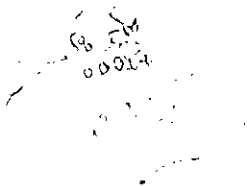


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Code for Sustainable Homes
Pre-Assessment Report

October 2012



Proposed Residential
Development at
**Saunderson Road,
Penistone**

Prepared by Ruth Walker. Issue 1

architects

project managers

construction cost consultants

CDM co-ordinators

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1.0 SUMMARY

Nicol Thomas Ltd has been commissioned by Yorkshire Housing to prepare a Code for Sustainable Homes Pre-Assessment of the proposed residential development at Saunderson Road, Penistone.

This report provides guidance on the approach to the Code for Sustainable Homes and possible methodologies for achieving Code Level 3 certification. No meetings have been held with project partners at this stage and assumptions have been made on likely levels of compliance. The purpose of the document is to prompt discussion relating to the various routes to compliance for each category to determine a strategy for moving forward to the Design Stage Assessment. This report does not get submitted to the BRE or used in any formal assessment.

Following project partner agreement to this document and subsequent changes, Nicol Thomas Ltd will progress the Design Stage Assessment in conjunction with the Contractor. At this stage, documentary evidence will be required from the design and construction team as scheduled in this document. Nicol Thomas Ltd will guide and assist the project team throughout the scheme development, with involvement up until site completion as per our appointment letter.

2.0 CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT

2.1 Introduction

The Pre-Assessment for Saunderson Road, Penistone has been carried out under the November 2010 version of the Code for Sustainable Homes. The Client has indicated the need to achieve a minimum score of 57 points which equates to Code Level 3.

The following pages detail each category and individual issue covered by the Code for Sustainable Homes. Each section will include the provisional number of credits scored along with the assumed method of compliance. Also provided is an indication of the documentary evidence that will be required for the Design Stage Assessment.

2.2 Detailed Pre-Assessment

ENE 1 Dwelling Emission Rate	0 credits awarded
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To limit CO₂ emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.

Criteria		
% Improvement 2010 DER/TER* ¹	Credits* ²	Mandatory Requirements
≥ 8%	1	Level 4
≥ 16%	2	
≥ 25%	3	
≥ 36%	4	
≥ 47%	5	
≥ 59%	6	
≥ 72%	7	
≥ 85%	8	
≥ 100%	9	Level 5
Zero Net CO ₂ Emissions	10	Level 6
Default Cases		
None		

It is assumed that no credits will be awarded for this issue. This equates to Building Regulations Part L1A 2010 compliance.

Design Stage Evidence Requirements:

- Design stage SAP 2009 worksheets from an accredited energy assessor confirming the TER, DER and FEE. SAP worksheets must include the assessor name, registration number, assessment status, plot number and development address.

ENE 2 Fabric Energy Efficiency	4 credits awarded
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To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.

Criteria			
Dwelling Type* ¹		Credits* ²	Mandatory Levels
Apartment Blocks, Mid-Terrace	End Terrace, Semi- Detached & Detached		
Fabric Energy Efficiency kWh/m ² /year			
≤ 48	≤ 60	3	Levels 5 & 6
≤ 45	≤ 55	4	
≤ 43	≤ 52	5* ³	
≤ 41	≤ 49	6	
≤ 39	≤ 46	7	
≤ 35	≤ 42	8	
≤ 32	≤ 38	9	
Default Cases			
None			

4 credits have been provisionally awarded. Confirmation of this will be required.

Design Stage Evidence Requirements:

- Design stage SAP 2009 worksheets from an accredited energy assessor confirming the FEE. SAP worksheets must include the assessor name, registration number, assessment status, plot number and development address.

ENE 3 Energy Display Devices	1 credit awarded
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To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

Criteria	Credits
Where current electricity OR <i>primary heating fuel</i> consumption data are displayed to occupants by a <i>correctly specified energy display device</i> .	1
Where current electricity AND primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.	2
Default Cases	
Where electricity is the primary heating fuel and current electricity consumption data are displayed to occupants by a correctly specified energy display device.	2

1 credit has been provisionally awarded. This assumes the provision of a suitable energy display device displaying either current electricity or primary heating fuel consumption data.

Design Stage Evidence Requirements:

Letter from Contractor confirming the inclusion of Energy Display Devices dedicated to each dwelling and monitoring either electricity or primary heating fuel consumption.

The device must display as a minimum the following:

- Local time
- Current mains energy consumption (kilowatts and kilowatt hours)
- Current emissions
- Current tariff
- Current cost (for pre-payment customers this should be 'real time' data and for 'credit' paying customers cost should be displayed on a monthly basis)
- Accurate account balance information (amount in credit or debit)
- Visual presentation of data (non numeric)
- Historical consumption data

ENE 4 Drying Space	1 credit awarded
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To promote a reduced energy means of drying clothes.

Criteria	Credits
Where space and equipment are provided for drying clothes: - For 1 – 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line - For 3+ bedroom dwellings, the drying equipment must be capable of holding 6m+ of drying line The <i>drying space</i> (internal or external) must be <i>secure</i>	1
Default Cases None	

1 credit has been provisionally awarded. This requires the provision of either a rotary dryer, washing line, or line over bath adequately ventilated.

Design Stage Evidence Requirements:

- Drawing indicating the location of drying spaces and the length of line (min 4 linear metres for 2 bedroom dwellings, min 6 linear metres for 3+ bedroom dwellings).
- Details of ventilation is required if the drying space provided is internal. This space should be heated with intermittent extract ventilation achieving a minimum extract rate of 30 l/s.

ENE 5 Energy Labelled White Goods

1 credit awarded

To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.

Criteria	Credits
Where the following appliances are provided and have an A+ rating under the <i>EU Energy Efficiency Labelling Scheme</i> : Fridges and freezers or fridge-freezers	1
Where the following appliances are provided and have an A rating under the <i>EU Energy Efficiency Labelling Scheme</i> : - Washing machines and dishwashers AND EITHER - Tumble dryers or washer dryers have a B rating (where a washer dryer is provided, it is not necessary to also provide a washing machine) OR <i>EU Energy Efficiency Labelling Scheme Information</i> is provided to each dwelling in place of a tumble dryer or a washer dryer	1
Where no white goods are provided but <i>EU Energy Efficiency Labelling Scheme Information</i> is provided to each dwelling Note: To obtain this credit, any white goods available to purchase from the developer must be compliant with the above criteria.	1
Default Cases None	

1 credit has been provisionally awarded. This assumes no white goods will be provided but the provision of *EU Energy Efficiency Labelling Scheme Information* to each dwelling.

Design Stage Evidence Requirements:

- Copy of the *EU Energy Efficiency Labelling Scheme* information to be provided.
- Confirmation that the *EU Energy Labelling* information will be provided to all dwellings
- Confirmation that all appliances available for purchase with the dwelling are compliant. (As above ratings plus tumble dryers/washer dryers min B rated).
- Confirmation of any appliances to be provided (make and model) and their applicable ratings. (fridge freezers are to be A+ rated, washing machines/dishwashers A rated)

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ENE 6 External Lighting

2 credits awarded

To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.

Criteria	Credits
Space Lighting Where all external <i>space lighting</i> , including lighting in common areas, is provided by <i>dedicated energy efficient fittings</i> with appropriate <i>control systems</i> . Note: <i>Statutory safety lighting</i> is not covered by this requirement	1
Security Lighting Where all <i>security lighting</i> is designed for energy efficiency and is adequately controlled such that: All burglar security lights have: • A maximum wattage of 150 W AND • <i>Movement detecting control devices (PIR)</i> AND • <i>Daylight cut-off sensors</i> All other <i>security lighting</i> : • Is provided by <i>dedicated energy efficient fittings</i> AND • Is fitted with <i>daylight cut-off sensors OR a time switch</i>	1
Default Cases If no security lighting is installed, the security lighting credit can be awarded by default, provided all of the requirements related to the specification of space lighting have been met. Dual lamp luminaires with both space and security lamps can be awarded both credits provided they meet the above criteria for energy efficiency	1

2 credits have been provisionally awarded. This assumes the provision of compliant space and security lighting. **NB:** dedicated energy efficient fittings are no longer a requirement.

Design Stage Evidence Requirements:

- Drawings showing the location of all external light fittings.
- Confirmation of the types of external light fittings and efficacy in lumens per circuit watt
- Confirmation that all external space lighting (including common areas) is to be provided with energy efficient bulbs with dusk to dawn sensors.
- Confirmation that any burglar security lighting has a maximum wattage of 150W, PIR controls (subject to Secured by Design requirements) and daylight cut-off sensors.

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ENE 7 Low and Zero Carbon Technologies

0 credits awarded

To limit CO₂ emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.

Criteria	Credits
Where energy is supplied by <i>low or zero carbon technologies</i> AND There is a 10% reduction in CO ₂ emissions as a result OR There is a 15% reduction in CO ₂ emissions as a result	1 2
Default Cases None	

0 credits have been awarded. This assumes that no renewable technologies will be included within the scheme.

ENE 8 Cycle Storage

2 credits awarded

To promote the wider use of bicycles as transport by providing adequate and secure cycle facilities, thus reducing the need for short car journeys and the associated CO2 emissions.

Criteria	Credits
Where individual or communal cycle storage is provided, that is <i>adequately sized, secure and convenient</i> , for the following number of cycles:	
Studios or 1 bedroom dwellings – storage for 1 cycle for every two dwellings	1
2 and 3 bedroom dwellings – storage for 1 cycle per dwelling	
4 bedrooms and above – storage for 2 cycles per dwelling	
OR	
Studios or 1 bedroom dwellings – storage for 1 cycle per dwelling	2
2 and 3 bedroom dwellings – storage for 2 cycles per dwelling	
4 bedrooms and above – storage for 4 cycles per dwelling	
Note: The requirements for secure cycle storage are met where compliance with clause 35 of Secured by Design (SBD) New Homes 2010 is achieved.	
Default Cases	
None	

2 credits have been provisionally awarded. This assumes that suitable storage will be provided for 2 cycles per dwelling. Minimum cycle storage area for 2 cycles: 2 m long x 1.5m wide. Where cycle storage is provided in a shed, an additional 1sqm is required for garden tools. The shed must be set on a concrete foundation. Access to the storage must not be through the dwelling.

Design Stage Evidence Requirements:

- Drawing showing the number of bedrooms and number of corresponding cycle storage spaces
- Drawings showing the location, type and size of the cycle storage with convenient access.
- Details of secure entrance lock and secure fixings.
SBD requirements: "Where cycle storage is provided in a shed, the shed must be securely fixed to a concrete foundation and the shed door fitted with a certificated 'Sold Secure' Silver Standard padlock, hasp and staple (coach bolted through the shed structure). Providing the shed door is at least 44mm thick the shed door can be locked into the doorframe using either a mortice deadlock or mortice sash lock certificated to BS 3621: 2007. The bicycle security ground anchor must also be certificated to 'Sold Secure' Silver Standard."

ENE 9 Home Office

1 credit awarded

To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

Criteria	Credits
Where <i>sufficient space and services</i> have been provided which allow occupants to set up a home office in a <i>suitable room</i> . The space dedicated for use as a home office must have <i>adequate ventilation</i> and achieve an <i>average daylight factor</i> of 1.5%.	1
Default Cases	
None	

1 credit has been provisionally awarded. This assumes the provision of adequate space and services in a secondary bedroom for use as a home office.

Design Stage Evidence Requirements:

- Drawing showing location of home office including minimum clear wall length of 1800mm to allow desk, chair, and filing cabinet or bookshelf to be fitted.
- Drawing showing location and number of sockets and telephone points.
- Confirmation of provision of two additional double sockets and one telephone point – with evidence that Broadband is available, or two telephone points if not.
- Confirmation that the window has a minimum openable casement of 0.5m².
- Confirmation of the daylighting factor of min 1.5% (copy of the daylighting calculations).

WAT 1 Indoor Water Use

3 credits awarded

To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.

Criteria		
Water consumption (litres/person/day)	Credits	Mandatory Levels
≤ 120 l/p/day	1	Levels 1 and 2
≤ 110 l/p/day	2	
≤ 105 l/p/day	3	Levels 3 and 4
≤ 90 l/p/day	4	
≤ 80 l/p/day	5	Levels 5 and 6
Default Cases		
None		

3 credits have been provisionally awarded. This equates to the **mandatory** water consumption for Level 3 compliance i.e. 105 litres/person/day.

Design Stage Evidence Requirements:

- Confirmation of location, numbers and type of fittings that use water including capacity/flow rates and any water reduction equipment e.g. flow restrictors.
- Details of any washing machines/tumble dryers being provided in terms of their water use (Litres per place setting or litres per kg load).
- Confirmation of any waste disposal units or water softener included.
- Details of any rainwater/greywater collections systems provided for use in the dwelling.
- Confirmation risk assessment of microbial contamination has been carried out on the hot and cold water systems. Details of any action to be taken to avoid such risks.

WAT 2 External Water Use

1 credit awarded

To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Criteria	Credits
Where a <i>correctly specified and sufficient sized system to collect rainwater</i> for external/internal irrigation/use has been provided to a dwelling with a garden, patio or communal garden space (examples of such systems include <i>rainwater butts</i> and <i>central rainwater collection systems</i>)	1
Default Cases If no individual or communal garden spaces are specified or if only balconies are provided, the credit can be awarded by default	1

1 credit has been provisionally awarded. This assumes the provision of a suitable 200 litre water butt to each dwelling garden.

Design Stage Evidence Requirements:

Documentary evidence stating size, type and location of any rainwater collection systems meeting the following criteria:

200 litre water butt to be provided to all dwellings to the following specification:

- no open access at the top (childproof lid is allowed)
- tap for drawing off water
- detachable from down pipe with removable top or base for cleaning the interior
- connected to down pipe with automatic overflow to surface water system
- stable and adequately supported
- made from durable material, opaque to sunlight.

MAT 1 Environmental Impact of Materials

10 credits awarded

To specify materials with lower environmental impacts over their life-cycle.

Criteria	Credits	Mandatory Levels
Where at least three of the following five key elements of the <i>building envelope</i> achieve a rating of A+ to D in the 2008 version of <i>The Green Guide</i> : • Roof • External walls • Internal walls (including separating walls) • Upper and ground floors (including separating floors) • Windows		All Levels
Where the <i>Code Mat 1 Calculator Tool</i> is used to assess the number of credits awarded for the five key elements described above	1 – 15	
Default Cases None		

10 credits have been provisionally awarded. Confirmation of materials used is required to enable the assessor to complete the calculator tools.

Design Stage Evidence Requirements:

- Drawings and specification documents detailing all materials to be used within the roof, external and internal walls, upper and ground floors and windows.

NB: The minimum **mandatory** requirement is for three of the five key building elements listed above to achieve a Green Guide rating of A+ to D. The higher the rating, the more credits are scored.

MAT 2 Responsible Sourcing of Materials - Basic Building Elements	4 credits awarded
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To promote the specification of responsibly sourced materials for the basic building elements.

Criteria	Credits
Where 80% of the <i>assessed materials</i> in the following <i>Building Elements</i> are responsibly sourced: a) Frame b) Ground floor c) Upper floors (including separating floors) d) Roof e) External walls f) Internal walls (including separating walls) g) Foundation/substructure (excluding sub-base materials) h) Staircase Additionally, 100% of any timber in these elements must be legally sourced	1-6 *1
Default Cases None	

4 credits have been provisionally awarded.

Design Stage Evidence Requirements:

- Details of all materials within each of the following building elements: frame, ground floor, upper floors, roof, external walls, internal walls, foundations and substructure. This needs to include information on sourcing, certification and chain of custody where available.
- Drawings showing the location / extent of each material specified.

MAT 3 Responsible Sourcing of Materials - Finishing Elements	1 credit awarded
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To promote the specification of responsibly sourced materials for the finishing elements.

Criteria	Credits
Where 80% of the <i>assessed materials</i> in the following <i>Finishing Elements</i> are responsibly sourced: a) Staircase b) Windows c) External & internal doors d) Skirting e) Panelling f) Furniture g) Fascias h) Any other significant use Additionally, 100% of any timber in these elements must be <i>legally sourced</i>	1-3
Default Cases None	

1 credit has been provisionally awarded.

Design Stage Evidence Requirements:

- Details of all materials within each of the following finishing elements: staircase, windows, external and internal doors, skirting, panelling, furniture and fascias. This needs to include information on sourcing, certification and chain of custody where available.

SUR 1 Management of Surface Water Run-off from Developments

0 credits awarded

To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.

Criteria		
	Credits	Mandatory Elements
Hydraulic Control Criteria The <i>SuDS Management Train</i> should be used as a guide to achieve the following: 1) Peak Rate of Run-off If there is no increase in the man-made impermeable area as a result of the new development, then the peak rate of run-off criterion does not apply. Where there is an increase in impermeable area, ensure that the peak rate of run-off over the development lifetime, allowing for climate change, will be no greater for the developed site than it was for the <i>pre-development</i> site. This should comply at the 1 year¹ and 100 year² return period events (see Calculation Procedures). Where the pre-development peak rate of run-off for the site would result in a requirement for the post-development flow rate (referred to as the <i>limiting discharge</i>) to be less than 5 l/s at a <i>discharge point</i>, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage. <i>Note: If as a result of the new development, there is an increase in the volume of run-off discharged for the 100 year 6 hour event and section 2A cannot be met (see section 2 below), these run-off rates do not apply.</i>	None	All Levels
		continued

Criteria		
	Credits	Mandatory Elements
2) Volume of Run-off If there is no increase in the man-made impermeable area as a result of the new development, then the volume of run-off criteria does not apply. If the developed site would otherwise discharge, over the development lifetime allowing for climate change, a greater volume of rainwater run-off than the pre-development site for the 100 year 6 hour event, (see Calculation Procedures) then criterion A applies. If A cannot be satisfied then B applies. A: Ensure that the post development volume of run-off, allowing for climate change over the development lifetime, is no greater than it would have been before the development. The additional predicted volume of run-off for the 100 year 6 hour event must be prevented from leaving the site by using infiltration or other <i>SuDS techniques</i> (see Definitions). OR B: If A cannot be satisfied (full justification must be provided) then reduce the post development peak rate of run-off to the limiting discharge. The limiting discharge is the pre-development flow rate equivalent to the 1-year peak flow rate, mean annual flood flow rate (Qbar) or 2 l/s/ha, whichever is the highest flow rate. For the 1-year peak flow rate the 1 year return period event criterion in section 1 above, applies. For all other events up to the 100 year return period event, the peak rate of run-off for the developed site must not exceed the limiting discharge. Where the limiting discharge flow rate would require a flow rate of less than 5 l/s at a discharge point, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage. <i>Note: Criterion B generally results in more storage than compliance with criterion A.</i> 3) Designing for local drainage system failure. Demonstrate that the flooding of property would not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance). <i>Note: Where the run-off is being discharged into an existing drainage system, the responsible body may stipulate a more stringent set of hydraulic flow rate criterion which will therefore take precedence.</i>		
Water Quality Criteria 1. One credit can be awarded by ensuring there is no discharge from the developed site for rainfall depths up to 5 mm (see Calculation Procedures). 2. One credit can be awarded by ensuring that: The run-off from all hard surfaces shall receive an appropriate level of treatment in accordance with The SuDS Manual to minimise the risk of pollution. <i>Note: The SuDS Manual best practice recommendations should be followed where there is a risk to groundwater from infiltration (for example contaminated land, developments with high risk of pollution incidents)</i>	1 1	

0 credits have been awarded. Compliance with the **mandatory** requirement has been assumed. The below criteria need to be met.

Design Stage Evidence Requirements:

- Statement from Engineer confirming they are qualified with experience of using SUDS.
- Completed SUR 1 report from Engineer including the following:
 - Areas of permeable and impermeable surfaces on the site pre and post-development.
 - Details of the permeability characteristics of the site pre and post development.
 - Peak rates of run-off calculations for the 1 year and 100 year events pre and post development including an allowance for climate change.
 - Detailed documentary evidence showing the methods used to reduce the peak rate of run-off to pre development rates.
 - The pre-development volume of run-off for the 100 year 6 hour event.
 - The additional volume of run-off for the 100 year 6 hour event caused by the development without mitigation measures.
 - The additional volume of run-off with the proposed mitigation.
 - Information to demonstrate that the hierarchical approach to reducing the additional volume of run-off was followed.
 - Information of the calculation methods used, as well as summary results.
- Flood Risk Assessment.
- Drawing showing pre-development drainage (natural or constructed)
- Drawing showing proposed drainage solution including ground floor levels, system failure flood flow routes, potential flood ponding levels.

SUR 2 Flood Risk	2 credits awarded
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To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

Criteria	Credits
EITHER Two credits are available for developments situated in Zone 1 – <i>low annual probability of flooding</i> (as defined in PPS25 <i>Development and Flood Risk</i>) and where the site-specific <i>Flood Risk Assessment (FRA)</i> indicates that there is low risk of flooding from all sources.	2
OR One credit is available for developments situated in Zones 2 and 3a – <i>medium and high annual probability of flooding</i> where the finished ground floor level of all habitable parts of dwellings and access routes to the ground level and the site, are placed at least 600 mm above the <i>design flood level</i> of the <i>flood zone</i> . The Flood Risk Assessment accompanying the planning application must demonstrate to the satisfaction of the local planning authority and statutory body that the development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any <i>residual risk</i> can be safely managed.	1
Default Cases None	

2 credits have been provisionally awarded. The Environment Agency flood maps indicate low probability of flooding from the sea or rivers. A flood risk assessment is required to confirm there is a low risk of flooding from all sources.

Design Stage Evidence Requirements:

- Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 *Development and Flood Risk*) which shows that there is a low risk of flooding from all sources.

WAS 1 Storage of Non-Recyclable Waste and Recyclable Household Waste	4 credits awarded
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To provide adequate internal and external storage space for non-recyclable waste and recyclable household waste.

		
Storage of household waste An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes: - The minimum volume recommended by British Standard 5906 (British Standards Institution, 2005) based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom. - The total volume of the external waste containers provided by the Local Authority. Storage space must provide <i>inclusive access and usability</i> (Checklist IDP). Containers must not be stacked.	None	All Levels
Storage of recyclable household waste Dedicated internal storage for recyclable household waste can be credited where there is no (or insufficient) dedicated external storage capacity for recyclable material, no <i>Local Authority collection scheme</i> and where the following criteria are met: At least three internal storage bins: - all located in an <i>adequate internal space</i> - with a minimum total capacity of 60 litres.	2	
Storage of recyclable household waste A combination of internal storage capacity provided in an adequate internal space, with either: - a Local Authority collection scheme, or - no Local Authority collection scheme but adequate external storage capacity.	4	continued

Local Authority collection scheme In addition to a Local Authority collection scheme (with a collection frequency of at least fortnightly), at least one of the following requirements must be met: • Recyclable household waste is sorted after collection and a single bin of at least 30 litres is provided in an adequate internal space. • Materials are sorted before collection and at least three separate bins are provided with a total capacity of 30 litres. Each bin must have a capacity of at least 7 litres and be located in an adequate internal space. • An <i>automated waste collection system</i> which collects at least three different types of recyclable waste. No Local Authority collection scheme but adequate external storage capacity For houses and flats there must be at least three identifiably different internal storage bins for recyclable waste located in an adequate internal space: • with a minimum total capacity of 30 litres • with a minimum individual capacity of at least 7 litres. AND For houses, an adequate external space must be provided for storing at least three external bins for recyclable waste: • with a minimum total capacity of 180 litres • with a minimum individual capacity of 40 litres. For flats, a <i>private recycling scheme operator</i> must be appointed to maintain bins and collect recyclable waste regularly. Recycling containers must: • be located in an adequate external space • be sized according to the <i>frequency of collection</i>, based on guidance from the recycling scheme operator • store at least three types of recyclable waste in identifiably different bins.		
Default Cases None		

4 credits have been provisionally awarded. This is based on the assumption that there will be a combination of appropriate internal and external storage with a Local Authority scheme and pre-collection sorting. If this changes, the requirements below will differ.

Design Stage Evidence Requirements:

- Drawing showing location and size of external storage including number / capacity of bins, level access made up of a firm, slip resistant surface and 1500mm clear turning circle for wheelchairs.

- Kitchen layouts showing the location of internal storage. Alternatively a letter from the Contractor confirming the dedicated location.
- Confirmation of type and size of internal storage. Internal storage to be 3 No. separate bins fixed into a kitchen unit with total capacity of 30 litres (individual bins min 7l). Internal storage must be fixed within a kitchen cupboard (or cupboard nearby) and not free standing or removable.
- Checklist IDP must be completed signed and returned covering WAS1, WAS3 and HEA3.
- Evidence to back up checklist IDP is required confirming external door opening width and level access threshold.
- Evidence to back up checklist IDP is required confirming the type of door furniture to external doors along with locking mechanism to BS 8300:2009 Section 6.5.
- Letter, leaflet or other published information from the Local Authority describing the types of waste collected, the frequency of collection and if there will be pre or post collection sorting.

NB: The minimum **mandatory** requirement is to provide an adequate external space allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:

- The minimum volume recommended by British Standard 5906 (British Standards Institution, 2005) based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom.
- The total volume of the external waste containers provided by the Local Authority.

WAS 2 Construction Site Waste Management	2 credits awarded
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To promote resource efficiency via the effective and appropriate management of construction site waste.

Minimising Construction Waste Where there is a compliant Site Waste Management Plan (SWMP) that contains: - Target benchmarks for resource efficiency, i.e. m³ of waste per 100 m² or tonnes of waste per 100 m² set in accordance with <i>best practice</i> - Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste. - Procedures for minimising hazardous waste - Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)	1
Diverting Waste from Landfill Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either; - Re-use on site (in situ or for new applications) - Re-use on other sites - Salvage/reclaim for re-use - Return to the supplier via a 'take-back' scheme - Recovery and recycling using an approved waste management contractor - Compost according to the defined waste groups (in line with the waste streams generated by the scope of the works). AND One of the following has been achieved: Where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill. OR Where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.	2 3

2 credits have been provisionally awarded. This assumes a Site Waste Management Plan will be provided including procedures and commitments to sort and divert waste from landfill and where at least 50% on non-hazardous construction waste generated by the project is diverted from landfill.

Design Stage Evidence Requirements:

- Completed and signed checklists WAS 2a, 2b and 2c along with SWMP in line with the completed checklists.
- A copy of the compliant SWMP containing the appropriate benchmarks, commitments and procedures for waste minimisation and diversion from landfill in line with the criteria and with Checklists Was 2a, Was 2b and Was 2c. **OR**
- Letter from the Contractor confirming that the SWMP will include all relevant information.

WAS 3 Composting	1 credit awarded
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To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.

• Individual <i>home composting facilities</i>. OR • A local <i>communal or community composting service</i>, which the Local Authority runs or where there is a management plan in place. OR • A Local Authority <i>green/kitchen waste collection system</i> (this can include an automated waste collection system). All <i>facilities</i> must also: • be in a dedicated position • provide <i>inclusive access and usability</i> (Checklist IDP) • have a supporting <i>information leaflet</i> provided to each dwelling.	1
Default Cases None	

1 credit has been provisionally awarded. This assumes individual home composting facilities are provided to each dwelling.

Design Stage Evidence Requirements:

- Drawings showing the location and size of external composting storage including distance from dwelling.
- Confirmation of location and size of dedicated internal composting storage area (kitchen waste container to be minimum 7 litres).
- Checklist IDP must be completed signed and returned covering WAS1, WAS3 and HEA3.
- Evidence to back up checklist IDP is required confirming external door opening width and level access threshold.
- Evidence to back up checklist IDP is required confirming the type of door furniture to external doors along with locking mechanism to BS 8300:2009 Section 6.5.
- Confirmation that an information leaflet will be provided with each dwelling providing details on what materials can be composted and troubleshooting information.

POL 1 Pollution	1 credit awarded
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To promote the reduction of emissions of gases with high *GWP* associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.

Criteria	Credits
Credits are awarded where all insulating materials in the elements of the dwelling listed below only use substances that have a <i>GWP</i> < 5 (in manufacture <i>AND</i> installation): • Roofs: including loft access • Walls: internal and external including lintels and all acoustic insulation • Floors: including ground and upper floors • Hot water cylinder: pipe insulation and other thermal stores • Cold water storage tanks: where provided • External doors	1
Default Cases None	

1 credit has been provisionally awarded. This assumes all insulants have a Global Warming Potential of less than 5.

Design Stage Evidence Requirements:

- Completed checklist POL 1 showing the proposed insulation materials for each element and whether they are foamed using blowing agents or are unfoamed.

POL 2 NO_x Emissions

3 credits awarded

To promote the reduction of nitrogen oxide (NO_x) emissions into the atmosphere.

Criteria		
Dry NO _x Level (mg/kWh)	Boiler Class (BS EN 297: 1994)	Credits
≤ 100	4	1
≤ 70	5	2
≤ 40	–	3
Default Cases Where all space heating and hot water energy requirements are fully met by systems which do not produce NO _x emissions.		3

3 credits have been provisionally awarded. This assumes a boiler specification with dry NO_x levels of 40mg/kWh or less.

Design Stage Evidence Requirements:

- Written confirmation of the heating systems to be used, flue type and their dry NO_x levels.

HEA 1 Daylighting	2 credits awarded
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To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.

Criteria	Credits
Kitchens must achieve a minimum <i>Average Daylight Factor</i> of at least 2%	1
All living rooms, dining rooms and studies (including any room designated as a home office under Ene 9 – Home Office) must achieve a minimum <i>Average Daylight Factor</i> of at least 1.5%	1
80% of the <i>working plane</i> in each kitchen, living room, dining room and study (including any room designated as a home office under Ene 9 – Home Office) must receive direct light from the sky	1
Default Cases	
None	

2 credits have been provisionally awarded. This assumes that the living rooms, dining rooms and studies achieve a minimum average daylight factor of at least 1.5% and that 80% of the working plane in all kitchens, living rooms, dining rooms and studies receive direct light from the sky.

Design Stage Evidence Requirements:

- Copy of calculations to demonstrate:
 - Average daylight factor using the formula described in the definitions section (method described in Littlefair (1998) as set out in BS 8206-2) or computer simulation or scale model measurements
 - Position of the *no-sky line* and percentage of area of the working plane that receives direct light from the sky
- Confirmation from the developer that the calculations accurately reflect the dwelling as designed
- The above calculations will demonstrate whether any additional credits can be gained

HEA 2 Sound Insulation

3 credits awarded

To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

Criteria	Credits
Where: - airborne sound insulation values are at least 3dB higher - impact sound insulation values are at least 3dB lower OR - airborne sound insulation values are at least 5dB higher - impact sound insulation values are at least 5dB lower OR - airborne sound insulation values are at least 8dB higher - impact sound insulation values are at least 8dB lower than the performance standards set out in the Building Regulations approved for England and Wales, <i>Approved Document E</i> (2003 Edition, with amendments 2004). This can be demonstrated through EITHER A programme of pre-completion testing based on the Normal programme of testing described in Approved Document E, for every <i>group</i> or <i>sub-group</i> of houses or flats, demonstrating that the above standard or standards are achieved. OR Use of constructions for all relevant building elements that have been assessed and approved as <i>Robust Details</i> by Robust Details Limited (RDL) and found to achieve the performance standards stated above. All relevant dwellings must be registered with RDL.	1 3 4
Default cases Detached dwellings Attached dwellings where separating walls or floors occur only between non-habitable rooms	4 3

3 credits have been provisionally awarded. This assumes sound insulation values between separating walls are at least 5dB better than Building Regulations.

Design Stage Evidence Requirements:

- Where pre-completion sound testing is to be carried out, a letter from the developer confirming the intent to meet the relevant sound insulation performance levels and that a compliant test body will be used.
- Where Robust Details will be used, confirmation that the RD chosen will achieve the required performance standard and that the relevant plots are registered with RDL.

architects

project managers

construction cost consultants

CDM co-ordinators

HEA 3 Private Space

1 credit awarded

To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.

Criteria	Credits
Where <i>outdoor space</i> (private or semi-private) has been provided that is: • Of a <i>minimum size</i> that allows all occupants to use the space. • Provided with <i>inclusive access and usability</i> (Checklist IDP). • <i>Accessible only to occupants of designated dwellings</i>.	1
Default Cases None	

1 credit has been provisionally awarded. This assumes compliant private space is provided to all dwellings (minimum 1.5m² per bedroom).

Design Stage Evidence Requirements:

- Drawings showing number of bedrooms and area/size of outdoor space.
- Checklist IDP must be completed signed and returned covering WAS1, WAS3 and HEA3.
- Evidence to back up checklist IDP is required confirming external door opening width and level access threshold.
- Evidence to back up checklist IDP is required confirming the type of door furniture to external doors along with locking mechanism to BS 8300:2009 Section 6.5.

HEA 4 Lifetime Homes	4 credits awarded
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To promote the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

Criteria	Credits	Mandatory Levels
Where all principles of <i>Lifetime Homes</i> , applicable to the dwelling being assessed, have been complied with.	4	Level 6
OR Where an exemption from Lifetime Homes criteria 2 and/or 3 is applied to selected pathways subject to a steeply sloping plot gradient, but all other principles of Lifetime Homes, applicable to the dwelling being assessed, have been complied with.	3	
Default Cases None		

4 credits have been provisionally awarded. This assumes compliance with all 16 applicable Lifetime Homes criteria.

Design Stage Evidence Requirements:

- Completed Lifetime Homes checklist HEA 4 indicating compliance with all applicable criteria and signed by the developer.

MAN 1 Home User Guide

3 credits awarded

To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

Criteria	Credits
Provision of a <i>Home User Guide</i> , compiled in accordance with Checklist Man 1, Part 1, together with confirmation that the guide is available in <i>alternative formats</i> .	2
Where the guide includes additional information relating to the site and its surroundings and is compiled in accordance with Checklist Man 1, Part 2.	1
Default Cases	
None	

3 credits have been provisionally awarded. This assumes provision of a Home User Guide to each dwelling covering operational issues and the site and its surroundings available in alternative formats.

Design Stage Evidence Requirements:

- Completed and signed checklist MAN 1.
- Confirmation letter stating that the Home User Guide will be supplied to all dwellings to the standards indicated in Checklist MAN 1 and available in alternative formats i.e. CD.

MAN 2 Considerate Constructors Scheme

2 credits awarded

To promote the environmentally and socially considerate, and accountable management of construction sites.

Criteria	Credits
Where there is a commitment to meet <i>best practice</i> under a nationally or locally recognised certification scheme such as the <i>Considerate Constructors Scheme</i>	1
Where there is a commitment to go <i>significantly beyond best practice</i> under a nationally or locally recognised certification scheme such as the <i>Considerate Constructors Scheme</i>	2
Default Cases	
None	

2 credits have been provisionally awarded. This assumes the contractor will score 32 or above under the considerate constructors scheme with a minimum score of 4 in each section.

Design Stage Evidence Requirements:

- Confirmation of commitment from the contractor to comply with the Considerate Constructors Scheme and achieve formal certification under the scheme with a score of 32 points or above.
- Confirmation that registration with the Considerate Constructors Scheme has taken place no later than the commencement of the construction phase.

MAN 3 Construction Site Impacts

2 credits awarded

To promote construction sites managed in a manner that mitigates environmental impacts.

Criteria	Credits
Where there are procedures that cover two or more of the following items: Monitor, report and set targets for CO ₂ production or energy use arising from site activities Monitor and report CO ₂ or energy use arising from commercial transport to and from site Monitor, report and set targets for water consumption from site activities Adopt best practice policies in respect of air (dust) pollution arising from site activities Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site 80% of site timber is reclaimed, re-used or responsibly sourced OR Where there are procedures that cover four or more of the items listed above.	1
Default Cases None	2

2 credits have been provisionally awarded. This assumes procedures will be in place that cover four or more of the items on the above list.

Design Stage Evidence Requirements:

- Completed and signed checklist MAN 3 detailing the procedures that will be employed to minimise site impacts.

MAN 4 Security	2 credits awarded
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To promote 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.

Criteria	Credits
An Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force is consulted at the design stage and their recommendations are incorporated into the design of the dwelling. AND <i>Section 2 – Physical Security from ‘Secured by Design – New Homes’ is complied with (Secured by Design certification is not required).</i>	2
Default Cases None	

2 credits have been provisionally awarded. This assumes compliance with Secured by Design Section 2 – Physical Security.

Design Stage Evidence Requirements:

- Documents demonstrating consultations with Secured by Design ALO/CPDA regarding Section 2 compliance.
- Letter from Contractor stating commitment to meet SBD requirements.

ECO 1 Ecological Value of Site	0 credits awarded
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To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.

Criteria	Credits
Where the <i>development site</i> is confirmed as land of inherently <i>low ecological value</i> EITHER By meeting the criteria for low ecological value (using Checklist Eco 1 – Land of Low Ecological Value under Checklists and Tables below) OR By being confirmed by a <i>suitably qualified ecologist</i> OR Where an independent ecological report of the site, prepared by a suitably qualified ecologist, confirms that the <i>construction zone</i> is of low or insignificant ecological value AND Any land of ecological value outside the construction zone but within the development site will remain undisturbed by the construction works.	1
Default Cases None	

0 credits have been provisionally awarded. This assumes that the site has some features of ecological value e.g. trees.

Design Stage Evidence Requirements:

- A suitably qualified ecologist can be appointed to verify the ecological value of any existing features which may alter the credit allocation. A copy of the report is required as set out in the Code Ecology template. The report must include a plan identifying the construction zone along with any ecological features and how they will remain undisturbed.

ECO 2 Ecological Enhancement	1 credit awarded
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To enhance the ecological value of a site.

Criteria	Credits
Where a <i>suitably qualified ecologist</i> has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site. AND Where the developer adopts all key <i>recommendations</i> and 30% of additional recommendations.	1
Default Cases None	

1 credit has been provisionally awarded. This assumes that an Ecologist will be appointed to make recommendations for enhancing the ecological value of the site. The Contractor must adopt all key recommendations and 30% of additional recommendations.

Design Stage Evidence Requirements:

- Ecologist's report following the CfSH Ecology Report template.
- Evidence showing how the key recommendations and 30% of additional recommendations will be incorporated into the design.
- The planting schedule of any species to be incorporated from Ecologist's recommendations.

ECO 3 Protection of Ecological Features

0 credits awarded

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

Criteria	Credits
Where all existing features of ecological value on the <i>development site</i> potentially affected by the works are maintained and adequately protected during site clearance, preparation and construction works.	1
Default Cases The credit can be awarded by default where the site has been classified as having <i>low ecological value</i> in accordance with Section 1 of Checklist Eco 1, <i>Ecological features</i> of the site, AND no features of ecological value have been identified. If a <i>suitably qualified ecologist</i> has confirmed a feature can be removed because of its insignificant ecological value or where an arboriculturalist has confirmed a feature can be removed owing to poor health/condition (e.g. diseased trees which require felling for health and safety and/or conservation reasons), the credit can be achieved provided all other features are adequately protected in accordance with the ecologist's recommendations.	

0 credits have been provisionally awarded. This assumes that there are features of ecological value on the site which are not being protected and retained. An Ecologist could be appointed to confirm that a feature has no ecological value and can be removed. This may result in a change in credit allocation.

Design Stage Evidence Requirements:

- Drawing detailing any existing ecological features and method of protection if applicable
- Written evidence from an appropriate statutory body / arboriculturalist confirming the requirement to remove any features.
- Where an ecologist is appointed, a copy of the report as per the CfSH Ecology Report template

ECO 4 Change in Ecological Value of Site

1 credit awarded

To minimise reductions and promote an improvement in ecological value.

Criteria	Credits
The ecological value before and after development is measured, and the overall change in species per hectare is:	
• Minor negative change: between -9 and less than or equal to -3	1
• Neutral: greater than -3 and less than or equal to +3	2
• Minor enhancement: greater than 3 and less than or equal to 9	3
• Major enhancement: greater than +9	4
Default Cases	
None	

1 credit has been provisionally awarded. This assumes that there will be a minor negative change between -9 and less than or equal to -3.

Design Stage Evidence Requirements:

- CfSH Ecology Report Template completed by qualified Ecologist including calculations
- Written confirmation from Contractor confirming how the Ecologist's recommendations will be implemented including planting schedule.

ECO 5 Building Footprint

0 credits awarded

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

Criteria	Credits
For houses, where the <i>net internal floor area: net internal ground floor area</i> ratio is greater than or equal to 2.5:1 OR For blocks of flats, where the <i>net internal floor area: net internal ground floor area</i> ratio is greater than or equal to 3:1 OR For a combination of houses and flats, the ratio of total net internal floor area: total net internal ground floor area of all houses and flats (i.e. the site-wide footprint to floor area ratio) is greater than the area weighted average of the two target ratios above (see Calculation Procedures)	1
For houses, where the <i>net internal floor area: net internal ground floor area</i> ratio is greater than or equal to 3:1 OR For blocks of flats, where the <i>net internal floor area: net internal ground floor area</i> ratio is greater than or equal to 4:1 OR For a combination of houses and flats, the ratio of total net internal floor area: total net internal ground floor area of all houses and flats (i.e. the site-wide footprint to floor area ratio) is greater than the area weighted average of the two target ratios above (see Calculation Procedures)	2
Default Cases None	

0 credits have been provisionally awarded. Two storey houses will not meet this requirement.

2.3 Conclusions

The Code for Sustainable Homes Pre-Assessment carried out indicates a preliminary score of **58.41%**. This equates to Code Level 3.

The Pre-Assessment is based on a number of assumptions, all of which need to be confirmed either by the design team or contractor. There is flexibility within the Code to increase this score if required, or to change the current credit allocation indicated. The assessment will be worked up to Design Stage as more information and evidence is provided.

3.0 APPENDICES

3.1 Appendix 1: Pre-Assessment Estimator Spreadsheet