

## **EcoHomes 2005**

**Pre Assessment Advice for:**

**Galliard Homes - Winchester Road Development**

**1st FEBRUARY 2008**

**Status: Initial Report Rev B**

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### **Executive Summary**

At present, based upon the discussions at the EcoHomes workshop meeting held on the 11th of July 2007, the EcoHomes rating that is likely to be achieved for Galliard Homes : Winchester Road development is VERY GOOD.

All credits in this report have been provisionally achieved based upon verbal discussions with both architect, engineering services consultant and developer and will need to be substantiated by receipt of finalised design information and specification sections from the individual design team members. Please refer to the summary table of credits for actions relating to each design team member.

Changes have been made to the credits agreed upon post-meeting held on July the 11th as a result of continuing analysis of the available evidence. It should also be noted that if credits Eco 2 and Eco 3 are not met but 3 credits are achieved in Hea 2, a score of 62.45 can be achieved which is a VERY GOOD.

This report has been updated to revision A on the basis of a meeting with Martin Rigg and email correspondence with the design team on the 30th November 2007.

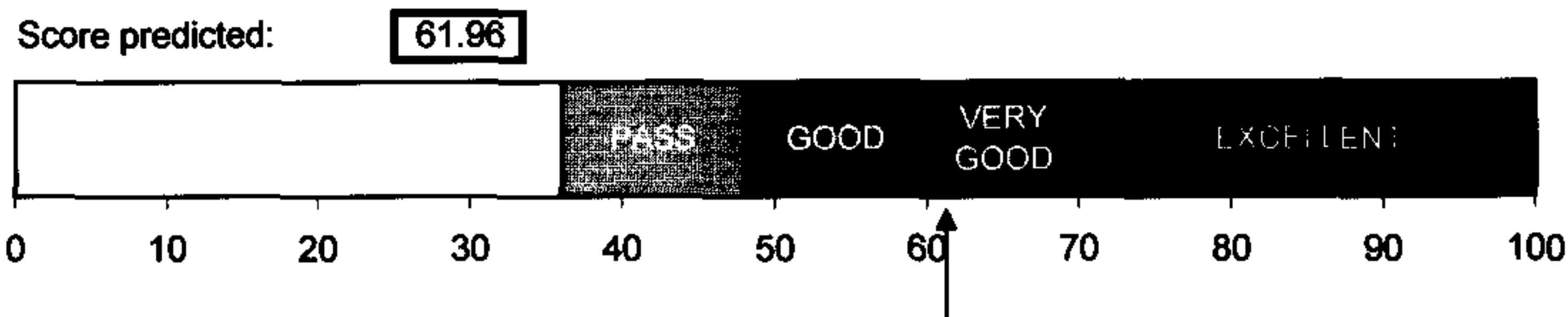
This report has been updated to revision B on the basis of evidence submitted by the design team on the 1st of February 2008.

### **Key to Design Team Members**

HL - Hoare Lea  
GH - Galliard Homes  
OS - OSEL

### PREDICTED PERFORMANCE

Following the BREEAM meeting on 11th July 2007 and subsequent updates in Nov 2007 and January 08, the Winchester Road Redevelopment is likely to achieve an EcoHomes rating as follows:



Therefore the ECOHOMES rating would be:

VERY GOOD

### POTENTIAL PERFORMANCE OF BUILDING

Alternative EcoHomes Credits for the Winchester Road development can be achieved, these are shown throughout the report.

The above rating is liable to change depending on future design development and the output from both design team and project team meetings, together with in depth cost analyses of the project as it develops.

## CREDIT SUMMARY

Category	Assessment Criteria	Credit Reference	Credits Available	Credits Assumed	Additional Credits	Action
Energy	Carbon Dioxide	Ene 1	10	7	-	HL
	Building Fabric	Ene 2	5	0	1	HL/OS
	Drying Space	Ene 3	1	1	-	GH
	EcoLabelled Goods	Ene 4	2	2	-	GH
	External Lighting	Ene 5	2	2	-	GH
	Total		20	12	1	
Transport	Public Transport	Tra 1	2	2	-	GH
	Cycle Storage	Tra 2	2	2	-	OS
	Local Amenities	Tra 3	3	3	-	GH
	Home Office	Tra 4	1	1	-	OS
	Total		8	8	0	
Pollution	Insulant ODP and GWP	Pol 1	1	1	-	OS/GH
	NO <sub>x</sub> Emissions	Pol 2	3	3	-	HL
	Reduction of Surface Runoff	Pol 3	2	0	1	GH
	Zero Emission Energy Source	Pol 4	1	1	-	HL
	Total		7	5	1	
Materials	Timber Basic Building Elements	Mat 1	6	6	-	GH
	Timber Finishing Elements	Mat 2	3	1	2	GH
	Recycling Facilities	Mat 3	6	6	-	GH
	Impact of Materials	Mat 4	16	6	5	OS/HL
	Total		31	19	7	
Water	Internal Water Use	Wat 1	5	3	-	GH/HL
	External Water Use	Wat 2	1	1	-	OS/GH
	Total		6	4	0	
Ecology	Ecological Value of Site	Eco 1	1	0	1	GH
	Ecological Enhancement	Eco 2	1	1	-	GH
	Protecting Ecological Features	Eco 3	1	0	1	GH
	Change of Ecological Value	Eco 4	4	2	-	GH
	Building Footprint	Eco 5	2	2	-	HL
	Total		9	5	2	
Health and Wellbeing	Daylighting	Hea 1	3	0	0	HL
	Sound Insulation	Hea 2	4	3	0	GH
	Private Space	Hea 3	1	0	-	GH
	Total		8	3	0	

**ASSUMPTIONS**

Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Ene 1	Carbon Dioxide	<p>Credits are awarded on the basis of average CO2 emissions</p> <p>SAP calculations have to be prepared for the development. At present the value achieved has been based on the experience gained whilst assessing the Galliard Homes: Woolwich Reach development. The credits here are assumed and need to be verified as correct by HL.</p>	7	-
Ene 2	Building Fabric	<p>Credits are awarded on the basis of the percentage improvement across the whole site of the Average U-value of the dwellings.</p> <p>A Part L report has yet to be created which details the performance of the façade and building layouts. However it has been confirmed verbally by the design team that due to the large amount of glazing on the development it is unlikely at present that the percentage U value increase will be above 3% to score any points. To be confirmed by HL.</p>	0	1
Ene 3	Drying Space	<p>For providing space and posts/footings/fixings for drying clothes in a secure environment for each unit on the site and to avoid the use of tumble dryers. This may be external or internal.</p> <p>A fixing method will be made available to the tenants within the welcoming pack instructing them on how a drying line could be installed within the bathrooms. A copy of this method to be provided for review.</p>	1	-
Ene 4	EcoLabelled Goods	<p>Encourage the provision or purchase of energy efficient white goods, A rated fridges, freezers, washing machines, dishwashers; B rated tumble dryers.</p> <p>The developer is providing A rated white goods to all private apartments within the development and information relating to the purchase of energy efficient goods in the local housing authority dwellings. Therefore two credits will be achieved.</p>	2	-
Ene 5	External Lighting	<p>Where all space lighting is specifically designed to accommodate only compact fluorescent lamps (CFL) luminaires or strip lights. Where all security light fittings are designed for energy efficiency and are adequately controlled.</p> <p>All space lighting will be designed to specifically accommodate only compact fluorescent lamps, luminaires or strip lights and all security light fittings will be designed to be energy efficient and will be adequately controlled.</p>	2	-

## ASSUMPTIONS

Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Tra 1	Public Transport	<p>If 80% of the development is within 500m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:</p> <ul style="list-style-type: none"> <li>· 08:00 to 10:00 and 17:00 to 19:00 Monday to Friday every 15 min</li> <li>· All other times between 07:00 and 22:00 Monday to Saturday, half hourly</li> </ul> <p>At present no accurate measurements have been taken however, it has been assumed that as the development is located in the centre of London it is within 500m of a tube station. A site plan showing the location of the station and a safe suitable pedestrian route will be required to achieve this credit. GH</p>	2	-
Tra 2	Cycle Storage	<p>If dwellings have provision for the adequate storage of cycles. The provision is determined by the number of bedrooms within a dwelling:</p> <ul style="list-style-type: none"> <li>· 1 and 2 bedroom flat/house – storage for 1 cycle</li> <li>· 3 bedroom flats/houses – storage for 2 cycles</li> <li>· 4 bedrooms and above – storage for 4 cycles.</li> </ul> <p>The storage provision should be safe and weather-proof.</p> <p>The number of cycle storage spaces has been stated in the planning document. This number is more than the 95% required by EcoHomes. Therefore one credit will be obtained. Plans showing the cycle storage and a schedule of bed numbers in apartments is required to achieve this credit. OS/GH.</p>	2	-
Tra 3	Local Amenities	<p>For proximity to a food shop and a post box within 500m; For proximity to 5 of the following within 1000m: postal facility, bank/cash point, pharmacy, primary school, medical centre, leisure centre, community centre, public house, children's play area, public park or village green;</p> <p>For providing safe pedestrian routes to the local amenities.</p> <p>Presently compliance with this credit has been assumed due to the sites location. It is in the centre of London and should have access to local amenities. A labelled and scaled site plan showing the development and the proximity of all the local amenities and safe pedestrian routes and road crossings is required to achieve this credit. GH</p>	3	-



# ASSUMPTIONS

Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Tra 4	Home Office	<p>For the provision of a space which allows the occupants to set up a home office in a quiet room. The required services are, as a minimum: two double sockets; two telephone points (or double telephone point) or equivalent (in the case of access to broadband, cable network, etc); a window; adequate ventilation, either through an openable window or with alternative ventilation such as passive stack, etc; minimum size (1.8m wall) to allow a desk and filing cabinet or bookshelf to be installed, with space to move around and open the door.</p> <p>The provision of home office has been confirmed by both OS and GH. Architectural flat plans to be provided for each type of apartment, clearly identifying the wall space required, along with electrical drawings showing the power and IT provisions.</p>	1	-
Pol 1	Insulant ODP and GWP	<p>Specifying insulating materials, that avoid the use of ozone depleting substances and have a global warming potential (GWP) of less than 5, in either manufacture or composition.</p> <p>Specification of all materials to be carefully selected by OS and GH to meet the requirements of ozone depleting substances and global warming potential.</p>	1	-
Pol 2	NO <sub>x</sub> Emissions	<p>Credits are awarded on the basis of NO<sub>x</sub> emission arising from the operation of all space heating and hot water systems across the development.</p> <p>Further to email pol2-ultragass emissions (assessors reference, Hoare Lea ref EM-0103152-DOC-2007-11-28-RobertChapan(HoareLea)-1 Boiler info for Ecohomes 2005 assessment) heating is provided by centralised low NO<sub>x</sub>, gas fired boilers. At present 4 No. 1440kW Hoval UltraGas boilers having a combined NO<sub>x</sub> emission of 40mg/kWh have been specified which meet the calculated load and so 3 credits will be awarded. A biomass boiler will not be chosen for this development.</p>	3	-
Pol 3	Reduction of Surface Runoff	<p>Where rainwater holding facilities and/ or sustainable drainage techniques are used to provide attenuation of water run-off to either natural watercourses and/or municipal drainage systems, by 50% at peak times, unless greater attenuation is specified by the local statutory authority.</p> <p>This is an assumed potential credit to be achieved where provision of sedum roofs on roof surfaces is able to attenuate the roof rainwater run-off by the assumed local authority standard value of 50%. Calculations from OSEL and data from the supplier are required to achieve this credit, these can be caveated 'for EcoHomes purposes only, however without these calculations the credit cannot be awarded. For sedum roofs infiltration data should be provided by the manufacturer. The percentage of attenuation should also be confirmed by the local statutory authority.</p>	0	1

## ASSUMPTIONS

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Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Pol 4	Zero Emission Energy Source	At least 10% of EITHER the heat (space and hot water) demand OR the non heating electrical demand within the development is supplied from local renewable energy sources.  This credit will be achieved by the use of Ground source heat pumps on the site. The loads are to be confirmed by HL.	1	-
Mat 1	Timber: Basic Building Elements	All major timber elements to be from a sustainable source. Elements to be included in this credit are: timber frame (walls); floor joists; roof timbers; wall studding (interior and exterior); window sub-frames; door sub-frames (interior and exterior); upper/suspended ground floors; loft boarding ; facias (soffit boards, bargeboards, gutter boards, others); external cladding/weatherboarding; staircase (excluding balustrades, etc); other major items.  It is envisaged that over 75% of the timber used for basic building elements will be obtained from sources certified by the FSC, CSA, MTCC, PEFC or SFI and that the remainder will be from a temperate source. 6 credits will be achieved in this case if sections of the specification detail the sustainable timber and the volume of timber used within the development is provided along with the appropriate certification. All certification must be kept. Confirmation required from GH.	6	-
Mat 2	Timber: Finishing Elements	All timber finishing elements to be from a sustainable source. Elements to be included in this credit are: stair: handrails, balustrades, banisters, other guarding/rails (excluding staircase); window: frames, boards, sills; external door: frames, linings, door; internal door: frames, linings, door; architrave; skirting board; dado rails; picture rails; panelling; any other trim; kitchen furniture; bedroom furniture; bathroom furniture; any other significant use.  It is envisaged that over 30% of the finishing timber will be obtained from sources certified by the FSC, CSA, MTCC, PEFC or SFI and that the remainder will be from a temperate source. 1 credit will be achieved in this case if specification sections detailing the sustainable timber and the volumes of timber used within the development are provided. MDF is able to be certified. All certificates are to be kept. Confirmation required from GH.	1	2



## ASSUMPTIONS

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Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Mat 3	Recycling Facilities	<p>Provide full recycling facilities of:</p> <p>Three internal storage bins with minimum total capacity of 30 litres, no individual bin smaller than 7 litres, all bins in a dedicated position.</p> <p>AND EITHER</p> <p>Three external bins with minimum total capacity of 180 litres, no individual bin smaller than 40 litres, all bins in a dedicated position (within 10m of the external door).</p> <p>OR</p> <p>A local authority collection scheme for recyclable material.</p> <p>Suitable internal bins to the sizes detailed above will be provided and there will be a local authority collection scheme for recyclable waste. 6 credits will be obtained if specification sections and plans detailing the size and location of the internal bins are provided together with a description of the local authority collection scheme.</p>	6	-
Mat 4	Impact of Materials on the Environment	<p>Credits are achieved by obtaining an 'A' rating from the Green Guide for Housing Specification, for 80% by area of the element.</p> <p>The following construction types and their associated ratings in the Green Guide to Specification are to be used within the construction:</p> <p><b>Roof</b> - steel frame + metal deck + insulation + water proof layer + paving slabs + sedum deck (A rated), <b>3 credits</b>; asphalt + insulation + green roof</p> <p><b>External walls</b> – (0 credits)</p> <p>Block B floors 1-5 Pre-cast reconstituted stone + factory bonded insulation</p> <p>Block B floors 6-7 metal cladding panels on a blockwork inner leaf.</p> <p>Blocks A, C &amp; D High density concrete blockwork + insulated cavity + external render finish (B rated)</p> <p><b>Internal walls</b> - stud + plasterboard, (A rated), <b>3 credits</b>;</p> <p><b>Floors</b> - in-situ concrete, (C rated), 0 credits;</p> <p><b>Windows</b> - metal framed block B and timber framed blocks A,C &amp; D (C and A rated), 0 credits; Block B residential assumed to have more than 20% by area of the sites windows. (requires architect confirmation)</p> <p><b>External hard surfaces</b> - asphalt (C rated) / block paving (B rated) 0 credits;</p> <p><b>Boundary protection</b> – Block A and service road; metal railings and entrance gates (B rated) 0 credit;</p>	6	5

## ASSUMPTIONS



Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Wat 1	Internal Water Use	Credits awarded based upon water consumption within the dwelling.	3	-
		Based upon the current standard specification for the development of dual flush 6/4l WCs, aerating taps, Showers 9 l/min, a standard bath (<70 l per use) water efficient dishwashers (<12l/use) and water efficient washing machines (<40l/use) a water use of 39.15 m <sup>3</sup> /bed-space/year has been calculated. Specification sections will be required to achieve the available credits.  Further calculations using lower flow rates were carried out. These did not provide any extra credits. Water usage of kitchen appliances to be confirmed.		
Wat 2	External Water Use	For specifying a system that will collect rain water for use in external irrigation/ watering , e.g. water butts, central rainwater collection systems, etc.	1	-
		Water butts will be specified for the development which will contain overall a minimum of 200 litres with at least 1 litre per square metre of communal garden area. Specification sections and drawings will be required to achieve this credit.		
Eco 1	Ecological Value of Site	For developing land of inherently low ecological value and demonstrating this by either: meeting the defined criteria for low ecological value OR providing an ecological report of the site prepared by a registered ecological consultant, which should state that the land being developed: is of low or insignificant ecological value OR will remain undisturbed by the construction works in areas of ecological value.	0	1
		The development cannot be classified as having low ecological value as defined by the BRE this is because a tree on the site is taller than 1 metre and no trees or bushes on the site can be over 1 metre.  An ecologist's report is required to obtain this credit. Suitable plans for the development before and after construction are also required.		
Eco 2	Ecological Enhancement	Where ecological features have been designed-in for positive enhancement of the site ecology in accordance with advice from a Registered Ecological Consultant.	1	-
		An ecological report will be prepared, recommendations will be included within the scheme. Report and revised scheme to be issued for review.		

Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Eco 3	Protection of Ecological Features	Where the contract specification ensures that all trees with over 100mm trunk diameter, hedges, ponds, streams, etc, are maintained and adequately protected from damage during clearing and construction works.  It is stated in section 5.1.5 of revision E of the outline specification for the construction works that two number lime trees are being removed. Information regarding the diameter of the trunks is required to achieve this credit or an ecologists report that states that the trees are of no significant ecological value. If an ecologist prepares a report that clasifies the site as having no ecological value then this credit can be awarded.	0	1
Eco 4	Change of Ecological Value of Site	Credits area awarded based on the change in Ecological value of the site.  The design team are to confirm the type and area of each land use prior to and after construction with plans showing the details in order to achieve these credits. It is currently assumed that there will be a neutral change to the ecology, resulting in 2 credits being achieved.	2	-
Eco 5	Building Footprint	Where dwellings in the development have a floor area to footprint ratio greater than 2.5:1.  The building has has a floor area to footprint ratio of greater than the 2.5 required. Plans and elevations will be required to achieve this credit.	2	-
Hea 1	Daylighting	Credits area awarded for the following: kitchen to meet the daylighting criteria set out in British Standard BS 8206: Part 2; Living rooms, dining rooms and studies to meet the daylighting criteria set out in British Standard BS 8206: Part 2; Kitchens, living rooms, dining rooms and studies to be designed to have a view of the sky according to criteria set out in British Standard BS 8206: Part 2.  A daylight study has been carried out for the apartments. The scheme does not meet the required level for daylighting due to some kitchens and living rooms being internal and therefore this credit can not be achieved.  A further study on the latest plans has been carried and the daylighting levels have been confirmed as not being achievable.	0	0

## ASSUMPTIONS

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Credit Ref	Credit Criteria	Requirements and Assumptions	Credits Assumed	Additional Credits
Hea 2	Sound Insulation	<p>A commitment to carry out a programme of pre-completion testing AND A commitment to achieve airborne sound insulation values that are better than the performance standards in Approved Document E (2003 Edition).</p> <p>It is assumed that the apartments will achieve sound insulation values that are in compliance with Approved Document E and that pre-completion testing will be carried out on at least 3 sets of tests for every 10 apartments in every group or sub-group. Details to be forwarded to verify the sound insulation values.</p> <p>An improvement of 3dB upon Part E airborne sound insulation levels and an improvement of 3dB upon Part E impact sound insulation levels must be proved.</p>	3	0
Hea 3	Private Space	<p>For the provision of outside space that is at least partially private. The outdoor space should be of a size that allows all occupants to sit outside.</p> <ul style="list-style-type: none"> <li>– Private space: 1.5 m<sup>2</sup>/bedspace, minimum 3m<sup>2</sup>/ home</li> <li>– Shared space: minimum 1m<sup>2</sup>/bedspace, allow easy access by all occupants, be accessible only to occupants of designated dwellings.</li> </ul> <p>A communal garden is provided for use by all of the occupants within the development. The design team and OS are able to confirm that the minimum of 1m<sup>2</sup>/bedspace is not provided and so no credits can be awarded for this section.</p>	0	-