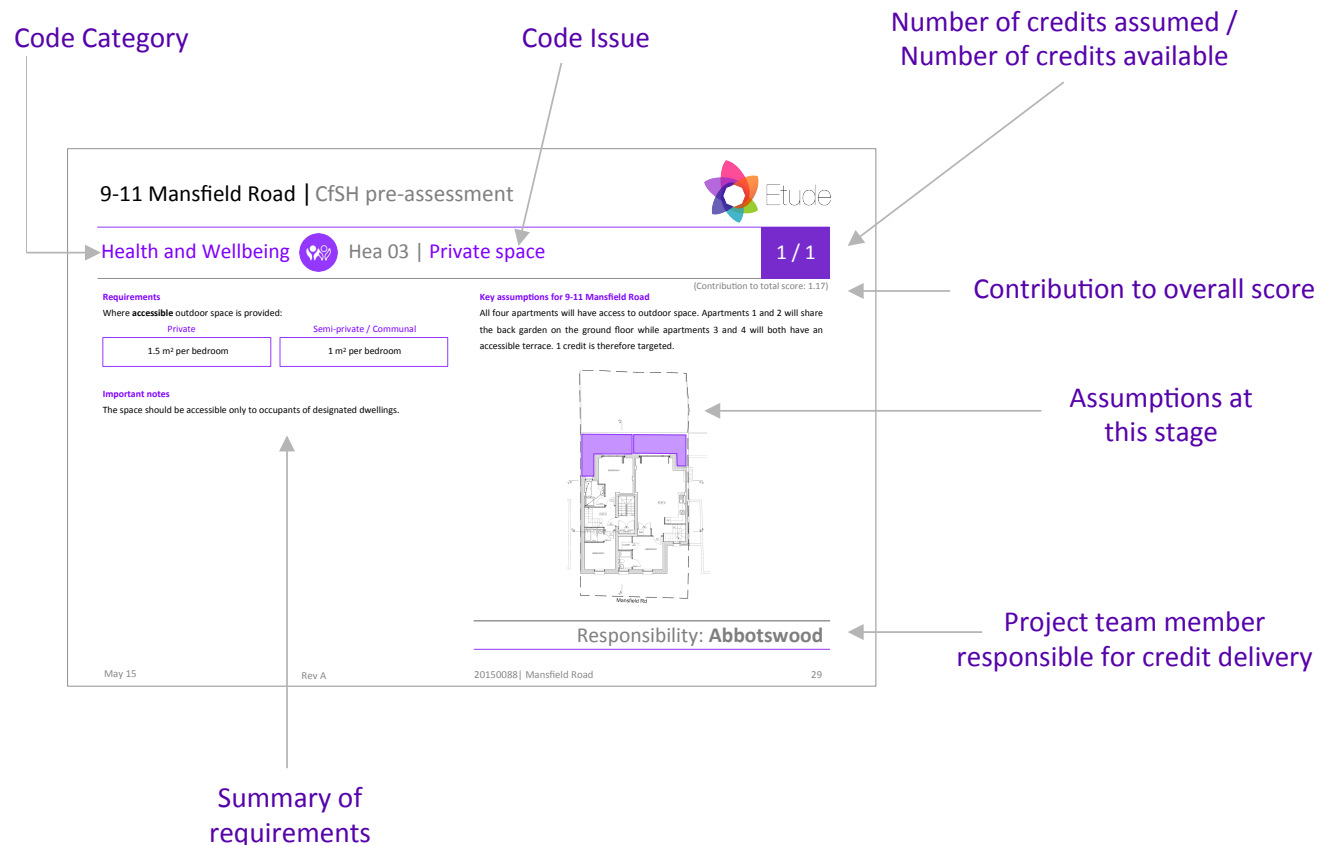
- at <https://www.gov.uk/government/publications/code-for-sustainable-homes-technical-guidance>
- by contacting Etude at london@etude.co.uk

It should also be noted that the assumptions made in this document are **valid for this early stage of the design** and should be refined and re-evaluated as the design progresses so that their accuracy and validity reflect the design and the full credit requirements.

Purpose

One page has been prepared for each applicable credit. Its aim is to summarise clearly the credit requirements, the number of credits assumed and the assumptions made at this stage of the design.

The figure below illustrates how each credit is presented:



Energy / CO₂ Ene 01 | Dwelling Emission Rate

3 / 10

(Contribution to total score: 3.52)

Requirements

Credits are awarded based on the performance against Part L1A 2013.

Credits	% Improvement over Part L1A 2013	Mandatory level
1	≥ 6%	
2	≥ 12%	
3	≥ 19%	Level 4
4	≥ 32%	
5	≥ 44%	
6	≥ 56%	
7	≥ 70%	
8	≥ 84%	
9	≥ 100%	Level 5
	Zero net CO ₂ emissions	Level 6

Important notes

As the buildings contains multiple dwellings, it is acceptable to award credits based on the average percentage improvement of DER over TER for all dwellings on a 'block-by-block' basis.

Key assumptions for 9-11 Mansfield Road

Preliminary energy modelling on all 4 dwellings has been carried out in order to confirm the level of performance achieved from energy efficiency as well as the contribution from the PV system (if required).

The following assumptions lead to an improvement over Part L 2013 of at least 19%.

Building envelope

- Window U-value: 0.85 W/m².K
- External wall U-value: 0.11 W/m².K
- Basement wall U-value: 0.15 W/m².K
- Basement floor U-value: 0.10 W/m².K
- Other exposed floor U-value: 0.15 W/m².K
- Flat roof U-value: 0.16 W/m².K
- Pitched roof U-value: 0.15 W/m².K
- Air permeability rate: 1 m³/h/m² at 50 Pa
- Thermal bridges (y): Accredited Construction Details or better

Building services

- Heat supply from communal gas boiler (89.5% efficient)
- Wall mounted efficient Mechanical Ventilation with Heat Recovery installed in utility cupboard (i.e. Brink Renovent Excellent) with rigid and insulated ductwork
- 100% energy efficient lighting
- No PVs

Responsibility: **Abbotswood + MEP + Etude**

Energy / CO₂ Ene 02 | Fabric energy efficiency

7 / 9

(Contribution to total score: 8.22)

Requirements

Fabric Energy Efficiency Standards estimate the energy demand for space heating and cooling expressed in kWh/m²/year.

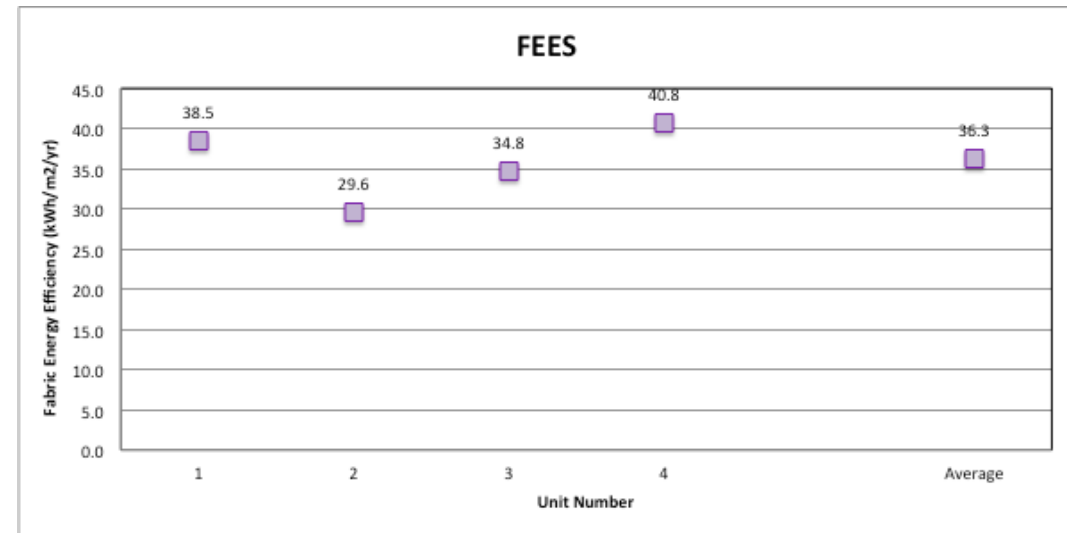
Credits	Apartment blocks and mi-terrace	End terrace, semi detached & detached	Mandatory level
3	≤ 48 kWh/m ² /yr	≤ 60 kWh/m ² /yr	
4	≤ 45 kWh/m ² /yr	≤ 55 kWh/m ² /yr	
5	≤ 43 kWh/m ² /yr	≤ 52 kWh/m ² /yr	
6	≤ 41 kWh/m ² /yr	≤ 49 kWh/m ² /yr	
7	≤ 39 kWh/m ² /yr	≤ 46 kWh/m ² /yr	Levels 5 and 6
8	≤ 35 kWh/m ² /yr	≤ 42 kWh/m ² /yr	
9	≤ 32 kWh/m ² /yr	≤ 38 kWh/m ² /yr	

Important notes

- Credits are awarded on a sliding scale. The scale is based on increments of 0.1 credits, distributed equally between the benchmarks defined in the above table.
- Please refer to guidance at www.zerocarbonhub.org

Key assumptions for 9-11 Mansfield Road

Preliminary energy modelling carried out the 4 apartments and based on the key assumptions summarised on the previous page indicated that the 9-11 Mansfield Road development can achieve a very good level of fabric efficiency, i.e. an average Fabric Energy Efficiency Standard (FEES) of less than 39 kWh/m²/yr.



This would be equivalent to 7 credits.

Responsibility: **Abbotswood + Etude**

Energy / CO₂ Ene 03 | Energy display devices

2 / 2

(Contribution to total score: 2.35)

Requirements

Credits are awarded based on the specification of equipment dedicated to the dwelling to display energy consumption data to the occupants.

Credits	Energy consumption displayed
1	Electricity OR primary heating fuel consumption
2	Electricity AND primary heating fuel consumption

Important notes

The equipment should comprise a self-charging sensor fixed to the incoming mains supply/supplies to measure and transmit energy consumption data to a visual display unit. As a minimum the visual display unit must be capable of displaying local time, current mains energy consumption (kW and kWh), CO₂ emissions, current tariff, current cost, accurate account balance information (amount in credit or debit), visual presentation to allow consumers to easily identify high and low level of usage and historical consumption data so that consumers can compare their current and previous usage in a meaningful way. This should include cumulative consumption data.

Key assumptions for 9-11 Mansfield Road

Electricity and heat consumption will be displayed in each unit.

Examples of energy display devices:



Responsibility: **MEP**

Energy / CO₂ Ene 04 | Drying space

1 / 1

(Contribution to total score: 1.17)

Requirements

Space and equipment should be provided for drying clothes. The length of the drying line should be at least:



Important notes

The drying space drying space must be heated and have either:

- controlled intermitted extract ventilation, which achieves a minimum extract rate of 30 l/s OR
- continuous extract ventilation, which achieves a minimum extract rate of 13 l/s.

Any fixings/fittings must be a permanent feature of the room/space.

Alternatively, a secure external space also meets the requirements of this credit.

Key assumptions for 9-11 Mansfield Road

A drying line will be provided in the bathroom of each dwelling.

This room will be suitably ventilated and heated.

Responsibility: **Abbotswood + MEP**

Energy / CO₂ Ene 05 | Energy labelled white goods

2 / 2

(Contribution to total score: 2.34)

Requirements

2 credits are awarded based on which appliances are provided in each dwelling, and of their energy label.



- A+** Fridges and freezers or fridge-freezers - *installed*
- A** Washing machines and dishwashers - *installed*
- B** Tumble dryers or washer dryers – *installed or guidance*

Only **1 credit** is awarded when no white goods are provided but EU Energy Efficiency Labelling Scheme Information is provided to each dwelling,

Key assumptions for 9-11 Mansfield Road

The following white goods will be provided from the outset:

- Fridge-freezers which are at least A+ rated
- Dishwashers which are at least A rated
- Washer dryers which are at least B rated.



Fridge-freezer



Dishwasher



washer dryer



Responsibility: **Abbotswood**

Energy / CO₂ Ene 06 | External lighting

2 / 2

(Contribution to total score: 2.34)

Requirements

1 credit

External lighting and lighting in common areas (excluding statutory safety lighting) is provided by dedicated energy efficient light bulbs/lamps (i.e. efficacy greater than 40 lumens per circuit watt) and controlled to prevent unnecessary operation (e.g. during daylight hours or when the space is not occupied).

1 credit

All **security lighting** is fitted with energy efficiency light bulbs (i.e. efficacy greater than 40 watts/circuit watt) and is fitted with daylight cut-off sensors or a time switch.

And all burglar security lights have:

- a maximum wattage of 150 W
- movement detecting control devices (PIR)
- daylight cut-off sensors

Key assumptions for 9-11 Mansfield Road

Compliance with both credits is targeted.

Important notes

- Tubular fluorescent and compact fluorescent light fittings would typically meet this requirement.
- Light fittings for GLS tungsten lamps with bayonet cap or Edison screw bases, or tungsten lamps would not comply.

Responsibility: **MEP**

Energy / CO₂ Ene 07 | Low and zero carbon technologies

0 / 2

(Contribution to total score: 0.00)

Requirements

Credits are awarded based on the carbon reduction achieved by low and zero carbon technologies.

Credits	% reduction in total CO ₂ emissions
1	10%
2	15%

Important notes

- Renewable technologies eligible must meet the requirements of Directive 2009/28/EC.
- Combined Heat and Power (CHP) schemes fuelled by mains gas are eligible.
- Off-site renewable energy sources can qualify provided they meet a number of criteria (e.g. additionality rule, Renewable Energy Guarantee of Origin (REGO) certified).

Key assumptions for 9-11 Mansfield Road

The current scheme relies on energy efficiency to achieve a significant improvement over Part L 2013. Roof-mounted PVs are therefore not proposed.

Responsibility: -

Energy / CO₂ Ene 08 | Cycle storage

1 / 2

(Contribution to total score: 1.17)

Requirements

Number of compliant cycle storage spaces per dwelling:

	1 credit	or	2 credits
Studios and 1B	0.5 / dwelling		1 / dwelling
2B and 3B	1 / dwelling		2 / dwelling
4B+	2 / dwelling		4 / dwelling

Important notes

- The minimum storage area required to store cycles on the floor must allow the cycles to be moved independently (e.g. 2m x 0.75m for 1 cycle, 2m x 1.5m for 2 cycles, 2m x 2.5m for 4 cycles).
- Where a proprietary storage or hanging system is provided, the space requirements are flexible but the system must allow each cycle to be removed independently.
- Access from the cycle store to the public right of way through the dwelling is not acceptable.
- Communal cycle store(s) must be located within 100m of the front door of the main entrance.
- The entrance to the communal cycle store must meet the requirements of clauses 21.2 to 21.6 and 21.8 to 21.13 of the 'Secured by Design New Homes 2010' document.

Key assumptions for 9-11 Mansfield Road

Based on the currently proposed dwelling numbers and types the following table provides an estimate of the number of cycle storage spaces that would be required under credit Ene 08.

Type of units	Number of units	Number of cycle spaces required for 1 credit	Number of cycle spaces required for 2 credit
2/3 Bed	4	4 cycle spaces	8 cycle spaces
Total	4	4 cycle spaces	8 cycle spaces

One credit is assumed.

Responsibility: **Abbotswood**

Energy / CO₂ Ene 09 | Home office

1 / 1

(Contribution to total score: 1.17)

Requirements

A space and services should be provided to enable a room to be used as a home office. The room must comply with the following requirements:

- It must achieve an Average Daylight Factor (ADF) of at least 1.5%.
- It should have sufficient space (1.8m wall length) to allow a desk, chair and filing cabinet or bookshelf to be installed with space to move around the front and the side of the desk.
- It must have sufficient services (i.e. two double power sockets, one telephone point and a broadband connection) and ventilation.

Important notes

- For 3B+ dwellings, the home office cannot be in the master bedroom or bathroom, or in the kitchen or living room.
- In all cases, the room must be large enough to allow the intended use of that room.

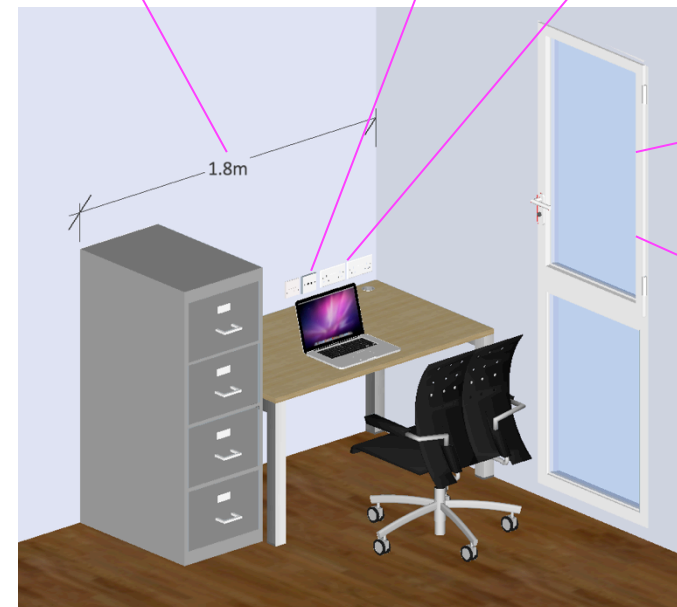
Key assumptions for 9-11 Mansfield Road

Confirmation that the identified room for home office will achieve an Average Daylight Factor of at least 1.5% should be sought.

Min 1.8m wall length for a desk and filing cabinet

1 phone point + 1 data point

2 double power sockets



Adequate ventilation (e.g. a window with a min 0.5m² openable casement)

Average daylight factor of at least 1.5%

Responsibility: **Abbotswood + Daylight Consultant**

Water Wat 01 | Indoor water use

3 / 5

(Contribution to total score: 4.50)

Requirements

Credits are awarded based on the estimated average potable water consumption.

Credits	Water consumption	Mandatory level
1	≤ 120 litres/p/day	Levels 1 and 2
2	≤ 110 litres/p/day	
3	≤ 105 litres/p/day	Levels 3 and 4
4	≤ 90 litres/p/day	
5	≤ 80 litres/p/day	Levels 5 and 6

Important notes

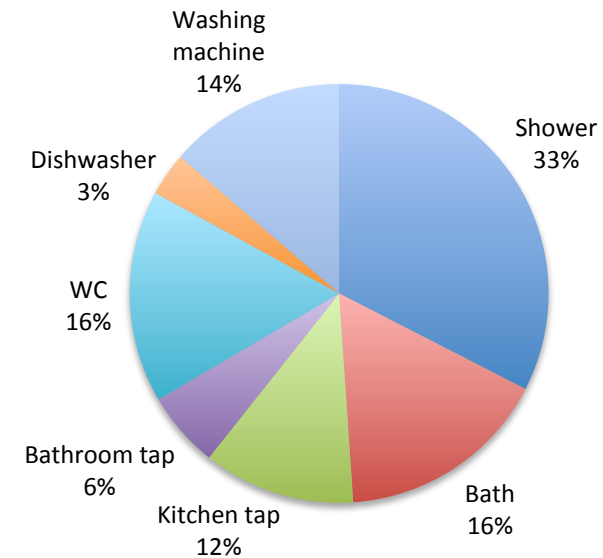
The calculation needs to be undertaken for each dwelling that has a different specification.

Key assumptions for 9-11 Mansfield Road

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 and would therefore comply with the mandatory criterion for Code level 4.

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



Breakdown of internal water consumption at 9-11 Mansfield Road

Responsibility: **Abbotswood + MEP**

Water Wat 02 | External water use

1 / 1

(Contribution to total score: 1.50)

Requirements

Where a sufficiently sized system to collect rainwater for irrigation is provided:

Type of space	Associated rainwater system minimum size requirement
Individual terrace or patio	100 litres / dwelling
Individual garden (1 – 2 bed home)	150 litres / dwelling
Individual garden (3 bed + home)	200 litres / dwelling
Communal garden	1 litre/m ² with a minimum of 200 litres

OR

If no individual or communal garden spaces are specified or if only balconies are provided, then this credit can be awarded by default.

Important notes

- The above requirements can be halved under certain circumstances (e.g. if no planting is provided or if planting requires little water).
- If the communal garden is shared by more than 6 dwellings, a maximum of 30 litres per dwelling can also be applied to the size of the communal garden rainwater system.
- The presence of a swimming pool triggers additional requirements.

Key assumptions for 9-11 Mansfield Road

There will be one 200-litre rainwater butt for the shared garden. The terraces will not have a rainwater recycling tank as they will not be planted.

Therefore this credit has been assumed at this stage.

Responsibility: **Abbotswood + MEP**

Materials Mat 01 | Environmental impact of materials

10 / 15

(Contribution to total score: 3.00)

Requirements

The aim of this credit is to promote the use of materials with lower environmental impacts over their lifecycle. Credits are awarded according to the Green Guide rating of materials used in the building (see <http://www.bre.co.uk/greenguide>).

Up to 15 credits are available, depending on the Green Guide Rating of the following elements:

- Roof
- External Walls
- Internal Walls (including separating walls)
- Upper and ground floors (including separating floors)
- Windows



The Code Mat 1 calculator needs to be used to assess the number of credits achievable.

Important notes

Where multiple dwellings are contained within a single envelope, the percentages of all individual Green Guide specifications throughout the entire building must be included, even where significantly differing construction methods are used for different parts of the building.

Key assumptions for 9-11 Mansfield Road

A target of **10 credits** appears appropriate at this stage. Assumptions:

Element	Reference	Description	Rating
External walls	806170615	Brickwork outer leaf, insulation, aircrete blockwork inner leaf, cement mortar, plasterboard on battens, paint	A+
Internal walls	809180034	Aircrete blockwork with cement:lime mortar, plaster, paint	A
Floors	820100203	Powerfloated in situ 30% PFA concrete slab, over insulation on polyethylene dpm laid on blinded recycled aggregate sub-base	B
	807280081	Power floated in situ 50% GGBS reinforced concrete floor slab	A+
Roof	812410008	Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and UK produced fibre cement slates	A+
Windows	1213100009	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

Responsibility: **Abbotswood + Etude**

Materials Mat 02 | Responsible sourcing of materials (basic building elements)

5 / 6

(Contribution to total score: 1.50)

Requirements

A minimum of 5 elements below must be 'responsibly sourced':

- Frame
- Ground Floor
- Upper Floors
- Roof
- External Walls
- Internal Walls
- Foundation/Substructure (excl. sub-base material)
- Staircase

At least 80% of each element assessed must comply with tier levels 1-4 for responsible sourcing. Based on the number of elements assessed and the tier level achieved for each of these elements, up to 6 credits are achievable.

Example of Material	Key Process	Supply Chain Process
Brick (including ceramics)	Product manufacture	Clay extraction
Glass	Glass Production	Sand extraction AND Soda ash production or extraction
In-situ concrete	Ready mixed concrete plant	Cement production Aggregate extraction and production
Precast concrete	Concrete product manufacture	Cement production Aggregate extraction and production

Tier level	Examples of Compliant Schemes
1	FSC, CSA, PEFC, Reused Materials, Schemes compliant with BES6001:200861 (or similar) Excellent and Very Good Performance Ratings
2a	Schemes compliant with BES6001:2008 (or similar) 'Good' Rating
2b	Schemes compliant with BES6001:2008 (or similar) 'Pass' Rating
3	Certified EMS for the Key Process and Supply Chain Recycled materials with certified EMS for the Key Process
4	Certified EMS for the Key Process

Additionally: 100% of any timber in these elements must be legally sourced.

At this stage, **5 credits** are achieved.

Responsibility: Abbotswood

Materials Mat 03 | Responsible sourcing of materials (finishing elements)

2 / 3

(Contribution to total score: 0.30)

Requirements

A minimum of 5 elements below must be 'responsibly sourced':

- Staircase
- Windows
- External & internal doors
- Skirting
- Panelling
- Furniture
- Fascias
- Any other significant use

At least 80% of each element assessed must comply with tier levels 1-4 for responsible sourcing. Based on the number of elements assessed and the tier level achieved for each of these elements, up to 3 credits are achievable.

Example of Material	Key Process	Supply Chain Process
Plasterboard or plaster	Plasterboard or plaster manufacture	Gypsum extraction
Wood panel products	Timber certification route	
Metals	Metal product manufacture	Metal production (e.g. Aluminium: ingot production)
Plastics and rubbers	Plastic/rubber product manufacture	Main polymer production

Tier level	Examples of Compliant Schemes
1	FSC, CSA, PEFC, Reused Materials, Schemes compliant with BES6001:200861 (or similar) Excellent and Very Good Performance Ratings
2a	Schemes compliant with BES6001:2008 (or similar) 'Good' Rating
2b	Schemes compliant with BES6001:2008 (or similar) 'Pass' Rating
3	Certified EMS for the Key Process and Supply Chain Recycled materials with certified EMS for the Key Process
4	Certified EMS for the Key Process

Additionally: 100% of any timber in these elements must be legally sourced.

At this stage, it is reasonable to assume that **2 credits** can be achieved.

Responsibility: **Abbotswood**

Surface Water Run-off Sur 01 | Management of water run-off

0 / 2

(Contribution to total score: 0.00)

Requirements

Mandatory requirements (applicable where there is an increase in impermeable area)

Peak rate of run-off

The peak rate of run-off over the development lifetime, allowing for climate change, must be no greater than it was for the pre-development site. This should comply at the 1 year and 100 year return period events

Designing for local drainage failure

It must be demonstrated that the flooding of property would not occur in the event of a local drainage system failure

Volume of run-off

The post development volume of run-off, allowing for climate change over the development lifetime, must be no greater than it would have been before the development.

The additional predicted volume of run-off for the 100 year 6 hour event must be prevented from leaving the site by using infiltration or other SuDS techniques.

Credits

Credits	Requirements
1	If there is no discharge for rainfall depths up to 5 mm
1	If the run-off from all hard surfaces shall receive an appropriate level of treatment in accordance with the SuDS Manual to minimise the risk of pollution.

Key assumptions for 9-11 Mansfield Road

The site is currently covered entirely by the house and hard surfaces.



Therefore there will not be an increase in impermeable surface area, which is sufficient to demonstrate compliance with the mandatory requirements. However, the first credit cannot be achieved as it is expected that there will be surface water discharge for rainfall depths up to 5 mm. In addition, an appropriate level of treatment in accordance with the SuDS Manual is not proposed for all surfaces and therefore the second credit cannot be achieved either.

Responsibility: Drainage Engineer

Surface Water Run-off Sur 02 | Flood risk

2 / 2

(Contribution to total score: 1.10)

Requirements

Zone 1 (2 credits)

A Flood Risk Assessment (FRA) must be prepared to confirm that there is a low risk of flooding from all sources.

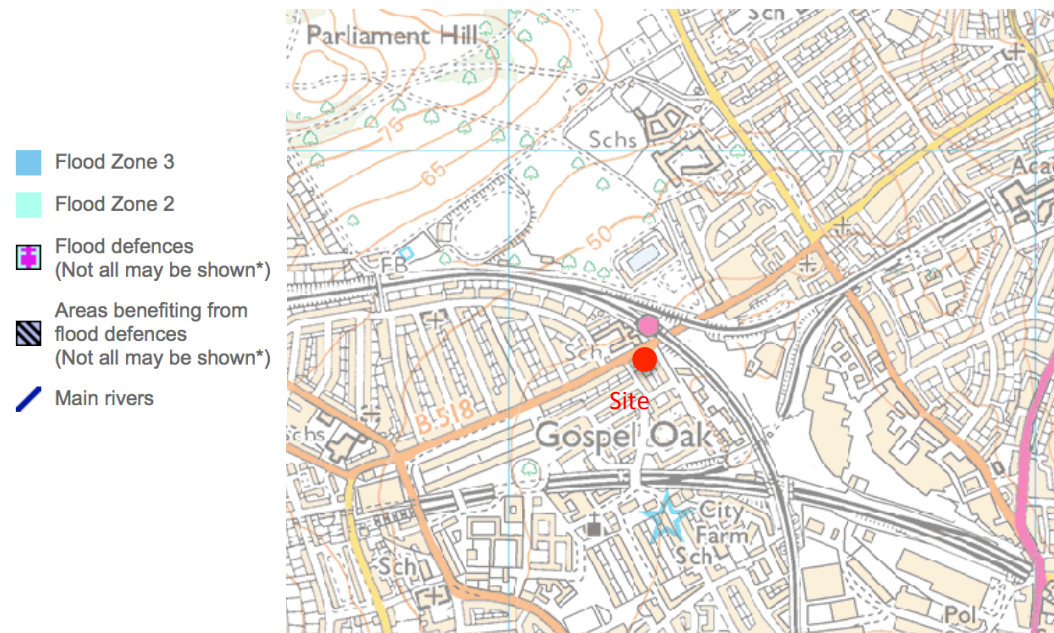
Zones 2 and 3a (1 credit)

The finished ground floor level of all habitable parts of dwellings and access routes to the ground level and the site must be at least 600 mm above the design flood level of the flood zone.

A Flood Risk Assessment (FRA) must demonstrate that the development is appropriately flood resilient.

Key assumptions for 9-11 Mansfield Road

The Environment Agency Flood Map is provided below:



The site is located within Flood Zone 1 and therefore at a low risk of flooding. A Flood Risk Assessment (FRA) must normally be prepared to confirm the exact flood risk status of the site from all sources (e.g. drainage system, surface water). A simplified statement can be prepared by the Contractor/Abbotswood given the size of the site.

Responsibility: **Abbotswood**

Waste Was 01 | Storage of waste

4 / 4

(Contribution to total score: 3.20)

Requirements

External storage space

The external storage capacity should be sized according to the largest of the following two volumes:

- The minimum volume recommended by BS5906:2005
- The total volume of the bins provided by the Local Authority

The bin store should be no further than 30m away from the front door of any dwelling.

Internal storage

- A bin for non recyclable waste
- A 30-litre bin (minimum) for recyclable waste (if co-mingled waste collection)

Key assumptions for 9-11 Mansfield Road

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

- a bin for non recyclable waste
- A 30-litre (or bigger) bin for recyclable waste



The communal storage requirements must be estimated following the methodology set out in BS 5906:2006 / the London Borough of Camden requirements.

Responsibility: **Abbotswood**

Waste Was 02 | Construction site waste management

3 / 3

(Contribution to total score: 2.40)

Requirements

1 credit

Preparation of a compliant Site Waste Management Plan (SWMP), which includes target benchmarks for resource efficiency



Incorporation in the SWMP of procedures and a commitment to sort and divert from landfill in order to achieve the following rates for non-hazardous waste

2 credits

50%
diverted from
landfill

3 credits

85%
diverted from
landfill

Key assumptions for 9-11 Mansfield Road

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%).

The SWMP will include procedures in order to achieve the target above.

Responsibility: **Abbotswood**

Waste Was 03 | Composting

1 / 1

(Contribution to total score: 1.20)

Requirements

One credit is awarded where:

- Composting facilities are provided (e.g. a local communal service which the Local Authority runs and where the compost is used by the community).

OR

- the Local Authority operates a green/kitchen waste collection scheme.

Important notes

- The composting facilities / external storage space should be no further than 30m away from the site entrance.
- Space for a 7–litre container (minimum size) should be provided in the dwelling.

Key assumptions for 9-11 Mansfield Road

Camden Council operate a food waste collection and it is therefore possible to achieve this credit if a bin for food waste is provided in each kitchen and if the communal storage space includes space for food waste caddies.

This credit has been assumed.

Responsibility: **Abbotswood**

Pollution Pol 01 | Global warming potential of insulants

1 / 1

(Contribution to total score: 0.70)

Requirements

All insulating materials must only have substances that have a Global Warming Potential (GWP) of less than 5 (in manufacture and installation). This is applicable to:

- Roofs
- Walls (external and internal – including acoustic insulation)
- Floors
- Hot water cylinder and pipes
- Cold water storage tank
- External doors

Examples of foamed and non-foamed insulation include:

Foamed insulation	Non-foamed insulation
Expanded polystyrene (EPS)	Mineral wool or fibre
Extruded polystyrene (XPS)	Glass wool or fibre
Polyurethane insulation (PU)	Cellulose insulation
Cellular glass or foamed glass	Wood fibre board

Important notes

For foamed materials, or propellants used to spray or inject insulation, the following blowing agents are acceptable: Air, CO₂, Pentane (iso-pentane, cyclopentane, n-pentane), Iso butene.

Key 9-11 Mansfield Road

This credit is targeted.

XPS with zero Ozone depletion gas must be specified if required

Responsibility: **Abbotswood + MEP**

Pollution Pol 02 | NOx emissions

3 / 3

(Contribution to total score: 2.10)

Requirements

Credits are awarded based on the level of NOx emissions of the space heating and hot water energy generation equipment.

Credits	Dry NOx Level (mg/kWh)
1	≤ 100
2	≤ 70
3	≤ 40

Important notes

Dry NOx emissions are the NOx emissions resulting from the combustion of a fuel at zero percent excess oxygen levels and expressed in mg/kWh.

Key assumptions for 9-11 Mansfield Road

It is currently proposed that apartments at 9-11 Mansfield Road will be provided with heating and domestic hot water from a communal boiler.

It is assumed that the specified communal boiler will have low NOx emissions (≤ 40 mg/kWh) and therefore that 3 credits will be achievable.

Responsibility: **MEP**

Health and Wellbeing Hea 01 | Daylighting

3 / 3

(Contribution to total score: 3.51)

Requirements

1 credit

If **kitchens** achieve a minimum Average Daylight Factor of **2%**

1 credit

If **living rooms, dining rooms and studies** (including any room designated as a home office) achieve a minimum Average Daylight Factor of **1.5%**

1 credit

If 80% of the working place in each kitchen, living room, dining room and studies (including any room designated as a home office) receives **direct light from the sky**.

Important notes

- The Average Daylight Factor can be calculated using the formula described in the definitions section (method described in Littlefair (1998) as set out in BS 8206–2) or computer simulation or scale model measurement.
- The position of the no-sky line and percentage of area of the working plane that receives direct light from the sky needs to be identified on drawings and calculated. The working plane is assumed to be at 0.85m above the floor.
- It is recommended that calculations are supplied by a daylighting expert.
- It is acceptable that daylighting calculations are carried out in selected dwellings (or rooms) when the reasoning behind their selection clearly demonstrates that the rooms in the dwellings for which the calculations are not provided will perform better than those backed up by the calculations.

Key assumptions for 9-11 Mansfield Road

It is currently assumed that all credits will be achieved.

This should be confirmed by daylight calculations.

Responsibility: Daylight consultant

Health and Wellbeing Hea 02 | Sound insulation

3 / 4

(Contribution to total score: 3.51)

Requirements

Credits are awarded based on the improvement over the performance standards set out in the Building Regulations Approved Document E (2003 Edition, with amendments 2004).

Credits	Improvements beyond Part E
1	<ul style="list-style-type: none">Airborne sound insulation values (DnT,w + Ctr) are at least 3dB higherImpact sound insulation values (L'nT,w) are at least 3dB lower
3	<ul style="list-style-type: none">Airborne sound insulation values (DnT,w + Ctr) are at least 5dB higherImpact sound insulation values (L'nT,w) are at least 5dB lower
4	<ul style="list-style-type: none">Airborne sound insulation values (DnT,w + Ctr) are at least 8dB higherImpact sound insulation values (L'nT,w) are at least 8dB lower

Important notes

- The levels of performance above can be demonstrated through.

A programme of pre-completion testing based on the Normal programme of testing described in Approved Document E.

or

Use of construction for all relevant building elements that have been assessed and approved as Robust Details by Robust Details Limited (RDL) and found to achieve the performance standards above (www.robustdetails.com)

- These criteria only apply to walls, floors and staircases that perform a **dwelling to dwelling separation**.

Key assumptions for 9-11 Mansfield Road

An improvement of 5dB over the performance standards set out in Part E of the Building Regulations is targeted.

Responsibility: **Abbotswood**

Health and Wellbeing Hea 03 | Private space

1 / 1

(Contribution to total score: 1.17)

Requirements

Where **accessible** outdoor space is provided:

Private

1.5 m² per bedroom

Semi-private / Communal

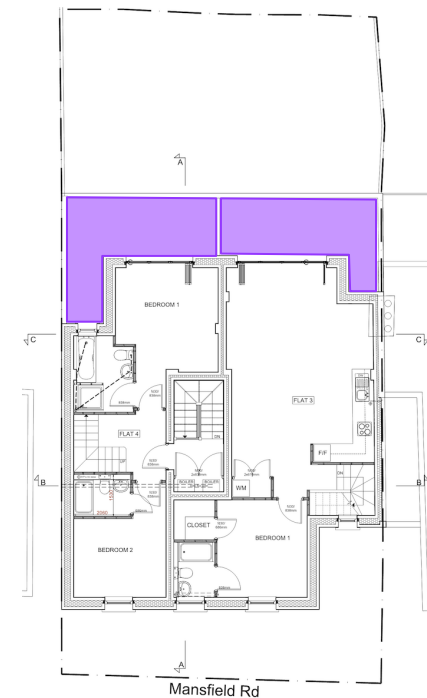
1 m² per bedroom

Important notes

The space should be accessible only to occupants of designated dwellings.

Key assumptions for 9-11 Mansfield Road

All four apartments will have access to outdoor space. Apartments 1 and 2 will share the back garden on the ground floor while apartments 3 and 4 will both have an accessible terrace. 1 credit is therefore targeted.



Responsibility: **Abbotswood**



(Contribution to total score: 0.00)

Requirements

Where all principles of **Lifetime Homes** applicable to the dwelling being assessed have been complied with.

Important notes

The purpose of the Code for Sustainable Homes is not to deliver purpose-designed wheelchair housing but rather inclusive general needs housing that caters for the widest possible segment of the population (including older people), and which can easily be adapted to meet the needs of wheelchair users.

Key assumptions for 9-11 Mansfield Road

It is assumed that **Criterion 8 cannot be complied with.**

01 - Parking

09 - Potential for entrance level bedspace

02 - Approach to dwellings from parking

10 - Entrance level WC and shower drainage

03 - Approach to all entrances

11 - WC and bathroom walls

04 - Entrances

12 - Stairs and potential through-floor lift in dwelling

05 - Communal stairs and lifts

13 - Potential for fitting of hoists in bathroom/bedroom

06 - Internal doorways and hallways

14 - Bathrooms

07 - Circulation space

15 - Glazing and window handle heights

08 - Entrance level living space

16 - Location of service controls

Responsibility: **Abbotswood**

Management Man 01 | Home user guide

3 / 3

(Contribution to total score: 3.33)

Requirements

Credits are awarded based on the information contained in the Home User Guide.

Key assumptions for 9-11 Mansfield Road

A comprehensive Home User Guide will be prepared for the residents at 9-11 Mansfield Road.

Credits	Information covered in the Home User Guide
2	<ul style="list-style-type: none">• Environmental strategy /design and features• Energy• Water use• Recycling and waste• Sustainable DIY• Emergency Information• Links, references and further information
+ 1	<ul style="list-style-type: none">• Sustainable Drainage Systems (SuDS)• Public Transport• Local amenities• Responsible purchasing

Important notes

- The Home User Guide should include the procedure for obtaining the guide in alternative formats (e.g. Braille, large print, audio).
- Please refer to checklists Man 1 Part 1 (operational issues) and Part 2 (site and surroundings) for a comprehensive list of subjects to be covered by the Home User Guide.

Responsibility: **Abbotswood**

Management Man 02 | Considerate Constructors Scheme

2 / 2

(Contribution to total score: 2.22)

Requirements

Credits are awarded based on registration of the project under the Considerate Constructors Scheme and the achievement of a high score.

Credits	Score under Considerate Constructors Scheme
1	More than 25 (and at least 5 in every section)
2	More than 35 (and at least 7 in every section)

Important notes

It is possible to achieve these credits with an alternative scheme to the Considerate Constructors Scheme. For more details, please refer to the Code for Sustainable Homes technical guidance.

Key assumptions for 9-11 Mansfield Road

9-11 Mansfield Road will be registered under the Considerate Constructor Scheme and a score of more than 35 will be achieved.



Responsibility: **Abbotswood**

Management Man 03 | Construction site impacts

2 / 2

(Contribution to total score: 2.22)

Requirements

Credits are awarded based on the procedures put in place on site in order to manage the construction site in a manner that mitigates environmental impact.

Procedures can cover the following items:

1. CO₂ production or energy use arising from site activities
2. CO₂ or energy use arising from commercial transport to and from site
3. Water consumption from site activities
4. Best practice policies in respect of air (dust) pollution arising from site activities
5. Best practice policies in respect of water (ground and surface) pollution
6. 80% of site timber to be reclaimed, re-used or responsibly sourced

Credits	Items covered by a procedure
1	Two or more
2	Four or more

Important notes

The documentary evidence required post-construction may include:

- Measurement/consumption records
- Graphs comparing consumption with targets
- Delivery records
- Site procedures for minimising air/dust and water pollution

Key assumptions for 9-11 Mansfield Road

A number of procedures will be implemented in order to manage the construction site in a manner that mitigates environmental impact.

At least four of the items listed on the left will be covered by these procedures. It is currently assumed that these will be the following:

- CO₂ production or energy use arising from site activities;
- 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;
- 80% of site timber to be reclaimed, re-used or responsibly sourced.

Responsibility: **Abbotswood**

Management Man 04 | Security

2 / 2

(Contribution to total score: 2.22)

Requirements

In order to achieve these credits, the following requirements must be complied with:

An Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force must be consulted at the design stage and their recommendations incorporated into the design of the dwelling.



Section 2 – Physical Security from ‘Secured by Design – New Homes’ must be complied with.

Key assumptions for 9-11 Mansfield Road

Consultation with the London Borough of Camden on Security should be undertaken and documented.

Important notes

Secured by Design certification is not required.

Responsibility: **Abbotswood**



(Contribution to total score: 1.33)

Requirements

When the development site is confirmed as land of inherently **low ecological value**:

By a Suitably Qualified Ecologist

or

By meeting the criteria for low ecological value set out in the CfSH Technical Guidance (Checklist Eco 1)

or

When the construction zone is confirmed of low ecological value by an ecological report



When the land of ecological value outside of the construction zone will remain undisturbed

Important notes

A site that consists of buildings, hard surfaces, car parking or other such construction which has been derelict for more than two years cannot achieve the credit unless it can be verified by a suitably qualified ecologist that the site is of low or insignificant ecological value.

Key assumptions for 9-11 Mansfield Road

It is currently assumed that the site is of low ecological value. This should be confirmed by a suitably qualified ecologist or by the Code assessor (through completion of Checklist Eco 1).



Responsibility: Ecologist / Etude

Ecology and Land use Eco 02 | Ecological enhancement

1 / 1

(Contribution to total score: 1.33)

Requirements

This credit is achieved if:

- A suitably qualified ecologist has been appointed;
- The developer adopts **all key recommendations** and **30% of additional recommendations** made by the ecologist in order to positively enhance the ecology of the site.

Important notes

The development site is the whole site up to and including the boundary.

Key assumptions for 9-11 Mansfield Road

It is currently assumed that an ecologist will be appointed. Therefore this credit is targeted.

Responsibility: **Ecologist**

Ecology and Land use Eco 03 | Protection of ecological features

1 / 1

(Contribution to total score: 1.33)

Requirements

If all existing features of ecological value on the development site potentially affected by the works are maintained and adequately protected during site clearance, preparation and construction works.

or

If the site has been classified as having low ecological value AND no features of ecological value have been identified.

Key assumptions for 9-11 Mansfield Road

As it is assumed that the site is of low ecological value, this credit is currently assumed.

Important notes

If a suitably qualified ecologist has confirmed that a feature can be removed because of its insignificant ecological value or where an arboriculturalist has confirmed a feature can be removed owing to poor health/condition (e.g. diseased trees which require felling for health and safety and/or conservation reasons), the credit can be achieved provided all other features are adequately protected in accordance with the ecologist's recommendations.

Responsibility: **Ecologist**



(Contribution to total score: 3.99)

Requirements

Credits are awarded based on the impact on the site's ecological value.

Credits	Impact on site's ecological value (<i>qualitative</i>)	Impact on site's ecological value (<i>quantitative</i>)
1	Minor negative change	$-9 < \text{change} \leq -3$ species per hectare
2	Neutral	$-3 < \text{change} \leq +3$ species per hectare
3	Minor enhancement	$+3 < \text{change} \leq +9$ species per hectare
4	Major enhancement	$+9 \text{ species per hectare} < \text{change}$

Important notes

The ecological value of derelict sites is time dependent; a linear scale has been used to determine intermediate values between zero ecological value at 1 year from dereliction/demolition to a value at 30 years based on marginal upland figures. This presents a worst case figure which can be amended on the advice of a suitably qualified ecologist.

Key assumptions for 9-11 Mansfield Road

The development is assumed to have a minor positive impact on the site's ecological value. This should be confirmed by the Ecologist.

Responsibility: **Ecologist**

Ecology and Land use Eco 05 | Building footprint

1 / 2

(Contribution to total score: 1.33)

Requirements

This credit rewards developments with a high density, expressed by the following ratio:

CfSH density ratio = net internal floor area : net internal ground floor area

For houses:

Credits	Requirement
1	$2.5:1 \leq \text{CfSH density ratio}$
2	$3:1 \leq \text{CfSH density ratio}$

For blocks of flats:

Credits	Requirement
1	$3:1 \leq \text{CfSH density ratio}$
2	$4:1 \leq \text{CfSH density ratio}$

For a combination of houses and flats:

Credits	Requirement
1	Area-weighted average between $2.5:1$ and $3:1 \leq \text{CfSH density ratio}$
2	Area-weighted average between $3:1$ and $4:1 \leq \text{CfSH density ratio}$

Key assumptions for 9-11 Mansfield Road

The CfSH density ratio is calculated as 3.54, this is more than 3:1 but less than 4:1. Therefore, only 1 credit is targeted under Eco 05.

Responsibility: **Abbotswood**

Status of this report

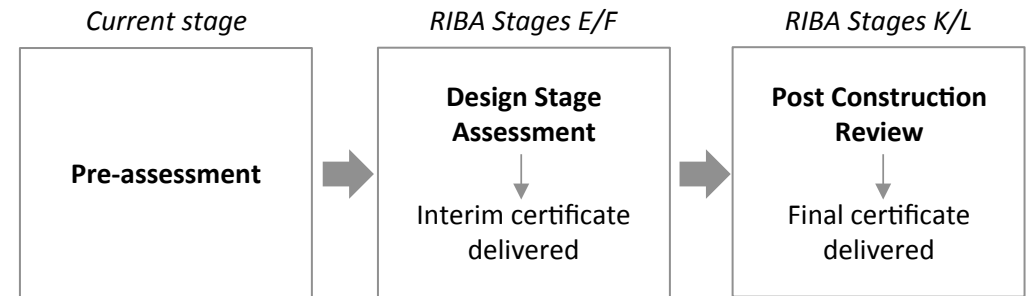
This report is a Code for Sustainable Homes **pre-assessment**. It indicates how the targeted Code Level 4 rating could be achieved at 9-11 Mansfield Road.

Its aim is to ensure that the most relevant CfSH credits at this stage (and particularly the mandatory credits) are taken into account in the design. These are summarised below:

- On an area-weighted average basis, the dwellings must be at least 19% better than Part L1A 2013. This will rely on an airtight and efficient envelope, efficient building services (including MVHR);
- Internal and communal storage space will be provided for recyclables (comingled) and general waste;
- The scheme will exceed the requirements of Part E by 5dB;
- A Flood Risk Assessment will be prepared for the site;
- All Daylight credits are targeted;
- An Ecologist will be appointed and advise on potential ecological enhancements;
- The green guide rating of materials will influence the selection of materials;
- Best practice procedures will be implemented to manage the impact of construction on the environment.

Based on the assumptions summarised in this pre-assessment report, a score of 71.2% is achieved, i.e. 3.2% above the score required to achieve Level 4 (68%).

Next steps



The project team and contractor should always work with reference to the Code pre-assessment and technical guidance when undertaking design changes.

The technical guidance to be referred to is the Nov 2010 edition, with addendum (2014). It is available at: <https://www.gov.uk/government/publications/code-for-sustainable-homes-technical-guidance>



Three methodologies are recommended for managing design risks:

- A dedicated architectural series of Code for Sustainable Homes drawings, highlighting all features installed to discharge criteria, with a CfSH credit reference;
- Credit references adjacent to any items required to discharge Code criteria, listed in specifications and RIBA stage summary documents e.g. display energy device to provide information on electricity and primary heating fuel (CfSH Credit Ref: Ene 3).
- The CfSH score should be reviewed periodically to reflect changes.