35 UPPER PARK ROAD, NW3
ECOHOMES PRE-ASSESSMENT

FOR SEBBA INVESTMENTS

OCTOBER 2006

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1.0 Executive Summary

Nick Devlin Associates were appointed by Sebba Investments to provide a preliminary assessment of their proposed development at 35 Upper Park Road, NW3.

As the scheme is at the submission stage, the assessment has taken the form of a pre-build assessment, where the proposed specifications and design are determined following a review of the relevant drawings and in consultation with the developer and design team.

This report is therefore based upon the following information made available by the design team:

- Architects drawings 01-21 & sketches.
- Design Statement produced by The Heder Partnership and Kevin Fellingham (consultant architect and urban designer);
- XCO2's Daylighting Impact Assessment;
- XCO2's Renewable Energy Study;
- Landscape Consultant's Report;
- Cluttons LLP Planning and Conversation Statement

The scheme is currently predicted to achieve an overall rating of 63.8%, which qualifies for an overall rating of **VERY GOOD**.

The scheme performs particularly well in categories based on access to local public transport and amenities. In addition to this, it is clear that the design team and client have given significant consideration to developing an energy efficient scheme incorporating a substantial element of on-site renewable energy generation and water conservation technologies.

There is scope for the scheme to achieve an Excellent rating, although this would require improved performance in the Ecology and Management categories. However, it must be noted that only one of the 4 assessment criteria in the Management category could be assessed at this stage in the development process. Through the appointment of a diligent contractor, and the consideration of the remaining criteria in this category, an Excellent rating is fully achievable. The scheme would also appear to satisfy the requirements for the credits relating to flood risk, but would require an appropriate report to achieve the credits.

Table 1, to follow, details the results from the assessment and should be read in conjunction with the information set out in the pre-assessment details. For reference, the complete EcoHomes 2006 scoring sheets are included in 5.0 Appendix at the end of this report.

Table 1 - EcoHomes Pre-Assessment results

CATEGORY	ITEM	MAX SCORE	PROPOSED SCORE	COMMENTS
ENERGY				
ENE1	CARBON DIOXIDE	15	10	From XCO2 Proposed Standards/SAP Calcs
ENE2	BUILDING FABRIC PERFORMANCE	2	2	Average HLP of 0.95
ENE3	DRYING SPACE	1	1	To be supplied: Tidy-dry to bathrooms.
ENE4	ECOLABELLED GOODS	2	2	Fridge Freezers & washing machines to be supplied
ENE5	INTERNAL LIGHTING	2	1	40% of all fitting dedicated cfl or low-energy
ENE6	EXTERNAL LIGHTING	2	2	All CFL plus timers/daylight sensors
TRANSPORT				
TRA1	PUBLIC TRANSPORT	2	2	Nearest bus stop for route 168 is 340m from site via safe pedestrian route
TRA2	CYCLE STORAGE	2	2	Space allocation for 7 cycles
TRA3	LOCAL AMENITIES	3	2	Post box and Food shop within 500m. The following within 1000m: bank/cash point,pharmacy, public house, Sports centre & primary school
TRA4	HOME OFFICE	1	1	Facilites for Home/Office to be included in detailed design
POLLUTION				
POL1	INSULANT ODP & GWP	1	1	None specified in scheme
POL2	Nox EMISSIONS	3	2	Class 5 Boiler to be specified
POL3	REDUCTION OF SURFACE RUN-OFF	2	0	Credit not sought. No space on site
POL4	ZERO EMISSION ENERGY SOURCE	3	3	Strategy developed by XCO2 proposes 13m2 of solar thermal collectors and 42m2 of PV to provide 20% reduction in CO2 emissions from the development
POL5	FLOOD RISK MITIGATION	2	0	Credit not sought.
MATERIALS				
MAT1	ENVIRONMENTAL IMPACT OF MATERIALS			
	ROOF	3	0	Artificial slate roof
	EXTERNAL WALLS	3	3	Blockwork with external insulation and render
	INTERNAL WALLS	3	3	Timber stud work internal partitions
	FLOORS, UPPER & GROUND	3	0	Concrete ground and upper floors
	WINDOWS	2	0	Aluminium frame DG Low-e units
	EXTERNAL SURFACING	1	0	Tarmac/hardstandings
	BOUNDARY PROTECTION	1	0	Existing walls of adjacent properties on boundary line.
MAT2	RESPONSIBLE SOURCING OF MATERIALS BASIC BUILDING ELEMENTS	6	3	Details to be calculated during detailed design stage
MAT3	RESPONSIBLE SOURCING OF MATERIALS FINISHING ELEMENTS	3	2	As above
MAT4	RECYCLING FACILITIES	6	6	Internal and external storage to be provided. Plus local kerbisde collections scheme
WATER				
WAT1	INTERNAL WATER USE	5	5	Premilinary calculation of 30.39m3 per bedspace per year due to rainwater harvesting system
WAT2	EXTERNAL WATER USE	1	1	Collected rainwater available for irrigation and car-washing
LAND USE & ECOLOGY				
ECO1	ECOLOGICAL VALUE OF SITE	1	0	Currently occupied brownfield site
ECO2	ECOLOGICAL ENHANCEMENT	1	0	No ecological assessment to date. No features on site
ECO3	PROTECTION OF ECOLOGICAL FEATURES	1	0	Features are to be removed.
ECO4	CHANGE IN ECOLOGICAL VALUE	4	0	Impact on site will be minimised.
ECO5	BUILDING FOOTPRINT	2	2	Scheme greater than 3.5 Storeys
HEALTH & WELLBEING				
HEA1	DAYLIGHTING	3	2	No credits awarded
HEA2	SOUND INSULATION	4	2	To meet current part E standards
HEA3	PRIVATE SPACE	1	1	Not achieved due to juliette balconies to some units.
MANAGEMENT				
MAN1	HOME USER GUIDE	3	3	Guide to be developed and provided.
MAN2	CONSIDERABLE CONSTRUCTORS	2	0	Not possible to assess at pre-planning stage
MAN3	CONSTRUCTION SITE IMPACTS	3	0	Not possible to assess at pre-planning stage
MAN4	SECURITY	2	0	To be addressed during detailed design.

SUMMARY SCORE	MAX	CREDITS	%	WEIGHTING	SCORE
ENERGY	22	18	81.82	0.22	18.0
TRANSPORT	8	7	87.50	0.08	7.0
POLLUTION	9	6	66.67	0.1	6.7
MATERIALS	31	17	54.84	0.14	7.7
WATER	6	6	100.00	0.1	10.0
LAND USE & ECOLOGY	9	2	22.22	0.12	2.7
HEALTH AND WELLBEING	8	5	62.50	0.14	8.8
MANAGEMENT	10	3	30.00	0.1	3.0

TOTAL SCORE	63.8

RATINGS	
PASS	**36**
GOOD	**48**
VERY GOOD	**60**
EXCELLENT	**70**

2.0 Introduction

Nick Devlin Associates were appointed by Sebba Investments to assist in the development of a robust and coherent sustainability strategy, relating to a new residential development comprising 6 flats at 35 Upper Park Road, NW3.

The scheme has been assessed in accordance with EcoHomes 2006 criteria.

As part of BRE's BREEAM family, EcoHomes is an assessment method that rates the environmental qualities of new and renovated dwellings. Buildings are verified by independent assessors and rated on a scale of Pass, Good, Very Good and Excellent.

The scheme rewards developers who improve the environmental performance of a development through good design, rather than through high capital cost solutions. It demonstrates

- Sustainability credentials to planning authorities
- Green credentials to investors
- Good environmental design to purchasers.

For owners and occupiers, the EcoHomes label means

- Reduced running costs through greater energy and water efficiency, and reduced maintenance
- Healthy, comfortable and flexible internal environments
- Access to local amenities
- Less dependence on the car.

EcoHomes is designed to help tackle climate change, resource use and impact on wildlife and balance these issues against the need to provide safe and healthy homes and a high quality of life. It helps identify the environmental impact of a development through good and cohesive design and informed decisions.

Each development is assessed against a number of criteria under the headings listed below. To achieve the final rating, the score for each category is converted to a percentage. A weightings factor is then applied to each of the percentages to reflect the perceived importance of each of the categories. The final score, after the weightings have been applied is tallied and is effectively a score out of 100. The overall categories and their relative weightings are listed below:

- **Energy** – 22%
- **Water** – 10%
- **Pollution** – 10%
- **Materials** – 14%
- **Transport** – 8%
- **Ecology and land use** – 12%
- **Health and well-being** – 14%
- **Management issues** – 10%

Schemes then achieve an overall rating based on the following thresholds:

- **PASS** - 36%
- **GOOD** – 48%
- **VERY GOOD** – 60%
- **EXCELLENT** – 70%

Final assessments are typically completed during detailed design stage and pre-construction, although it is not unusual for a number of issues to be resolved during construction. Every house type on a site is considered, but the award is given for the entire development. This means developers can use the result to promote whole sites.

A Post Construction Review can also be carried out upon completion of the scheme. This confirms that all features specified at the design stage have been implemented. A separate certificate is issued in this case.

EcoHomes is the homes version of BREEAM, sponsored by the NHBC. BREEAM leads the world in setting benchmarks for the environmental performance of buildings. It is independent and authoritative and is based on many years of research carried out by BRE and the construction industry

The text included in the following pages details the criteria used for this preliminary assessment and provides where appropriate potential options for further credits to be achieved. As a pre-planning application assessment there will inevitably be a number of design issues that are not fully resolved. Where this is the case it is indicated as such, and the proposed standards, determined through consultation with the design team are assessed.

3.0 PRE-ASSESSMENT DETAILS

3.1 ENERGY

ENE 1 – Dwelling Emission Rate

Purpose of the credit

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

Predicted Rating

Based on the information contained within the XCO2 Sustainability strategy, the scheme is predicted to produce on average 16.4 Kg/CO_2 per m^2 per annum. This roughly equivalent to a 25% improvement compared to current Building Regulations. This is the result of both the compact nature of the proposed scheme, the significantly improved U-values, a commitment to achieve improved levels of air-tightness and the inclusion of both solar thermal and photovoltaic panels.

This would achieve a score of 10 out of 15 credits, compared to a typical UK value of 7 credits.

Options for Improvement

The proposed scheme already includes approximately 20% energy generation by on-site renewables and includes high levels of air-tightness and thermal performance. Any further improvements could include the consideration of alternative low-carbon heating technologies such a biomass heating. However, it is recognised that communal heating systems can cause administrative issues in multi-tenanted buildings.

ENE 2 – Building Fabric Performance

Purpose of the credit

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

Predicted Rating

The predicted heat loss parameter (HLP) derived from the preliminary SAP calculations provided by XCO2 indicate that the scheme would achieve an average HLP of 0.95W/m^2K.

This achieves full credits (2 out of 2) in this category.

Options for Improvement

None

ENE 3 – Drying Space

Purpose of the credit

To minimise the amount of energy used to dry clothes.

Predicted Rating

This credit requires that the developer ensures that all units within the development have the necessary fittings to allow the occupier to dry clothes naturally in a secure environment. For flats, the developer will be required to provide tidy-dry type facilities to all of the units. Typically, these are installed above the bath or in utility rooms. Where clothes drying facilities are provided, the space must be either adequately ventilated via natural means, or provided with a humidistat controlled extract fan or passive vents. Trickle vents are not sufficient alone.

At present, although not shown on the drawings, it is understood that the appropriate facilities will be provided and therefore it is anticipated that the scheme **will achieve 1 out of 1 credits.**

Options for Improvement
As the developer intends to incorporate these measures, there are no options for potential improvements.

ENE 4 – EcoLabelled Goods
Purpose of the credit
To encourage the provision or purchase of energy efficient white goods, thus reducing CO2 emissions from the dwelling.

Predicted Rating
The developer has indicated that they are to provide fitted kitchens to each of the flats, and that all appliances supplied will be A-rated, (B-rated for washer/dryers). Therefore, **full credits, (2 out of 2) will be achieved here.**

Options for Improvement
None

ENE 5 – Internal Lighting
Purpose of the credit
To encourage the provision of energy efficient internal lighting, thus reducing the CO2 emissions from the dwelling.

Predicted Rating
The developer is to include a minimum of 40% of energy efficient lighting to each of the flats. This is likely to be from dedicated CFL fittings. **This achieves 1 out of 2 credits.**

Options for Improvement
Increase the number of energy efficient fittings to incorporate 75% of the total number per dwelling.

ENE 6 – External Lighting
Purpose of the credit
The purpose of this credit is to encourage the provision of energy efficient external lighting.

Predicted Rating
The developer proposes to ensure that all artificial lighting to communal and circulation zones is provided solely by luminaires complete with dedicated low-energy fitting such as CFL or fluorescent strip. In addition to this, all security lighting will have to meet the following criteria: Burglar detection lighting is to be a maximum of 150W complete with PIR and daylight cut-off devices. Any other security lighting is to incorporate dedicated low-energy fittings and be fitted with dawn to dusk sensors or timers.

By meeting this proposed standard above the developer will achieve full credits in this category. (2 out of 2)

Options for Improvement
None

3.2 TRANSPORT

TRA 1 – Public Transport

Purpose of the credit

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

Predicted Rating

The nearest transport node is located approximately 340m walk, via a safe pedestrian route on Haverstock Hill. The 168 bus service satisfies the EcoHomes requirements for frequency and hours of operation.

Full credits (2 out of 2) can therefore be awarded.

Options for Improvement

None

TRA 2 – Cycle Storage

Purpose of the credit

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.

Predicted Rating

The scheme includes provision for 7 cycle storage spaces for the dedicated use of the flat occupants. The communal storage facility will be lockable, ensuring tenant only access, and there will be a vertical rack for each cycle space. Tenants will be required to provide their own locks if they wish to secure cycles to the racks. The proposed number of storage spaces is sufficient to meet the EcoHomes requirements for 100% of the proposed units. In addition to this, the weather tight and secure nature of the proposals ensure that **full credits are to be awarded in this category**.

Options for Improvement

None

TRA 3 – Local Amenities

Purpose of the credit

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

Predicted Rating

A site visit has detailed the location of the following amenities sufficient to satisfy the EcoHomes criteria; Post box and food shop within 500m; bank/cash point, pharmacy, public house, sports centre and primary school within 1000m. Further details are required to ascertain the safe pedestrian route to all facilities, therefore at **present 2 out of 3 credits are awarded**.

Options for Improvement

Upon clarification of the provision of a safe pedestrian route, the additional credit will be awarded.

TRA 4 – Home Office

Purpose of the credit

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

Predicted Rating
During detailed design stage, the scheme will be developed so that home working is a viable possibility for the flats in the development. This requires the provision of two double socket outlets (to avoid the use of extension leads), an additional telephone point and a minimum clear wall length of 1.8m for the siting of a desk, chair and storage facility. For 1 & 2 bedroom flats, this space can be allocated within the main living space as long as it does not interfere with the main purpose of the room. For the 3 bedroom flat, the third bedroom is a suitable location provided that the space and facility requirements are met.

Full credits (1 out of 1) can be awarded.

Options for Improvement
As full credits are anticipated here, an improved specification is not deemed required.

3.3 POLLUTION

POL1 – Insulant GWP

Purpose of the credit
To reduce the potential global warming from substances used in the manufacture or composition of insulating materials.

Predicted Rating
The scheme intends to incorporate the use of materials with a low embodied energy, particularly the use of natural insulation materials provided by Natural Building Technologies. It is therefore anticipated that the scheme will only incorporate materials with an ozone depleting potential of zero, and global warming potential less than 5. It is worth noting at this point that some plastic based insulation materials, such as polyurethane or extruded polystyrene can be manufactured in a manner sympathetic to this credit. Therefore it is essential that the exact specification of all items, including any pipe insulation is confirmed.

Typical insulants that inherently have a GWP of less than 5 (and a zero ODP) will include insulation materials (if not blown) such as:

mineral fibre	cellulose insulation
glass fibre	wood fibre board
cork wool	cellular glass flax
nitrile rubber	recycled newspaper and jute

It is therefore anticipated that the proposed specification will achieve the **full 1 credit here**.

Options for Improvement
Not required.

POL 2 – NOx Emissions

Purpose of the credit
To reduce the nitrous oxides (Knox) emitted into the atmosphere.

Predicted Rating
At present, the final boiler specification is unknown. However, as the developer intends to use a SEDBUK A-rated boiler, where typically the NOx emissions are below 70mg/kwh, **2 out of 3 credits** are achieved. These have been awarded provisionally on the basis that evidence will be provided.

Options for Improvement
Through the specification of a boiler with NOx emissions below 40mg/kwh it would be possible to obtain the full three credits in this category.

POL 3 – Reduction of Surface Run-off

Purpose of the credit

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

Predicted Rating

The scheme includes the provision of a significant level of rainwater storage provision in the form of an underground tank. However, the potential of this tank to additionally provide storm water run-off attenuation is not clear. The tank function is to provide water storage for the re-sue of rainwater within the dwellings.

As the scheme is to be built upon the site of existing buildings, it is acknowledged that the development will not cause any additional run-off to the local sewer system. Therefore, despite the presence of no perceived additional impact, it is not possible to award these credits. **(0 out of 2)**

Options for Improvement

Where site conditions are favourable, it is always environmental beneficial to design in options for storm water attenuation. However, it is acknowledged that the use of the available site area to provide storage for a rainwater harvesting system should provide a greater overall environmental benefit.

POL 4 – Renewable and Low Emission Energy Source.

Purpose of the credit

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

Predicted Rating

The sustainability report produced by XCO2 demonstrates a robust strategy to maximise energy efficiency in the scheme and also provide sufficient on-site renewables to provide a 20% reduction in CO_2 emissions arising from the development.

On this basis, **it is possible to award full credits in this category (3 out of 3)**

Options for Improvement

None

POL 5 – Flood Risk

Purpose of the credit

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

Predicted Rating

Although no specific data for flood risk has been provided, a review of the Environment Agency Flood Risk maps do not indicate a risk for the area. In addition to this, the site is less than 1ha in area and therefore does not require a separate flood risk assessment.

Options for Improvement

In order to award the credits, further information/investigation is required to confirm the flood risk. Assuming the site (which is on a hill) is not prone to flooding, then 2 credits can be awarded.

3.4 ENVIRONMENTAL IMPACT OF MATERIALS

MAT 1 – Environmental Impact of Materials

Purpose of the credit

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

Predicted Rating

Credits are achieved by obtaining an 'A' rating from the Green Guide for Housing Specification, for 80% by area of the element, for each of the following elements, roof, external walls, internal walls, floors, windows, external surfacing and boundary protection.

Following consultation with the design team the following construction methods have been determined:

Roof: Artificial slate roof. 0 credits awarded.

External Walls: Blockwork with external insulation and render. 3 credits awarded.

Internal Walls: Timber stud walls with plasterboard. Independent twin skins where required to achieve acoustic standards. 3 credits awarded.

Upper and Ground Floors: In-situ cast concrete ground and upper floors to provide acoustic separation. 0 credits awarded at present

Windows: Powder coated aluminum frames with low-e double glazed units. Aluminum frames achieve a C-rating in the Green Guide to Housing Specification. 0 credits awarded.

External Surfacing: Mixture of timber decking, grass areas and conventional asphalt hard standings. 0 credits awarded.

Boundary Protection: Some boundary protection is provided by walls from adjacent properties – whilst further details are required for boundary protection proposed from street boundary line. At present 0 credits are provisionally assumed. .

Based on these details it is anticipated that the scheme will achieve **6 out of a possible 16 credits** in this category.

Options for Improvement

The specification of materials and construction types is limited by a wide variety of factors, including both performance and cost. It is anticipated that for this development, the options for improvement are limited to the specification of an A-rated flooring system and the potential replacement of the aluminium framed windows with (pre-treated softwood). However it is acknowledged that the it is unrealistic to provide timber frames for the large glazed areas included in the design. The use of a natural slate roof tile would achieve an additional 3 credits.

MAT 2 – Responsible Sourcing of Materials: Basic Building Elements.

Purpose of the credit

To recognise and encourage the specification of responsibly sourced materials for key building elements.

Predicted Rating

Until detailed design is complete, and the final specification of materials and construction systems determined, it is not possible to ascertain a definitive score for this category. However, based on the ethos of the development and the requirements to address the use of responsibly sourced materials it is anticipated that the scheme will achieve a minimum of 50% of the credits available**. This equates to 3 out of 6 credits**.

Options for Improvement
This credit is assessed by determining the extent and validity of any environmental management system used in the assessment of a particular construction element, ie Walls, roof etc. The higher the standard of EMS certification, the greater the potential to improve upon the predicted score.

The specification of the building systems should be closely monitored throughout the detailed design process to ensure that the maximum score is achieved in this category.

MAT 3 – Responsible Sourcing of Materials: Finishing Elements
Purpose of the credit
To recognise and encourage the specification of responsibly sourced materials for secondary building and finishing elements.

Predicted Rating
As detailed in the previous category, the score cannot accurately be predicted at this stage of design development. However, it is anticipated that a 50% score is at least reasonable, and **so 1 credit** has been provisionally awarded.

Options for Improvement
As for Mat 2 comments.

MAT 4 – Recycling Facilities
Purpose of the credit
To encourage developers to provide homeowners with the opportunity and facilities to recycle household waste.

Predicted Rating
At present the development includes space provision for the storage of recyclable waste and it is understood that the Local Authority also provides a kerbside collection scheme. A letter from the local authority will be required detailing their commitment to collect the recyclable waste.

Full credits are to be awarded (6 out of 6).

Options for Improvement
None

3.5 WATER USE

WAT 1 – Internal Potable Water Use

Purpose of the credit

To reduce consumption of potable water in the home.

Predicted Rating

The proposed specification includes the following items, aerated taps, 6/4l flush toilet, shower with flow rate of 6-9l/min, standard bath size and water efficient washing machine and dishwasher. In addition it is anticipated that the proposed rainwater harvesting system will provide approximately 25% of the water requirements for toilet flushing and irrigation. This results in a predicted annual consumption of 30.39m3 per bedspace per annum.

This would achieve full credits (5 out of 5).

Options for Improvement

None

WAT 2 – External Potable Water Use

Purpose of the credit

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

Predicted Rating

The proposed centralised rainwater collection system satisfies this requirement.

Full credits are awarded. (1 out of 1)

Options for Improvement

None

3.6 ECOLOGICAL ASSESSMENT

ECO 1 – Ecological Value of Site

Purpose of the credit

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

Predicted Rating

There are a number of mature trees on the site that have been classified by the landscape architect as being of poor quality. However, some of these trees are native and are therefore considered by EcoHomes to have some ecological benefit. Therefore it is contended that the site is not of low ecological value. **0 credits** can be awarded.

Options for Improvement

The retention of all the existing trees and vegetation of ecological value is not viable if the site is to be re-developed. Therefore there are no realistic opportunities for improvements in this category.

ECO2 – Ecological Enhancement

Purpose of the credit

To enhance the ecological value of a site.

Predicted Rating
The landscape architects report does not satisfy the requirements for a full ecological assessment of the site, and therefore the credit for the assessment can not be awarded. There are at present no proposals for a re-planting scheme or bio-diversity plan for the site. Therefore **0 credits** can be awarded.

Options for Improvement
The appointment of a registered Ecological Assessor and the implementation of their recommendations provide the potential to achieve 1 additional credit here. However, it is acknowledge that there is limited space available within the site for the accommodation of extensive new planting.

ECO 3 – Protection of Ecological Features

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

Predicted Rating
This credit can not be awarded as some of the existing features will be removed.

Options for Improvement
None

ECO 4 – Change of Ecological Value of Site

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

Predicted Rating
At present, the proposed development is anticipated to achieve **1 credit in this category** as the existing garden planting will be replaced with new garden planting, albeit over a smaller area. It should be noted that unless specifically designed to provide an improved habitat, basic garden planting is considered to be of low ecological value.

Options for Improvement
A specific re-planting proposal, developed to re-introduce a variety of native and appropriate species may be sufficient to achieve one or two additional credits in this category.

ECO 5 – Building Footprint

Purpose of the credit
To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

Predicted Rating
The scheme **achieves full credits (2 out of 2)** in this category for the efficient use of the building footprint.

Options for Improvement
None

3.7 HEALTH & WELLBEING

HEA 1 - Daylighting

Purpose of the credit

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

Predicted Rating

The information provided by the design team indicates that **2 out of 3 credits** can be awarded for as both the kitchens and living rooms will achieve the minimum average daylight factor requirements. However, it is contended that the lower ground floor kitchen worktops will not be able to achieve a direct view of the sky, and therefore the additional credit cannot be awarded.

Options for Improvement

There are no practical options available to the design team for improvements in this category. The proposed design provides good levels of diffuse skylight for the habitable rooms.

HEA 2 – Sound Insulation

Purpose of the credit

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

Predicted Rating

The developer is to provide a commitment to achieve the standards set out in the Approved Documents, and will ensure that they comply with testing frequency requirements set out in EcoHomes Testing Table 2 **to achieve 2 out of 4 credits.**

Options for Improvement

There is the potential to provide even greater levels of acoustic separation between dwellings and this should always be considered desirable. By exceeding the statutory requirements by + 3db for airborne sound and -3 db for Impact sound it would be possible to achieve an additional credit in this category.

HEA 3 – Private Space

Purpose of the credit

To improve the occupiers' quality of life by providing an outdoor space for their use, which is at least partially private.

Predicted Rating

Each of the dwellings within the development has access to either a private garden, secure shared garden or balcony. **Therefore full credits can be awarded**.

Options for Improvement

None

3.8 MANAGEMENT ISSUES

MAN 1 – Home User Guide

Purpose of the credit

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

Predicted Rating

This credit requires that the developer provides the occupant with a simple non-technical guide that covers information regarding the operation and performance of their home. In principle, the guide should provide the tenant with information regarding the potential for energy and water efficient use of their home, including details of any relevant technologies that have been included in the scheme. Where this guide is extended to provide further information regarding the site and its' surroundings, full credits can be awarded. Information regarding site details and the surrounding area should include details of local public amenities and public transport links

The developer has committed to develop the guide to the standard required **to ensure that all three credits are achieved.**

Options for Improvement

Not required.

MAN 2 – Considerate Constructors

Purpose of the credit

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

Predicted Rating

Given the pre-planning stage of the scheme, it is too early in scheme development to give a detailed consideration as to the potential to address this category. Whilst it is the intention of the developer to address a breadth of issues covered by EcoHomes, it is unreasonable at this stage to make assumptions regarding the construction phase without an appointed main contractor.

Despite being keen to consider these aspects, it is contended that it is not possible to award any credits in this category at this time. A full assessment would be possible once a contractor has been appointed, and consideration should be given in that appointment as to the issues raised here. **No credits** can be awarded at present, although it is predicted that these credits should be readily achieved during the next phase.

Options for Improvement

The appointment of a contractor with the experience to address these credits, and implement the appropriate strategies provides an opportunity to achieve either 1 or 2 credits in this category. The contractor would need to comply with the Considerate Contractors Scheme and achieve the appropriate score.

MAN 3 – Construction Site Impacts

Purpose of the credit

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

Predicted Rating

As with the credit above, the developer is keen to ensure that the criteria for this category are met. However, without an appointment of a contractor, or the completion of the tender specification and documentation, it is not considered reasonable to awarded credits for this category at this stage.

Options for Improvement
As a minimum, it is recommended that the developer ensures that any future contractor provides a commitment to monitor, sort and recycle construction waste on site. This would achieve an additional 1 credit. Additional monitoring of CO2 production, water consumption and reclamation of site timber (plus other requirements) provide an opportunity to achieve the full 2 credits available.

MAN 4 – Security
Purpose of the credit
To encourage the design of developments where people feel safe and secure; where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Predicted Rating
The developer has indicated that they will achieve Secured by Design status following a successful planning application. In addition to this, they intend to address additional security issues by ensuring that the relevant security standards for external doors and windows are met. This **would achieve full credits in this category**.

Options for Improvement
Not required

4.0 CONCLUSION

Table 2 below summarises the predicted category scores for the development.

SUMMARY SCORE	MAX	CREDITS	%	WEIGHTING	SCORE
ENERGY	22	18	81.82	0.22	18.0
TRANSPORT	8	7	87.50	0.08	7.0
POLLUTION	9	6	66.67	0.1	6.7
MATERIALS	31	17	54.84	0.14	7.7
WATER	6	6	100.00	0.1	10.0
LAND USE & ECOLOGY	9	2	22.22	0.12	2.7
HEALTH AND WELLBEING	8	5	62.50	0.14	8.8
MANAGEMENT	10	3	30.00	0.1	3.0
TOTAL SCORE					**63.8**

Table 2 – Category Summary Scores

It is clear from the results that the scheme performs particularly well in the Energy, Transport and Water categories. The high performance in the Energy and Water categories is the result of the careful consideration of both energy efficiency and the integration of renewable energy technology by the design team and client.

The score in the Pollution category could easily be improved upon by the provision of an appropriate report detailing the flood risk of the site. It is understood that the site satisfies the requirements to achieve these credits, and so the completion of a report would provide an additional 2 credits and raise the category percentage from 66.67% to 89%.

The development also has the opportunity to show improved performance in the Land Use and Ecology category. This could be achieved through the development, in conjunction with a registered ecologist, of an appropriate replacement planting strategy.

It is not possible to assess the majority of the credits in the Management category at the submission stage of the scheme, as a number of the credits relate to the choice of contractor, who have yet to be appointed. However, it is anticipated that additional points can be achieved here.

Overall, the scheme achieves a **VERY GOOD** rating, with the potential to achieve further credits during the detailed design phase and shows a strong commitment to incorporating the key considerations of energy efficiency, renewable energy provision and water conservation.

5.0 APPENDIX

EcoHomes 2006 – The Environmental Rating for Homes

Credit Summary Table, Rating and Scoring sheet – 2006/ Issue 1.2

April 2006

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Watford WD25 9XX
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Web site: www.ecohomes.org

EcoHomes 2006 Credit Summary Table

Issue		Credit	Dwelling Credits achieved	Location
Energy				
Ene1	**CO_2 emission** Credits are awarded to achieve SAP 2005 CO_2 emissions as follows: • Less than or equal to 40 kg/m^2/yr OR • Less than or equal to 35 kg/m^2/yr OR • Less than or equal to 32 kg/m^2/yr OR • Less than or equal to 30 kg/m^2/yr OR • Less than or equal to 28 kg/m^2/yr OR • Less than or equal to 26 kg/m^2/yr OR • Less than or equal to 24 kg/m^2/yr OR • Less than or equal to 22 kg/m^2/yr OR • Less than or equal to 20 kg/m^2/yr OR • Less than or equal to 18 kg/m^2/yr OR • Less than or equal to 15 kg/m^2/yr OR • Less than or equal to 10 kg/m^2/yr OR • Less than or equal to 5 kg/m^2/yr OR • Less than or equal to 0 kg/m^2/yr OR • Less than or equal to -10 kg/m^2/yr Note: -10 kg CO_2/m^2/yr allows for recognition of 'true zero' carbon solutions.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	☐ max 15	
Ene2	**Building envelope performance** Up to 2 credits awarded where thermal performance based on the Heat Loss Parameter (HLP) method meets the following requirements: **For new build:** • where the HLP is less than or equal to 1.3 W/m^2K OR • where the HLP is less than or equal to 1.1 W/m^2K	1 2	☐	

	For refurbishment: • where the HLP is less than or equal to 2.2 W/m^{2}K OR • where the HLP is less than or equal to 1.75 W/m^{2}K	1 2	max 2	
Ene3	**Drying space** Provision of drying space	1	 max 1	
Ene4	**Eco Labelled white goods** Provision of eco labelled white goods with the following energy ratings: • All fridges, freezers, fridge-freezers with an A$^+$ rating • All washing machines, and dishwashers where supplied, with an A rating and washer dryers and tumble dryers with a rating of B or higher OR • No white goods provided but info on Eco labelling	 1 1 1	 max 2	
Ene5	**Internal Lighting** • Where 40% dedicated low energy lights have been specified. OR • Where 75% dedicated low energy lights have been specified.	1 2	 max 2	
Ene6	**External Lighting** **Space lighting** • all space lighting is specifically designed to accommodate only compact fluorescent lamps (CFL) **Security lighting** • all intruder lighting to be 150 watts maximum and be fitted with PIR and day light sensor and all other type of security lighting to accommodate CFLs or fluorescent strips only and be fitted with dawn to dusk sensors or timers	 1 1	 max 2	
Total Number of Energy Credits Achieved			 max 24	

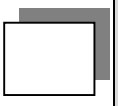
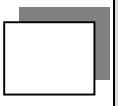
Transport

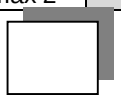
Tra1	**Public Transport** **Urban and suburban areas** 80% of the development within: • 1000m of a 30 min peak and an hourly off peak service OR	1		

	• 500m of a 15 min peak and half hourly off peak service **Rural areas** 80% of the development within: • 1000m of an hourly service OR • 500m of an hourly service OR a community bus service	2 1 2		max 2
Tra2	**Cycle storage** Provision of cycle storage for: • 50% of dwellings OR • 95 % of dwellings	1 2	max 2	
Tra3	**Local Amenities** Proximity to local amenities: • Within 500m of a food shop and post box • Within 1000m of 5 of the following: food shop* postal facility, bank/ cash machine, pharmacy, primary school, medical centre, leisure centre, community centre, public house, children's play area, place of worship, outdoor open access public area • Safe pedestrian routes to the local amenities * if not used for the 1st credit	1 1 1		max 3
Tra4	**Home office** Provision of space, and services, for a home office	1	max 1	
Total Number of Transport Credits Achieved			max 8	

Pollution

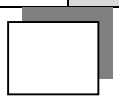
Pol1	**Insulation ODP and GWP** Specifying insulating materials, that avoid the use of ozone depleting substances and have a global warming potential (GWP) of less than 5 (and an ODP of zero), in either manufacture or composition, for the following elements: • Roof (incl. loft hatch) • Wall – internal and external (incl. all doors, lintels and all acoustic insulation). • Floor (incl. foundations) • Hot water cylinder (incl. pipe insulation and other thermal store)	1	max 1	

Pol2	**NO_x emissions** 95% of dwellings throughout the development must be served by heating and hot water systems with an average NO_x emission rate of less than or equal to the levels listed below. • Less than or equal to 100 NO_x mg/kWh OR • Less than or equal to 70 NO_x mg/kWh OR • Less than or equal to 40 NO_x mg/kWh	 1 2 3	 max 3	
Pol3	**Reduction of surface runoff** Where rainwater holding facilities and/or sustainable drainage techniques are used to provide attenuation of water run-off to either natural watercourses and/or municipal drainage systems, by 50%* in areas of low probability of flooding, 75%* in areas of medium flood risk and 100%* in areas of high flood risk, at peak times from: • Hard surface runoff • Roof runoff * Where a statutory body requires a greater attenuation then the higher requirement should be met in order to achieve these credits.	 1 1	 max 2	
Pol4	**Renewable and Low Emission Energy Source** • Where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented AND • Where evidence provided demonstrates that the first credit has been achieved and 10% of total energy demand for the development is supplied from local renewable, or low emission energy, sources* OR • Where evidence provided demonstrates that the first credit has been achieved and 15% of total energy demand for the development is supplied from local renewable, or low emission energy, sources*. * In line with the recommendations of the feasibility study.	 1 1 2	 max 3	
Pol 5	**Flood Risk Mitigation** • Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. OR • Where evidence provided demonstrates that the	 2		

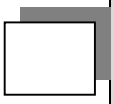
	assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location.	1	max 2	
Total Number of Pollution Credits Achieved			 max 11	

Materials

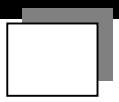
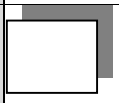
Mat1	**Environmental Impact of Materials** The following elements obtaining an A rating from the Green Guide for Housing: • Roof • External walls • Internal walls - party walls and internal partitions • Floors • Windows • External surfacing • Boundary protection	3 3 3 3 2 1 1	 max 16	
Mat2	**Responsible sourcing of Materials: Basic building elements** Where the majority of materials in the following basic building elements are responsibly sourced: 1. Frame 2. Ground floor 3. Upper floors (including any loft boarding) 4. Roof (structure and cladding) 5. External walls (including external cladding) 6. Internal walls (including internal partitions) 7. Foundation/substructure 8. Staircase (includes the tread, rises and stringers)	1-6	 max 6	
Mat3	**Responsible sourcing of Materials: Finishing elements** Where the majority of materials in the following secondary building and finishing elements are responsibly sourced: 1. Stair (including handrails, balustrades, banisters, other guarding/rails(excluding staircase)) 2. Window (including sub-frames, frames, boards, sills) 3. External & internal door: (including sub-frames, frames, linings, door) 4. Skirting (including architrave, skirting board & rails) 5. Panelling (including any other trim) 6. Furniture (including fitted; kitchen, bedroom and bathroom) 7. Facias (soffit boards, bargeboards, gutter boards, others) 8. Any other significant use.	1-3	 max 3	

Mat4	**Recycling of Household waste** Storage of recyclable waste: • Provision of internal storage only OR • Provision of external storage (or LA collection) only OR • Provision of internal AND external (or LA collection) storage	 2 2 6	 max 6	
Total Number of Materials Credits Achieved			 max 31	

Water

Wat1	**Internal Potable Water Use** • Less than or 52 m^3 per bedspace per year OR • Less than or equal to 47 m^3 per bedspace per year OR • Less than or equal to 42 m^3 per bedspace per year OR • Less than or equal to 37 m^3 per bedspace per year OR • Less than or equal to 32 m^3 per bedspace per year	 1 2 3 4 5	 max 5	
Wat2	**External Potable Water Use** Rain water collection system for watering gardens and landscaped areas	 1	 max 1	
Total Number of Water Credits Achieved			 max 6	

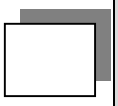
Land Use and Ecology

Eco1	**Ecological value of site** • Building on land which is inherently of low ecological value	 1		 max 1
Eco2	**Ecological enhancement** • Enhancing the ecological value of the site through consultation with an accredited expert	 1		 max 1

Eco3	**Protection of ecological features** • Ensuring the protection of any existing ecological features on the site	1		max 1
Eco4	**Change of ecological value of site** • A change of between –9 and –3 species OR • A change of between –3 and +3 species OR • A change between +3 and +9 species OR • A change of greater than +9 species	1 2 3 4		max 4
Eco5	**Building footprint** • Where the total combined Floor area: Footprint ratio for all houses on the site is greater than 2.5:1 AND • Where the total combined Floor area: Footprint ratio for all flats on the site is greater than 3.5:1 OR • Where the total combined Floor area: Footprint ratio for all dwellings on the site is greater than 3.5:1	1 2	max 2	
Total Number of Land Use and Ecology Credits Achieved			max 9	

Health and Well Being

Hea1	**Daylighting** Provision of adequate daylighting, according to BS 8206:pt2 in: • In the kitchen • In living rooms, dining rooms and studies • View of sky in all above rooms	1 1 1	max 3	
Hea2	**Sound Insulation** Up to 4 credits where pre-completion testing is carried out to comply or improve on performance standards in Approved Document E (2003 Edition, Building Regulations England and Wales).	1-4	max 4	
Hea3	**Private space** Provision of private or semi private space	1	max 1	

Total Number of Health and Well Being Credits Achieved			 max 8	
Management				
Man 1	**Home User Guide** Where evidence can be provided to demonstrate that there is provision, in each home, of a simple guide that covers information relevant to the 'non-technical' tenant/ occupant on: • The environmental performance of their home • Information relating to the site and surroundings.	2 1	 max 3	
Man 2	**Considerate Constructors** • Demonstrate a commitment to comply with best practice site management principles. OR • Demonstrate a commitment to go significantly beyond best practice site management principles.	1 2		 max 2
Man 3	**Construction Site Impacts** • Evidence that demonstrates a commitment and a strategy to monitor, sort and recycle construction waste on site. AND • Evidence that demonstrates that 2 or more of a-f listed below are achieved. OR • Evidence that demonstrates that 4 or more of a-f are achieved: a) monitor and report CO_2 or energy arising from site activities b) monitor and report on CO_2 or energy arising from transport to and from site c) monitor water consumption from site activities d) adopt best practice policies in respect of air (dust) pollution arising from the site e) adopt best practice policies in respect of water (ground and surface) pollution occurring on the site f) 80% of site timber is reclaimed, reused or responsibly sourced.	1 1 2		 max 3	

Man 4	**Security** • A commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design award. • Security standards for external doors and windows, to achieve a minimum of either: - LPS1175 SR1 (All doors and windows) OR - PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) AND BS7950 (All windows falling within the scope of BS7950)	1 1	max 2	
Total Number of Management Credits Achieved			max 10	
Total in all Sections				

	Issue credits				
	Credits available	No. achieved	% achieved	Weighting Factor	Credits score
ISSUE CATEGORY	1	2	2/1 x100 =3	4	3x4 =5
Energy	24			0.22	
Transport	8			0.08	
Pollution	11			0.10	
Materials	31			0.14	
Water	6			0.10	
Land Use and ecology	9			0.12	
Health and well being	8			0.14	
Management	10			0.10	
Total				1.00	

	Rating	Score
	Pass	36
	Good	48
	Very Good	58
	Excellent	70