



EcoHomes 2006 – The environmental rating for homes

Radlett House, London

Issue 1

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EcoHomes 2006 – Report Template Version 1.3

Issue Status


Date	Issue	Reason	Rating	By
10/07/12	1.0	Design stage submission for QA	Very Good	JS

This document is designed to be printed double sided. Please try to do this, preferably using recycled paper.

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Developer and Assessor Details

Assessor	
Company name: A.J. Energy Consultants Ltd	
Assessment carried out by: John Simpson	
Signature: 	
Assessor report reference no: 1803.Design Stage EcoHomes v1.0	
Address: Westwood Park, London Road, Little Horkesley, Colchester CO6 4BS	
Tel: 01206 274034	
Fax: 01206 273400	
Email: john.simpson@ajenergy.com	
Developer	
Company name: N/A	
Contact person: Mr D. Tucker	
Address: Radlett House, Radlett Place, London NW8 6BT	
Tel: N/A	
Fax: N/A	
Email: davidtucker1@aol.com	
Development Details	
Site Name: Radlett House	
Site Reference Number: 1803	
Address: Radlett House, Radlett Place, London NW8 6BT	
Number of units assessed: 1	
Number of house/ flat types: 1	Site layout plan number: 1803.SK01
Other information: Construction of new basement extension to main house	
Contractor	
Company name: Yet to be appointed	
Address:	
Tel:	
Fax:	
Email:	
Architect	
Company name: BB Partnership Ltd	
Address: The Trafalgar, 17 Remington Street, London N1 8DH	
Tel: 020 7336 8555	
Fax: 020 7336 8777	
Email: architect@bbpartnership.co.uk	

Certificate Request Form

Assessment Report Details	
BRE reference number (provided on registration): BREEAM-0049-3940	
Date: 10/07/13	EcoHomes version (eg. 2006): 2006
Assessment Details Required to Appear on the Certificate.	
Name of Development: Radlett House	
Where on street i.e. house number (or plot numbers if no other details known):	
Street: Radlett Place	
Town and postcode (including at least the first set of post code numbers): London NW8 6BT	
Region: London	
Assessor organisation: AJ Energy Consultants Ltd	
Assessor name: John Simpson	
Developer: Mr D. Tucker	
Architect: BB Partnership Ltd	
Contractor: Yet to be appointed	
Other parties (please note that a maximum of 4 names can be put on the certificate including the name of the assessor):	
Certificates to be sent to:	
Assessor <input checked="" type="checkbox"/>	Client <input type="checkbox"/>
Number of certificates required (a photocopy of the original certificate will always be sent to the assessor):	1
If sent to the client, please also provide below details:	
Company name:	
Contact person:	
Address:	
Tel:	
Fax:	
Email:	

* Fields that have to be filled in for all cases.

Development Summary and Rating

The development comprises the construction of a new basement extension to the existing house. The scheme performs very well in the Health and Wellbeing category, due to good daylighting levels within the scheme, the provision of a private garden and the fact that it is a detached dwelling.

The scheme also performs very well in the Energy and Water categories, with a minimum of 60% of the available credits achieved in each category. This is due to the energy efficiency of the existing house and extension, and the existing high efficiency white goods, as well as appropriate low water use sanitary fittings to be installed within the extension.

The scheme also performs very well in the Management category, with a Home User Guide to be provided upon completion and the Contractor required to minimise construction site impacts.

There are limitations in available credits due to the existing services and systems installed within the existing house.

Ene 1 Dwelling Emission Rate

Credits Awarded										
0	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15						

Aim

To minimise emissions of carbon dioxide (CO₂) to the atmosphere arising from the operation of a home and its services.

Credit Requirements

Credits are awarded on the basis of SAP 2005 related average CO₂ emissions in accordance with the following criteria.

Credits	CO ₂ emissions/ DER (kg/m ² /yr)
1	≤ 40
2	≤ 35
3	≤ 32
4	≤ 30
5	≤ 28
6	≤ 26
7	≤ 24
8	≤ 22
9	≤ 20
10	≤ 18
11	≤ 15
12	≤ 10
13	≤ 5
14	≤ 0
15	≤ - 10

Note: Dwellings using gas will normally score better than those using other fossil fuels, as the CO₂ emissions from gas are the lowest of all fossil fuels.

Development Features Relating to Credit

Detailed SAP 2005 calculations have been undertaken by John Simpson, who is an accredited NHER SAP Assessor. The Dwelling Emission Rate (DER) worksheet has been provided for the dwelling, with all dwellings demonstrating Building Regulation compliance. There is no air conditioning to be installed within the dwelling.

Explanation of Assessment

There is only one dwelling and therefore the average CO₂ emissions calculation is not required. An emission of 21.96 kgCO₂/m²/yr has been calculated from the SAP. This equates to 8 credits from the Credit Requirement table.

The information has been provided by an accredited SAP Assessor, and all credit requirements have been achieved. A total of 8 credits have therefore been awarded. This could be improved by undertaking an air pressure test for the development and including this within the SAP calculation, or by increasing the insulation provision within the development.

The EcoHomes Specification contains details of the heating, hot water, ventilation and lighting specification for the scheme, against which the completed SAP calculations have been checked, with no discrepancies noted. Architectural plans and elevations have been provided, and checked against the completed SAP calculations with no discrepancies noted – the drawings provided are noted below.

This is the extension of an existing dwelling and therefore falls under Part L1B of the Building Regulations. As such, the Part L1A Compliance Checklist produced by the SAP calculation cannot be used to demonstrate compliance – the Part L Compliance document produced by AJ Energy Consultants therefore confirms the project compliance under Part L.

Information Provided by the Developer

1. SAP 2005 DER worksheet – *'1803.DER 2005 Worksheet.pdf'*
2. Part L Report, dated 08/07/12 – *'1803.Part L Report v1.0.pdf'*
3. Original house architectural plans – *'08010-13-B-G.pdf', '08010-13-B-1.pdf', and '08010-13-B-2.pdf'*
4. Basement architectural plans – *'EVJ_001.pdf', 'EVJ_010.pdf', 'EVJ_011.pdf' and 'EVJ_012.pdf'*
5. M&E specification – *'1803.EcoHomes Specification v1.0.pdf'*

Ene 2 Building Fabric

Credits Awarded

0	1	2
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Aim

To future proof the efficiency of dwellings over their whole life, and to encourage refurbished dwellings to improve their insulation standards through good fabric performance.

Credit Requirements

Credits are awarded (see table) on the basis of the average heat loss across the whole site.

Credits	Average heat loss parameter (HLP) across the whole site	
	New build	Refurbishment
1	≤ 1.3	≤ 2.2
2	≤ 1.1	≤ 1.75

Development Features Relating to Credit

Detailed SAP 2005 calculations have been undertaken by John Simpson, who is an accredited NHER SAP Assessor. The Dwelling Emission Rate (DER) worksheets have been provided for each dwelling.

Explanation of Assessment

The Heat Loss Parameter has been taken from the DER worksheets for the dwelling, with a value of 1.54 calculated. This is a refurbishment project, and therefore the full 2 credits are achieved at this stage.

Information Provided by the Developer

1. SAP 2005 DER Worksheet – ‘1803.DER 2005 Worksheet.pdf’

Ene 3 Drying Space

Credits Awarded

0	1
---	---

Aim

To minimise the amount of energy used to dry clothes.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	For providing space and posts, footings and fixings for drying clothes in a secure environment for each unit on the site. This may be external or internal.

Development Features Relating to Credit

External rotary dryer to be provided within the secure rear garden, to hold a minimum of 6m of line.

Explanation of Assessment

Clause 5.1 of the EcoHomes Specification states that an external drying line, with minimum length of 6m of line, is to be provided within the secure rear garden. The location of the external drying line is shown on AJ Energy's drawing SK01.

The fixings are able to hold a minimum of 6m of line – there are more than 3 bedrooms within the dwelling, and therefore this meets the length requirements of the credit.

This provision meets the requirements of the credit, and therefore this credit is awarded.

Information Provided by the Developer

1. Clause 5.1 of the EcoHomes Specification dated 08/07/13 – '1803.EcoHomes Specification v1.0.pdf'
2. AJ Energy drawing '1803.SK01.pdf'

Ene 4 EcoLabelled Goods

Credits Awarded

0	1	2
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Aim

To encourage the provision or purchase of energy efficient white goods, thus reducing the CO₂ emissions from the dwelling.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	Where the following appliances have an A+ rating under the EU Energy Efficiency Labelling Scheme: Fridges, freezers and fridge/freezers.
1	Where the following appliances have an A rating under the EU Energy Efficiency Labelling Scheme: Washing machines and dishwashers, And the following have an B rating: Washer dryers and tumble dryers.
OR	
1	if no white goods are provided , but information on purchasing energy efficient white goods is provided.

Development Features Relating to Credit

Table 1 – Listing of all white goods provided

	Make and model	Energy rating
Fridge	Not provided	-
Fridge/freezer	Miele KFN376821D	A++
Freezer	Not provided	-
Dish washer	Miele G5470 SCVi	A++
Washing machine	Miele W2839 i WPM	A+
Tumble dryer	Miele T4839 Ci	B
Washer dryer	Not provided	-

Explanation of Assessment

Information regarding the EU Energy Efficiency Labelling Scheme and the purchasing of energy efficient appliances will be given to the occupier, and a copy of this advice has been provided by the client. The EcoHomes Specification confirms in clause 5.2 that this information would be provided to all dwellings, with a copy of the information sheet to be provided enclosed. This has been reviewed and meets the credit requirements.

White goods are already installed within the house, and these have been reviewed by the assessor during a site visit on the 25th June 2013. The exact models have been identified during this survey, and are noted in Table 1. The fridge/freezer achieves an A++ rating, the dishwasher an A++ rating, the washing machine an A+ rating and the tumble dryer a B rating. No washer dryers are installed.

In addition, clause 5.2 of the EcoHomes Specification confirms that no new white goods are to be installed as part of the proposed works. Therefore the existing white goods are used to confirm compliance with the credit requirements.

This meets the full credit requirements, and therefore the full 2 credits are awarded.

Information Provided by the Developer

1. EU Energy Efficiency Labelling Scheme leaflet - '*Green labels shopping guide.pdf*'
2. EcoHomes Specification, clause 5.2 – '*1803.EcoHomes Specification v1.0.pdf*'
3. Details from assessor's site survey on 25th June 2013 – '*1803.EcoHomes Survey v1.0.pdf*'
4. Product information for fridge freezer Miele KFN376821D – '*1803.Fridge freezer.pdf*'
5. Product information for dishwasher Miele G5470 SCVi – '*1803.Dishwasher.pdf*'
6. Product information for washing machine Miele W2839 i WPM – '*1803.Washing Machine.pdf*'
7. Product information for tumble dryer Miele T4839 Ci – '*1803.Tumble dryer.pdf*'

Ene 5 Internal Lighting

Credits Awarded		
0	1	2

Aim

To encourage the provision of energy efficient internal lighting, thus reducing the CO₂ emissions from the dwelling.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	40% of fixed internal light fittings are dedicated energy efficient fittings
2	75% of fixed internal light fittings are dedicated energy efficient fittings

Development Features Relating to Credit

Credit not being pursued.

Explanation of Assessment

Credit not being pursued.

Information Provided by the Developer

Credit not being pursued.

Ene 6 External Lighting

Credits Awarded

0

1

2

Aim

The purpose of this credit is to encourage the provision of energy efficient external lighting.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	Space lighting <ul style="list-style-type: none"> Where all space lighting is specifically designed to accommodate only compact fluorescent lamps (CFL) luminaires or strip lights.
1	Security lighting <p>Where all security light fittings are designed for energy efficiency and are adequately controlled such that:</p> <ul style="list-style-type: none"> all burglar security lights have: <ul style="list-style-type: none"> a maximum wattage of 150W, AND are fitted with: <ul style="list-style-type: none"> movement detecting shut-off devices (PIR) AND daylight cut-off devices all other security lighting is: <ul style="list-style-type: none"> specially designed to only accommodate CFL luminaires or strip lights AND be fitted with dawn-to-dusk sensors OR timers.

Development Features Relating to Credit

All external lighting is to be provided by energy efficient fittings.

There is no security lighting to be provided for the development.

Explanation of Assessment

Clause 5.3 of the EcoHomes Specification for the scheme confirms that all external light fittings to be installed are to be installed with low energy lamps with a luminous efficacy greater than 40 lumens per circuit-Watt.

As noted within the latest credit guidance, it is no longer a requirement to have dedicated energy efficient fittings, and therefore the proposed energy efficient lamps meet the full credit requirements. Therefore the first credit can be awarded.

There is no security lighting to be provided for the development. As such, the second credit can be awarded by default in accordance with the credit guidance, and therefore both credits are awarded at this stage.

Information Provided by the Developer

1. EcoHomes Specification, clause 5.3 – ‘1803.EcoHomes Specification v1.0.pdf’

Tra 1 Public Transport

Credits Awarded

0	1	2
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Aim

To encourage developers to provide a choice of transport modes for residents, with the aim of reducing the level of car use.

Credit Requirements

Urban and suburban locations

Credits	
1	<p>If 80% of the development is within 1000m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:</p> <ul style="list-style-type: none"> 07:30 – 10:00 and 17:00 – 19:00 Monday to Friday – half hourly All other times between 07:00 and 22:00 Monday to Saturday - hourly
2	<p>If 80% of the development is within 500m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:</p> <ul style="list-style-type: none"> 07:30 – 10:00 and 17:00 – 19:00 Monday to Friday – every 15 min All other times between 07:00 and 22:00 Monday to Saturday – half hourly

Rural locations

Credits	
1	<p>If 80% of the development is within 1000m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:</p> <ul style="list-style-type: none"> 07:30 and 22:00 Monday to Saturday - hourly
2	<p>If 80% of the development is within 500m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:</p> <ul style="list-style-type: none"> 07:30 and 22:00 Monday to Saturday - hourly <p>OR</p> <ul style="list-style-type: none"> A community bus service is in place which operates at the request of the residents.

Development Features Relating to Credit

The development is defined as being within an urban area. There are safe pedestrian routes to a St John's Wood tube station.

Explanation of Assessment

The site is within 600m of St John's Wood tube station, on the Jubilee underground line. This tube line operates a minimum frequency of service of 15 services per hour during the times noted in the credit requirements above. The tube line runs to a number of major transport nodes and shopping areas, and is therefore considered to be fully compliant.

Therefore 1 credit is awarded at this stage as the scheme is more than 500m from the tube station.

Information Provided by the Developer

1. Site location plan showing safe pedestrian route to St John's Wood tube station – '1803.Tra 1 Map.pdf'
2. Tube timetable for Jubilee Lines – 'Jubilee Line Timetable.pdf'

Tra 2 Cycle Storage

Credits Awarded		
0	1	2

Aim

To encourage the wider use of bicycles as transport, and thus reduce the need for short car journeys, by providing adequate and secure cycle storage facilities.

Credit Requirements

Dwellings in the development must meet the following criteria.

Credits	
1	<p>If 50% of dwellings have provision for the adequate storage of cycles. The provision is determined by the number of bedrooms within a dwelling:</p> <ul style="list-style-type: none"> • 1 and 2 bedroom flat/house – storage for 1 cycle • 3 bedroom flats/houses – storage for 2 cycles • 4 bedrooms and above – storage for 4 cycles. <p>The storage provision should be safe and weather-proof.</p>
2	<p>If 95% of dwellings have provision for the adequate storage of cycles, and the criteria above are met.</p>

Development Features Relating to Credit

Credit not being pursued.

Explanation of Assessment

Credit not being pursued.

Information Provided by the Developer

Credit not being pursued.

Tra 3 Local Amenities

Credits Awarded

0	1	2	3
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Aim

To encourage developers to plan new housing developments that are close to, or include, local shops and amenities. This will help to reduce the reliance of local residents on their cars.

Credit Requirements

80% of the development is to be within walking distance of local amenities, and credits are awarded on the following criteria.

Credits	
1	For proximity to a food shop and a post box within 500m.
1	For proximity to 5 of the following amenities within 1000m: postal facility, food shop*, bank/ cash point, pharmacy, primary school, medical centre, leisure centre, community centre, place of worship, public house, children's play area, outdoor open access public area
1	For providing safe pedestrian routes to the local amenities where one/ both of above criteria has been achieved.

* Note: a food shop only qualifies for this credit, where it is greater than 500m from the development and has not been used to justify for the 1st credit.

Development Features Relating to Credit

The development is defined as being within an urban area. There are safe pedestrian routes to a wide range of amenities.

Table 1 – Distances to amenities

Amenity	Distance to amenity (m)	% of development within range of amenity	Requirement (m)
Food shop		0%	500
Post box	110	100%	500
Post office			
Bank/ cash machine	600m	100%	1000
Pharmacy			
Primary school	300m	100%	1000
Medical centre (GP practice)	810m	100%	1000

Leisure centre			
Community centre			
Place of worship			
Public house	330	100%	1000
Children's play area			
Outdoor open access public area	880	100%	1000

Explanation of Assessment

Details of local amenities have been provided, with a post box within 500m of the development, and a cash machine, outdoor open access public area, primary school, public house and medical centre within 1000m of the development. Details of safe pedestrian routes have also been provided to each amenity.

This meets the credit requirements, and therefore 2 credits are awarded at this stage. The first credit cannot be awarded as there is no food shop within 500m of the development.

Information Provided by the Developer

1. Site location plan showing location of amenities and safe pedestrian routes – '1803.Tra 3 Map.pdf'

Tra 4 Home Office

Credits Awarded

0	1
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Aim

To reduce the need to commute to work by providing residents with the necessary space and services to be able to work from home.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	For the provision of a space which allows the occupants to set up a home office in a quiet room.

Development Features Relating to Credit

A dedicated home office is provided within a second floor room within the existing house.

Explanation of Assessment

The assessor visited site on the 25th June 2013, and identified that a second floor room is being used as a home office, with 2 double sockets and 2 phone points provided within the room.

Clause 5.4 of the EcoHomes Specification states that the existing home office is to be retained in full. Broadband is provided to the dwelling with the necessary infrastructure for the service in place and the connection to go all the way up to the individual dwelling. Two items can be plugged in at the same time (ie phone and internet) through a single broadband point, with both being able to operate at the same time.

The room is provided with an openable window to provide natural daylight and adequate ventilation. There is a minimum 1.8m length of wall to allow a desk and filing cabinet to be installed within the room. The room is larger enough to still contain bedroom furniture as well as the home office furniture.

The existing measures meet the credit requirements, and therefore this credit is awarded at this stage.

Information Provided by the Developer

1. EcoHomes Specification, clause 5.4 – ‘1803.EcoHomes Specification v1.0.pdf’
2. Details from assessor’s site survey on 25th June 2013 – ‘1803.EcoHomes Survey v1.0.pdf’

Credits Awarded

Aim

Credit Requirements

Credits	
1	<p>Specifying insulating materials, that avoid the use of ozone depleting substances that have a global warming potential (GWP) of less than 5 (and a ODP of zero), in either manufacture or composition, for the following elements:</p> <ul style="list-style-type: none"> • roof (including loft access) • wall – internal and external (including doors, lintels and all acoustic insulation) • floor (including foundations). • Hot water cylinder, pipe insulation and other thermal store

Table 1 – Insulation types

17

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Pol 2 NO_x Emissions**Credits Awarded**

0	1	2	3
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Aim

To reduce the nitrous oxides (NO_x) emitted into the atmosphere.

Credit Requirements

Credits are awarded on the basis of NO_x emission arising from the operation of all space heating and hot water systems across the development in accordance with the following criteria.

Credits	Dry NO _x level (mg/kWh)	Boiler class (BS EN 297: 1994)
1	≤100	4
2	≤70	5
3	≤40	above

Development Features Relating to Credit

There are 2 existing Keston C55 boilers installed within the existing house, with additional new boiler plant proposed for the extension.

Explanation of Assessment

The assessor visited site on the 25th June 2013, and identified that 2 existing Keston C55 boilers are installed within an external plant room. Manufacturer's data has been provided on the existing boilers confirming that the dry NO_x levels are 38.3mg/kWh.

Clause 5.5 of the EcoHomes Specification states that any new boilers are to have dry NO_x emissions of less than 40 mg/kWh at 0% excess oxygen. This meets the full credit requirements for the dwelling, with the full 3 credits awarded at this stage.

Information Provided by the Developer

1. EcoHomes Specification, clause 5.5 – '1803.EcoHomes Specification v1.0.pdf'

2. Details from assessor's site survey on 25th June 2013 – '1803.EcoHomes Survey v1.0.pdf'

3. Manufacturer's details on C55 boilers – 'Heat 55 kW – Keston boilers.pdf'

Pol 3 Reduction of Surface Runoff

Credits Awarded		
0	1	2

Aim

To reduce and delay water runoff from the hard surfaces of a housing development to public sewers and watercourses, thus reducing the risk of localised flooding, pollution and other environmental damage.

Credit Requirements

The development must meet the following criteria.

Credits	
	Where rainwater holding facilities and/ or sustainable drainage techniques are used to provide attenuation of water run-off to either natural watercourses and/or municipal drainage systems, by 50%* in areas of low probability of flooding, 75%* in areas of medium flood risk and 100%* in areas of high flood risk, at peak times from:
1	<ul style="list-style-type: none"> • Hard Surfaces
1	<ul style="list-style-type: none"> • Roofs

* Where a statutory body requires a greater attenuation then the higher requirement should be met in order to achieve these credits.

Development Features Relating to Credit

This credit is not being pursued.

Explanation of Assessment

This credit is not being pursued.

Information Provided by the Developer

This credit is not being pursued.

Pol 4 Renewable and Low Emission Energy Source

Credits Awarded			
0	1	2	3

Aim

To reduce atmospheric pollution by encouraging locally generated renewable and low emission energy to supply a significant proportion of the development's energy demand.

Credit Requirements

The development should meet the following criteria.

Credits	
1	Where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented.
2	Where evidence provided demonstrates that the first credit has been achieved and 10% of total energy demand for the development is supplied from local renewable, or low emission energy, sources*
3	Where evidence provided demonstrates that the first credit has been achieved and 15% of total energy demand for the development is supplied from local renewable, or low emission energy, sources*.

Development Features Relating to Credit

This credit is not being pursued.

Explanation of Assessment

This credit is not being pursued.

Information Provided by the Developer

This credit is not being pursued.

Pol 5 Flood Risk

Credits Awarded		
0	1	2

Aim

To encourage developments in areas with low risk of flooding or if developments are to be situated in areas with a medium risk of flooding, that appropriate measures are taken to reduce the impact in an eventual case of flooding.

Credit Requirements

The development must meet the following criteria.

Credits	
---------	--

2	Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. OR
1	Where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location.

Development Features Relating to Credit

The Environmental Agency Flood Map for the area has been provided, and this shows that there is a low annual probability of flooding on the site, with the site in Zone 1.

Explanation of Assessment

The flood zone has been provided by the Environmental Agency, and this is noted as Zone 1 with a low annual probability of flooding on the site. This meets the credit requirements, and therefore 2 credits are awarded at this stage.

Information Provided by the Developer

1. Environmental Agency Flood Map – '*1803.Flood Map.pdf*'

Mat 1 Environmental Impact of Materials

Credits Awarded

0	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16					

Aim

To encourage the use of materials that have less impact on the environment, taking account of the full life-cycle.

Credit Requirements

Credits are achieved by obtaining an 'A' rating from the Green Guide for Housing Specification, for 80% by area of the element, for each of the following elements.

Credits	Element
3	Roof
3	External walls
3	Internal walls – party walls and internal partitions
3	Floors – upper and ground floor
2	Windows
1	External surfacing – driveways, paths and patios
1	Boundary protection

Development Features Relating to Credit

Table 1 – Element specification

Element	Type	Specification	% elemental area	Green Guide rating
Roof (3 credits)	1	Existing roof	55.37	R
	2	New flat roof	4.79	A
	3	New green roof	39.84	A
	4			
External walls (3 credits)	1	Existing brick external walls	55.01	R
	2	New basement walls	44.99	C
	3			
	4			
Internal walls (3 credits)	1	Existing internal walls	81.00	R
	2	New internal walls	19.00	B
	3			
	4			

Floor – upper and ground (3 credits)	1	Existing floor construction	65.23	R
	2	New basement floor	34.77	C
	3			
	4			
Windows (2 credits)	1	Existing windows	80.78	R
	2	New windows	19.22	C
	3			
	4			
External Surfacing (1 credit)	1	No changes to existing surfaces	100.00	R
	2			
Boundary Protection (1 credit)	1	No changes to boundary protection	100.00	R
	2			

Explanation of Assessment

The building specification has been provided on BB Partnership drawing EVJ_010, and the Green Guide to Housing specification used to determine the ratings for each element. Over 80% of the internal walls, roof area and windows achieve an A or R rating. There are also no changes to the external surfacing and boundary protection within the scheme, and therefore achieve a R rating. Therefore a total score of 10 credits is awarded at this stage.

Information Provided by the Developer

1. BB Partnership Specification – *EVJ_010*
2. Mat 1 Calculator tool – *1803.Mat 1 Spreadsheet v1.0.pdf*

Mat 2 Responsible Sourcing of Materials: Basic Building Elements

Credits Awarded

0	1	2	3	4	5	6
---	---	---	---	---	---	---

Aim

To recognise and encourage the specification of timber from responsible forest sources for secondary building and finishing elements.

Credit Requirements

All dwellings in the development must meet one of the following criteria.

Credits

1-6	Where materials used in key building elements are responsibly sourced.
-----	--

Development Features Relating to Credit

This credit is not being pursued.

Explanation of Assessment

This credit is not being pursued.

Information Provided by the Developer

This credit is not being pursued.

Mat 3 Responsible Sourcing of Materials: Finishing Elements

Credits Awarded			
0	1	2	3

Aim

To recognise and encourage the specification of timber from responsible forest sources for secondary building and finishing elements.

Credit Requirements

All dwellings in the development must meet one of the following criteria.

Credits	
1-3	Where materials used in secondary building and finishing elements are responsibly sourced.

Development Features Relating to Credit

This credit is not being pursued.

Explanation of Assessment

This credit is not being pursued.

Information Provided by the Developer

This credit is not being pursued.

Mat 4 Recycling Facilities

Credits Awarded

0	1	2	3	4	5	6
---	---	---	---	---	---	---

Aim

To encourage developers to provide homeowners with the opportunity and facilities to recycle household waste.

Credit Requirements

All dwellings in the development must meet the following criteria for the storage of recyclable household waste.

Credits	
2	<p>Providing one of the following recycling facilities.</p> <ul style="list-style-type: none"> Three internal storage bins with: <ul style="list-style-type: none"> minimum total capacity of 60 litres no individual bin smaller than 15 litres all bins in a dedicated position. <p>OR</p> <ul style="list-style-type: none"> Three external bins with: <ul style="list-style-type: none"> minimum total capacity of 180 litres* no individual bin smaller than 40 litres all bins in a dedicated position (within 2m of the external door). <p>OR</p> <ul style="list-style-type: none"> A local authority collection scheme for recyclable material*.
6	<p>Provide full recycling facilities of:</p> <ul style="list-style-type: none"> Three internal storage bins with: <ul style="list-style-type: none"> minimum total capacity of 30 litres no individual bin smaller than 7 litres all bins in a dedicated position. <p>AND EITHER</p> <ul style="list-style-type: none"> Three external bins with: <ul style="list-style-type: none"> minimum total capacity of 180 litres* no individual bin smaller than 40 litres all bins in a dedicated position (within 10m of the external door). <p>OR</p> <ul style="list-style-type: none"> A local authority collection scheme for recyclable material*.

* Special requirements apply for block of flats. See *Guidance* for flats.

Development Features Relating to Credit

There is a local authority collection scheme, with kerbside collection. A single recycling bin is provided for the existing house.

Explanation of Assessment

The local authority collection has more than three types of recyclable waste, and therefore the requirement for 2 credits is achieved. A wheelie bin is provided for mixed recycling, which includes plastic, glass, tins and cartons, paper and card. Collection is made every week for both general waste and all forms of recycling.

It is noted on AJ Energy drawing SK01 that 1 number fixed internal bin is to be provided within the kitchen, with a total minimum capacity of 30 litres. The recycling is sorted post-collection, with one external recycling wheelie bin. This meets the full credit requirements and therefore the full 4 credits are awarded at this stage.

Information Provided by the Developer

1. Information on local authority recycling collection – ‘Recycling collection – Camden Council.pdf’
2. 1. Clause 5.1 of the EcoHomes Specification dated 08/07/13 – ‘1803.EcoHomes Specification v1.0.pdf’
3. 2. AJ Energy drawing ‘1803.SK01.pdf’

Wat 1 Internal Potable Water Use

Credits Awarded

0	1	2	3	4	5
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Aim

To reduce consumption of water in the home.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	Water consumption (m ³ /bedspace/year)
1	< 52
2	≤ 47
3	≤ 42
4	≤ 37
5	≤ 32

Development Features Relating to Credit

The following fittings are noted within Clause 5.6 of AJE EcoHomes Specification for the new wash hand basin and WC within the extension:

- Wash hand basins to be provided with flow regulators;
- 4/2 litre dual flush WCs.

Explanation of Assessment

The calculation within Table 1 has been used to calculate the water usage per bed-space per year for the development, and this has been calculated as 40.67 m³/bed-space/year. There is no rainwater collection for internal use within the development, or any greywater recycling systems.

The calculation uses both the existing fittings within the house that are being retained in full as well as the proposed fittings within the extension. The existing fittings were noted during the survey, with the models of the dishwasher and washing machine noted and actual water consumption data supplied by the manufacturers.

The exact model of dishwasher and washing machine has been specified, and the values checked against the appliance specification with no discrepancies noted – the exact water usage for each appliance has therefore been used in the calculation, with 42 litres for the washing machine and 13 litres for the dishwasher.

The proposed fittings for the extension are noted within Clause 5.6 of the EcoHomes Specification.

The water usage of 40.67 m³/bed-space/year equates to 3 credits, and therefore 3 credits are awarded at this stage.

Information Provided by the Developer

1. EcoHomes Specification, clause 5.6 – ‘1803.EcoHomes Specification v1.0.pdf’
2. Details from assessor’s site survey on 25th June 2013 – ‘1803.EcoHomes Survey v1.0.pdf’
3. Manufacturer’s details on washing machine – ‘1803.Washing Machine Water.pdf’
4. Manufacturer’s details on dishwasher – ‘1803.Dishwasher Water.pdf’

Wat 2 External Potable Water Use

Credits Available

0

1

Aim

To encourage the recycling of rainwater, and reduce the amount of water taken from the mains, for use in landscape/garden watering.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	For specifying a system that will collect rain water for use in external irrigation/ watering , e.g. water butts, central rainwater collection systems, etc.

Development Features Relating to Credit

An external rainwater butt is proposed within the rear garden. The water butt has a volume of 200 litres, would be provided with a lid and tap for drawing-off water. The rainwater butt would be connected to the rainwater down pipes with automatic overflow into the conventional rainwater drainage system, and can be detached from the rainwater down pipe with a removable top for cleaning purposes.

Explanation of Assessment

The rainwater storage provision meets the credit requirements for more than three bedrooms. The specification of the rainwater butt within Clause 5.7 of the EcoHomes Specification meets the credit requirements and therefore this credit is awarded.

Information Provided by the Developer

1. Clause 5.7 of the EcoHomes Specification dated 08/07/13 – ‘1803.EcoHomes Specification v1.0.pdf’
2. AJ Energy drawing ‘1803.SK01.pdf’

Eco 1 Ecological Value of Site

Credits Awarded

0

1

Aim

To encourage, wherever possible, development on land that already has a limited value to wildlife and discourage the development of ecologically valuable sites.

Credit Requirements

The development must meet the following criteria.

Credits	
1	<p>For developing land of inherently low ecological value and demonstrating this by either:</p> <ul style="list-style-type: none">meeting the defined criteria for low ecological value (using the EcoHomes checklist) <p>OR</p> <ul style="list-style-type: none">providing an ecological report of the site prepared by a Suitably Qualified Ecologist, which should state that the land being developed:<ul style="list-style-type: none">is of low or insignificant ecological value <p>OR</p> <ul style="list-style-type: none">will remain undisturbed by the construction works in areas of ecological value.

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Eco 2 Ecological Enhancement

Credits Awarded

0

1

Aim

To enhance the ecological value of a site.

Credit Requirements

The development must meet the following criteria.

Credits	
1	Where ecological features have been designed-in for positive enhancement of the site ecology in accordance with advice from a 'Suitably Qualified Ecologist'.

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Eco 3 Protection of Ecological Features

Credits Awarded

0	1
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Aim

To protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

Credit Requirements

The development must meet the following criteria.

Credits	
1	All existing features of ecological value are maintained and adequately protected from damage during site preparation and construction works.

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Eco 4 Change of Ecological Value of Site

Credits Awarded

0	1	2	3	4
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Aim

The aim of this credit is to reward steps taken to minimise reductions in ecological value and to encourage an improvement.

Credit Requirements

The development must meet the following criteria.

Credits	
1	For a change of ecological value of between –9 and –3 natural species.
2	For a change of ecological value of between –3 and +3 natural species.
3	For a change of ecological value of between +3 and +9 natural species.
4	For a change of ecological value of greater than +9 natural species.

Development Features Relating to Credit

There are no existing ecological features on the site. The proposed landscaping comprises hard landscaping, grassed areas and garden planting only.

Explanation of Assessment

The assessor has calculated the change of ecological value of the site using the existing and proposed information provided. This has calculated that the ecological value pre-development is 0, and the ecological post-development is also 0. This is a 0 change of ecological value, and therefore 2 credits have been awarded at this stage.

Information Provided by the Developer

1. BB Partnership proposed ground floor plan – EVJ_011
2. BB Partnership existing ground floor plan – EVJ_009
3. Completed EcoHomes Calculator – '1803.Eco4 Calculator.pdf'

Eco 5 Building Footprint

Credits Awarded

0	1	2
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Aim

To promote the most efficient use of a building's footprint by ensuring land and material use is maximised for every dwelling on a development.

Credit Requirements

Credits	
1	Where the total combined Floor Area: Footprint ratio for all houses on the site is greater than 2.5:1. AND Where the total combined Floor Area: Footprint ratio for all flats on the site is greater than 3.5:1.
2	Where the total combined Floor Area: Footprint ratio for all dwellings on the site is greater than 3.5:1.

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Hea 1 Daylighting

Credits Awarded

0	1	2	3
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Aim

To improve the quality of life in homes through good daylighting, and to reduce the need for energy to light a home.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	Kitchen to achieve a minimum average daylight factor of at least 2%*.
1	Living rooms, dining rooms and studies to achieve a minimum average daylight factor of at least 1.5%*.
1	Kitchens, living rooms, dining rooms and studies to be designed to have a view of the sky*. * calculated according to the method set out below. Targets based on British Standard BS 8206: Part 2 recommendations.

Development Features Relating to Credit

Daylight calculations have been undertaken for the living rooms, dining room and home office, with view of the sky calculations undertaken for each room.

Explanation of Assessment

There are three living rooms, a dining room and a kitchen at ground floor, with the home office at second floor level. The calculations undertaken for the scheme demonstrate that the daylighting levels for the living rooms, dining room and home office are more than 1.5% and therefore achieving the second credit requirements. The daylight level for the kitchen is more than 2% and therefore the first credit is achieved.

View of the sky calculations have been undertaken for the scheme, but the credit requirements are not achieved.

Reasonable checks have been undertaken on at least two calculations, with no discrepancies noted. Therefore 2 credits can be awarded for the scheme.

Information Provided by the Developer

1. Daylighting Calculations by AJ Energy – ‘1803.Daylighting Report v1.0’

Hea 2 Sound Insulation

Credits Awarded

0	1	2	3	4
---	---	---	---	---

Aim

To ensure the provision of sound insulation and reduce the likelihood of noise complaints.

Credit Requirements

Credits	
1	<ul style="list-style-type: none"> A commitment to carry out a programme of pre-completion testing based on the frequency listed in <i>Table 2, column A (Supplementary Guidance A: Frequency of Testing Required)</i> for every group or sub-group of houses or flats* <p>AND</p> <ul style="list-style-type: none"> A commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition).
2	<ul style="list-style-type: none"> A commitment to carry out a programme of pre-completion testing based on the frequency listed in <i>Table 2, column B (Supplementary Guidance A: Frequency of Testing Required)</i> for every group or sub-group of houses or flats* <p>AND</p> <ul style="list-style-type: none"> A commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition)
3	<ul style="list-style-type: none"> A commitment to carry out a programme of pre-completion testing based on the frequency listed in <i>Table 2, column B (Supplementary Guidance A: Frequency of Testing Required)</i> for every group or sub-group of houses or flats* <p>AND</p> <ul style="list-style-type: none"> A commitment to achieve airborne sound insulation values that are at least 3dB higher, and impact sound insulation values that are at least 3dB lower, than the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition).
4	<ul style="list-style-type: none"> A commitment to carry out a programme of pre-completion testing based on the frequency listed in <i>Table 2, column B (Supplementary Guidance A: Frequency of Testing Required)</i> for every group or sub-group of houses or flats* <p>AND</p> <ul style="list-style-type: none"> A commitment to achieve airborne sound insulation values that are at least 5dB higher, and impact sound insulation values that are at least 5dB lower, than the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition).

* For the definition of groups and sub-groups, see Section 1 in Approved Document E (2003 Edition) of the Building Regulations.

Development Features Relating to Credit

The dwelling is a detached house.

Explanation of Assessment

The dwelling is a detached house, and therefore as noted under the Credit Guidance all 4 credits are awarded by default.

Information Provided by the Developer

1. BB Partnership proposed ground floor plan – EVJ_011

Hea 3 Private Space

Credits Awarded	
0	1

Aim

To improve the occupiers' quality of life by providing a private outdoor space.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	For the provision of outside space that is at least partially private.

Development Features Relating to Credit

The dwelling has a private garden.

Explanation of Assessment

The dwelling has a private garden that is larger than the 15m² required for the 10 bedroom dwelling. This is a private space that allows easy access by all occupants, and is only accessible to occupants of the dwelling.

The private garden is shown on BB Partnership drawing EVJ_001.

Information Provided by the Developer

1. BB Partnership site plan – EVJ_001.

Man 1 Home User Guide

Credits Awarded

0	1	2	3
---	---	---	---

Aim

To recognise and encourage the provision of guidance to enable home owners/occupiers to understand and operate their home efficiently, in line with current good practice and in the manner envisaged by the developer, and to make best use of local facilities

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
2	Where evidence can be provided to demonstrate that there is provision, in each home, of a simple guide that covers information relevant to the 'non-technical' tenant/occupant on the operation and environmental performance of their home.
1	Where evidence can be provided to demonstrate that the guide also covers information relating to the site and its surroundings.

Development Features Relating to Credit

The EcoHomes Specification contains a detailed contents page for the Home User Guide, as it is too early in the project to have the final Guide produced. The contents page included both information on the operation and environmental performance of the home, as well as information relating to the site and its surroundings.

Explanation of Assessment

The contents page provided meets the requirements of the EcoHomes credit, and is compliant with the credit guidance notes. As the Home User Guide covers both the operation and environmental of the home, and the site and its surroundings, all three credits have been awarded at this stage. Clause 5.8 of the EcoHomes Specification confirms that the Home User Guide has to be provided for all dwellings.

Information Provided by the Developer

1. Clause 5.8 of the AJE EcoHomes Specification – '*1803.EcoHomes Specification v1.0.pdf*'

Man 2 Considerate Constructors

Credits Awarded

0	1	2
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Aim

To recognise and encourage construction sites managed in an environmentally and socially considerate and accountable manner.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	Where evidence can be provided to demonstrate that there is a commitment to comply with best practice site management principles.
2	Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Man 3 Construction Site Impacts

Credits Awarded

0	1	2	3
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Aim

To recognise and encourage construction sites managed in an environmentally sound manner in terms of resource use, energy consumption, waste management and pollution.

Credit Requirements

All dwellings in the development must meet the following criteria.

Credits	
1	Where evidence provided demonstrates that there is a commitment and a strategy to monitor, sort and recycle construction waste on site.

	AND
1	Where evidence provided demonstrates that 2 or more of items a-f, listed below are achieved. OR
2	Where evidence provided demonstrates that 4 or more of items a-f, listed below are achieved.
	monitor and report CO ₂ or energy arising from site activities; monitor and report CO ₂ or energy arising from transport to and from site; monitor and report on water consumption from site activities; adopt best practice policies in respect of air (dust) pollution arising from the site; adopt best practice policies in respect of water (ground and surface) pollution occurring on the site. 80% of site timber is reclaimed, reused or responsibly sourced.

Development Features Relating to Credit

The Contractor has not yet been appointed for the site, but the EcoHomes Specification confirms that the Contractor is required to develop a site specific waste policy for the site, which identifies methods of waste reduction, reuse and/or recycling. Due to site constraints, it is not possible to sort construction waste onsite. The site's construction waste would be collected by a waste/recycling contractor, to then sort the waste into a minimum of inert, metals, plastic, plaster/cement and timber for recycling.

Both the site's electrical and water meters would be read monthly, and the information displayed on site within the office. Targets are to be set each month, with the Site Manager responsible for the monitoring and collection of data.

The Contractor has not yet been appointed for the site, but the EcoHomes Specification requires the Contractor to provide details of the best practice policies in respect to air (dust) pollution and water pollution, and that these policies are disseminated to site operatives through the site induction talks given to every site operative.

Explanation of Assessment

Clause 5.9 of the AJE EcoHomes Specification provides full details of the requirements that the contractor would need to follow in respect of checklist A3 'Construction Site Impacts'. The Specification requires the Contractor to provide a detailed Site Waste Management Plan for the scheme, and to monitor construction waste and set targets for waste minimisation during the construction process. Due to space on site being too limited to allow waste materials to be segregated, the specification requires the Contractor to employ a waste contractor to collect construction waste and sort and recycle material off-site. The Contractor is required within the Specification to appoint a waste contractor to sort at least five of the Key Waste Groups noted within the EcoHomes guidance. This achieves the full requirements, and therefore the first credit is achieved.

Clause 5.9 of the AJE EcoHomes Specification also states that the Contractor shall monitor and report energy use on site and waste consumption on site, and achieves the credit requirements for items a) and c). An individual is to be nominated by the Contractor to be responsible for the monitoring and collection of data. A second credit is therefore achieved.

Clause 5.9 of the AJE EcoHomes Specification states that the Contractor shall adopt best practice policies in respect to air (dust) pollution and water (ground and surface)

pollution), and disseminate this information to the site operatives via site induction talks. This meets the credit requirements for items d) and e). A third credit is therefore achieved as four of items a)-f) are achieved.

Information Provided by the Developer

1. Clause 5.9 of the AJE EcoHomes Specification – ‘1803.EcoHomes Specification v1.0.pdf’

Man 4 Security

Credits Awarded		
0	1	2

Aim

To encourage the design of developments where people feel safe and secure; where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Credit Requirements

Credits	
1	A commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design award.
1	Security standards for external doors and windows to achieve a minimum of either: <ul style="list-style-type: none"> • LPS1175 SR1 (All doors and windows) OR • PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) AND BS7950 (All windows falling within the scope of BS7950)

Development Features Relating to Credit

Credit to not be pursued.

Explanation of Assessment

Credit to not be pursued.

Information Provided by the Developer

Credit to not be pursued.

Information about EcoHomes

Background

EcoHomes was developed and launched in April 2000 by the Centre for Sustainable Construction at BRE with support from NHBC (National House Builders Council). Its development was steered by a committee of industry representatives and environmental experts.

EcoHomes is an independent, transparent, environmental labelling scheme for housing. The scheme covers houses and apartments, either at the design stage or as part of major refurbishment.

EcoHomes assesses the environmental quality of a development by considering the broad concerns of climate change, use of resources, pollution, and impacts on biodiversity. These concerns are balanced against the need for a high quality internal environment.

Issues

The issues assessed by EcoHomes are grouped into the seven category areas listed below:

- **Energy:** Operational energy and CO₂
- **Transport:** Location issues related to transport
- **Pollution:** Air and water pollution (excluding CO₂)
- **Materials:** Environmental implications of materials selection, recyclable materials
- **Water:** Consumption issues
- **Ecology and Land Use:** Ecological value of the site, planting and landscaping
- **Health and Well-Being:** Internal and external issues relating to health and comfort
- **Management:** Construction site impacts and home security issues.

Scoring System

Credits are available for each issue meeting the specified levels of performance. The number of credits available in each category does not necessarily reflect the relative importance of the issues being assessed. Before the final score is calculated each of the scores in the eight category areas have a weighting factor applied before the final score is calculated. This is shown in Appendix 1.

The EcoHomes Scale runs from '**PASS**' to '**EXCELLENT**' as depicted below.

The final rating is determined by the EcoHomes assessor and quality assured and certified by BRE.

PASS	Most developments should be able to achieve this with minor design/ specification changes at a minimal additional cost.
GOOD	The developer has been able to demonstrate good practice in most areas.
VERY GOOD	Developments pushing forward the boundaries of environmental performance will achieve this.
EXCELLENT	Developments demonstrating exemplary environmental performance across the full range of issues will achieve this.

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Appendices

Appendix 1: Summary Score Sheet

Appendix 2: Site Layout

Appendix 3: Calculations

Appendix 1: Summary Score Sheet

EcoHomes 2006
Summary Score sheet

Site: Radlett House, Radlett Place, London

					Score assessment				
			Score	Credits available	Sub-total	Credits available	% achieved	Weighting factor	Credits Score
Energy	Ene 1	Dwelling Emission Rate	8	15	15	24	62.5	0.22	13.75
	Ene 2	Building fabric	2	2					
	Ene 3	Drying space	1	1					
	Ene 4	EcoLabelled goods	2	2					
	Ene 5	Internal Lighting	0	2					
	Ene 6	External lighting	2	2					
Transport	Tra 1	Public transport	1	2	4	8	50.0	0.08	4.00
	Tra 2	Cycle storage	0	2					
	Tra 3	Local amenities	2	3					
	Tra 4	Home office	1	1					
Polution	Pol 1	Insulant GWP	1	1	6	11	54.5	0.1	5.45
	Pol 2	NO _x Emissions	3	3					
	Pol 3	Reduction of Surface Runoff	0	2					
	Pol 4	Renewable and Low Emission	0	3					
	Pol 5	Flood Risk	2	2					
Materials	Mat 1	Environmental Impact of Mater	10	16	16	31	51.6	0.14	7.23
		Roof	3	3					
		External Walls	0	3					
		Internal Walls	3	3					
		Floors - upper and ground	0	3					
		Windows	2	2					
		External surfacing	1	1					
		Boundary Protection	1	1					
	Mat 2	Responsible Sourcing of Mater	0	6					
	Mat 3	Responsible Sourcing of Mater	0	3					
	Mat 4	Recycling Facilities	6	6					
Water	Wat 1	Internal Potable Water	3	5	4	6	66.7	0.1	6.67
	Wat 2	External Potable Water	1	1					
Land Use and Ecology	Eco 1	Ecological Value of Site	0	1	3	9	33.3	0.12	4.00
	Eco 2	Ecological Enhancement	0	1					
	Eco 3	Protection of Ecologoical Featur	0	1					
	Eco 4	Change of Ecological Value of	2	4					
	Eco 5	Building footprint	1	2					
Health and Wellbeing	Hea 1	Daylighting	2	3	7	8	87.5	0.14	12.25
	Hea 2	Sound Insulation	4	4					
	Hea 3	Private space	1	1					
Management	Man 1	Home User Guide	3	3	6	10	60.0	0.1	6.00
	Man 2	Considerate Constructors	0	2					
	Man 3	Construction Site Impacts	3	3					
	Man 4	Security	0	2					
					Total Available	107	Score: 59.35 Rating: Very Good		

Based on: EcoHomes 2006
Sheet Version: 1.2
Version Date: 16/10/2006

Rating	Score
Pass	36
Good	48
Very Good	58
Excellent	70

Appendix 2: Site Layout Plan

Appendix 3: Calculations

SAP worksheet for dwelling

Water use calculations

Change in Ecological Value calculator