CODE FOR SUSTAINABLE HOMES
PRE-ASSESSMENT REPORT

CHURCH INN,
NORTHENDEN

AUGUST 2013

REF: 2013.065A

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Appendix A - Code for Sustainable Homes Pre-Assessment Reports

1. INTRODUCTION

The purpose of this report is to evaluate the potential rating achievable under a formal Code for Sustainable Homes (the Code) assessment and demonstrate a commitment to the principles of quality construction, design and sustainability.

The Code is an environmental assessment method for rating and certifying the performance of new home that establishes a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building.

Development Proposals

The pre-development site comprises a large former public house with outbuildings and an area of hard standing the rear of the plot (see Figure 1).

Figure 1 - Pre-development site, Church Inn



The proposals for redevelopment of the Church Inn site include twelve plots comprising apartments, terraced, semi-detached and detached dwellings. A review of the proposed site plan for the residential scheme shows that the layout will utilise the entire site (see Figure 2).

Figure 2 - Proposed Site Plan, Church Inn



It is understood that the target rating for this development is Code Level 4. This Code Pre-Assessment report has been completed for the proposed development at the Church Inn, Northenden by an independent, licensed Code Assessor.

2. METHOD

The proposals, along with site details have been considered and details entered within the November 2010 Code for Sustainable Homes Pre-Assessment calculator tool. This provides an initial estimation of the scheme's performance under the Code.

Due to the slight variations in the credits award and therefore the resultant Code performance, two individual pre-assessments have been completed; one for the apartments / terraced / semi-detached dwellings and another for the detached properties. The pre-assessment reports demonstrating how the requisite Code target may be achieved are presented within the Appendix of this report.

3. RESULTS

The Code assessment appraises developments across nine categories of sustainable design. An overview of the proposed specification and design features that will enhance the dwelling's environmental performance in each of these categories is provided below:

Energy and CO_2 Emissions

- Code Level 4 mandatory energy criteria to be met – a minimum 25% dwelling emission rate reduction will be achieved by the dwellings.
- High levels of Fabric Energy Efficiency.
- Renewable energy provision to reduce the dwelling's energy demand.
- Provision of energy display meters showing current primary fuel consumption.
- A+ rated white goods specified.
- Drying space provision.
- EU Energy labelling advice will be provided to home owners.
- Low energy external light provision and efficient control system.
- Adequate, secure storage cycle will be provided.
- Home office space and appropriate services to facilitate home working.

Water

- Low internal water use of less than or equal to 80litres/person/day.
- For external irrigation provisions, rainwater collection systems will be provided.

Materials

- Construction materials with low environmental impact will be specified.
- Construction materials will be responsibly sourced where feasible.
- The BRE's green guide to specification will be consulted to optimise the material selection and their associated environmental performance.

Waste

- A local authority collection scheme is in operation, providing facilities for recycling, general household and garden waste. Bin storage spaces will reflect the local authority requirements.
- Over 85% of construction waste will be diverted from landfill.
- A local authority composting facility is provided for each property.

Surface Water Run-off

- The pre-developed site currently comprises the derelict Church Inn building and an area of hard standing. These areas are assumed to include 100% impermeable surfacing.
- A review of the proposed site plan for the residential scheme shows that the residential scheme will introduce gardens and landscaped areas onto the plot.
- There is no increase in the manmade impermeable area as a result of the new development - the peak rate and volume of run-off from the site will not therefore, be affected.
- This development site is within a medium flood risk zone.
- The scheme will be designed to mitigate flood risk to the dwellings.

Pollution

- All insulating materials in the key building elements of the dwelling will use substances that have a Global Warming Potential (GWP) less than five 5 (in manufacture and installation).

Health and Wellbeing

- Natural light has a proven positive impact on health and wellbeing. All dwellings are expected to benefit from good levels of natural daylight.
- To improve the quality of life of the occupants, generous private outdoor space will be provided to the houses.
- The semi detached and terraced dwellings will perform significantly beyond the Building Regulation, Part E (acoustic performance) compliance criteria.

Management

- A home user guide will be supplied to enable a low environmental impact lifestyle.
- Performance significantly beyond Best Practice in the Considerate Constructor Scheme will be achieved.
- The construction site manager will adopt best practice policies in respect to air (dust) pollution and water (ground and surface) pollution.
- Water and energy consumption will be monitored and managed through the build.

Ecology

- The construction zone may be identified as being of low ecological value as there are appears to be no vegetation present.
- The developer commits to provide a major enhancement to the ecological value of the site.
- The ecological value of the site will be enhanced and all recommendations made by the Ecological survey incorporated into the scheme design.
- A qualified ecologist will be instructed to determine initial value of the site and provide guidance on planting and landscaping requirements.

Following an initial review of the proposed development site the Code (November 2010) Pre-Assessment report demonstrates that the dwellings are able, in principle, to meet all mandatory credit requirements of the Code and achieve the Code Level 4 target. Note that a number of assumptions have been made within this initial assessment process which will require confirmation by means of further technical input during the formal Design Stage assessment.

Due to the slight variations in the credits award and therefore the resultant Code performance, each house type has a marginally different Code score, as detailed below (please note that the Code Level 4 target requires a minimum score of 68%):

- The detached houses score 68.95%
- The terraced and semi-detached houses score 68.37%

The Pre-Assessment reports demonstrate that the mandatory criteria have been met and how compliance with Code Level 4 may be achieved for all plots on the site.

Appendix A

Code for Sustainable Homes Pre-Assessment Reports

November 2010 Guidance

Code for Sustainable Homes

Technical Guide November 2010 - Full Technical Guide

Pre-Assessment Report

STROMA CERTIFIED CODE ASSESSOR

ELEMENT SUSTAINABILITY

Report Reference:	**2013.057**
Site Registration:	**DETACHED**
Site Name:	**Church Inn**
Assessor Number:	
Company:	
Assessor:	**X**

THE CODE FOR SUSTAINABLE HOMES

CERTIFICATION MARK

Site Details	
Site Name:	Church Inn
Site Registration:	DETACHED
Site Address:	Church Inn
City/Town:	Northenden
County:	Greater Manchester
Postcode:	M22 4WD
No. of Dwellings:	1
No. of Dwelling Types:	0
Planning Authority:	Manchester City Council
Funding Body:	

Assessor Details	
Company:	
Assessor Name:	X
Cert Number:	
Address:	
City/Town:	
County:	
Postcode:	
Tel:	
Email:	

Client Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Architect Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Developer Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Dwelling ID	Plot No.	Address	Social Unit
1	1	1 Church Inn	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		1Church Inn	4	68.95

Deviations from Standard

No deviations from standard

Score Sheet for Church Inn

	ENE									WAT		MAT			SUR		WAS			POL		HEA				MAN				ECO					Summary	
Dwelling ID	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	1	2	3	1	2	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level
1	3.9	3.9	2	1	2	2	0	2	1	5	1	10	2	1	0	1	4	3	1	1	0	2	4	1	0	3	2	2	2	1	1	1	4	0	68.95	4

Summary Score Sheet

Dwelling Type: 1 Church Inn

Dwelling ID: 1

	Credit Score	Credits Available	Score Assessment Sub Total	Credits Available	%	Weighting Factor	Points Score
Energy & CO2 Emissions							
ENE 1 Dwelling Emission Rate	3.9	10	17.8	31	57.42	36.4	20.9
ENE 2 Fabric Energy Efficiency	3.9	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	2	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	0	2					
ENE 8 Cycle Storage	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	5	5	6	6	100	9	9
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	10	15	13	24	54.17	7.2	3.9
MAT 2 Responsible Sourcing (Basic Building Elements)	2	6					
MAT 3 Responsible Sourcing (Finishing Elements)	1	3					
Surface Water Run-off							
SUR 1 Management of Surface Water Run-Off from Site	0	2	1	4	25	2.2	0.55
SUR 2 Flood Risk	1	2					
Waste							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4
WAS 2 Construction Site Waste Management	3	3					
WAS 3 Composting	1	1					
Pollution							
POL 1 Global Warming Potential of Insulants	1	1	1	4	25	2.8	0.7
POL 2 NOx Emissions	0	3					
Health & Wellbeing							
HEA 1 Daylighting	2	3	7	12	58.33	14	8.17
HEA 2 Sound Insulation	4	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	0	4					
Management							
MAN 1 Home User Guide	3	3	9	9	100	10	10
MAN 2 Considerate Constructors Scheme	2	2					
MAN 3 Construction Site Impacts	2	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	1	1	7	9	77.78	12	9.33
ECO 2 Ecological Enhancement	1	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	4	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 4		**Total Points Scored: 68.95**				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 3.9 credits allocated

Assumptions for ENE 1

The dwellings will achieve a 35% improvement above Part L Building Regulations criteria based on indicative SAP calculations.

This is based upon the assumption that heat pumps may be installed - to be confirmed by Design Stage SAP calculations once the design and specification of the dwellings has been finalised.

Evidence for ENE 2 (Fabric Energy Efficiency)

Detached
3.9 credits allocated

Assumptions for ENE 2

FEE performance based on indicative SAP calculations - To be confirmed by Design Stage SAP calculations once the design and specification of the dwellings has been finalised.

Evidence for ENE 3 (Energy Display Device)

Correctly specified display device showing current primary heating fuel consumption data.
Correctly specified display device showing current consumption data.

Assumptions for ENE 3

Provision of energy meters displaying current electricity AND primary heating fuel consumption data to occupants by a correctly specified energy display device.

Evidence for ENE 4 (Drying Space)

Compliant external drying space

Assumptions for ENE 4

Presume 3+ bedroom dwellings - therefore, the drying equipment must be capable of holding 6m+ of drying line.

For example, a retractable external drying line in rear garden.

Evidence for ENE 5 (Energy Labelled White Goods)

A+ rated fridge & freezers or fridge/freezer
A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.

Assumptions for ENE 5

A+ rated white goods to be provided to all dwellings.

Evidence for ENE 6 (External Lighting)

Complaint space lighting, no security lighting installed

Assumptions for ENE 6

All external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropiate control systems.

Note: Statutory safety lighting is not covered by this requirement.

Assumption that controlling the external lighting to prevent unnecessary use during daylight hours or when the space is unoccupied is implemented.

Control systems that can be considered such as Passive Infra Red (PIR), 'dusk to dawn' daylight sensors and time switches.

Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)

Credit(s) not sought or contribution of low or zero carbon technologies less than 10%

Assumptions for ENE 7

Evidence for ENE 8 (Cycle Storage)

2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling

Assumptions for ENE 8

2 and 3 Bedroom Dwellings with the provision of 2 cycles per Dwelling or 4 Bedroom dwellings with the provision for 4 cycles per Dwelling.

Assummed this provision will be within a sercure building/shed with a secure entrance lock and secure fixings.

Secure Entrance Lock

- A permenant mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the doorframe.
-Alternatively a 'solid secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deened compliant.

Secure Fixings

- A ground anchor certificated to 'Solid Secure' Silver Standard.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

Assumption that adequate space and services are provided.

The following services must be provided in the suitable room intended as a hme office:

- Two double power sockets.
- Two telephone points (or double telephone port) or one telephone point where cable or broadband is avaliable.
- A window (the room chosen for this purpose must have a daylight factor of at least 1.5%)
- Adequate ventilation.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 80 litres per person per day

Assumptions for WAT 1

Specification of low flow taps and showers, dual flush WC and low volume baths to achieve <80l/p/day potable water demand. Specification to be assessed using the Water Calculator at detailed design stage.

Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

Assumptions for WAT 2

Specification of 200 litre water butt to be provided to each private garden. This is the storage volume requirement for a 3+ bedroom home with private garden.

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 10 credits scored

Assumptions for MAT 1

Conservative award of 10 credits for this issue. To be confirmed once specifications are finalised.

Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))

2 credits scored

Assumptions for MAT 2

Conservative award of 2 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))

1 credit scored

Conservative award of 1 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Assumptions for MAT 3

Evidence for SUR 1 (Management of Surface Water Run-Off from Site)

Mandatory Met: Peak rate of run-off and annual volume of run-off is no greater for the developed than for the pre-development. The system has also been designed for local drainage system failure.

Assumptions for SUR 1

The pre-development site comprises the derelict Church Inn buildign and an area of hard standing. These areas are assumed to include 100% impermeable surfacing.

A review of the proposed site plan for the residential scheme shows that the residential shceme will introduce gardens and landscaped areas onto the plot.

It is therefore assumed that the post developed site will provide a reduction in man made impermeable areas. The mandatory elements of this credit issue are condiered to be acheived as the peak rate and volume criteria do not apply in this scenario.

Calculations to confirm the pre and post development impermeable and permeable surfacing will be required at the Design Stage of the Code assessment.

Evidence for SUR 2 (Flood Risk)

Medium flood risk - zone 2 with appropriate measures

Assumptions for SUR 2

Review of EA flood risk mapping shows site to be on the boundary between Flood Zone 1 and Flood Zone 2. For the purposes of this pre-assessment, the development site is assumd have a medium annual probability of flooding.

The site layout and dwelling design will therefore, mitigate the flood risk to individual properties.

N.B. To the North West of the development site there lies the River Mersey at its closest point, a potential source of flooding.

A full FRA is required to determine risk of flooding FROM ALL SOURCES at the Design Stage of the Code assessment.

Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)

Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: Before collection sorting with appropriate internal storage of recyclable materials

Assumptions for WAS 1

Manchester City Council provides a recycling service for all green, kitchen and household waste.

This credit requires the provision of at least three separate bins 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

PLUS

An adequate external space must be provided for storing at least three external bins for recycing waste in line with Local Authority bin provision.

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

A compliant Site Waste Management Plan (SWMP) is required 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 best practice

·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).

It is assumed that at least 85% of waste will be diverted from landfill.

Evidence for WAS 3 (Composting)

Local authority green waste collection scheme
Local authority kitchen waste collection scheme - Has Garden

Assumptions for WAS 3

Manchester City Council operates a composting facility taking garden and food waste.

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

Assumptions for POL 1

All insulating materials in the elements of the dwelling listed below only use substances that have a GWP < 5 (in manufacture AND 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

Evidence for POL 2 (NOx Emissions)

Credit(s) not sought

Assumptions for POL 2

Evidence for HEA 1 (Daylighting)

Kitchen: Average daylight factor of at least 2%
Living room: Average daylight factor of at least 1.5%
Dining room: Average daylight factor of at least 1.5%
Home office: Average daylight factor of at least 1.5%

Assumptions for HEA 1

Daylgiht factor calculations are required prior to submission of Design Stage CSH Assessment.

Note requirement for room nominated as Home Office to acheive daylight factor >1.5.

Evidence for HEA 2 (Sound Insulation)

Detached property

Assumptions for HEA 2

Detached dwelling.

Evidence for HEA 3 (Private Space)

Individual private space provided

Assumptions for HEA 3

Each dwelling benefits from secure private garden.

Private Space: minimum requirement 1.5m2 per bedroom.

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

Credits not sought.

Assumptions for HEA 4

Evidence for MAN 1 (Home User Guide)

All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met
All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met

Assumptions for MAN 1

Full scope Home User Guide to be supplied to all dwellings, covering the following topic areas-

Energy;
Water use;
Recycling and waste;
Sustainable DIY;
Emergency information;
Links, references and further information.
Site & surrounding areas:
Recycling and waste;
Public transport;
Local amenities;
Responsible purchasing;
Emergency information;
Links, references and further information.

Evidence for MAN 2 (Considerate Constructors Scheme)

Considerate constructors scheme: Significantly beyond best practise, a score of between 35 - 50, and at least a score of 7 in each section*

Assumptions for MAN 2

Score of >35 required in Considerate Constructors Scheme (with no assessment section scoring below 4).

Evidence for MAN 3 (Construction Site Impacts)

Monitor, report and set targets for CO2 production or energy use from site activities
Monitor, report and set targets for water consumption from site activities
Adopt best practise policies in respects to air (dust) pollution from site activities
Adopt best practise policies in respects to water (ground and surface) pollution

Assumptions for MAN 3

Requirement to -

- 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;

- The above will be carried out in line with the Checklist contained in the Code for Sustainable Homes 'Technical Guide'

Evidence for MAN 4 (Security)
Secured by design section 2 compliant
Assumptions for MAN 4
Assumed the scheme will comply with Secure By Design criteria.

Evidence for ECO 1 (Ecological Value of Site)
Construction zone site has been identified as low ecological value by a suitably qualified ecologist, all land outside the construction zone, but in the development site will remain undisturbed
Assumptions for ECO 1
It is assumed that the construction zone may be identified as being of low ecological value. To be confirmed by an Ecological Survey.

Evidence for ECO 2 (Ecological Enhancement)
Key recommendations and 30% additional recommendations by a suitably qualified ecologist
Assumptions for ECO 2
There will be a commitment to enhance the ecological value of the site and incorporate all key recommendations along with 30% of other recommendations made by the Ecological survey.

Evidence for ECO 3 (Protection of Ecological Features)
Land of low ecological value as identified under ECO 1
Assumptions for ECO 3
Construction zone assumed to be of low ecological value - see Eco1.

Evidence for ECO 4 (Change of Ecological Value of Site)
Major enhancement: Greater than +9
Assumptions for ECO 4
Landscaping and planting provision to providea a major enhancement to the ecological value of the site. A suitably qualified ecologist should be instructed to determine initial value of the site and provide guidance on planting requirements.

Evidence for ECO 5 (Building Footprint)
Credit not sought
Assumptions for ECO 5
credit not sought.

Assessor Declaration

I X, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

To the best of my knowledge all the information contained within this report is correct and accurate. I have within my possession all the reference material that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



X

05 August 2013

Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes©.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
  - Dwelling Emission Rate
  - Building Fabric
  - Internal Lighting
  - Drying Space
  - Energy Labelled White Goods
  - External Lighting
  - Low or Zero Carbon Technologies
  - Cycle Storage
  - Home Office
- Water
  - Internal Water Use
  - External Water Use
- Materials
  - Environmental Impact of Materials
  - Responsible Sourcing of Materials - Basic Building Elements
  - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
  - Management of Surface Water Run-off from the Development
  - Flood Risk
- Waste
  - Storage of Non-Recyclable Waste and Recyclable Household Waste
  - Construction Site Waste Management
  - Composting
- Pollution
  - Global Warming Potential of Insulants
  - NOx Emissions

- Health & Wellbeing
    - Daylighting
    - Sound Insulation
    - Private Space
    - Lifetime Homes
- Management
    - Home User Guide
    - Considerate Constructors Scheme
    - Construction Site Impacts
    - Security
- Ecology
    - Ecological Value of Site
    - Ecological Enhancement
    - Protection of Ecological Features
    - Change in Ecological Value of Site
    - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆☆	36 Points
Level 2 ★★☆☆☆☆	48 Points
Level 3 ★★★☆☆☆	57 Points
Level 4 ★★★★☆☆	68 Points
Level 5 ★★★★★☆	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified ‘competent persons’ for the purpose of carrying out Code assessments.

Energy & CO2 Emissions
ENE 1: Dwelling Emission Rate **Available Credits:**10 **Aim:**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.
ENE 2: Fabric Energy Efficiency **Available Credits:**9 **Aim:**To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.
ENE 3: Energy Display Device **Available Credits:**2 **Aim:**To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.
ENE 4: Drying Space **Available Credits:**1 **Aim:**To promote a reduced energy means of drying clothes.
ENE 5: Energy Labelled White Goods **Available Credits:**2 **Aim:**To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.
ENE 6: External Lighting **Available Credits:**2 **Aim:**To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.
ENE 7: Low or Zero Carbon Technologies **Available Credits:**2 **Aim:**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.
ENE 8: Cycle Storage **Available Credits:**2 **Aim:**To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.
ENE 9: Home Office **Available Credits:**1 **Aim:**To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

Water
WAT 1: Indoor Water Use **Available Credits:**5 **Aim:**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.
WAT 2: External Water Use **Available Credits:**1 **Aim:**To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Materials
MAT 1: Environmental Impact of Materials **Available Credits:**15 **Aim:**To specify materials with lower environmental impacts over their life-cycle.
MAT 2: Responsible Sourcing of Materials - Basic Building Elements **Available Credits:**6 **Aim:**To promote the specification of responsibly sourced materials for the basic building elements.
MAT 3: Responsible Sourcing of Materials - Finishing Elements **Available Credits:**3 **Aim:**To promote the specification of responsibly sourced materials for the finishing elements.

Surface Water Run-off
SUR 1: Management of Surface Water Run-off from developments **Available Credits:**2 **Aim:**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.
SUR 2: Flood Risk **Available Credits:**2 **Aim:**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.

Waste
WAS 1: Storage of non-recyclable waste and recyclable household waste **Available Credits:**4 **Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 2: Construction Site Waste Management **Available Credits:**3 **Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 3: Composting **Available Credits:**1 **Aim:**To promote the provision of compost facilities to reduce the amount of household waste send to landfill.

Pollution
POL 1: Global Warming Potential of Insulants **Available Credits:**1 **Aim:**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.
POL 2:NOx Emissions **Available Credits:**3 **Aim:**To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.

Health & Wellbeing
HEA 1: Daylighting **Available Credits:**3 **Aim:**To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.
HEA 2: Sound Insulation **Available Credits:**4 **Aim:**To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.
HEA 3: Private Space **Available Credits:**1 **Aim:**To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.
HEA 4: Lifetime Homes **Available Credits:**4 **Aim:**To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

Management
MAN 1: Home User Guide **Available Credits:**3 **Aim:**To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.
MAN 2: Considerate Constructors Scheme **Available Credits:**3 **Aim:**To promote the environmentally and socially considerate, and accountable management of construction sites.
MAN 3: Construction Site Impacts **Available Credits:**2 **Aim:**To promote construction sites managed in a manner that mitigates environmental impacts.
MAN 4: Security **Available Credits:**2 **Aim:**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.

Ecology
ECO 1: Ecological value of site **Available Credits:**1 **Aim:**To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.
ECO 2: Ecological enhancement **Available Credits:**1 **Aim:**To enhance the ecological value of a site.
ECO 3: Protection of ecological features **Available Credits:**1 **Aim:**To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.
ECO 4: Change in ecological value of site **Available Credits:**4 **Aim:**To minimise reductions and promote an improvement in ecological value.
ECO 5: Building footprint **Available Credits:**2 **Aim:**To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

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Code for Sustainable Homes

Technical Guide November 2010 - Full Technical Guide

Pre-Assessment Report

STROMA CERTIFIED CODE ASSESSOR

ELEMENT SUSTAINABILITY

Report Reference:	**2013.057**
Site Registration:	**Semi-Detached / Terraced / Apartments**
Site Name:	**Church Inn**
Assessor Number:	
Company:	
Assessor:	**X**

THE CODE FOR SUSTAINABLE HOMES

CERTIFICATION MARK

Site Details	
Site Name:	Church Inn
Site Registration:	Semi-Detached / Terraced / Apartments
Site Address:	Church Inn
City/Town:	Northenden
County:	Greater Manchester
Postcode:	M22 4WD
No. of Dwellings:	1
No. of Dwelling Types:	0
Planning Authority:	Manchester City Council
Funding Body:	

Assessor Details	
Company:	
Assessor Name:	X
Cert Number:	
Address:	
City/Town:	
County:	
Postcode:	
Tel:	
Email:	

Client Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Architect Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Developer Details	
Company:	
Contact Name:	X
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Dwelling ID	Plot No.	Address	Social Unit
1	1	1 Church Inn	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		1Church Inn	4	68.37

Deviations from Standard

No deviations from standard

Score Sheet for Church Inn

	ENE									WAT		MAT			SUR		WAS			POL		HEA				MAN				ECO					Summary	
Dwelling ID	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	1	2	3	1	2	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level
1	3.9	4.4	2	1	2	2	0	2	1	5	1	10	2	1	0	1	4	3	1	1	0	2	3	1	0	3	2	2	2	1	1	1	4	0	68.37	4

Summary Score Sheet

Dwelling Type: 1 Church Inn

Dwelling ID: 1

	Credit Score	Credits Available	Score Assessment Sub Total	Credits Available	%	Weighting Factor	Points Score
Energy & CO2 Emissions							
ENE 1 Dwelling Emission Rate	3.9	10	18.3	31	59.03	36.4	21.49
ENE 2 Fabric Energy Efficiency	4.4	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	2	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	0	2					
ENE 8 Cycle Storage	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	5	5	6	6	100	9	9
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	10	15	13	24	54.17	7.2	3.9
MAT 2 Responsible Sourcing (Basic Building Elements)	2	6					
MAT 3 Responsible Sourcing (Finishing Elements)	1	3					
Surface Water Run-off							
SUR 1 Management of Surface Water Run-Off from Site	0	2	1	4	25	2.2	0.55
SUR 2 Flood Risk	1	2					
Waste							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4
WAS 2 Construction Site Waste Management	3	3					
WAS 3 Composting	1	1					
Pollution							
POL 1 Global Warming Potential of Insulants	1	1	1	4	25	2.8	0.7
POL 2 NOx Emissions	0	3					
Health & Wellbeing							
HEA 1 Daylighting	2	3	6	12	50	14	7
HEA 2 Sound Insulation	3	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	0	4					
Management							
MAN 1 Home User Guide	3	3	9	9	100	10	10
MAN 2 Considerate Constructors Scheme	2	2					
MAN 3 Construction Site Impacts	2	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	1	1	7	9	77.78	12	9.33
ECO 2 Ecological Enhancement	1	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	4	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 4		**Total Points Scored: 68.37**				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 3.9 credits allocated

Assumptions for ENE 1

The dwellings will acheive a 35% improvement above Part L Building Regulations criteria based on indicative SAP calculations.

This is based upon the assumption that heat pumps may be installed - to be confirmed by Design Stage SAP calculations once the design and specification of the dwellings has been finalised.

Evidence for ENE 2 (Fabric Energy Efficiency)

Detached
4.4 credits allocated

Assumptions for ENE 2

FEE performance based on indicative SAP calculations - To be confirmed by Design Stage SAP calculations once the design and specification of the dwellings has been finalised.

Evidence for ENE 3 (Energy Display Device)

Correctly specified display device showing current primary heating fuel consumption data.
Correctly specified display device showing current consumption data.

Assumptions for ENE 3

Provision of energy meters displaying current electricity AND primary heating fuel consumption data to occupants by a correctly specified energy display device.

Evidence for ENE 4 (Drying Space)

Compliant internal & external drying space

Assumptions for ENE 4

Drying equipment capable of holding 6m+ of drying line will be provided to each dwlling. .

For example, a retractable external drying line in rear garden or retractable over bath sytem..

Evidence for ENE 5 (Energy Labelled White Goods)

A+ rated fridge & freezers or fridge/freezer
A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.

Assumptions for ENE 5

A+ rated white goods to be provided to all dwellings.

Evidence for ENE 6 (External Lighting)

Complaint space lighting, no security lighting installed

Assumptions for ENE 6

All external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropiate control systems.

Note: Statutory safety lighting is not covered by this requirement.

Assumption that controlling the external lighting to prevent unnecessary use during daylight hours or when the space is unoccupied is implemented.

Control systems that can be considered such as Passive Infra Red (PIR), 'dusk to dawn' daylight sensors and time switches.

Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)

Credit(s) not sought or contribution of low or zero carbon technologies less than 10%

Assumptions for ENE 7

Evidence for ENE 8 (Cycle Storage)

2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling

Assumptions for ENE 8

2 and 3 Bedroom Dwellings with the provision of 2 cycles per Dwelling or 4 Bedroom dwellings with the provision for 4 cycles per Dwelling.

Assummed this provision will be within a sercure building/shed with a secure entrance lock and secure fixings.

Secure Entrance Lock

- A permenant mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the doorframe.
-Alternatively a 'solid secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deened compliant.

Secure Fixings

- A ground anchor certificated to 'Solid Secure' Silver Standard.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

Assumption that adequate space and services are provided.

The following services must be provided in the suitable room intended as a hme office:

- Two double power sockets.
- Two telephone points (or double telephone port) or one telephone point where cable or broadband is avaliable.
- A window (the room chosen for this purpose must have a daylight factor of at least 1.5%)
- Adequate ventilation.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 80 litres per person per day

Assumptions for WAT 1

Specification of low flow taps and showers, dual flush WC and low volume baths to achieve <80l/p/day potable water demand. Specification to be assessed using the Water Calculator at detailed design stage.

Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

Assumptions for WAT 2

Specification of 200 litre water butt to be provided to each private garden. This is the storage volume requirement for a 3+ bedroom home with private garden.

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 10 credits scored

Assumptions for MAT 1

Conservative award of 10 credits for this issue. To be confirmed once specifications are finalised.

Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))

2 credits scored

Assumptions for MAT 2

Conservative award of 2 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))

1 credit scored

Conservative award of 1 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Assumptions for MAT 3

Evidence for SUR 1 (Management of Surface Water Run-Off from Site)

Mandatory Met: Peak rate of run-off and annual volume of run-off is no greater for the developed than for the pre-development. The system has also been designed for local drainage system failure.

Assumptions for SUR 1

The pre-development site comprises the derelict Church Inn buildign and an area of hard standing. These areas are assumed to include 100% impermeable surfacing.

A review of the proposed site plan for the residential scheme shows that the residential shceme will introduce gardens and landscaped areas onto the plot.

It is therefore assumed that the post developed site will provide a reduction in man made impermeable areas. The mandatory elements of this credit issue are condiered to be acheived as the peak rate and volume criteria do not apply in this scenario.

Calculations to confirm the pre and post development impermeable and permeable surfacing will be required at the Design Stage of the Code assessment.

Evidence for SUR 2 (Flood Risk)

Medium flood risk - zone 2 with appropriate measures

Assumptions for SUR 2

Review of EA flood risk mapping shows site to be on the boundary between Flood Zone 1 and Flood Zone 2. For the purposes of this pre-assessment, the development site is assumd have a medium annual probability of flooding.

The site layout and dwelling design will therefore, mitigate the flood risk to individual properties.

N.B. To the North West of the development site there lies the River Mersey at its closest point, a potential source of flooding.

A full FRA is required to determine risk of flooding FROM ALL SOURCES at the Design Stage of the Code assessment.

Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)

Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: Before collection sorting with appropriate internal storage of recyclable materials

Assumptions for WAS 1

Manchester City Council provides a recycling service for all green, kitchen and household waste.

This credit requires the provision of at least three separate bins 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

PLUS

An adequate external space must be provided for storing at least three external bins for recycing waste in line with Local Authority bin provision.

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

A compliant Site Waste Management Plan (SWMP) is required 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 best practice

·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).

It is assumed that at least 85% of waste will be diverted from landfill.

Evidence for WAS 3 (Composting)

Local authority green waste collection scheme
Local authority kitchen waste collection scheme - Has Garden

Assumptions for WAS 3

Manchester City Council operates a composting facility taking garden and food waste.

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

Assumptions for POL 1

All insulating materials in the elements of the dwelling listed below only use substances that have a GWP < 5 (in manufacture AND 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

Evidence for POL 2 (NOx Emissions)

Credit(s) not sought

Assumptions for POL 2

Evidence for HEA 1 (Daylighting)

Kitchen: Average daylight factor of at least 2%
Living room: Average daylight factor of at least 1.5%
Dining room: Average daylight factor of at least 1.5%
Home office: Average daylight factor of at least 1.5%

Assumptions for HEA 1

Daylgiht factor calculations are required prior to submission of Design Stage CSH Assessment.

Note requirement for room nominated as Home Office to acheive daylight factor >1.5.

Evidence for HEA 2 (Sound Insulation)

Robust details have been incorporated
Airborne 5dB higher, impact 5dB lower

Assumptions for HEA 2

A 5dB improvemetn beyond Building Regulation, Part E (acoustic) compliance standards is targetted.

To be confirmed by application of Robust Details or alternatively post completion testing.

Evidence for HEA 3 (Private Space)

Individual private space provided

Assumptions for HEA 3

Each dwelling benefits from secure private garden.

Private Space: minimum requirement 1.5m2 per bedroom.

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

Credits not sought.

Assumptions for HEA 4

Evidence for MAN 1 (Home User Guide)

All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met
All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met

Assumptions for MAN 1

Full scope Home User Guide to be supplied to all dwellings, covering the following topic areas-

Energy;
Water use;
Recycling and waste;
Sustainable DIY;
Emergency information;
Links, references and further information.
Site & surrounding areas:
Recycling and waste;
Public transport;
Local amenities;
Responsible purchasing;
Emergency information;
Links, references and further information.

Evidence for MAN 2 (Considerate Constructors Scheme)

Considerate constructors scheme: Significantly beyond best practise, a score of between 35 - 50, and at least a score of 7 in each section*

Assumptions for MAN 2

Score of >35 required in Considerate Constructors Scheme (with no assessment section scoring below 4).

Evidence for MAN 3 (Construction Site Impacts)

Monitor, report and set targets for CO2 production or energy use from site activities
Monitor, report and set targets for water consumption from site activities
Adopt best practise policies in respects to air (dust) pollution from site activities
Adopt best practise policies in respects to water (ground and surface) pollution

Assumptions for MAN 3
Requirement to - - 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; - The above will be carried out in line with the Checklist contained in the Code for Sustainable Homes 'Technical Guide'

Evidence for MAN 4 (Security)
Secured by design section 2 compliant
Assumptions for MAN 4
Assumed the scheme will comply with Secure By Design criteria.

Evidence for ECO 1 (Ecological Value of Site)
Construction zone site has been identified as low ecological value by a suitably qualified ecologist, all land outside the construction zone, but in the development site will remain undisturbed
Assumptions for ECO 1
It is assumed that the construction zone may be identified as being of low ecological value. To be confirmed by an Ecological Survey.

Evidence for ECO 2 (Ecological Enhancement)
Key recommendations and 30% additional recommendations by a suitably qualified ecologist
Assumptions for ECO 2
There will be a commitment to enhance the ecological value of the site and incorporate all key recommendations along with 30% of other recommendations made by the Ecological survey.

Evidence for ECO 3 (Protection of Ecological Features)
Land of low ecological value as identified under ECO 1
Assumptions for ECO 3
Construction zone assumed to be of low ecological value - see Eco1.

Evidence for ECO 4 (Change of Ecological Value of Site)
Major enhancement: Greater than +9
Assumptions for ECO 4
Landscaping and planting provision to providea a major enhancement to the ecological value of the site. A suitably qualified ecologist should be instructed to determine initial value of the site and provide guidance on planting requirements.

Evidence for ECO 5 (Building Footprint)
Credit not sought
Assumptions for ECO 5
credit not sought.

Assessor Declaration

I X, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

To the best of my knowledge all the information contained within this report is correct and accurate. I have within my possession all the reference material that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



X

05 August 2013

Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes©.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
  - Dwelling Emission Rate
  - Building Fabric
  - Internal Lighting
  - Drying Space
  - Energy Labelled White Goods
  - External Lighting
  - Low or Zero Carbon Technologies
  - Cycle Storage
  - Home Office
- Water
  - Internal Water Use
  - External Water Use
- Materials
  - Environmental Impact of Materials
  - Responsible Sourcing of Materials - Basic Building Elements
  - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
  - Management of Surface Water Run-off from the Development
  - Flood Risk
- Waste
  - Storage of Non-Recyclable Waste and Recyclable Household Waste
  - Construction Site Waste Management
  - Composting
- Pollution
  - Global Warming Potential of Insulants
  - NOx Emissions

- Health & Wellbeing
    - Daylighting
    - Sound Insulation
    - Private Space
    - Lifetime Homes
- Management
    - Home User Guide
    - Considerate Constructors Scheme
    - Construction Site Impacts
    - Security
- Ecology
    - Ecological Value of Site
    - Ecological Enhancement
    - Protection of Ecological Features
    - Change in Ecological Value of Site
    - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆☆	36 Points
Level 2 ★★☆☆☆☆	48 Points
Level 3 ★★★☆☆☆	57 Points
Level 4 ★★★★☆☆	68 Points
Level 5 ★★★★★☆	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified ‘competent persons’ for the purpose of carrying out Code assessments.

Energy & CO2 Emissions
ENE 1: Dwelling Emission Rate **Available Credits:**10 **Aim:**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.
ENE 2: Fabric Energy Efficiency **Available Credits:**9 **Aim:**To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.
ENE 3: Energy Display Device **Available Credits:**2 **Aim:**To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.
ENE 4: Drying Space **Available Credits:**1 **Aim:**To promote a reduced energy means of drying clothes.
ENE 5: Energy Labelled White Goods **Available Credits:**2 **Aim:**To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.
ENE 6: External Lighting **Available Credits:**2 **Aim:**To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.
ENE 7: Low or Zero Carbon Technologies **Available Credits:**2 **Aim:**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.
ENE 8: Cycle Storage **Available Credits:**2 **Aim:**To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.
ENE 9: Home Office **Available Credits:**1 **Aim:**To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

Water
WAT 1: Indoor Water Use **Available Credits:**5 **Aim:**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.
WAT 2: External Water Use **Available Credits:**1 **Aim:**To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Materials
MAT 1: Environmental Impact of Materials **Available Credits:**15 **Aim:**To specify materials with lower environmental impacts over their life-cycle.
MAT 2: Responsible Sourcing of Materials - Basic Building Elements **Available Credits:**6 **Aim:**To promote the specification of responsibly sourced materials for the basic building elements.
MAT 3: Responsible Sourcing of Materials - Finishing Elements **Available Credits:**3 **Aim:**To promote the specification of responsibly sourced materials for the finishing elements.

Surface Water Run-off
SUR 1: Management of Surface Water Run-off from developments **Available Credits:**2 **Aim:**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.
SUR 2: Flood Risk **Available Credits:**2 **Aim:**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.

Waste
WAS 1: Storage of non-recyclable waste and recyclable household waste **Available Credits:**4 **Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 2: Construction Site Waste Management **Available Credits:**3 **Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 3: Composting **Available Credits:**1 **Aim:**To promote the provision of compost facilities to reduce the amount of household waste send to landfill.

Pollution
POL 1: Global Warming Potential of Insulants **Available Credits:**1 **Aim:**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.
POL 2:NOx Emissions **Available Credits:**3 **Aim:**To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.

Health & Wellbeing
HEA 1: Daylighting **Available Credits:**3 **Aim:**To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.
HEA 2: Sound Insulation **Available Credits:**4 **Aim:**To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.
HEA 3: Private Space **Available Credits:**1 **Aim:**To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.
HEA 4: Lifetime Homes **Available Credits:**4 **Aim:**To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

Management
MAN 1: Home User Guide **Available Credits:**3 **Aim:**To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.
MAN 2: Considerate Constructors Scheme **Available Credits:**3 **Aim:**To promote the environmentally and socially considerate, and accountable management of construction sites.
MAN 3: Construction Site Impacts **Available Credits:**2 **Aim:**To promote construction sites managed in a manner that mitigates environmental impacts.
MAN 4: Security **Available Credits:**2 **Aim:**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.

Ecology
ECO 1: Ecological value of site **Available Credits:**1 **Aim:**To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.
ECO 2: Ecological enhancement **Available Credits:**1 **Aim:**To enhance the ecological value of a site.
ECO 3: Protection of ecological features **Available Credits:**1 **Aim:**To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.
ECO 4: Change in ecological value of site **Available Credits:**4 **Aim:**To minimise reductions and promote an improvement in ecological value.
ECO 5: Building footprint **Available Credits:**2 **Aim:**To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

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