Adelaide Road
Code for Sustainable Homes
Pre-Assessment

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EXECUTIVE SUMMARY

Foreman Roberts have been appointed as registered assessors to assess the likely Code for Sustainable Homes (CSH) rating for the Adelaide Road project, which consists of 5 houses in Camden. This report documents details the anticipated performance of the development and provides information to ensure that the design team understand how to comply with all requirements. The formal CSH assessment and certification will take place later in the design process.

Based on the current design, it is anticipated that the development would score 70.76 % a Code for Sustainable Homes Level 4 rating. All mandatory levels are met within the assessment including the CSH Level 4 requirements under the Energy and Water sections.

1.0 INTRODUCTION

Foreman Roberts have been appointed as registered assessors to assess the likely Code for Sustainable Homes (CSH) rating for the Adelaide Road project. This report documents details the anticipated performance of the development and provides information to ensure that the design team understand how to comply with all requirements. The formal CSH assessment and certification will take place later in the design process.

The development has been pre-assessed according to the 'Code for Sustainable Homes'. The Code for Sustainable Homes was introduced in December 2006, based on BRE's EcoHomes scheme. From April 2008, it is now a requirement to 'rate' all new buildings in England and Wales.

The Code is a set of sustainable design principles covering performance in nine key areas:

- Energy and CO_2 emissions
- Water
- Materials
- Surface Water run off
- Waste
- Pollution
- Health and Well being
- Management
- Ecology

For each category there is a number of credits achievable, the number of credits achieved is divided by the total available and multiplied by the category weighting factor to give a percentage score for the category. The percentage points scores for each category are then summed to arrive at the total percentage points score for the dwelling, with this percentage score correlating to a code level:

36 Points	Level 1
48 Points	Level 2
57 Points	Level 3
68 Points	Level 4
84 Points	Level 5
90 Points	Level 6

The Code for Sustainable Homes includes several mandatory requirements. Four of these consist of a single mandatory requirement that must be met regardless of the Code Level aimed for. These are as follows:

Mat 1	Environmental Impact of Materials	At least three of the following five elements must achieve a rating of D or better in the 2008 Green Guide: *Roof, external walls, internal walls, upper & ground floors and windows.*
Sur 1	Management of Surface Water Run Off	Ensure that the peak rate of run off is no greater for the developed site than it was for the pre-developed site.
Was 1	Storage of Non-recyclable Waste	Provide sufficient space for waste storage to comply with BS5906 (2005); i.e. a volume of 100 litres for a single bedroom dwelling and another 70l for each additional bedroom.
Was 2	Construction Site Waste Management	Develop and implement a *Site Waste Management Plan* to comply with requirements set in SWMP regulations 2008.

So long as these are achieved, two further issues have mandatory requirements. The minimum standards for these vary for each level of the Code, with more stringent benchmarks the higher the code level sought.

Code Level	1	2	3	4	5	6
Ene 1: CO2 Emission Rate % improvement in DER over TER	10	18	25	44	100	True Zero
Wat 1: Indoor water use Maximum litres/person/day	120	120	105	105	80	80

The final credits for which a mandatory requirement applies for Level 6 only are Ene 2, where a Heat Loss Parameter of maximum 0.8 must be achieved and Hea 4, lifetime Homes, for which all the credit requirements must be complied with.

2.0 RATING SUMMARY

2.1 SUMMARY

The Adelaide Road development achieves the following Code for Sustainable Homes Score, for full breakdown of each credit, please refer to Section 3.0.

Credit Allocation	Available	Awarded	% Achieved	Score
Energy	29	20	68.9	25.20
Water	6	4	66.6	6.00
Materials	24	8	33.3	2.40
Surface Water	4	2	50.0	1.10
Waste	7	5	71.4	4.55
Pollution	4	3	75.0	2.10
Health and Wellbeing	12	11	91.6	12.76
Management	9	9	100.0	10.00
Land Use and Ecology	9	5	55.5	6.65
			Total	**70.76 %**
			Rating	**Level 4**

3.0 SCORE BREAKDOWN

3.1 ENERGY

ENE 1 Dwelling Emission Rate

Energy Credits are awarded based on the percentage improvement of the Dwelling Emission Rate (DER) over the Target Emission Rate (TER) as calculated using SAP 2006. Minimum standards for each Code level apply.

A heating strategy utilising high efficiency plant and fabric U-values exceeding the minimum requirements of Building Regulations, along with the use of some renewables (solar hot water or PV) will provide carbon reductions of more than 44% over Part L (2006) requirements.

Credits to be awarded: 8 of 15

ENE 2 Building Fabric

Credits are awarded based on the Heat Loss Parameter (HLP) obtained from the SAP 2006 calculations. This is based on the level of insulation and air tightness provided.

The specification of U-values and air tightness exceeding the minimum requirements of Part L will ensure a HLP of less than or equal to 1.1.

Credits to be awarded: 2 of 2

ENE 3 Internal Lighting

Credits are awarded based on the percentage of dedicated energy efficient lighting provided in habitable spaces within the dwelling. The specification will provide for at least 75% of light fittings being energy efficient.

Credits to be awarded: 2 of 2

ENE 4 Drying Space

One credit is awarded for the provision of either internal or external drying space with posts and footings, or fixings capable of holding 4m+ of drying line for 1-2 bed dwellings and 6m+ for dwellings with 3 bedrooms or greater.

The minimum provision of a drying line above the baths within the bathrooms meets this requirement, although the provision of outdoor space will also meet this.

Credits to be awarded: 1 of 1

ENE 5 Energy Labelled White Goods

Credits are awarded where each dwelling is provided with either information about the EU Energy Labelling Scheme or White Goods with the A and A+ ratings.

It is assumed that Energy labelled white goods will be provided, with A+ rated fridges and freezers, A rated washing machines and dishwashers and B rated washer dryers/tumble dryers.

Credits to be awarded: 2 of 2

ENE 6 External Lighting

Credits are awarded based on the provision of space lighting with dedicated energy efficient fittings and security lighting with appropriate control gear.

All security lighting will have a maximum wattage of 150W, daylight cut off sensors and PIRs, and energy efficient space lighting.

Credits to be awarded: 2 of 2

ENE 7 Low or Zero Carbon Technologies

Credits are awarded where either 10% or 15% of the dwellings heating energy requirements (SAP 2005) are met by low or zero carbon technologies.

Although the use of solar hot water or PV will be assessed at detailed design stage, it is not expected that any such incorporation will result in 10-15% carbon savings, therefore no credits are assumed.

Credits to be awarded: 0 of 2

ENE 8 Cycle Storage

Credits are awarded where safe, secure and weatherproof cycle storage is provided according to the Code requirements. 1 cycle space will be provided per bedroom, located within the basement car park area.

Credits to be awarded: 2 of 2

ENE 9 Home Office

One credit is awarded for the provision of space for a home office. The location, space and services provided must meet the Code requirements.

Home office facilities will be provided to allow residents to work from home. Three of the houses are provided with studies, the remaining houses will be provided with the required facilities in a non master bedroom. Facilities required include two double power sockets and two telephone points along a wall of at least 1.8m in length in a room with an openable window.

Credits to be awarded: 1 of 1

3.2 WATER

WAT 1 Internal Potable Water Use

Credits are awarded based on the predicted average household water consumption, calculated using the Code Water Calculator Tool.

The design of systems and selection of appliances will be such that 105 l/person/day is met.

Various specifications can achieve this :

- 2/4 l WC
- 6/7 l/ min shower
- Low volume (170 l) bath or alternatively low water use washing machine and dishwasher.
- Low flow taps

Credits to be awarded: 3 of 5

WAT 2 External Potable Water Use

One credit is awarded where a compliant system is specified for collecting rainwater for external irrigation purposes. A system for collecting rainwater for irrigation purposes will be provided to the houses.

Credits to be awarded: 1 of 1

3.3 MATERIALS

MAT 1 Environmental Impact of Materials

Mandatory Requirement: At least three of the five key building elements must achieve a Green Guide 2007 Rating of A+ to D. Tradable Credits: Points are awarded on a scale based on the Green Guide Rating of the specifications.

Since the exact specification of new building elements is not yet finalised, a conservative estimate of 3 credits has currently been awarded, which will be reviewed in the design post planning.

Credits to be awarded: 3 of 15

MAT 2 Responsible Sourcing of Materials - Basic Building Elements

Credits are awarded where materials used in the key building elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score.

It will be an employer's requirement for the contractor to source concrete, brick and other main building element from suppliers with an ISO 14001/EMAS certification at both extraction and process stage and to source all timber from FSC/PEFC sources. Again a conservative estimate of 3 credits has been taken at this time.

Credits to be awarded: 3 of 6

MAT 3 Responsible Sourcing of Materials - Finishing Elements

Credits are awarded where materials used in the finishing elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score.

It will be an employer's requirement for the contractor to source finishing elements from suppliers with an ISO 14001/EMAS certification at both extraction and process stage and to source all timber from FSC/PEFC sources. Again a conservative estimate of 2 credits has been taken at this time.

Credits to be awarded: 2 of 3

3.4 SURFACE WATER RUN OFF

SUR 1 Reduction of Surface Water Run-off from Site

Mandatory Requirement: Peak run-off rates and annual run-off volumes post development must not exceed the previous conditions for the site.

Tradable Credits: Where rainwater holding facilities / SUDs are used to provide attenuation of water run-off for the volumes required and in accordance with the Code criteria.

The mandatory requirements will be met, however, at this point in the design it is not envisaged that SUDs will be required or therefore provided, therefore, no further credits included.

Credits to be awarded: 0 of 2

SUR 2 Flood Risk

Credits are awarded where developments are located in areas of low flood risk, or where in areas of medium or high flood risk appropriate measures are taken to prevent damage to the property and its contents in accordance with the Code criteria. The development is in a low flood risk area and therefore the credits are able to be awarded.

Credits to be awarded: 2 of 2

3.5 WASTE

WAS 1 Household Waste Storage

Mandatory Requirement: The space provided for waste storage should be sized to hold the larger of either all external containers provided by the Local Authority or the min capacity calculated from BS 5906. In addition it is assumed that a minimum of 3 types of waste are collected by the local authority. Sufficient waste provisions will be made to allow all credits to be achieved.

Credits to be awarded: 4 of 4

WAS 2 Site Waste Management Plan (SWMP)/ Construction Waste

Mandatory Requirements: A SWMP plan including the monitoring of waste generated on site and the setting of targets to promote resource efficiency will be produced and implemented.

Tradable Credits: The SWMP should also include procedures and commitments for minimising waste and/ or commitments to sort, reuse and recycle construction waste. The employers requirements post planning will require the contractor to comply with the requirements such that at least one of the two credits available is achieved.

Credits to be awarded: 1 of 2

WAS 3 Composting

One credit is awarded where individual home composting facilities are provided, or where a community/ communal composting service, either run by the Local Authority or overseen by a management plan is in operation. It is currently assumed that this will not be provided for.

Credits to be awarded: 0 of 1

3.6 POLLUTION

POL 1 Global Warming Potential (GWP) of Insulants

Insulants with a global warming potential of less than 5 will be used throughout the development, to include, the build ups, the building services and any soundproofing.

Credits to be awarded: 1 of 1

POL 2 NOx Emissions

Credits are awarded on the basis of NOx emissions arising from the operation of the space heating system within the dwelling. NOx emissions for the development (from the boilers) will be less than 70 mg/kWh, therefore two of the three available credits are achieved.

Credits to be awarded: 2 of 3

3.7 HEALTH AND WELL BEING

HEA 1 Daylighting

Daylighting calculations will be carried out to demonstrate that daylight levels meet BS8206 pt 2 with daylight factors of 2% in the kitchen and 1.5% in the living rooms, dining rooms and studies. Also that workstations will have a view of sky from the kitchens, living rooms and studies.

Credits to be awarded: 3 of 3

HEA 2 Sound Insulation

A commitment has been made to achieve 5dB over the performance standards set out in Building Regulations: Part E minimum requirements for acoustic levels. This will be demonstrated through acoustic testing at pre-completion stage.

Credits to be awarded: 3 of 4

HEA 3 Private Space

One credit is awarded for the provision of an outdoor space that is at least partially private. The space must allow easy access to all occupants. All the dwellings are provided with private outdoor space to met the credit criteria.

Credits to be awarded: 1 of 1

HEA 4 Lifetime Homes

Credits are awarded where the developer has implemented all of the principles of the Lifetime Homes scheme. The Lifetime Homes criteria will be met for all dwellings.

Credits to be awarded: 4 of 4

3.8 MANAGEMENT

MAN 1 Home User Guide

Credits are awarded where a simple guide is provided to each dwelling covering information relevant to the 'non-technical' home occupier, in accordance with the Code requirements. The guide must be available in alternative formats on request. This will be provided.

Credits to be awarded: 3 of 3

MAN 2 Considerate Constructors Scheme

Credits are awarded where there is a commitment to comply with best practice site management principles using either the Considerate Constructors Scheme or an alternative locally/ nationally recognised scheme. This will be provided at the time of construction, with the contractor aiming to achieve a score of between 32 and 40.

Credits to be awarded: 2 of 2

MAN 3 Construction Site Impacts

The contractors tender will include requirements to:

- Monitor, report and set targets for CO2 production or energy use arising from site activities.
- Monitor, report and set targets for water consumption from site activities.
- Startegy to monitor, sort and recycle construction waste on site.
- Adopt best practice policies in respect of air (dust) and water pollution by complying with Environment Agency Pollution Prevention guidlines 1, 5 and 6.
- Ensure that any new temporary works timber is FSC certified.

Credits to be awarded: 2 of 2

MAN 4 Security

Credits are awarded for complying with Section 2 - Physical Security from Secured by Design - New Homes. An Architectural Liaison Officer (ALO), will be appointed early in the design process, post planning, and their recommendations incorporated.

Credits to be awarded: 2 of 2

3.9 ECOLOGY

ECO 1 Ecological Value of Site

The entire building footprint is on land previously occupied by buildings and hard landscaping, therefore deeming the site to have low ecological value.

Credits to be awarded: 1 of 1

ECO 2 Ecological Enhancement

One credit is awarded where there is a commitment to enhance the ecological value of the development site. Credit currently not sought.

Credits to be awarded: 0 of 1

ECO 3 Protection of Ecological Features

One credit is awarded where there is a commitment to maintain and adequately protect features of ecological value. Since the construction area is currently occupied by buildings, and that the site is considered of low ecological value, the credit is able to be awarded by default.

Credits to be awarded: 1 of 1

ECO 4 Change of Ecological Value of Site

Credits are awarded where the change in ecological value has been calculated in accordance with the Code requirements and is calculated to be a small increase in value. A conservative estimate of a neutral change in ecological value has been assumed at this time.

Credits to be awarded: 2 of 4

ECO 5 Building Footprint

The ratio of combined floor area of all dwellings on the site: Net internal ground floor area is 2.5:1, therefore 1 credit is awarded.

Credits to be awarded: 1 of 2

4.0 SCORE SHEET

			Score	Credits Available	Weighted Score
Energy	Ene 1	Carbon Dioxide	8	15	10.08
	Ene 2	Building Fabric	2	2	2.52
	Ene 3	Internal Lighting	2	2	2.52
	Ene 4	Drying Space	1	1	1.26
	Ene 5	Eco Labelled Goods	2	2	2.52
	Ene 6	External Lighting	2	2	2.52
	Ene 7	Zero/Low Carbon Energy Source	0	2	0
	Ene 8	Cycle Storage	2	2	2.52
	Ene 9	Home Office	1	1	1.26
Water	Wat 1	Internal Water Use	3	5	4.50
	Wat 2	External Water Use	1	1	1.50
Materials	Mat 1	Environmental Impact of Materials	3	15	0.90
	Mat 2	Responsible Materials: Basic Elements	3	6	0.90
	Mat 3	Responsible Materials: Finishes	2	3	0.60
Surface Water	Sur 1	Reduction of Surface Runoff	0	2	0
	Sur 2	Flood Risk	2	2	1.10
Waste	Was 1	Recycling Facilities	4	4	3.64
	Was 2	Site Waste Management Plan	1	2	0.91
	Was 3	composting	0	1	0
Pollution	Pol 1	Insulant GWP	1	1	0.70
	Pol 2	NOx Emissions	2	3	1.40
Health and Wellbeing	Hea 1	Daylighting	3	3	3.48
	Hea 2	Sound Insulation	3	4	3.48
	Hea 3	Private Space	1	1	1.16
	Hea 4	Lifetime Homes	4	4	4.64
Management	Man 1	Home User Guide	3	3	3.33
	Man 2	Considerate Constructors Scheme	2	2	2.22
	Man 3	Construction Site Impacts	2	2	2.22
	Man 4	Security - ALO	2	2	2.22
Land Use and Ecology	Eco 1	Ecological Value of Site	1	1	1.33
	Eco 2	Ecological Enhancement	0	1	0
	Eco 3	Protection of Ecological Features	1	1	1.33
	Eco 4	Change of Ecological Value of Site	2	4	2.66
	Eco 5	Building Footprint	1	2	1.33
			Score:		70.76
			Rating:		**Level 4**