EcoHomes –
The environmental rating for homes

The worksheets

BREEAM Office
BRE
Garston
Watford WD2 7JR
Tel: 01923 664462
e-mail: ecohomes@bre.co.uk

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WORKSHEETS - GENERAL INFORMATION

Sections to be completed by the developer include the general information in this chapter as well as those sections in the worksheets headed 'Information from the developer'.

Developer:

Company name:	
Form completed by:	Signature:
Address:	
Tel:	Fax:
e-mail:	

Assessor:

Company name:	
Assessment carried out by:	Signature:
Address:	
Tel:	Fax:
e-mail:	

The Development:

Site name:	
Site reference number:	
Address:	
Names and numbers of each house/ flat type:	
Total number of units:	
Plot numbers:	Site layout plan number:
Other information:	

GENERAL CONTRACT SPECIFICATION

A copy of the General Contract Specification together with any sub-contractor specification should be inserted here. All items which affect the outcome of the EcoHomes assessment must be highlighted and cross-referenced to the individual credits in the Assessment Worksheet.

The General Contract Specification must include clauses to cover all general components such as insulation, timber, re-used materials, etc., with cross references to the general material clauses.

Items to be highlighted (where the credits are sought) are:

- Provision for drying space
- Performance specification of white goods
- External luminaries and control specification
- Cycle storage
- Provision of a home office
- Insulation requirements
- Boiler specification
- Internal and external storage bins for recycling
- Water consuming appliances
- Type of land used/ ecological assessment report
- Sound insulation in separating walls and floors
- Provision of private and semi-private space

Tick here to show this has been done.

SITE LAYOUT PLAN

Please insert here the Site Layout Plan, making sure that it includes all the following features:

- Compass orientation and site position (clearly mark the different house types).
- Details of land use and plot types.
- A clear definition of the group of plots which form the site or phase to be assessed. All promotions of sites, or phases which achieve the EcoHomes rating must refer unambiguously, to individual plots which meet the EcoHomes rating criteria;
- Evidence for re-use of an existing site (if credit sought);
- Evidence for use of land of low ecological value (if credit sought);
- Evidence for ecological enhancement (if credit sought);
- Positioning of external recycling bins, and or local authority recyclable materials collection point (if credit sought);
- Location of private and semi-private space (if credit sought)

Tick here to show this has been done.

☐

GENERAL ARRANGEMENT DRAWINGS

General arrangement drawings should be included, showing plans, elevations and sections for all house types. Mark clearly the following features in the appropriate sections.

- Provision of drying space (if credit sought).

- In case of a garage: wall mounts to store bicycles or information on any alternative storage arrangement (if credit sought).

- Space allocated to provide for a home office together with the necessary services (if credit sought).

- Location of internal bins for recycled material (if credit sought)

- For non-detached houses separating walls and floors for sound insulation (if credit sought)

Tick here to show this has been done.

☐

ENERGY

Since the beginning of the industrial revolution the concentration of green house gases in the atmosphere - carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) — have risen as a consequence of human activities. Current climate model predictions show that we can expect a rise in global temperatures of between 1.4 and 5.8ßC by the end of the 21st century. Although CO_2 is less potent than other green house gases on an equal mass basis, the quantity of emissions is so large that it remains the main contributor to climate change.

In December 1997, the parties to the Framework Convention on Climate Change adopted the Kyoto Protocol. Under this protocol, the UK has agreed to reduce emissions from greenhouse gases by 12.5 per cent below the 1990 levels by the first commitment period of 2008-2012.

About 50% of the total UK CO_2 emission arises from energy used in heating, lighting and cooling buildings, and 10 % from energy used during the production and transportation of materials and construction of the building. A further 22% arises from the energy used by occupants travelling between buildings, a function of how homes are located relative to workplaces, leisure, retail facilities and so on.

Homes are responsible for almost two thirds of the CO_2 emission from all types of buildings, or almost one third of the UK s total CO_2.

Between 1970 and 1999, emissions from households fell by 25 per cent.

This section aims to minimise still further the overall emissions of CO_2 to the atmosphere from buildings.

A CARBON DIOXIDE PRODUCTION DUE TO ENERGY CONSUMPTION

Ten credits are available

Aim

To minimise emissions of CO_2 to the atmosphere arising from the operation of a home and its services.

Background

This credit assesses the amount of Carbon Dioxide (CO_2) emitted from the dwellings, as a result of space heating, hot water, and lighting and appliances.

CO_2 is selected as the measured quantity as it has a direct environmental impact and allows the type of primary fuel to be taken into consideration. The credit scale relates to the operational energy requirements of the home in a standard operational situation rather than actual energy use. This is used to compare the basic performance characteristics of the dwellings against others. It should be noted that the actual energy consumption may be markedly different, as a range of user specific issues will affect it, such as, the hours of operation of space heating, type and size of household, use of white goods etc.

Credit Requirement

Credits are awarded for CO_2 emissions as follows:

- 1 credit for less than or equal to 60 kg/m^2/yr;
- 2 credit for less than or equal to 50 kg/m^2/yr;
- 3 credits for less than or equal to 45 kg/m^2/yr;
- 4 credits for less than or equal to 40 kg/m^2/yr;
- 5 credits for less than or equal to 35 kg/m^2/yr;
- 6 credits for less than or equal to 30 kg/m^2/yr;
- 7 credits for less than or equal to 25 kg/m^2/yr;
- 8 credits for less than or equal to 20 kg/m^2/yr
- 9 credits for less than or equal to 10 kg/m^2/yr;
- 10 credits for zero or less kg/m^2/yr.

Note: As the above credits refer to CO_2 emissions, dwellings using gas will inherently score better than those using other fossil fuels. (As the CO_2 emissions from gas are the lowest of all fossil fuels)

Information from the Developer

Please provide copies of the completed SAP (Standard Assessment Procedure) worksheets, calculated by an accredited SAP assessor (or equivalent competent person), for the worst case[1] of each house type to be assessed.

Please also provide detailed drawings of the design (including compass orientation and site position).

Lighting:
Please also indicate whether full, partial or no low energy lights are present in each house type. Full is in every habitable room, while partial is in the lounge, kitchen and hallways only.

House type	Number of units	Full	Partial	None
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Renewables:
The SAP calculation takes into consideration certain renewable energy systems (i.e. solar water heating panels and wood burning appliances). However, information is needed on any other renewable energy sources within the development.

Renewable energy ☐ kWh per year

Please also include details of any renewable sources.

CHP:
Is CHP specified? ☐

Please specify heat load ☐ kWh per year
Please specify power load ☐ kWh per year
Please provide manufacturers calculated emission factor ☐
Specify the house types and number of units supplied by CHP. If all units are covered please write all. ☐

Air-conditioning:
Is air conditioning specified? Please tick. ☐ Yes ☐ No

If air conditioning is specified, the assessor will use a simple formula to establish the predicted CO_2 emissions.

[1] Worst case refers to the variant of the type with the most external walls (i.e. end of terrace not mid terrace) and the most north facing glazing.

B BUILDING ENVELOPE PERFORMANCE

Five credits are available

Aim

To improve the efficiency of dwellings over their whole life, or to encourage refurbished dwellings to improve their insulation standards.

Background

This credit assesses the thermal performance of the building envelope. Although innovative systems for provision of services to the building may reduce the energy consumption, it is the building envelope which can have the most significant long-term effect, as the envelope is unlikely to be radically altered during its life, other than having extensions added.

Stricter elemental U-values set within part L of the 2002 Building Regulations decrease the likelihood (and practicality) that a development will achieve a high percent improvement over the target. The percent improvements required have therefore been reduced. This means there are two credit requirement tables for this section. The first is to be used for developments built under the 1995 regulations and refurbishment projects, and the second is to be used when the development is built under the 2002 regulations.

Credit Requirements (for developments built under part L of the 1995 Building Regulations or for refurbishment project):

- 1 credit for 10% improvement on the Building Regulation requirements or existing performance;
- 2 credits for 15% improvement on the Building Regulation requirements or existing performance;
- 3 credits for 20% improvement on the Building Regulation requirements or existing performance;
- 4 credits for 25% improvement on the Building Regulation requirements or existing performance;
- 5 credits for 30% improvement on the Building Regulation requirements or existing performance.

Credit Requirements (for developments built under part L of the 2002 Building Regulations)

- 1 credit for 3% improvement on the Building Regulation requirements;
- 2 credits for 6% improvement on the Building Regulation requirements;
- 3 credits for 9% improvement on the Building Regulation requirements;
- 4 credits for 12% improvement on the Building Regulation requirements;
- 5 credits for 15% improvement on the Building Regulation requirements.

Information from the Developer

For new build the assessor will use the same SAP worksheets for each house type as provided for the CO_2 credit.

For homes which are to be refurbished, please provide details of the U-values for the main elements prior to refurbishment and after. If these are not available please provide details of the type of material used in the element and the date of construction.

Refurbishment Information

Element	Before		After	
	U-value (W/m^2K)	Area (m^2)	U-value (W/m^2K)	Area (m^2)
Wall				
Floor				
Roof				
Window				
Doors				

C PROVISION OF DRYING SPACE

One credit is available

Aim

To minimise the amount of energy used to dry clothes.

Background

This credit was introduced to encourage the drying of clothes naturally rather than using a tumble dryer. It has become increasingly common practice to include, as standard, a place for a tumble dryer, without necessarily attempting to design in, as standard, a space for natural drying. This credit was thought to be especially important, for those dwellings without a large garden.

The drying place can be either external, internal or under cover.

Credit Requirement

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

  A minimum of 6m line for 3+ bed units OR 3m for 1 or 2 bed units is required.

Information from the Developer

The requirements for suitable internal and external drying spaces are as follows:

External space: Private or communal garden (which is secure) or,
Balcony (which is openable at least on the whole front side),
And fixing/ posts/ fittings to hold the drying line

Internal space: An unheated space with good natural ventilation, or
A heated space with adequate, controlled ventilation,
i.e. extract fan with humidistat or passive vents, and
And fixings/fittings to hold line/airer/ aunt sally etc.

Spaces used for drying should not prevent the intended use of that area.

	Yes	No
Is drying space provided in line with the criteria above for each dwelling?		

If yes, please show on the General Arrangement Drawings instruction for the provision of drying space and posts/ footings/ fixings and refer to the instruction in the General Contract Specification.

Page number in General Contract Specification:_____

D ECOLABELLED GOODS

Two credits are available

Aim

To encourage the provision or purchase of energy efficient white goods, thus reducing the CO_2 emissions from the dwelling.

Background

For homes built to the Building Regulations 2002 part L, lights and appliances account for about a third of the CO_2 emissions.

Although a provision for the energy use due to emissions from appliances is included in the CO_2 emissions calculation, this does not allow for any reduction when energy efficient white goods are provided. To redress this, this credit considers the provision of eco-labelled white goods.

Credit requirement

- 1 credit where all fridge s, freezers and fridge/freezers have a rating of A under the EC Energy Efficiency Labelling scheme;
- 1 credit where all washing machines and any dishwashers supplied, have a rating of A and washer dryers/ tumble dryers have a rating of C or higher under the EC Energy Efficiency labelling scheme;
- 1 credit if no white goods are provided, but information on purchasing energy efficient white goods is provided.

Information from the Developer

Please provide details of the relevant white goods that will be specified (or the performance criteria stated in the contract specification). The developer should provide copies of the appropriate labels for all white goods, which cover the following:

	Provided	Energy rating
Fridge		
Fridge/ freezer		
Freezer		
Washing machine		
Tumble dryer		
Washer dryer		
Dish washer		

Please refer to the instruction in the Contract Specification. Page number:_____

- If white goods are not provided please give details in the contract specifications and provide a document confirming this.
- Also confirm that you will provide information on eco-labels and the purchasing of energy efficient cost-effective appliances, to the tenant or the purchaser.
- The information provided should explain what energy labels are, and how they work. It should include information on the benefits of buying energy efficient white goods.

If appropriate, please indicate the location in the General Contract Specification of the above information. Page number:_____

E EXTERNAL LIGHTING

Two credits are available

Aim

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

Background

As external lighting is not included in the CO_2 emission calculation it is assessed separately. It includes garage lighting, lighting by external doors, lighting in halls and stairwells and any security lighting, which is to be fitted by the developer. The requirement is to provide energy efficient lighting which is adequately controlled to minimise energy consumption.

Credit Requirements

- 1 credit where outbuildings/ covered space/ front door (i.e. garages, carports etc) and all feature lighting (i.e. garden, patio lighting etc.) is specifically designed to accommodate only Compact Fluorescent Lamps (CFL) luminaries or strip lights.
- 1 credit where security/ safety* light fittings are designed for energy efficiency and are adequately controlled such that:
  - all burglar security lights have a maximum wattage of 150W AND are fitted with movement detecting shut off devices (PIR) and day light cut-off devices.
  - all other security/ safety* lighting is specially designed to only accommodate Compact Flourescent Lamps (CFL) luminaries or strip lights AND be fitted with dawn to dusk sensors OR timers.

  * For blocks of flats the lighting in the hallway and/ or any external security lighting will fit into this category.

Information from the Developer

	Yes	No
Do all lights in outbuildings/covered space/ front doors have dedicated CFL fittings or strip lights?		
Do all external feature lighting have dedicated CFL fittings or strip lights?		
Is security/intruder lighting to be provided?		
What is the maximum wattage for individual fittings?		**W**
Are these fitted with movement detecting shut of devices (PIR)?		
Are these fitted with day light cut-off sensors?		
Is other security/ safety lighting provided?		
Are these all dedicated CFL fittings or strip lights?		
Are these all fitted with dawn to dusk sensors or timers?		
Does this cover the whole development?		

Please indicate on the General Arrangement Drawings for each house type where provision for any external lighting is provided and also refer to the instruction in the General Contract Specification. Page number:_____

In order to achieve the credits you will need to provide a full luminaire and controls specification for all external and outbuilding installations. For block of flats this also applies to hall and stairwell areas.

Credits can also be achieved by using luminaries which are solar powered. To achieve these you will need to provide details to the assessor on the type and effectiveness of the lighting.

TRANSPORT

In the UK the transportation of people between buildings accounted for 22% of national energy use in 1996. Energy use by, and emissions from, transport are growing at roughly 4% each year. This is mostly due to the increase in personal transport. Overall car traffic has increased almost 15 times in the last 50 years.

The energy use and emissions levels for transport depend strongly on the relative location of home, office, shops and other amenities, as well as the availability of car parking. In areas of high transport congestion, noise and air borne pollution can become major problems and adversely affect the quality of life for local residents.

By reducing the length of common journeys and by encouraging the use of public transport over the motor car, CO_2 emissions and energy use can be greatly reduced. The disturbance cause by transport and the potential for accidents can also be reduced.

EcoHomes seeks to encourage residential developments that integrate public transport links and safe routes for pedestrians to local amenities into their design. This will help to reduce the need to travel by car.

Working from home is another way of reducing the need to travel by car and is becoming a viable option for many more people thanks to improvements in telecommunication and computing technology. By providing suitable space and services within homes developers can offer this option for occupiers.

F PUBLIC TRANSPORT

2 credits are available

Aim

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

Background

The use of the private car is becoming a significant issue with congestion getting worse, longer journey times and increasing pollution. By providing easy access to public transport, the home occupier has a choice of transport options, reducing the need to use the car and helping to ease the congestion and pollution problems. Public transport also helps make the site accessible to those who do not have a car, those choosing not to drive or those not being able to drive, such as senior or disabled citizens or those under 17.

Credit Requirements

- 1 credit for 80% of the development within 1000m (with a safe walking route) of a transport node which:

  Provides at least an hourly service between 07.30 and 20.00 — Monday to Saturday. The service should go to a local centre, or a town or city centre or to a major transport node.

- +1 credit if 80% of the development is within 500m of a transport node, fulfilling all the criteria above.

Information from the Developer

Please supply answers to the following questions and the information requested below:

Distance, by foot, from the furthest dwelling to the nearest public transport mode	m
Distance, by foot, from the nearest dwelling to the nearest public transport node	m

% of dwellings closer than 500m	%
% of dwellings closer than 1000m	%

What modes of transport are available and what are their frequency?

	Available (please tick)	Frequency (minutes)
Bus		
Train		
Tube		
Other (please specify):		

Where does the transport route go? (please tick)

Local centre	
Town/city centre	
Other (please specify):	

Please provide a map of the site and surrounding area highlighting the public transport nodes. Please also indicate the most obvious pedestrian route to the transport node and the scale of the map, giving details of pedestrian crossing points of any major roads (roads with a speed limit higher than 30 mph and all A-roads or above). Ensure that the pedestrian facilities are of the required standard for the road type and situation.

Please include details of any self-enforcing home zone speed limits, and of any traffic calming measures that will have an effect on pedestrian and cyclist well being.

Please also include details of the frequency of service of these public transport nodes.

G CYCLE STORAGE

One credit is available

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.

Background

The majority of all car journeys made are less than five miles. One viable alternative for those journeys is the bicycle. This will not only reduce air and noise pollution as well as provide more space on the streets, but also improve the health and fitness of the cyclist. In order to make cycling a practical alternative people need somewhere convenient and safe to store their bicycles when they are at home. EcoHomes therefore accredit developers who provide such a space.

Credit Requirements

1 credit is available for the provision of adequate storage cycles for each dwelling. This is determined by the number of bedrooms within a dwelling:

- 1 and 2 bedroom flat/house — storage for one cycle;
- 3 bedroom flats/houses — storage for 2 cycles;
- 4 bedrooms and above — storage for 4 cycles

Information from the Developer

	Yes	No
Do any of the apartments / houses have garages?		
If yes, what percentage has garages?	%	

	Yes	No
For 1 and 2 bedroom dwellings:		
Is there cycle storage for at least 1 bike?		
For 3 bedroom dwellings:		
Is there cycle storage for at least 2 bikes?		
For 4 plus bedroom dwellings:		
Is there cycle storage for at least 4 bikes?		

	Yes	No
Does this cover 100% of the development?		
If not, what percentage is covered?		%

Minimum storage required where cycle provision is not on wall mounts in a garage or using a proprietary system is:

1 cycle: 2 x 0.75 m
2 cycles: 2 x 1.5 m
4 cycles: 2 x 2.5 m

Please provide page numbers of the instruction in the Contract Specification:_____

Please also provide either drawings of garages indicating the use of wall mounts to store the bicycles or information on any alternative storage.

If the garage is to be used it needs to provide adequate space to store the bicycle/s (on the floor or on wall mounts) and the car/s at the same time.

H LOCAL AMENITIES

Three credits are available.

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 local residents have on their cars.

Background

The majority of journeys by car are under 5 miles. By reducing these short car journeys significant reductions in transport emissions can be made. This is due in part to combustion engines running less efficiently when cold. Local congestion problems can also be eased. Although it is not suggested that it is possible to reduce the use of the cars for all journeys, positioning developments close to local amenities may reduce the number of journeys for short distances for simple goods (e.g. bread, milk, newspapers etc). If people feel able to walk or cycle to local amenities car use could be dramatically reduced.

Credit Requirements

80% of the development to be within walking distance (with safe crossing points of any major roads) of local amenities:

- 1 credit for proximity to a food shop and a post box within 500m
- 1 credit for proximity to 5 of the following:- post office, bank, chemist, school, medical centre, leisure centre, community centre, public house, children s play area, within 1km.
- 1 additional credit for providing safe pedestrian routes to the local amenities.

Information from the Developer

Please indicate the walking distance from the furthest house to the amenities listed below. Please also indicate the percentage of dwellings that are within 500m, for the food shop and post box, and 1000m for all other amenities:

Amenity	Distance to Amenity (m)	% of development within range of amenity	
Food Shop			Within 500m
Post Box			Within 500m
Post Office			Within 1000m
Bank or Cash machine			Within 1000m
Chemist/ Pharmacy			Within 1000m
School			Within 1000m
Medical centre (GP practice)			Within 1000m
Leisure Centre			Within 1000m
Community Centre			Within 1000m
Public House			Within 1000m
Children's play area			Within 1000m

Please provide a map of the site and surrounding area highlighting where the local amenities you wish to be assessed against are. Please also indicate the most obvious safe pedestrian route to the amenities and the scale of the map, giving details of pedestrian crossing points on any major roads (roads with speed limit above 30 mph and all A-roads or above)

Please also outline the time scale over which the amenities will be made available if they are not already in place.

I HOME OFFICE

One credit is available

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.

Background

The number of self employed people is increasing, as is the number of people who work from home. Many job functions can readily be performed remotely and so it is quite feasible for individuals to work from home (or elsewhere) either on a full time basis or for several days each week. Currently there are 1.1 million people in the UK who have such non-traditional work patterns. Information from social trends indicates that 29% and 24% of employed men and women respectively, have, at some time worked from home. The benefits of working from home include reductions in transport movements, increased time available for the home worker and greater opportunity to participate within community activities.

Credit Requirement

1 credit given for the provision of a space which allows the occupants to set up a home office in a quiet room.

Information from the developer

	Yes	No
Is there a room, other than the kitchen, living room, master bedroom or bathroom which meet the requirements below and thus can be used as a home office for each different house type?		
Does this cover 100% of the development?		

The required services are, as a minimum:

- 2 double sockets;
- 2 telephone points (or double telephone point) or equivalent (in the case of broadband, cable network etc.)
- window
- adequate ventilation either through an openable or with alternative ventilation such as passive stack etc;
- minimum size to allow a desk, table for computer and filing cabinet to be installed, with space to move around and open the door.

For one bedroom or studio flats the space may be in the living room or bedroom. However, the room must have at least one wall which is 2.5m or longer and sockets should be positioned to avoid the use of extension leads.

Please mark on the General Arrangement Drawings the space allocated to allow for the provision of a home office, together with the necessary services for each house type. Please also include the page numbers of the instruction in the General Contract Specification:_____

POLLUTION

There is mounting evidence that the global environment is being affected by human activities. There are two major concerns:

- The release of CO_2 and other gases into the atmosphere is increasing the greenhouse effect, leading to climate change and;
- The release of some chemicals into the atmosphere is leading to the destruction of the ozone layer that protects living things from harmful UV radiation from the sun.

CFCs (Chloroflurocarbons) and HCFCs (Hydrochlorofluorocarbons) used as refrigerants and in the manufacture of some insulating materials can cause significant damage to the ozone layer. In 1987 many of the world s governments signed an agreement (the Montreal Protocol) to reduce the emissions of CFCs into the atmosphere. This agreement has since been reviewed and all signatories ceased production in 2000. The EU has also proposed the phasing out of HCFCs by 2015.

Nitrous oxides (NO_x) are emitted from the burning of fossil fuels and contribute to both acid rain and global warming in the upper atmosphere. At ground level, they react to form ozone, a serious pollutant and irritant at low level. Domestic heating systems are a significant source of low level NO_x.

J HCFC EMISSIONS

Four credits available.

Aim

The purpose of this credit is to reduce the amount of ozone depleting substances released into the atmosphere.

Background

Chloroflourocarbons (CFC s) and hydrochloroflourocarbons (HCFC s) are both potent ozone depleting substances, exposing living organisms to harmful solar radiation. They also have significant global warming potential. The production of CFC s has now been banned, and therefore these are unlikely to be used in materials used in new domestic dwellings. Most domestic dwellings are naturally or mechanically ventilated. There are few instances of air conditioned dwellings in the UK. For this reason the primary use of ozone depleting substances, in dwellings, is as blowing agents in insulation material. This credit relates to the use of insulation which has no ozone depleting substance used in its manufacture.

ODP is defined as the total change in ozone, per unit mass when the substance has reached a steady state in the atmosphere.

Credit Requirements

- 1 credit for the use of insulation with a zero ozone depletion potential in the roof (including loft access).
- 1 credit for the use of insulation with a zero ozone depletion potential in the wall — internal and external (including doors and window lintels).
- 1 credit for the use of insulation with a zero ozone depletion potential in the floor (including foundations).
- 1 credit for the use of insulation with a zero ozone depletion potential on the hot water cylinder, insulation pipes and other thermal store.

Information from the Developer

Please complete table J1 — Insulation material checklist, giving details of all the different insulation materials which will be used in all of the dwellings within the development. If any of the elements indicated is not insulated please tick in the No insulation row of boxes.

Please also provide page number references to all the Insulation Requirements covered by the General Contract Specification.

Page numbers:_____

The material listed below are know to have zero ozone depletion potential and therefore no manufacturer s information is required:

- mineral fibre
- glass fibre
- cork
- cellular glass
- expanded (bead) polystyrene
- nitrile rubber
- cellulose insulation
- wood fibre board
- wool
- flax
- recycled newspaper and jute

For other insulation materials it is necessary to enclose manufacturer s literature to confirm zero ozone depletion potential.

SHEET J 1 - INSULATION MATERIAL CHECKLIST

Give details of all the different insulation materials which will be used in all of the dwellings within the development.

If any of the elements indicated is not insulated, please tick in the "No insulation" row of boxes.

Insulation	Ref. No.	External wall	Internal Walls	Roof	Floor	Foundations	Doors	Window lintels	Loft access	Hot water tank	Pipes
No Insulation											

**HELP SHEET J1 - DRAFT LETTER TO MANUFACTURERS OF INSULATION MATERIALS,
AND/OR MANUFACTURERS OF INSULATED COMPONENTS**

Mr Insulation-Manufacturer
Hot House
Cool Road
Therm
TH1 25K

Dear Mr Insulation-Manufacturer,

EcoHomes - New Site, Anywhere.

*We are currently preparing a submission for **EcoHomes** on this development.*

I therefore require some specific information on the ozone depletion potential (ODP) associated with the **[insulation material(s) / insulated component(s) e.g. door, loft hatch]** which you **[manufacture / supply]**

In particular, I seek your assurance that these products have an ODP of zero.

I would be grateful to receive any literature which you can let me have in support of your claims to zero ozone depletion potential, as this will inevitably enhance my submission for **EcoHomes**.

I look forward to your response by (date).

Yours sincerely

K LOW NO_X EMITTING BOILERS

Three credits available

Aim

To reduce the nitrous oxides emitted into the atmosphere.

Background

Nitrous oxides (NO_x) are emitted from the burning of fossil fuels and contribute to both acid rain and to global warming in the upper atmosphere. At ground level, they react to form ozone, a serious pollutant and irritant at low level.

Burners in domestic heating systems are a significant source of low level nitrous oxides, while power stations (and therefore electric heating) are a significant source of nitrous oxides in the upper atmosphere. Whereas CO_2 is produced simply in proportion to quantity of gas burned, the amount of NO_X emissions varies from product to product. This credit rewards developers who include low NO_x boilers in their schemes.

Credit Requirements

All of the boilers used in the development must meet the following criteria.

- 1 credit for specifying all boilers with NO_x emissions of less than or equal to 150 mg/kWh — Class 3 (British Standard BS EN 297: 1994)
- 2 credits for specifying all boilers with NO_x emissions of less than or equal to 100 mg/kWh — Class 4 (British Standard BS EN 297: 1994)
- 3 credits for specifying all boilers with NO_x emissions of less than or equal to 70 mg/kWh — Class 5 (British Standard BS EN 297: 1994)

Information from the Developer

Please provide details of all the boilers specified within the development and their NO_x emissions:

	Boiler Type	**NO_x emissions or BS class**
Boiler 1		
Boiler 2		
Boiler 3		

	Yes	**No**
Are any dwellings heated by electricity?		
Is this electricity from:		
National Grid		
CHP		
If YES to CHP, what are NOx emissions from the plant?		mg/Kwh
Renewable Energy		
Is main heating supplied from wood?		
If YES to wood heating, provide details of NOx emissions?		mg/Kwh

Please note the NO_x emissions from power stations are approximately 1400 mg/kWh and therefore do not meet the requirements of the credit. However, renewable energy sources such as solar and wind do not have NO_x emissions.

If supplementary heating is provided, in the form of a feature fireplace etc in the main living room, information on the NO_x emissions is not required, provided that the supplementary heating is less than 10% of total heat supplied.

Please provide any manufactures literature and make reference to the instruction in the General Contract Specification. Page numbers:_____

MATERIALS

The UK construction industry uses 6 tonnes of building materials per person each year, of which most are minerals. The quarrying of 200 — 300 million tonnes of materials in the UK each year for aggregates, cement and bricks imposes significant environmental impacts. Many other materials and components are also used in housing; each has a range of environmental consequences from its production, use, maintenance and final disposal. As awareness of the environmental impacts of construction has increased, many construction professionals and client organisations have taken greater interest in the selection of construction materials and components with low environmental impacts.

The internationally accepted approach for the assessment of the environmental impacts arising from the production, use, maintenance and disposal processes is life cycle assessment (LCA). BRE has worked with the UK materials industry to provide a common methodology for the life cycle assessment of the environmental impacts of all construction materials and has established a database of Environmental Profiles of UK construction materials. This methodology and database has been incorporated within the *Green Guide to Housing Specification*. EcoHomes uses the Green Guide to determine the credits attributable to materials specification.

Wood is a natural, renewable material, with many advantages but is unfortunately, in many parts of the world, being harvested and used in an unsustainable way. Growing pressure for timber from a range of sources means that an area of forest the size of England is lost every year. The loss and degradation of forests have a huge significance for environmental stability, global climate and bio-diversity. Globally, forest cover is now reduced to almost half its original extent. While some of this loss has occurred in historical times, a large proportion has disappeared within the past three decades.

Through buying timber and timber products from reliable forest certification and labelling schemes we can ensure that the products we buy are from well-managed forests. Even better, we can re-use existing timber or use timber products that are manufactured using recycled material.

It is estimated that between 170 and 210 million tonnes of waste are produced each year in the UK, buy households, commerce and industry, including construction and demolition. EcoHomes encourage the recycling of domestic waste.

L TIMBER AND TIMBER PANEL PRODUCTS FOR THE BASIC BUILDING ELEMENTS

Six credits are available.

Aim

To encourage the use of timber from sustainably managed sources, or re-used timber.

Guidance

Timber and timber products are arguably the only truly renewable construction material. Forests provide a carbon sink and growing trees absorb carbon. Additionally, forests can provide the habitat for a wide variety of plant and animal life, and give amenity value to society. Increasingly, emphasis is being placed on ensuring that forests are sustainably managed. The independent certification that timber and forest products have originated from well-managed forests is an issue that is gaining rapidly in importance for Governments, the public and industries producing and using them. It is a very complex and dynamic issue that embraces political, economic and social dimensions in addition to environmental aspects such as conservation and sustainability.

Credit requirements (Basic building elements)

- 2 credits where 75% of either solid or laminated timber is sourced from suppliers covered by approved government certification schemes on sustainable management,

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

PLUS

- +2 credits where solid or laminated timber is used and of this 75% is sourced from suppliers covered by PEFC or equivalent national certification scheme.

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

  AND where 100% of all timber complies with the above criteria.

OR

- +4 credits where solid or laminated timber is used and of this 75% is sourced from suppliers covered by FSC certification

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

  AND where 100% of all timber complies with the first criteria.

Information from the Developer

Please complete the attached sheets **L1 and L2** for the basic building elements, detailing the type of timber used on the basic building elements within the development, the source of timber and its environmental credentials.

You must reference the paragraph in the contract specification, which details the timber requirements.

Where information has not been provided for a particular use, it will be assumed that the timber does not comply.

Alternatively, you may reference your purchasing policy or provide a copy of a purchase order, clearly specifying timber type, quantity, origin and certification it must fall under.

To achieve credits for timber and timber panel products used in the construction you will need to include the following in the contract specification:

1. For FSC, PEFC, UKWAS or similar certification schemes: the requirement that documents demonstrating independent certification of sustainable forest management in accordance with the principles and criteria of the appropriate scheme are supplied.

2. For Government License: the requirement that information on the precise origins of timber and timber panel products with confirmation that they originate from trees cut under Government licence, which specify sustainable management practices are supplied. Companies that operate in accordance with the Timber Trade Federation s and Forests Forever s Environmental Purchasing Policy should be able to provide this evidence.

3. For pre or post consumer waste: the requirement that documentation demonstrating that the timber in the timber panel products are sourced from pre or post consumer waste is supplied. This can be in the form of trade literature or a letter from the supplier.

4. For reused timber: the requirement that documentation demonstrating that the timber within the development is reused timber is supplied. This can be in the form of trade information or a letter from the supplier, or a letter from the developer where timber on site is being reused.

For situations where some timber achieves different levels of certification and management, 75% of the timber must achieve the higher requirement, with the rest achieving the minimum requirement.

Developers will need to ensure the documentation is provided, and BRE may audit this as part of their quality assurance system.

Please indicate which level of performance the development will achieve (please tick the appropriate level):

FSC certification	☐
PEFC or equivalent national certification scheme	☐
Government license	☐

SHEET L1 – TIMBER USAGE BASIC BUILDING ELEMENTS

SITE:
PLOT:

Indicate for each element of the building the timber description sheet(s) which provide(s) details of the timber used.

Cross through any elements which do not apply to your design (either because timber is not used in that element or because the element does not exist in the design).

Include timber used in communal areas of blocks of flats (e.g. stairwells, foyers).

Also include the number or volume of the timber used for each different type.

Sheet L1	TIMBER DESCRIPTION SHEET NUMBER					
BASIC BUILDING ELEMENT	Type	N^{o} / Vol.	Type	N^{o} / Vol.	Type	N^{o} / Vol.
Timber frame (Walls)	L2/		L2/		L2/	
Floor Joists	L2/		L2/		L2/	
Roof Timbers	L2/		L2/		L2/	
Wall Studding (Exterior)	L2/		L2/		L2/	
Wall Studding (Interior)	L2/		L2/		L2/	
Window Sub-frames	L2/		L2/		L2/	
Door Sub-frames (Exterior)	L2/		L2/		L2/	
Door Sub-frames (interior)	L2/		L2/		L2/	
Other (please describe)	L2/		L2/		L2/	
Upper/Suspended ground floors	L2/		L2/		L2/	
Loft Boarding	L2/		L2/		L2/	
Facias — Soffit Boards	L2/		L2/		L2/	
Facias — Bargeboards	L2/		L2/		L2/	
Facias — Gutter Boards	L2/		L2/		L2/	
Facias — Other (specify)	L2/		L2/		L2/	
External Cladding/ Weatherboarding	L2/		L2/		L2/	
Staircase (excluding balustrades etc)	L2/		L2/		L2/	

SHEET L2 - TIMBER DESCRIPTION BASIC BUILDING ELEMENTS

SHEET NUMBER [L2/]

TIMBER ELEMENT:
SITE:
PLOT:

Please indicate the type of materials used in this element. If more than one (version) of the element is used please complete a separate sheet for each one.

For each material please circle the level of performance the material meets. For timber products made up of wood from different sources please also indicate per cent of each.

	Hardwood				**Softwood**				**Recycled materials**	
Solid Timber	FSC*	OCS*	GL*	R*	FSC	OCS*	GL*	R*		
Plywood	FSC	OCS	GL	R	FSC	OCS	GL	R		
Veneer	FSC	OCS	GL	R	FSC	OCS	GL	R		
Particleboard (Chipboard)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Fibreboard (MDF)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Cement Bound particle board	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
OSB (oriented strand board)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Other (please specify)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post

*FSC = Forestry Stewardship Council,

OCS = Other Certification Scheme eg. UKWAS, PEFC or equivalent

GL = Government License

R = reused

Pre = pre consumer recycled

Post = post consumer recycled

Please indicate the reference in the contract specification: _____

Certification Schemes and Standards

A number of initiatives and schemes have evolved around the world to attempt to address the need for independent certification:

FSC (The Forest Stewardship Council)

On a global level, the initiatives taken by the Forestry Stewardship Council (FSC) are probably having the most significant impact, although only a relatively low proportion of the forest area is certified (0.4 % of the worlds 3.455 million hectares of forest). FSC is the only scheme that most environmental organisations support. FSC is a label on timber and timber products which indicates that the timber comes from a well managed forest. It guarantees that the forest of origin has been independently inspected and evaluated to comply with an internationally agreed set of strict environmental, social and economic standards. The FSC trademark enables timber to be chosen with confidence, ensuring that the user is not contributing to the destruction of the world s forests.

www.fsc-uk.demon.co.uk
This site containing information on building materials carrying the FSC logo, and also UK retailers of FSC products.

www.fscoax.org
This has an article on the current state of certification schemes in other countries.

PEFC

Pan European Forest Certification (PEFC) is a voluntary private sector initiative based on a consensus view among relevant interested parties on sustainable forest management at the national or regional level. The scheme was officially launched in Paris in June 1999, following months of intensive development work. The purpose of the PEFC scheme is to promote an internationally credible framework for forest certification schemes and initiatives in European countries, in the first instance, which will facilitate mutual recognition of such schemes.

In summary (according to PEFC):
PEFC is voluntary private sector initiative based on a consensus view among relevant interested parties on sustainable forest management at the national or regional level.
PEFC offers a Pan European framework for the establishment of mutually compatible national certification systems and their mutual recognition
PEFC aims at strengthening and improving the positive image of forestry and wood as a renewable raw material.
PEFC contributed to the promotion of economically viable, environmentally appropriate and socially beneficial management of forests as defined by the Helsinki-criteria.
PEFC gives assurance to customers, and the general public, that forests certified under the program are managed as defined by the Helsinki-criteria.
PEFC is based on third party auditing.
PEFC is based on regional certification and is open for other options as appropriate.

www.pefc.org

Further information

www.woodforgood.com
The site that will help you get more out of wood!

www.goodwoodguide.com
Useful website where you can also order the Good Wood Guide produced by Flora and Fauna international and Friends of the Earth.

www.forestry.gov.uk/ukwas

The national UK certification scheme - UKWAS

M TIMBER AND TIMBER PRODUCTS FOR FINISHING ELEMENTS

Three credits are available

Aim

To encourage the use of timber from a sustainably managed source, or reused timber.

Guidance

Timber and timber products are arguably the only truly renewable construction material. Forests provide a carbon sink and growing trees absorb carbon. Additionally, forests can provide the habitat for a wide variety of plant and animal life, and give amenity value to society. Increasingly, emphasis is being placed on ensuring that forests are sustainably managed. The independent certification that timber and forest products have originated from well-managed forests is an issue that is gaining rapidly in importance for Governments, the public and industries producing and using them. It is a very complex and dynamic issue that embraces political, economic and social dimensions in addition to environmental aspects such as conservation and sustainability.

Credit requirements (Finishing elements)

- 1 credits where 75% of either solid or laminated timber is sourced from suppliers covered by approved government certification schemes on sustainable management,

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

PLUS

- +1 credits where solid or laminated timber is used and of this 75% is sourced from suppliers covered by PEFC or equivalent national certification scheme.

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

  AND where 100% of all timber complies with the above criteria.

OR

- +2 credits where solid or laminated timber is used and of this 75% is sourced from suppliers covered by FSC certification

  or where timber is re-used
  and where timber products are manufactured from either pre or post consumer waste streams

  AND where 100% of all timber complies with the first criteria.

Information from the Developer

Please complete the attached sheets **M1 and M2**, detailing the type of timber or timber product used on the finishing elements within the development, the source of timber and its environmental credentials.

You must reference the paragraph in the contract specification, which details the timber requirements.

Where information has not been provided for a particular use, it will be assumed that the timber does not comply.

Alternatively, you may reference your purchasing policy or provide a copy of a purchase order, clearly specifying timber type, quantity, origin and certification it must fall under.

To achieve credits for timber and timber panel products used in the construction you will need to include the following in the contract specification:

5. For FSC, PEFC, UKWAS or similar certification schemes: the requirement that documents demonstrating independent certification of sustainable forest management in accordance with the principles and criteria of the appropriate scheme are supplied.

6. For Government License: the requirement that information on the precise origins of timber and timber panel products with confirmation that they originate from trees cut under Government licence, which specify sustainable management practices are supplied. Companies that operate in accordance with the Timber Trade Federation s and Forests Forever s Environmental Purchasing Policy should be able to provide this evidence.

7. For pre or post consumer waste: the requirement that documentation demonstrating that the timber in the timber panel products are sourced from pre or post consumer waste is supplied. This can be in the form of trade literature or a letter from the supplier.

8. For reused timber: the requirement that documentation demonstrating that the timber within the development is reused timber is supplied. This can be in the form of trade information or a letter from the supplier, or a letter from the developer where timber on site is being reused.

For situations where some timber achieves different levels of certification and management, 75% of the timber must achieve the higher requirement, with the rest achieving the minimum requirement.

Developers will need to ensure the documentation is provided, and BRE may audit this as part of their quality assurance system.

Please indicate which level of performance the development will achieve (please tick the appropriate level):

FSC certification	☐
PEFC or equivalent national certification scheme	☐
Government license	☐

SHEET M1 – FINISHING ELEMENTS TIMBER USAGE SHEET

SITE:
PLOT:

Indicate for each element of the building the timber description sheet(s) which provide(s) details of the timber used.

Cross through any elements which do not apply to your design (either because timber is not used in that element or because the element does not exist in the design).

Include timber used in communal areas of blocks of flats (e.g. stairwells, foyers).

Sheet M1	TIMBER DESCRIPTION SHEET NUMBER					
FINISHING ELEMENT	Type	N°/Vol.	Type	N°/Vol.	Type	N°/Vol.
Stair handrails	M2/		M2/		M2/	
Stair balustrades	M2/		M2/		M2/	
Stair banisters	M2/		M2/		M2/	
Other stair guarding/rails	M2/		M2/		M2/	
Window frames	M2/		M2/		M2/	
Window boards	M2/		M2/		M2/	
Window sills	M2/		M2/		M2/	
External door frames	M2/		M2/		M2/	
External door linings	M2/		M2/		M2/	
External door	M2/		M2/		M2/	
Internal door frames	M2/		M2/		M2/	
Internal door lining	M2/		M2/		M2/	
Internal doors	M2/		M2/		M2/	
Architrave	M2/		M2/		M2/	
Skirting Boards	M2/		M2/		M2/	
Dado rails	M2/		M2/		M2/	
Picture Rails	M2/		M2/		M2/	
Panelling	M2/		M2/		M2/	
Any other Trim (Please specifiy)	M2/		M2/		M2/	
Kitchen furniture	M2/		M2/		M2/	
Bedroom furniture	M2/		M2/		M2/	
Bathroom furniture	M2/		M2/		M2/	
Other (please describe)	M2/		M2/		M2/	

SHEET M2 –TIMBER DESCRIPTION FINISHING ELEMENTS

SHEET NUMBER [M2/]

TIMBER ELEMENT:
SITE:
PLOT:

Please indicate the type of materials used in this element. If more than one (version) of the element is used please complete a separate sheet for each one.

For each material circle the level of performance the material meets.

	Hardwood				**Softwood**				**Recycled materials**	
Solid Timber	FSC*	OCS*	GL*	R*	FSC	OCS*	GL*	R*		
Plywood	FSC	OCS	GL	R	FSC	OCS	GL	R		
Veneer	FSC	OCS	GL	R	FSC	OCS	GL	R		
Particleboard (Chipboard)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Fibreboard (MDF)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Cement Bound particle board	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
OSB (oriented strand board)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post
Other (please specify)	FSC	OCS	GL	R	FSC	OCS	GL	R	Pre	Post

*FSC = Forestry Stewardship Council,

OCS = Other Certification Scheme eg. UKWAS, PEFC or equivalent

GL = Government License

R = reused

Pre = pre consumer recycled

Post = post consumer recycled

Please indicate the reference in the contract specification: _____

N RECYCLABLE MATERIALS

Six credits are available.

Aim

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

Background

Domestic waste is a significant contributor to landfill sites. As the provision for disposal of waste becomes ever more scarce then the cost of disposal of waste will continue to increase. Much domestic waste can be recycled, and some of it can be reduced significantly.

In England and Wales the amount of household waste increased by around a third in total, and by almost 26 percent per person, between 1983/84 and 1999/2000. During 1999/2000 over 26 million tonnes (an average of almost 500 kg per person) was collected by local authorities. Just over 10 per cent of this waste is recycled or composted. Most recycling comes from bring sites such as bottle banks and, increasingly, from kerbside collections.

A target to recycle or compost 25 percent of household waste by 2005 was set in the UK s Waste Strategy 2000. EcoHomes encourages developers to make it easier for occupiers to work towards this target.

Credit Requirements

2 Credits for the provision of either:

- Three internal storage bins with a minimum total capacity of 60 litres for storage of recyclable household waste. No individual bin must be smaller than 15 litres and all bins should be in a dedicated position.

OR

- Three external bins with a total capacity of at least 180 litres (or LA collection scheme for recyclable material) for storage of recyclable household waste within 2m of the external door. No individual bin must be smaller than 40 litres and all bins must be in a dedicated position.

OR

6 credits for providing both internal and external storage of the following capacities:

- Three internal storage bins with a minimum total capacity of at least 30 litres. No individual bin must be smaller than 7 litres and all bins should be in a dedicated position.

AND

- Three external bins with a total capacity of at least 180 litres (or LA collection scheme for recyclable material) for storage of recyclable household waste within 10m of the external door. No individual bin must be smaller than 40 litres and all bins must be in a dedicated position.

Information from the Developer

Internal bins:	**Yes**		**No**
Are you providing internal storage bins for recyclable waste?			
How many are supplied? (please circle)	1	2	3
What capacity are they? (please indicate in litres under bin 1,2 and 3)			
External bins:	**Yes**		**No**
Are you providing external storage containers for recyclable waste?			
How many are supplied? (please circle)	1	2	3
What capacity are they? (please indicate in litres under bin 1,2 and 3)			
What distance from the external door are they?			m
Local authority collection scheme:	**Yes**		**No**
Is there a local authority recyclable materials collection scheme? If yes, please provide details.			

Please provide page numbers of the instruction in the General Contract Specification, and mark location of any internal or external storage on the General Arrangement Drawings.

Page number General Contract Specification:_____

Please note that the provision of recyclable material storage must be **in addition** to the provision of bin storage for non-recyclable refuse, both internally and externally.

O ENVIRONMENTAL IMPACT OF MATERIALS - GREEN GUIDE FOR HOMES

Sixteen credits are available

Aim

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

Background

BRE and NHBC have developed a guide to enable developers to specify the most environmentally sound components for their given situation. This includes the embodied energy content of the materials, toxicity and also related to the expected life of the components. The Guide, which is similar to the existing green guide for specification (for offices) is designed to meet the requirements of the housing sector. The components are ranked on a scale from A to C, with A being the most environmentally sound.

The production, use and disposal of building materials accounts for significant quantities of energy and resources both internationally and in the UK. The BRE Green Guide to Housing Specification provides a simple tool to aid specifiers in considering the environmental implications of their choices.

Credit requirements

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

- Roof (3 credits)
- External walls (3 credits)
- Internal walls (3 credits)
- Floors — upper and ground floor (3 credits)
- Windows (2 credits)
- Hard landscaping (1 credit)
- Fencing (1 credit)

This must cover all of the dwellings in the development to achieve the credits.

Information from the developer

Please complete sheet O1, indicating the specification for each of the different elements, the percentage area of this and the Green Guide for Housing Specification rating, (if you know the latter):

Sheet O1

Element	Type	Specification	% elemental area	Green Guide rating
Roof	**1**			
	2			
	3			
	4			
External Walls	**1**			
	2			
	3			
	4			
Internal Walls	**1**			
	2			
	3			
	4			
Floor – Upper and ground	**1**			
	2			
	3			
	4			
Windows	**1**			
	2			
	3			
	4			
Hard Landscaping	**1**			
	2			
Fencing	**1**			
	2			

Please extend the table as necessary to cover all different specifications for each element.

WATER

In 1995, approximately 17,500 millions litres of water were abstracted each day in England and Wales to supply the public. Water consumption in the UK has risen by 70% over the last 30 years. On a global scale freshwater is very limited - water in lakes, streams and rivers makes up less than 0.01% of the Earth's water.

To meet increases in demand, new sources of water supply, and infrastructure to move water from areas of surplus to areas of deficit have been created. However, the construction and operation of suitable infrastructure (for example reservoirs) is expensive, energy intensive and damaging to the environment. An alternative approach is to reduce the demand for water.

Reducing the level of household demand for water can be achieved in many ways ranging from simple fitting of water saving appliances such as low flow taps and showers, low flush WC s and water saving washing machines to advanced rain water or grey water recycling systems.

P WATER CONSUMPTION

Five credits are available.

Aim

To reduce consumption of water in the home.

Background

Water is becoming an increasingly scarce resource as demand continues to increase dramatically. Consumers are more aware of this being an issue due to the high incidence of hose pipe bans in recent years and the introduction of water metering in some areas. There are many actions that can be taken to minimise water consumption and all should be considered. Water consumption figures will be predicted based on the types of WCs, showers, taps and white goods installed in the properties being assessed. Use of grey water systems and garden watering shall be looked at as typical usage factors to be included in the calculations.

Credit requirements

Credits are awarded against a scale of water consumption per bed space as follows:

- 1 credit where water consumption is less then 50 m^3 per bed space pa
- 2 credits where water consumption is less than or equal to 45 m^3 per bed space pa
- 3 credits where water consumption is less than or equal to 40 m^3 per bed space pa
- 4 credits where water consumption is less than or equal to 35 m^3 per bed space pa
- 5 credits where water consumption is less than or equal to 30 m^3 per bed space pa

Information from the Developer

Please indicate how many of each of the following you have for each house type:
NB Information on the kitchen sink is not required.

Installation type	Installation item (indicating how many in each house type)	House Type									
		1	2	3	4	5	6	7	8	9	10
WC	9l flush										
	7.5l flush										
	6l flush										
	6/4l dual flush										
	4l flush										
	4/2 l dual flush										
	0 l flush										
Wash hand basin	Regular taps										
	Taps with flow regulators										
	Auto shut off taps										
	Aerating taps										
Shower	>15 l/min										
	12 < flow rate† 15 l/min										
	9 < flow rate † 12 l/min										
	6 < flowrate † 9 l/min										
	4.5 < flowrate † 6 l/min										
	Flowrate † 4.5 l/min										
Bath	Large >200 l to overflow										
	Standard 150 l <overflow †200 l										
	Small † 150 l to overflow										
White goods	Washing machine — 60l/use										
	Washing machine — 40 l/use (low water)										
	Dishwasher — 25l/use										
	Dishwasher — 12 l/use (low water)										
External	External tap										
	Swimming pool[1]										
Waste water management[2]	Rainwater recycling										
	Grey water										
Other (please specify):											

[1] Please provide details of the swimming pool, out door Jacuzzi etc , including volume and area.
[2] Please proved details for any wastewater management systems

Yes	No

Does this include all water consuming systems?

If no please provide details of other appliances / systems, with their water consumption and the relevant house type.

Please also provide page numbers of instructions in the General Contract Specification:_____

LAND USE AND ECOLOGICAL VALUE

Government funded research has shown that by 2016 up to 12% of England could be covered with urban development compared with 10-11% in 1991. The figures include land for new housing, and other developments such as shopping , employment, leisure, education and transport, and assumes that the re-use of previously developed (brownfield) sites for new housing will continue at the current rate.

The innovative use of land can help in the development of sustainable communities where there is less demand for travelling by car and where brown field sites and reclaimed industrial land are used in preference to green field sites.

Care must also be taken to avoid using land of high ecological value and to avoid damaging existing urban habitats. Damage can be minimised by either selecting areas of land for development that already have little or no ecological value; such as previously built upon sites and areas of contaminated land. It is also possible to build in a way that protects the most important environmental attributes of a site. In some cases a development may be built in a way that enhances the ecological value of a site. This can be achieved by encouraging the nesting of native bird species and by planting with indigenous plants.

EcoHomes aims to minimise the ecological impact created by new residential developments and encourage, where possible, the enhancement of a sites ecological value. This can be achieved by environmental protection and management techniques and also by choosing to build on areas of land with a low value to wildlife, such as brown field sites.

By electing to construct housing on areas of reclaimed land in urban areas developers will also be able to help keep the increasing sprawl of urban areas to a minimum. At the same time the need to build new transport networks and amenities to serve new out of town developments will be avoided as towns will have a more compact form.

Q ECOLOGICAL VALUE OF SITE

Three credits are available.

Aim

The purpose of this credit is to encourage the use of land which is of low ecological value, the enhancement of the ecological value of a site and the protection of existing features.

Background

The re-use of existing sites will help to slow down or stop the destruction of natural habitats and the wildlife they support, as well as preventing loss of land used for agriculture, park land etc. Wherever homes are constructed, there is always a risk that, however environmentally benign the building or development itself, it may present a threat to local ecology or areas of natural beauty. The principle here is to minimise the damage to existing local ecology and then, where possible, to enhance it.

Damage can be minimised either by selecting a site of low ecological value or by developing a site in a way that protects the most important ecological attributes. House building need not reduce the ecological valued of the site; it may enhance it in many cases. Of course, there will always be some temporary disturbance to the local ecology, but wildlife will return once the construction is complete provided there is the right habitat available for it to do so.

One attractive option is to build on and revitalise a previously derelict site. Care must be exercised because the site may be inhabited by rare, protected or locally important species if it has been derelict for some time. The site may, therefore, have high but hidden ecological value.

Credit Requirements

- 1 credit for minimising ecological damage by either:
  - building on land which meets defined criteria for low ecological value; or
  - where land is ecologically valuable, designing within recommendations following an audit by the AWTC (Association of Wildlife Trust Consultancies) or another qualified organisation recognised and audited by a recognised authority.
- 1 credit for designing-in features for positive enhancement of the site ecology in accordance with advice from the AWTC.
- 1 credit for the protection of existing features.

Information from the developer

Have you already had an assessment of the site carried out by the AWTC or equivalent?	Yes	No

If YES, please enclose a copy of the AWTC (or equivalent) survey form and/or enhancement recommendations*. Please also include your drawings to show that you have incorporated any recommendations and make reference in your General Contract Specification.
Page Number:_____

If NO, indicate what types of land will be used for the new building or which will be used for access to the building site by completing the following questions:

Type of land to be used for the development, or for site access		Yes	No
1	Land which is entirely within the floor plan(s) of existing building(s) or building(s) demolished within the past 2 years		
2	Land which is entirely covered by other constructions such as car parking, or which have been demolished within the past 2 years		
3	Land which is contaminated by industrial or other waste so that it would need decontamination before building		
4	Land as at 1,2 or 3 but extending to no more than 20% of the footprint of the dwelling into un-built land. This may include a mixture of single-crop arable farm land (Max 10%) and regularly cut lawns and sports fields		
5	Land as at 1,2 or 3 but extending to a maximum of 10% of the footprint of the dwelling into an area which has been used for at least 5 years for single-crop arable farming (without using any lawns or sports fields)		
6	Land as at 1,2 or 3 but which extends to a maximum of 20% of the footprint of the dwelling into land which consists of regularly cut lawns and sports fields (without using any arable farm land)		

Ecological features of the land	Yes	No
Are there trees above 1 metre high?		
Are there ponds, streams and rivers?		
Are there areas of marsh and other wetland?		
Are there natural meadows?		
Are there areas of heath land, such as heather?		
Are ALL existing features to be protected during construction?		

Please provide details and make reference to the general Contract Specification.
Page Numbers: _____

Indicate the land use on the Site Layout Plan.

*An application form (form Q1) for an ecological survey is included at the back of this section along with relevant contact details.

EXPLANATION OF FORM Q1 (APPLICATION FOR AN ECOHOMES ECOLOGICAL SURVEY)

You should use this form when you apply for an Association of Wildlife Trusts Consultancies (AWTC) assessment as part of your **EcoHomes** assessment. The results can be used to show that you will minimise ecological damage on your building site, and/or to show how you will enhance the current ecological value of the site.

Please provide all the information requested, and attach photocopies of the first two pages of the **EcoHomes** Assessment Worksheet.

Based on the number of dwellings proposed on the site, the AWTC fee will be as follows:

One site containing 1-5 dwellings	=	£250.00 + VAT
One site containing 6-100 dwellings	=	£250.00 + £15.00 for each additional dwelling +VAT
One site containing over 100 dwellings	=	by negotiation.

subject to a minimum charge of *£250* + VAT for a desk survey, or *£250* + VAT for a site visit.

The fee will include travel to and from the site, and the survey/assessment/report on the site, per visit.

These rates are correct as at *9th January 2002* but AWTC reserves the right to revise these rates at any time.

Please return the completed form with the appropriate fee to:

Middlemarch Environmental Ltd
Common Lane
Kenilworth
Warwickshire
CV8 2EL

FORM Q1 - APPLICATION FOR AN AWTC ECOLOGICAL SURVEY

The Association of Wildlife Trust Consultancies

EcoHomes: the Environmental Rating for Homes Ref No:BRE .

Site Name: .

Site Address: .. Applicant: .

.. .

.. .

.. .

Contact name: .. Phone No: .

Title: .. Fax No: .

Grid Reference: .. Area of site (ha) .

Site access details should be appended to this form and include a location map and site layout plan

Date for site visit: .. Date report required:

Fees: (These are based on the area of the site concerned)

New Homes:

1-5 dwellings	£250
6-100 dwellings	£250 + £15 for each additional dwelling
Over 100 dwellings	£ negotiable
Desk Study	*£250* minimum.

All prices are *inclusive of expenses but subject to* VAT

The fee includes the cost of:
- site visit
- an ecological assessment of the site
- guidelines for the protection and enhancement of site ecology

Credits will be awarded for:
- confirmation of low ecological value of the site
- subsequent designing in of enhancement recommendations

Please return the completed form with the appropriate fee and plans to Middlemarch Environmental Ltd *Common Lane Kenilworth CV8 2EL*

For further details please contact David Smith (Landscaping queries) or *Fiona Chester* (General queries) on tel: *01926 865850* ; fax: *01926 865851*

The Association of Wildlife Trust Consultancies are a nationwide network of quality environmental consultancies committed to sustainable activity based on ecological principles.

AWTC members support their local Wildlife Trusts by providing funds for nature conservation Member of the Institute of Environmental Assessment

R CHANGE OF ECOLOGICAL VALUE OF SITE

Four credits are available.

Aim

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

Background

Any development of land will result in some change in the ecological value of it. The development might improve on it, or it might reduce the value. The purpose of this credit is to reward steps taken to minimise reductions in ecological value and to encourage an improvement. This is to be done by comparing the value of a site before and after development and making a direct comparison in terms of plant species per hectare (this is used as a proxy for biodiversity). The method takes account of the local landscape type and the different habitats that exist to calculate an average value for the site.

Credit Requirements

- 1 credit for a change of ecological value of between —9 and —3 natural species hectares;
- 2 credit for a change of ecological value of between —3 and +3 natural species hectares;
- 3 credit for a change of ecological value of between +3 and +9 natural species hectares;
- 4 credit for a change of ecological value of greater than +9 natural species hectares.

Information from the developer

What is the broad landscape type of the development area — please tick one?
(Definitions of landscape and plot types can be found on the next page)

Existing building/ hard landscaping	
Urban parkland	
Urban/industrialised derelict land <1 year	
Urban/industrialised derelict land <10 year	
Urban/industrialised derelict land <20 year	
Urban/industrialised derelict land ‡30 year	
Arable	
Pastoral	
Marginal Upland	
Upland	

Please complete the following table to provide details of the **original land type** of the development:

Type of Plot	**Area (m^2)**
Crops weeds	
Tall grassland/ herb	
Fertile grassland	
Infertile grassland	
Lowland wooded	
Upland wooded	
Moorland grass/ mosiac	
Heath/ bog	
Hard landscaping	
Buildings	
Garden Planting (Typical)	
Wildlife Garden Planting	
Water feature (contact BRE)	

Please complete the following table to provide details of the **proposed land type** of the development:

Type of Plot	**Area (m^2)**
Crops weeds	
Tall grassland/ herb	
Fertile grassland	
Infertile grassland	
Lowland wooded	
Upland wooded	
Moorland grass/ mosiac	
Heath/ bog	
Hard landscaping	
Buildings	
Garden Planting (Typical)	
Wildlife Garden Planting	
Water feature (contact BRE)	

Please also mark on the site layout drawings details of the plot types.

Landscape and vegetation group definitions
(Ref.: Digest of Environmental Statistics No. 20 1998 HMSO)

Rural Landscape types

Pastural: Mainly grasslands.
Arable: Land dominated by cereals and other arable crops, as well as intensively managed grasslands.
Marginal Upland: Areas which are on the periphery of the uplands, and which are dominated by mixtures of low intensity agriculture, forestry and semi-natural vegetation.
Upland: Land generally above a height suitable for mechanised farming and frequently dominated by semi-natural vegetation.

Vegetation groups

Crops/weeds: Mostly highly disturbed vegetation of arable fields and their boundaries includes cereal and vegetable crops.
Tall grassland/herb: Typical vegetation of overgrown lowland field boundaries, ditches and roadside verges.
Fertile grass: The bulk of agriculturally improved grasslands, intensive pasture and silage crops; but also includes mown, resown roadside verges.
Infertile grass: A diverse group of semi-improved and semi-natural grasslands; includes acidic to basic, wet to dry grasslands and tall-herb vegetation mainly present in the lowlands; often found on streamsides and roadside verges.
Lowland wooded: Includes wooded vegetation of hedges and broadleaved woods in the lowlands.
Upland wooded: A varied group of acidic vegetation types usually associated with upland woods, including: semi-natural woodland; conifer plantations; bracken and wooded streamsides.
Moorland grass/mosaic: Typically grazed moorland vegetation, including extensive upland acidic and peaty grassland; and species-rich but very localised flushes.
Heath/bog: Mostly heather moorland, blanket bog and montane heath, but also lowland heath and raised bog.
Wildlife' Garden Planting: Garden planting that uses native species and those that have a known attraction or benefit to local fauna.

S BUILDING FOOT PRINT

Two credits are available

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.

Background

Available land for developing will become increasingly expensive as land resources come under pressure. Use of green field sites is already being limited and developers are likely to experience hostility from the local community. To make best use of the available land and other resources including materials and energy, it is important to ensure effective use of the building footprint by maximising the useable space.

Credit Requirements

- 1 credit where 60% of the development s total floor area divided by the foot print of the building is greater than 2.5
- 2 credits where 80% of the development s total floor area divided by the foot print of the building is greater than 2.5

Information from the developer

Please complete the following table with details for each dwelling type on the development:

House Type	Floor Area (m^2)	÷	Footprint (m)	=	Ratio
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	
		÷		=	

Floor area = habitable area incl. usable loft space and basement
Footprint = incl. garages and outhouses

For flats/ apartments, please calculate for the total block of flats/ apartment block.

HEALTH AND WELL BEING

In the UK, and many other western countries, people spend on average around 90% of their time in buildings, or within the built environment. Buildings make a major contribution to our quality of life because of the environment they provide for work, leisure and home. They must provide a healthy and comfortable environment, and provide appropriate amenities for the activities carried out.

The availability of external space around, and close to, the home is one key aspect affecting the quality of life of the occupiers.

Indoors, the key issues are daylight and transmission of noise. One of the most common causes for disputes between neighbours is noise.

T DAYLIGHTING

Two credits are available

Aim

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

Background

People expect good natural lighting in their homes. Daylight makes an interior look more attractive and interesting, as well as providing light to work or read by, and is also beneficial to health. Further, access to sunlight and daylight help to make a building energy efficient; effective daylighting will reduce the need for electric lighting, while winter solar gain can meet some of the heating requirements.

The quality and quantity of natural light in an interior depends both on the design of the interior environment (size and position of windows, depth and shape of rooms, colours of internal surfaces) and the design of the external environment (obstructing buildings and objects).

Credit Requirements

- 1 credit for designing the kitchen to meet the daylighting criteria set out in British Standard BS 8206:part 2.
- 1 credit for designing all other habitable rooms to meet the daylighting criteria set out in British Standard BS 8206:part 2.

Information from the Developer

Please complete and enclose calculations for each room following the equation and information provided on the attached Help Sheet T1 — Daylight calculation sheet.

"Habitable rooms" in this context means living rooms, dining rooms, and study (or room designated as one in home office credit).

Kitchen	**Yes**	**No**
Does the design provide for a minimum average Daylight Factor in the kitchen (minimum 2% for kitchens)		
Does the kitchen give a view of the sky from tabletop height (0.85m) in at least 80% of the area of the room? (Figure T3)		
Can the sky be seen from every fixed work surface and table in the kitchen?		
For other habitable rooms	**Yes**	**No**
Does the design provide for a minimum average Daylight Factor in each habitable room (1.5%)		
Does each habitable room give a view of the sky from table top height (0.85m) in at least 80% of the area of the room? (Figure T3)		

SHEET T1 – DAYLIGHT CALCULATION SHEET

Under standard overcast conditions:

Average daylight factor $\overline{DF} = \frac{\overline{E}\,in}{Eout} \times 100\%$

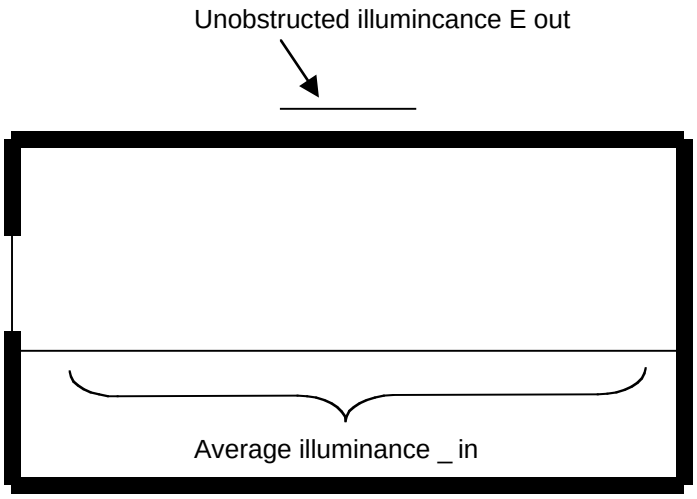


Figure T1 — Definition of average daylight factor

Average daylight factor calculation
Crisp and Littlefair derived the following formula, based on earlier work by Lynes, for average daylight factor in rooms with side window or rooflights:

$$\overline{DF} = \frac{M\,W\quad T}{A\left(1-R^2\right)}\%$$

Where W is the total glazed area of windows or rooflights
A is the total area of all the room surfaces (ceiling, floor, walls and windows)
R is the area-weighted average reflectance of the room surfaces
M is the a correction factor for dirt
T is the glass transmission factor
_ is the angle of visible sky (Figure T2 - 1 and 2)

Guide values for a typical dwelling with light-coloured walls are as follows:
R = 0.5
M = 1.0 (vertical glazing which can be cleaned easily)
0.8 (sloping glazing)
0.7 (horizontal glazing)
T = 0.7 (double glazing)
0.6 (double glazing with low-emissivity coating)
_ = 65 ß (vertical glazing)

Angle of visible sky

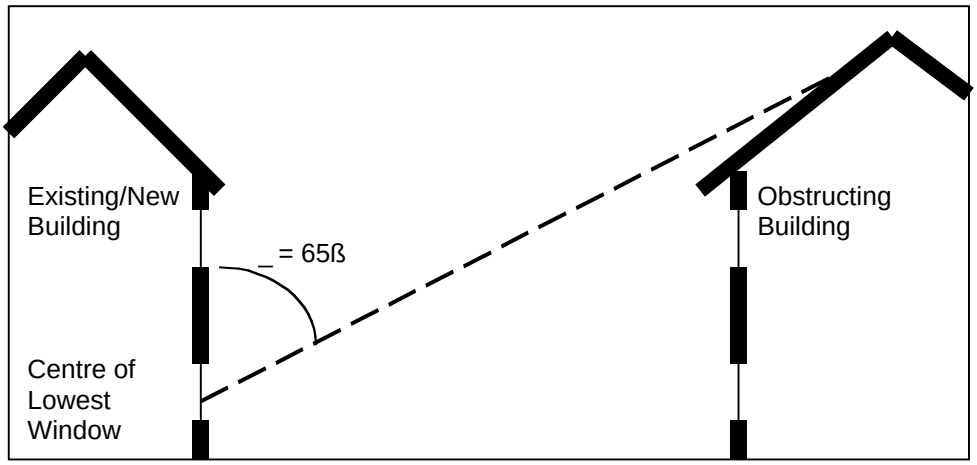


Figure T2-1 Section in plane perpendicular to the main face of the building.

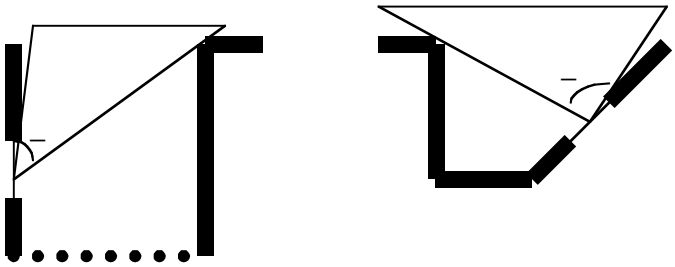


Figure T2-2 Definition of theta _, the angle subtended, in the vertical plane normal to the window, by the sky visible from the centre of the window.

If, for any part of the development, theta _ is less than 65 degrees, a more detailed check is needed to find the loss of sunlight to the building.

View of the sky

The no-sky line divides those areas of the working plane, which can receive direct skylight, from those which cannot. It is important as it indicates how good the distribution of daylight is in a room. Areas beyond the no-sky line will generally look gloomy.

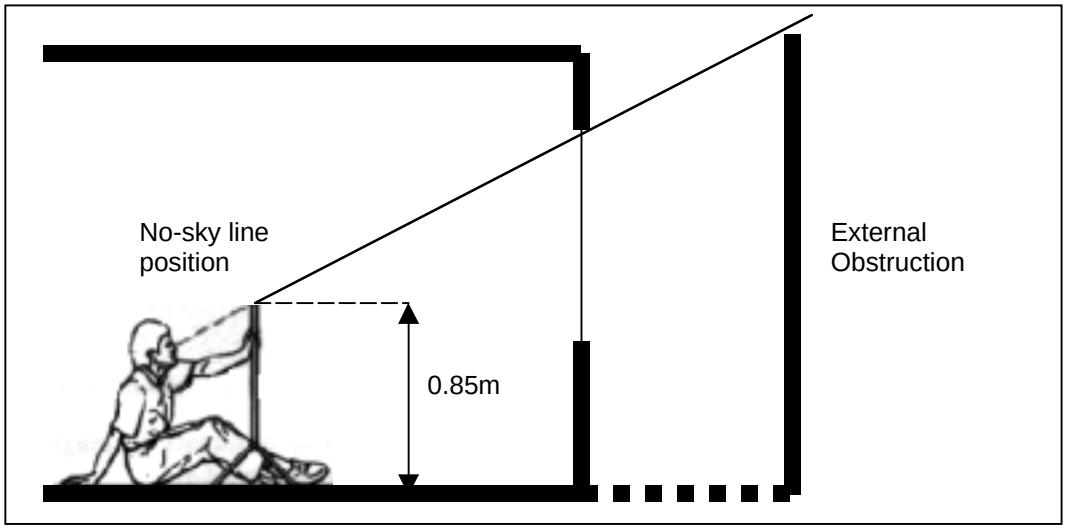
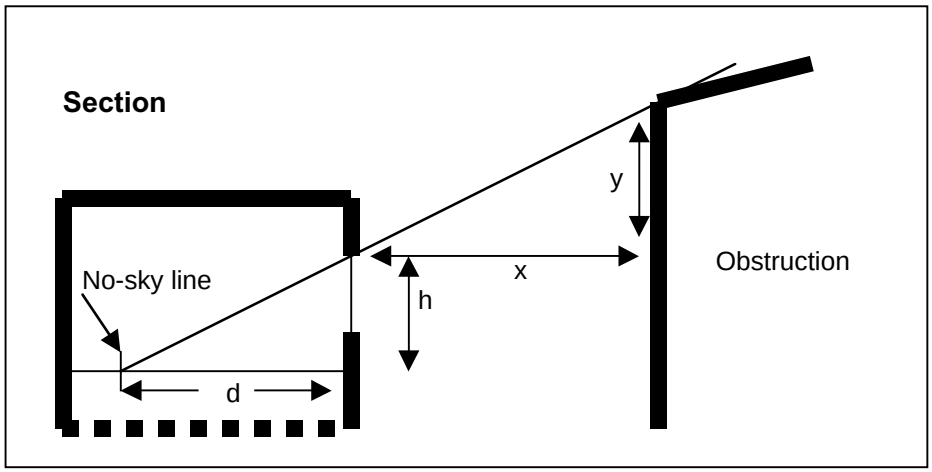


Figure T3 At the no-sky line, that last visible patch of sky above the obstructions will just disappear when the window head is slighted through a point at working plane height.

How to calculate the no-sky line:



$$\mathbf{d} = \frac{\mathbf{xh}}{\mathbf{y}}$$

Where h is the height of the window head above the working plane
y is the height of the obstruction above the window head
x its distance from the outside wall

If d is greater than the room depth, then no part of the room lies beyond this no-sky line.

I SOUND INSULATION

Four credits are available

Aim

To encourage the provision of improved soundproofing between party walls and floors to reduce the likelihood of nuisance.

Background

One of the most common causes for disputes between neighbours is noise. Environmental Health Officers received over 5000 complaints per million people in 1999/2000 from domestic premises. This accounts for 79 per cent of all complaints received. Further the number of complaints almost quadrupled between between 1984/5 and 1999/2000. EcoHomes try to reduce nuisance and increase privacy for occupants by encouraging good sound insulation by rewarding developments that build party walls and floors to a standard higher than current Building Regulations.

Credit requirements

- 0 credits for achieving compliance with Approved Document part E of the Building Regulations.
- 1-3 credits for provision of party walls with performance above Building Regulations as described in the attached table.

  Note that where there are no party walls, three credits are automatically awarded.
- 1 credit for provision of party floors with performance above Building Regulations as described in the attached table.

  Note that where there are no party floors, this credit is automatically awarded.
- 4 credits for all detached housing

Information from the Developer

	Yes	No
Are all the housing types detached?		
If no, what percentage of the development is detached housing?		%

For dwellings which are not detached housing please provide details of the construction used and the percentage of dwellings on the site using this construction technique. (Please use table 3 to determine standard wall, floor types)

Construction Element	Construction Type	Reference	Percentage of dwellings using this type of construction
Separating wall type			
Separating floor type			

The floor and wall types given in table 3 are derived from extensive research by BRE on the acoustic performance of generic wall types, and includes those which should perform better than basic performance.

Please provide arrangement drawings and make reference to the instruction in the General Contract Specification:

Page Numbers: _____

TABLE 3: CONSTRUCTION DESCRIPTIONS

The descriptions here are derived by the Acoustics Centre at BRE using work carried out for the Building Regulations and also described in the publication Quiet homes - a guide to good practice and reducing the risk of poor sound insulation between dwellings John Seller 1998.

Walls
Four generic wall types are specified, each with sub-types. These wall types can typically be found in Approved Document E.

Wall type 1: *Solid Masonry*

Wall type 1.1 *Dense aggregate concrete block, plastered on both room faces.*
- minimum mass per unit area including plaster of 415kg/m^2.
- 13mm plaster to both room faces.
- use blocks that are laid flat to the full thickness of the wall.

Wall type 1.2 Dense aggregate concrete in-situ or large panel, plaster optional.
- minimum mass per unit area including plaster (if used) to be 415kg/m^2.
- joints between panels to be filled with mortar.

Wall type 1.3 *Brick, plastered on both room faces.*
- minimum mass per unit area including plaster to be 375kg/m^2.
- 13mm plaster to both room faces.
- bricks to be laid frog up, coursed with headers.

Wall type 1.4 *Brick, plasterboard on both room faces*
- minimum mass per unit area including plasterboard to be 375kg/m^2
- plasterboard of minimum mass per unit area 10kg/m^2, using any normal fixing method.
- bricks to be laid frog up, coursed with headers, ensure that all joints are well sealed with mortar.

Wall type 1.5 *Dense aggregate concrete block, plasterboard on both room faces*
- minimum mass per unit area including plasterboard to be 415kg/m^2.
- plasterboard of minimum mass per unit area 10kg/m^2, using any normal fixing method.
- use blocks laid flat which extend to the full thickness of the wall.
- ensure that all joints are fully sealed with mortar.

Wall type 2: *Cavity masonry*

Wall type 2.1 *Two leaves of dense aggregate concrete block with 50mm cavity*
- minimum mass per unit area including plaster to be 415kg/m^2.
- 13mm plastered on both room faces.

Wall type 2.2 *Two leaves of lightweight aggregate block*
- maximum density 1600kg/m^3.
- minimum cavity width of 75mm.
- 13mm plastered on both room faces.
- minimum mass per unit area including finish to be 300kg/m^2.

Wall type 2.3 *Two leaves of dense aggregate concrete block*
- minimum mass per unit area of masonry to be 415kg/m^2.
- minimum cavity width of 50mm.
- plasterboard, each sheet of minimum mass per unit area 10kg/m^2, to both room faces.

Wall type 2.4 *Two leaves of lightweight aggregate block (maximum density 1600kg/m^3)*

- minimum mass per unit area of masonry to be 300kg/m^2.
- minimum cavity width of 75mm.
- plasterboard on both room faces, each sheet of minimum mass per unit area 10kg/m^2, to both room faces.

Wall type 3: *Masonry between isolated panels*

Wall type 3.1 *Solid masonry core (dense aggregate concrete block or lightweight aggregate concrete block)*

- dense aggregate block should have a mass per unit area of at least 300kg/m^2.
- lightweight aggregate should have a minimum mass per unit area of 160kg/m^2.

Wall type 3.2 *Cavity masonry core*

- the core can be of any mass per unit area.

These are combined with panel systems (a) or (b):

(a) two sheets of plasterboard joined by a cellular core

- mass per unit area including plaster finish if used 18kg/m^2.

Or

(b) Two sheets of plasterboard

- plasterboard, each sheet of minimum mass per unit area 10kg/m^2, with joints staggered.
- Thickness of each sheet 12.5mm if a supporting framework is used, or total thickness of at least 30mm if no frame is used.

Wall type 4: *Timber & steel frames with absorbent material*

Double leaf frames

- minimum distance between linings is 200mm
- absorbent material must be incorporated in the cavity.
- plywood sheathing may be used in the cavity as necessary for structural reasons.

With

Lining on each side

- Two or more layers of plasterboard, combined thickness 30mm, joints staggered to avoid air paths.

Floors

Three generic floors are specified, some with sub-types. These wall types can typically be found in Approved Document E. At present there is insufficient test data to be able to rank all floors, so the importance of demonstrating performance by means of testing is thus highlighted.

Floor Type 1 *Concrete base with soft covering*

Floor type 1.1 *Solid concrete slab either in-situ or with permanent shuttering*

- minimum mass per unit area (including shuttering only if it is solid concrete or metal and including any *bonded* screed) 365kg/m^2.
- A soft covering is required.

Floor type 1.2 *Concrete planks (solid or hollow)*

- Minimum mass per unit area of planks screed and *any bonded screed* ceiling finish 365kg/m^2.
- A regulating screed is recommended and required when there is more than a 5mm step between units.
- A ceiling finish is required.
- A soft covering is required.

Floor type 2 *Concrete base with floating layer*

Floor type 2.1 *Concrete planks (solid or hollow)*
- minimum mass per unit area of planks and any bonded screed 300kg/m^2.
- all floor joints shall be grouted to increase air tightness and sound insulation.
- a regulating screed and ceiling finish is required.
- a floating layer are required.

Floor type 2.2 *Solid concrete slab with permanent shuttering or cast in-situ*
- minimum mass per unit area (excluding shuttering only if it is solid concrete or metal, and including bonded screed) 300kg/m^2.
- floor screed and ceiling finish are optional.
- a floating layer is required.

Floor type 2.3 *Concrete beams with infilling blocks*
- minimum mass per unit area of beams, blocks excluding bonded screed 300kg/m^2.
- 50mm bonded screed is required.
- an independent ceiling is required.
- floating layer and resilient layers are required.

Floor type 3: *Timber or steel frame floor base with floating layer and isolated ceiling*

Timber or steel structural floor base, floating layer and isolated ceiling with absorbent material (the absorbent material may alternatively be installed in the structural floor base).

The construction has the following components:
- floating layer.
- resilient layer.
- structural floor base.
- isolated ceiling with absorbent material.

Table 4 PERFORMANCE LEVEL

Performance level	**+0**	**+1**	**+2**	**+3**
Airborne Walls $\mathbf{D_{nT,w} + C_{tr}}$	***47-48***	***49-51***	***52-53***	***≥54***
Types	1.5 2.3 2.4	1.1 1.3 2.1 2.2 4	1.2	3
Airborne Floors $\mathbf{D_{nT,w} + C_{tr}}$	***47-48***	***49-51***	***52-53***	***≥54***
Type	1.0 2.3 3.0	2.1 2.2		
Impact Floors $\mathbf{L_{nT,w} + C_I}$	***59-58***	***57-56***	***55-54***	***≤53***
Type	1.0 2.2 2.3 3.0	2.1		

DEFINITIONS

Level difference *(D)*

The arithmetic difference between the sound-pressure level in the source room and that in the receiving room (see also $D_{n,E}$)

$D_{n,E}$

Normalised level difference of an individual element

$D_{n,E,w}$

The weighted single figure number of $D_{n,E}$

Impact sound-pressure level *(L_1)*

The sound-pressure level in a room, resulting from impacts on the floor above generated using a standardised impact sound source

Spectrum adaptation term

A value in decibels added to the single number rating to account for the characteristics of a particular sound spectrum. For example the adaptation term C_{tr} characterises the difference between the A-weighted levels for a road traffic noise spectrum.

Weighted sound-insulation values

Single figure sound insulation values obtained over the one-third octave band frequency range 100 Hz to 3150 Hz are turned into a single-figure weighted value using the procedure given in British Standard EN ISO 717.

V PRIVATE SPACE

One credit is available

Aim

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

Background

The availability of external space around and close to the home is one of the key aspects affecting the quality of life of the occupiers. The external space can be a private garden as well as a shared garden, balcony or roof terrace.

For occupants of flats, many of whom are located in city centres, there is often no easy access to outside space, especially that which is relatively private. Therefore the availability of a shared garden, balcony or roof terrace will be of great benefit to those occupiers.

Credit Requirement

- 1 credit for the provision of outside space that is at least partially private.

Information from the Developer

Please indicate what private or semi private outdoor spaces are available within the development:

	Yes	No
A secure individual garden		
A secure garden that is shared but only accessible to the occupants of the designated dwellings (by key etc)		
For flats, a balcony, roof garden or shared garden which: • Is of a size to allow all occupants to sit outside • Does not unnecessarily reduces daylighting (in the case of balconies) • Allows easy access by all occupants • If is a shared garden, is accessible to the occupants of designated dwellings only, by key or similar.		
Does this cover all dwellings within the development?		

Please provide page numbers of the instructions in the General Contract Specification and mark on the Site layout drawings the location of private or semi private space.

Page number:_____

Summary of documents needed in order to complete an assessment:

Document	Cover aspects	Page number
Instruction in the General Contact Specification:		
• Provision for drying space and drying line	C	6
• Performance specification of white goods or in the case no white goods is provided details of this	D	8
• External luminaries and control specification	E	10
• Cycle storage	G	15
• Provision for a home office	I	19
• Insulation requirements	J	22
• Boiler specification	K	26
• Internal and external storage bins for recycling	N	39
• Water consuming appliances	P	44
• Type of land used/ ecological assessment	Q	47
• For non-detached houses sound insulation in separating walls and floors	U	62
• Provision of private or semi-private space	V	68
Show on the General Arrangement Drawing:		
• Provision for drying space and drying line	C	6
• Garage indicating the use of wall mounts to store bicycles or information on any alternative storage.	G	15
• Space allocated to provide for a home office, together with the necessary services	I	19
• Location of internal and external storage bins for recycled material	N	39
• For non-detached houses separating walls and floors for sound insulation	U	62
Show on the site layout plan:		
• Compass orientation and site position	A	2
• Land use	Q	47
• If an assessment of the ecological value of the land has been carried out by AWTC or equivalent show that you have incorporated any recommendations	Q	47
• Details of plot types	R	51
• Location of private and semi-private space	V	68
A map of the site and surrounding area highlighting: • Public transport nodes (Include details of the frequency of service and highlight any major roads between the development and the transport nodes, indicating where there is any provision for pedestrian crossing.). • Location of local amenities (Indicate the most obvious pedestrian route to the amenities and the scale of the map, giving details of pedestrian crossing points on any major roads.)	F, H	13, 17
Copies of the completed SAP worksheets for each house type.	A, B	2, 4
Full material specification:		
• With percentage area for each of the different construction elements for materials specification	O	41
• For non-detached dwellings details of the construction used in separating walls and floors and the percentage of dwellings on the site using this construction technique, for sound insulation.	U	62
If a refurbishment where external walls, roof and floor are retained provide u-values of the elements prior to refurbishment.	B	6
Details of all different insulation materials which will be used in all of the dwellings within the development.	J	22
Manufacturers literature to confirm zero ozone depletion potential of material, for those materials which do not inherently have a zero ozone depletion potential. The following materials do NOT require manufacturers literature: mineral fibre, glass fibre, cork, cellular glass, expanded (bead) polystyrene, nitrile rubber and cellulose insulation.	J	22

Details of type of timber and timber products used on the basic building elements and finishing elements, and the sourcing and environmental credentials of the timber. (A separate timber performance sheet must be filled in for every use of timber within the building.) To show that the timber and timber panel products used in the construction have originated from well-managed forests you will need: • Documents demonstrating independent certification of sustainable forest management in accordance with FSC principles and criteria. • For UK-Grown timber, Forestry Commission Felling Licenses to demonstrate that forest management and felling have been carried out according to Forestry Commission regulations. • To provide information on the precise origins of timber and timber panel products with confirmation that they originate from trees cut under Government licence. Companies that operate in accordance with the Timber Trade Federation s and Forests Forever s Environmental Purchasing Policy should be able to provide this evidence. • Documentation demonstrating that the timber in the timber panel products are from pre or post consumer waste. • Documentation demonstrating that the timber within the development is reused timber.	L, M	29, 35
Details (or the performance specification in the contact specification) and copies of the appropriate labels for all white goods where specific goods are specified, covering fridge/ freezer and washing machine/ tumble dryer.	D	8
If white goods are not provided a letter confirming this. Also confirm that you will provide information on eco-labels and how to purchase the most energy efficient and cost-effective appliance to the tenant or purchaser.	D	8
Provide full luminaries and controls specification, or a letter (with reference to the General Contract specification) confirming that no external light fittings will be installed.	E	10
If solar powered external lights provide details on the type and effectiveness of the lighting.	E	10
Details of all the boilers specified within the development and their NO_x emission	K	26
Info on local authority collection system if one in operation.	N	39
Number of water consuming appliances incl. wc, wash hand basins, showers, baths and white goods.	P	44
Details of all other water consuming appliances/ systems including swimming pool, outdoor jacuzzi etc. (water consumption, volume and areas.) and of any waste water management system.	P	44
Land use/ ecological value of site: • If an assessment of the site has been carried out by the AWTC or equivalent enclose a copy of the AWTC survey form and/ or enhancement recommendations. • If no external assessment has been carried out, details of what types of land will be used for the new building or which will be used for access to the building site. • Inform of broad landscape type of the development area and provide details of the original and proposed land types.	 Q Q R	 47 47 51