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Code for Sustainable Homes Pre-assessment

Jun-14

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Project	14 Well Road
MW Reference	J1875
Location	Hampstead, London
Local Authority	Camden Borough Council
Client	Philip Wagner Architects
Report Scope	Code for Sustainable Homes Pre-assessment
Quantity of Residential Units	1
Other	N/A

Issue	02 For Planning
Date	20/06/2014
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Signature	

Disclaimer

The performances of renewable systems, especially wind and solar, are difficult to predict with any certainty. This is due to the variability of environmental conditions from location to location and from year to year. As such all budget/cost and figures, which are based upon the best available information, are to be taken as an estimation only and should not be considered as a guarantee. This report relates to pre-planning stage therefore final specification must be provided by an M & E consultant after stage C.

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Executive Summary

Mendick Waring have been appointed to produce a Code for Sustainable Homes (CSH / Code) pre assessment as part of an exercise to identify potential credits in order to meet Code Level 4*.

The proposed development will comprise a single 4 bedroom detached house, located in Hampstead, London.

The strategy is based on discussions with parties involved within the scheme and seeks to maximise credits where available through the use of *'incorporated design'* where feasible. It should be noted that specific credits are targeted based on discussions within the design team, however, may require further works to quantify their award, should they be sought during the detailed design process.

The CSH pre-assessment should not be used as a design tool, however, provides outline guidance in meeting sustainability criteria as defined under the relevant scheme.

The Code for Sustainable Homes provides developers with a number of criteria considered as part of sustainable design and construction in new development. This predominantly focuses on providing percentage improvement baselines when compared to Building Regulations on Energy & Water consumption as follows:

Energy Performance

Code Level	Minimum Percentage Improvement in Dwelling Emission Rate over Target Emission Rate
Level 1 (★)	0% (Compliance with Part L 2010 only is required)
Level 2 (★★)	0% (Compliance with Part L 2010 only is required)
Level 3 (★★★)	0% (Compliance with Part L 2010 only is required)
Level 4 (★★★★)	25%
Level 5 (★★★★★)	100%
Level 6 (★★★★★★)	Net Zero CO_2 Emissions

Water Consumption

Code Level	Maximum Indoor Water Consumption in Litres per Person per Day
Level 1 (★)	120
Level 2 (★★)	120
Level 3 (★★★)	105
Level 4 (★★★★)	105
Level 5 (★★★★★)	80
Level 6 (★★★★★★)	80

With mandatory criteria providing a baseline, it is the choice of the developer and design team to target credits identified as feasible (within the site constraints) to meet the aspired rating as follows:

- Code Level 3: 57%
- Code Level 4: 68%
- Code Level 5: 84%
- Code Level 6: 90%

The table below details the contribution of credits achieved to meet Code Level 4*

	Target	Available	%	Weighted
Category 1: Energy	19	31	61%	22.17
Category 2: Water	4	6	67%	6.00
Category 3: Materials	18	24	75%	5.40
Category 4: Surface Water Run-off	4	4	100%	2.20
Category 5: Waste	7	8	88%	5.60
Category 6: Pollution	4	4	100%	2.80
Category 7: Health	8	12	67%	9.33
Category 8: Management	9	9	100%	10.00
Category 9: Ecology	5	9	56%	6.67
			TOTAL	**70.17**

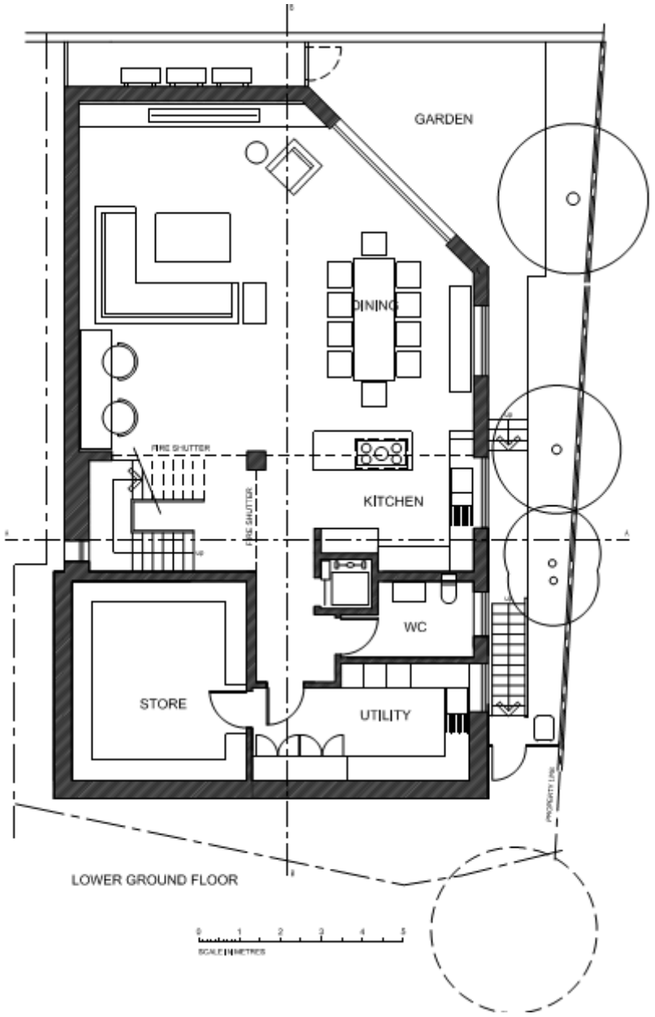
Table 1 – Summary of credits scored

2.0 Introduction

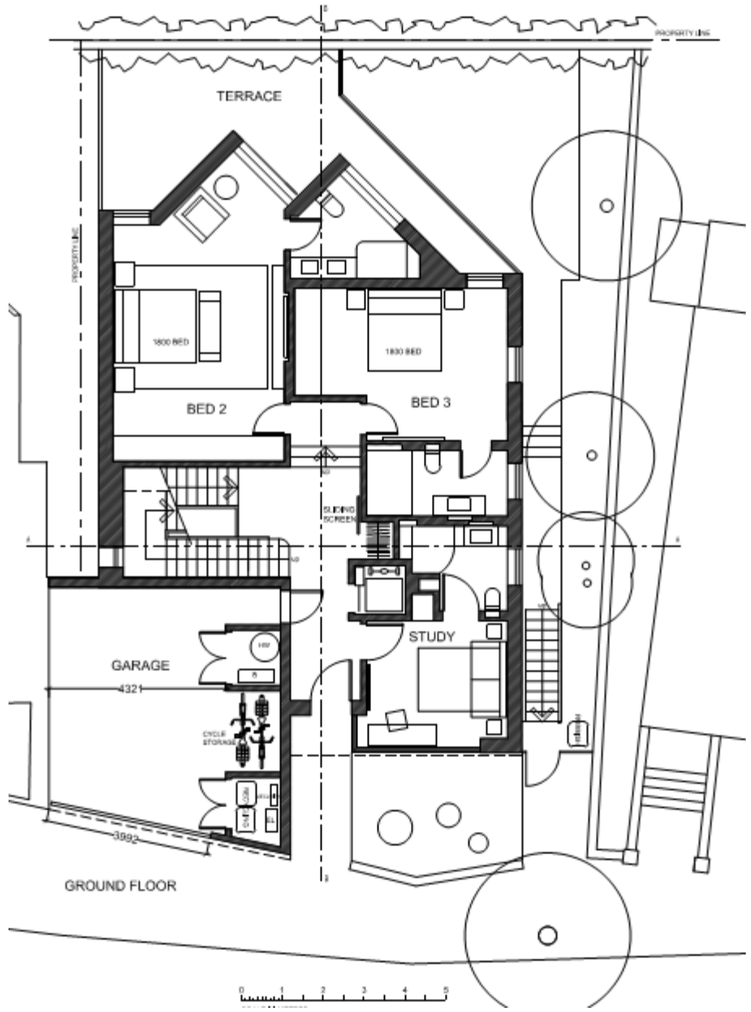
Mendick Waring has been commissioned to conduct a Code for Sustainable Homes (CSH / Code) pre assessment as part of an exercise to identify potential credits to achieve Code Level 4*.

The proposed development will comprise a single 4 bedroom detached house.

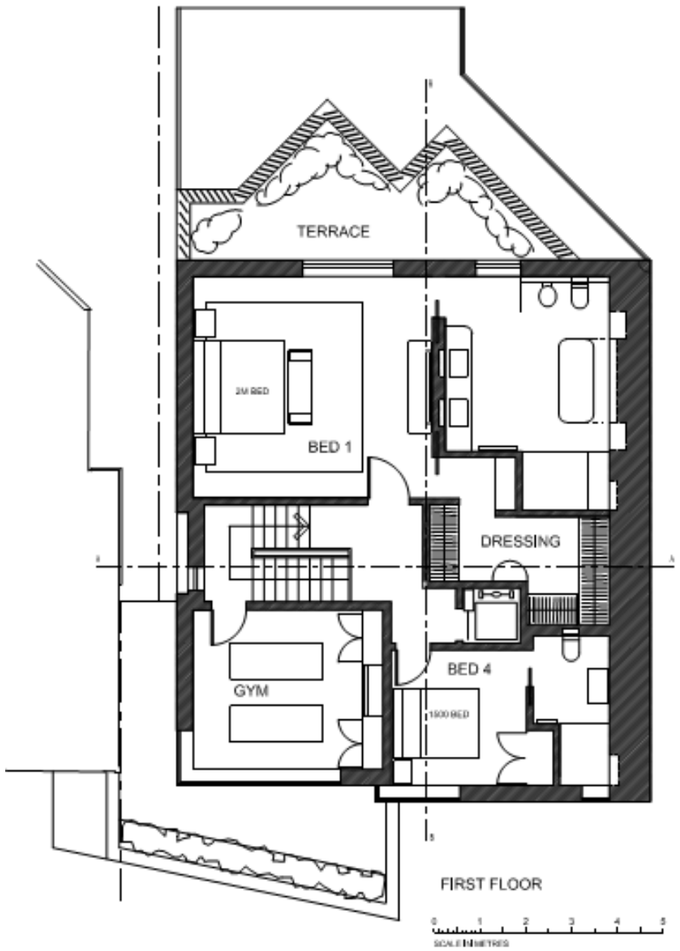
Figure 1: Overview of proposed development



Lower Ground Floor Plan



Ground Floor Plan



First Floor Plan

3.0 Code for Sustainable Homes Strategy

As detailed under Camden Borough Councils Core Strategy 13 '*Tackling climate change through promoting higher environmental standards*', the proposed dwelling must achieve Code for Sustainable Homes Level 4*.

The Code for Sustainable Homes is the national environmental standard to be used in the design and construction of new homes in England and Wales. Sustainable design principles cover performance in nine key areas:

- *Energy and CO_2*
- *Water*
- *Materials*
- *Surface Water Run-off*
- *Waste*
- *Pollution*
- *Health and Well-being*
- *Management*
- *Ecology*

The CSH utilises a rating system, ranging from Level 3* to Level 6*, as levels increase, they propose a number of increasing thresholds relating to a number of mandatory fields including:

- Energy performance,
- Water usage &
- Building adaptability (Lifetime Homes)

Dwelling is assessed and rated individually in two stages:

1. A design stage review (interim certificate issued if relevant criteria met)
2. A post-construction review (final certificate issued if all criteria met)

As part of the CSH, minimum **mandatory standards** are set, depending on the targeted rating for:

I. *Ene 1 - Carbon dioxide emissions,*

II. *Wat 1 - Indoor water use,*

III. *Mat 1 - Environmental impact of materials,*

IV. *Sur 1 - Management of surface water run-off*

V. *Was 1 - Storage of non-recyclable waste and recyclable household waste and*

Requirements must be met against these mandatory criteria, prior to the award of a CSH level.

In order to achieve Code Level 4*, dwelling's must achieve 68%.The following pages set out credits covered by the CSH and how the development could potentially perform against the assessment method.

It is recommended that any strategy targets a higher score than required to allow for flexibility within the design programme

Following a review of information received to-date and as detailed in the following pages, the development can achieve a rating of Code Level 4* and is detailed as follows:

	Target	Available	%	Weighted
Category 1: Energy	19	31	61%	22.17
Category 2: Water	4	6	67%	6.00
Category 3: Materials	18	24	75%	5.40
Category 4: Surface Water Run-off	4	4	100%	2.20
Category 5: Waste	7	8	88%	5.60
Category 6: Pollution	4	4	100%	2.80
Category 7: Health	8	12	67%	9.33
Category 8: Management	9	9	100%	10.00
Category 9: Ecology	5	9	56%	6.67
			TOTAL	**70.17**

Table 2 – Summary of credits scored

3.1 Category 1: Energy

ENE 1	Dwelling Emission Rate		Available Credits	Target Credits	Score
			10	4	4.67

Criteria	Available credits	Mandatory requirements
% improvement 2010 DER/TER		
8%	1	
16%	2	
25%	**3**	**Level 4**
36%	4	
47%	5	
59%	6	
72%	7	
85%	8	
100%	**9**	**Level 5**
Zero net CO2 emissions	**10**	**Level 6**

ENE 2	Fabric energy efficiency		Available Credits	Target Credits	Score
			9	5	5.83

Criteria		Available credits	Mandatory require-ments
Fabric Energy Efficiency Apartment blocks, mid terrace	End terrace, semi det & det		
=< 48	=< 60	3	
=< 45	=< 55	4	
=< 43	=< 52	5	
=< 41	=< 49	6	
=< 39	**=< 46**	**7**	**Level 5 & 6**
=< 35	=< 42	8	
=< 32	=< 38	9	

ENE 3	Energy display devices		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where current electricity OR primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.	1	
Where current electricity AND primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.	2	
Default Cases		
Where electricity is the primary heating fuel and current electricity consumption data are displayed to occupants by a correctly specified energy display device.	2	

ENE 4	Drying space		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where space and equipment are provided for drying clothes:		
For 1 – 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line	1	

For 3+ bedroom dwellings, the drying equipment must be capable of holding 6m+ of drying line	1	
The drying space (internal or external) must be secure		

ENE 5	Energy Labelled white goods		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where the following appliances are provided and have an A+ rating under the EU Energy Efficiency Labelling Scheme:		
Fridges and freezers or fridge-freezers	1	
Where the following appliances are provided and have an A rating under the EU Energy Efficiency Labelling Scheme:		
Washing machines and dishwashers		
AND EITHER		
Tumble dryers or washer dryers have a B rating (where a washer dryer is provided, it is not necessary to also provide a washing machine)		
OR		
EU Energy Efficiency Labelling Scheme Information is provided to each dwelling in place of a tumble dryer or a washer dryer	1	

Where no white goods are provided but EU Energy Efficiency Labelling Scheme Information is provided to each dwelling	1	
Note: To obtain this credit, any white goods available to purchase from the developer must be compliant with the above criteria.		

ENE 6	External Lighting		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Space Lighting		
Where all external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropriate control systems.	1	
Note: Statutory safety lighting is not covered by this requirement		
Security Lighting		
Where all security lighting is designed for energy efficiency and is adequately controlled	1	

ENE 7	Zero or Low Carbon Technology		Available Credits	Target Credits	Score
			2	0	0.00

Criteria	Available credits	Mandatory requirements
Where energy is supplied by low or zero carbon technologies		
AND		

There is a 10% reduction in CO2 emissions as a result	1	
OR		
There is a 15% reduction in CO2 emissions as a result	2	

ENE 8	Cycle Storage		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where individual or communal cycle storage is provided, that is adequately sized, secure and convenient, for the following number of cycles:		
Studios or 1 bedroom dwellings – storage for 1 cycle for every two dwellings	1	
2 and 3 bedroom dwellings –- storage for 1 cycle per dwelling	1	
4 bedrooms and above –- storage for 2 cycles per dwelling	1	
OR		
Studios or 1 bedroom dwellings – storage for 1 cycle per dwelling	2	
2 and 3 bedroom dwellings – storage for 2 cycles per dwelling	2	
4 bedrooms and above – storage for 4 cycles per dwelling	2	
Note: The requirements for secure cycle storage are met where compliance with clause 35 of Secured by Design (SBD) New Homes 2010 is achieved.		

ENE 9	Home Office		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where sufficient space and services have been provided which allow occupants to set up a home office in a suitable room.		
The space dedicated for use as a home office must have adequate ventilation and achieve an average daylight factor of 1.5%.	1	

3.2 Category 2: Water

WAT 1	Indoor water use		Available Credits	Target Credits	Score
			5	3	4.50

Criteria	Available credits	Mandatory requirements
Water consumption (litres/person/day)		
120 l/p/day	1	Levels 1 and 2
110 l/p/day	2	
105 l/p/day	3	Levels 3 and 4
90 l/p/day	4	
80 l/p/day	5	Levels 5 and 6

WAT 2	External water use		Available Credits	Target Credits	Score
			1	1	1.50

Criteria	Available credits	Mandatory requirements
Where a correctly specified and sufficient sized system to collect rainwater for external/internal irrigation/use has been provided to a dwelling with a garden, patio or communal garden space (examples of such systems include rainwater butts and central rainwater collection systems)	1	
Default Cases		
If no individual or communal garden spaces are specified or if only balconies are provided, the credit can be awarded by default	1	

3.3 Category 3: Materials

MAT 1	Environmental Impact of Materials		Available Credits	Target Credits	Score
			15	12	3.60

Criteria	Available credits	Mandatory requirements
Where at least three of the following five key elements of the building envelope achieve a rating of A+ to D in the 2008 version of The Green Guide:		All Levels
• Roof		
• External walls		
• Internal walls (including separating walls)		
• Upper and ground floors (including separating floors)		
• Windows		
Where the Code Mat 1 Calculator Tool is used to assess the number of credits awarded for the five key elements described above	1-15	3

MAT 2	Responsible sourcing of Materials: Basic Building Elements		Available Credits	Target Credits	Score
			6	4	1.20

Criteria	Available credits	Mandatory requirements
Where 80% of the assessed materials in the following Building Elements are responsibly sourced:		
a) Frame		
b) Ground floor		
c) Upper floors (including separating floors)		

d) Roof		
e) External walls		
f) Internal walls (including separating walls)		
g) Foundation/substructure (excluding sub-base materials)		
h) Staircase		
Additionally, 100% of any timber in these elements must be legally sourced	1-6	

MAT 3	Responsible sourcing of Materials: Finishing Elements		Available Credits	Target Credits	Score
			3	2	0.60

Criteria	Available credits	Mandatory requirements
Where 80% of the assessed materials in the following Finishing Elements are responsibly sourced:		
a) Staircase		
b) Windows		
c) External & internal doors		
d) Skirting		
e) Panelling		
f) Furniture		
g) Fascias		
h) Any other significant use		
Additionally, 100% of any timber in these elements must be legally sourced	1-3	

3.4 Category 4: Surface Water Run-off

SUR 1	Reduction Of Surface Water Run-off		Available Credits	Target Credits	Score
			2	2	1.10

Criteria	Available credits	Mandatory requirements
1) Peak Rate of Run-off		
Where there is an increase in impermeable area, ensure that the peak rate of run-off over the development lifetime, allowing for climate change, will be no greater for the developed site than it was for the pre-development site.	0	Yes
2) Volume of Run-off		
If the developed site would otherwise discharge, over the development lifetime allowing for climate change, a greater volume of rainwater run-off than the pre-development site for the 100 year 6 hour event	0	Yes
3) Designing for local drainage system failure.		
Demonstrate that the flooding of property would not occur in the event of local drainage system failure	0	Yes
Water Quality Criteria		
1. One credit can be awarded by ensuring there is no discharge from the developed site for rainfall depths up to 5 mm (see Calculation Procedures).	1	
2. One credit can be awarded by ensuring that:		

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.	1	
Note: The SuDS Manual best practice recommendations should be followed where there is a risk to groundwater from infiltration (for example contaminated land, developments with high risk of pollution incidents)		

SUR 2	Flood Risk		Available Credits	Target Credits	Score
			2	2	1.10

Criteria	Available credits	Mandatory requirements
EITHER		
Two credits are available for developments situated in Zone 1 – low annual probability of flooding (as defined in PPS25 Development and Flood Risk) and where the site-specific Flood Risk Assessment (FRA) indicates that there is low risk of flooding from all sources.	2	
OR		
One credit is available for developments situated in Zones 2 and 3a – medium and high annual probability of flooding where the finished ground floor level of all habitable parts of dwellings and access routes to the ground level and the site, are placed at least 600 mm above the design flood level of the flood zone.	1	

3.5 Category 5: Waste

WAS 1	Household Waste Storage and Recycling facilities		Available Credits	Target Credits	Score
			4	4	3.20

Criteria	Available credits	Mandatory requirements
Storage of household waste	0	All Levels
An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:		
The minimum volume in BS 5906 based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom.		
The total volume of the external waste containers provided by the Local Authority.		
Storage space must provide inclusive access and usability. Containers must not be stacked.		
Storage of recyclable household waste	2	
Dedicated internal storage for recyclable household waste can be credited where there is no (or insufficient) dedicated external storage capacity for recyclable material, no Local Authority collection scheme and where the following criteria are met:		
At least three internal storage bins:		
all located in an adequate internal space		

with a minimum total capacity of 60 litres.		
Storage of recyclable household waste	4	
A combination of internal storage capacity provided in an adequate internal space, with either:		
a Local Authority collection scheme, or		
no Local Authority collection scheme but adequate external storage capacity.		

WAS 2	Construction Site Waste Management		Available Credits	Target Credits	Score
			3	2	1.60

Criteria	Available credits	Mandatory requirements
Minimising Construction Waste	1	
Where there is a compliant Site Waste Management Plan (SWMP) that contains:		
a. Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice		
b. Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste.		
c. Procedures for minimising hazardous waste		

d. Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)		
Diverting Waste from Landfill		
Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either;		
a. Re-use on site (in situ or for new applications)		
b. Re-use on other sites		
c. Salvage/reclaim for re-use		
d. Return to the supplier via a 'take-back' scheme		
e. Recovery and recycling using an approved waste management contractor		
f. Compost		
according to the defined waste groups (in line with the waste streams generated by the scope of the works).		
AND		
One of the following has been achieved:		
Where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.	2	
OR		
Where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.	3	

WAS 3	Composting		Available Credits	Target Credits	Score
			1	1	0.80

Criteria	Available credits	Mandatory requirements
Individual home composting facilities.	1	
OR		
A local communal or community composting service, which the Local Authority runs or where there is a management plan in place.		
OR		
A Local Authority green/kitchen waste collection system (this can include an automated waste collection system).		
All facilities must also:		
be in a dedicated position		
provide inclusive access and usability (Checklist IDP)		
have a supporting information leaflet provided to each dwelling.		

3.6 Category 6: Pollution

POL 1	Global Warming Potential (GWP) of insulants		Available Credits	Target Credits	Score
			1	1	0.70

Criteria	Available credits	Mandatory requirements
Credits are awarded where all insulating materials in the elements of the dwelling only use substances that have a GWP < 5 (in manufacture AND installation):	1	

POL 2	NOx emissions		Available Credits	Target Credits	Score
			3	3	2.10

Criteria	Available credits	Mandatory requirements
Dry NOX Level (mg/kWh)	Boiler Class (BS EN 297: 1994)	Credits
100	4	1
70	5	2
40	-	3
Default Cases		
Where all space heating and hot water energy requirements are fully met by systems which do not produce NOX emissions.		3

3.7 Category 7: Health

HEA 1	Daylighting		Available Credits	Target Credits	Score
			3	3	3.50

Criteria	Available credits	Mandatory requirements
Kitchens must achieve a minimum Average Daylight Factor of at least 2%	1	
All living rooms, dining rooms and studies (including any room designated as a home office under Ene 9 – Home Office) must achieve a minimum Average Daylight Factor of at least 1.5%	1	
80% of the working plane in each kitchen, living room, dining room and study (including any room designated as a home office under Ene 9 – Home Office) must receive direct light from the sky	1	

HEA 2	Sound Insulation		Available Credits	Target Credits	Score
			4	4	4.67

Criteria	Available credits	Mandatory requirements
Where:		
• airborne sound insulation values are at least 3dB higher	1	
• impact sound insulation values are at least 3dB lower		
OR		
• airborne sound insulation values are at least 5dB higher	3	

• impact sound insulation values are at least 5dB lower		
OR		
• airborne sound insulation values are at least 8dB higher	4	
• impact sound insulation values are at least 8dB lower		
than the performance standards set out in the Building Regulations approved for England and Wales, Approved Document E (2003 Edition, with amendments 2004).		
Default cases		
Detached dwellings	4	
Attached dwellings where separating walls or floors occur only between non-habitable rooms	3	

HEA 3	Private space		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where outdoor space (private or semi-private) has been provided that is:	1	
• Of a minimum size that allows all occupants to use the space.		
• Provided with inclusive access and usability (Checklist IDP).		
• Accessible only to occupants of designated dwellings.		

HEA 4	Lifetime Homes		Available Credits	Target Credits	Score
			4	0	0.00

Criteria	Available credits	Mandatory requirements
Where all principles of Lifetime Homes, applicable to the dwelling being assessed, have been complied with.	4	Level 6

3.8 Category 8: Management

MAN 1	Home User Guide		Available Credits	Target Credits	Score
			3	3	3.33

Criteria	Available credits	Mandatory requirements
Provision of a Home User Guide, compiled in accordance with Checklist Man 1, Part 1, together with confirmation that the guide is available in alternative formats.	2	
Where the guide includes additional information relating to the site and its surroundings and is compiled in accordance with Checklist Man 1, Part 2.	1	

MAN 2	Considerate Constructors		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
Where there is a commitment to meet best practice under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme	1	
Where there is a commitment to go significantly beyond best practice under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme	2	

MAN 3	Construction Site Impacts		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
Where there are procedures that cover two or more of the following items:	1	
Monitor, report and set targets for CO2 production or energy use arising from site activities		
Monitor and report CO2 or energy use arising from commercial transport to and from site		
Monitor, report and set targets for water consumption from site activities		
Adopt best practice policies in respect of air (dust) pollution arising from site activities		
Adopt		
best practice policies in respect of water (ground and surface) pollution occurring on the site		
80% of site timber is reclaimed, re-used or responsibly sourced		
OR		
Where there are procedures that cover four or more of the items listed above.	2	

MAN 4	Security		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
An Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force is consulted at the design stage and their recommendations are incorporated into the design of the dwelling.	2	
AND		
Section 2 – Physical Security from 'Secured by Design – New Homes' is complied with (Secured by Design certification is not required).		

3.9 Category 9: Ecology

ECO 1	Ecological value of site		Available Credits	Target Credits	Score
			1	1	1.33

Criteria	Available credits	Mandatory requirements
Where the development site is confirmed as land of inherently low ecological value	1	
EITHER		
By meeting the criteria for low ecological value (using Checklist Eco 1 – Land of Low Ecological Value under Checklists and Tables below)		
OR		
By being confirmed by a suitably qualified ecologist		
OR		
Where an independent ecological report of the site, prepared by a suitably qualified ecologist, confirms that the construction zone is of low or insignificant ecological value		
AND		
Any land of ecological value outside the construction zone but within the development site will remain undisturbed by the construction works.		

ECO 2	Ecological enhancement		Available Credits	Target Credits	Score
			1	1	1.33

Criteria	Available credits	Mandatory requirements
Where a suitably qualified ecologist has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site.	1	
AND		
Where the developer adopts all key recommendations and 30% of additional recommendations.		

ECO 3	Protection of ecological features		Available Credits	Target Credits	Score
			1	0	0.00

Criteria	Available credits	Mandatory requirements
Where 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.	1	

ECO 4	Change of ecological value of site		Available Credits	Target Credits	Score
			4	2	2.67

Criteria	Available credits	Mandatory requirements

The ecological value before and after development is measured, and the overall change in species per hectare is:		
• Minor negative change: between –9 and less than or equal to –3	1	
• Neutral: greater than –3 and less than or equal to +3	2	
• Minor enhancement: greater than 3 and less than or equal to 9	3	
• Major enhancement: greater than +9	4	

ECO 5	Building footprint		Available Credits	Target Credits	Score
			2	1	1.33

Criteria	Available credits	Mandatory requirements
For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 2.5:1	1	
OR		
For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1		
For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1	2	
OR		
For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 4:1		

Appendix A – Code for Sustainable Homes Summary

Code For Sustainable Homes 2010 Pre Assessment Estimator						
Issue		Weight	Available Credits	Target Credits	Score	Mandatory elements
Energy						
ENE 1	Dwelling Emission Rate	1.17%	10	4	4.67	YES
ENE 2	Fabric energy efficiency	1.17%	9	5	5.83	YES
ENE 3	Energy display devices	1.17%	2	2	2.33	No
ENE 4	Drying space	1.17%	1	1	1.17	No
ENE 5	Energy Labelled white goods	1.17%	2	2	2.33	No
ENE 6	External Lighting	1.17%	2	2	2.33	No
ENE 7	Zero or Low Carbon Technology	1.17%	2	0	0.00	No
ENE 8	Cycle Storage	1.17%	2	2	2.33	No
ENE 9	Home Office	1.17%	1	1	1.17	No
Total Number of Energy Credits Achieved			31	19	22.17	
Water						
WAT 1	Indoor water use	1.50%	5	3	4.50	YES
WAT 2	External water use	1.50%	1	1	1.50	No
Total Number of Water Credits Achieved			6	4	6.00	
Materials						
MAT 1	Environmental Impact of Materials	0.30%	15	12	3.60	YES
MAT 2	Responsible sourcing of Materials: Basic Building Elements	0.30%	6	4	1.20	No
MAT 3	Responsible sourcing of Materials: Finishing Elements	0.30%	3	2	0.60	No
Total Number of Materials Credits Achieved			24	18	5.40	
Surface Water Run-off						
SUR 1	Reduction Of Surface Water Run-off	0.55%	2	2	1.10	YES
SUR 2	Flood Risk	0.55%	2	2	1.10	No
Total Number of Surface Water Run-Off Credits Achieved			4	4	2.20	
Waste						
WAS 1	Household Waste Storage and Recycling facilities	0.80%	4	4	3.20	YES

WAS 2	Construction Site Waste Management	0.80%	3	2	1.60	No
WAS 3	Composting	0.80%	1	1	0.80	No
Total Number of Waste Credits Achieved			8	7	5.60	

Pollution						
POL 1	Global Warming Potential (GWP) of insulants	0.70%	1	1	0.70	No
POL 2	NOx emissions	0.70%	3	3	2.10	No
Total Number of Pollution Credits Achieved			4	4	2.80	

Health and Well Being						
HEA 1	Daylighting	1.17%	3	3	3.50	No
HEA 2	Sound Insulation	1.17%	4	4	4.67	No
HEA 3	Private space	1.17%	1	1	1.17	No
HEA 4	Lifetime Homes	1.17%	4	0	0.00	YES
Total Number of Health and Well Being Credits Achieved			12	8	9.33	

Management						
MAN 1	Home User Guide	1.11%	3	3	3.33	No
MAN 2	Considerate Constructors	1.11%	2	2	2.22	No
MAN 3	Construction Site Impacts	1.11%	2	2	2.22	No
MAN 4	Security	1.11%	2	2	2.22	No
Total Number of Management Credits Achieved			9	9	10.00	

Land Use and Ecology						
ECO 1	Ecological value of site	1.33%	1	1	1.33	No
ECO 2	Ecological enhancement	1.33%	1	1	1.33	No
ECO 3	Protection of ecological features	1.33%	1	0	0.00	No
ECO 4	Change of ecological value of site	1.33%	4	2	2.67	No
ECO 5	Building footprint	1.33%	2	1	1.33	No
Total Number of Land Use and Ecology Credits Achieved			9	5	6.67	

Total in all Sections (max 100.00)	107	78	**70.17**		
Target for Code Level 4			68.00		