Code for Sustainable Homes

Technical Guide November 2010 - Full Technical Guide

Pre-Assessment Report

STROMA CERTIFIED CODE ASSESSOR

NuPlanet SUSTAINABLE SOLUTIONS

Report Reference:	
Site Registration:	**71**
Site Name:	**71 Richmond Road Development**
Assessor Number:	**STRO014966**
Company:	**Nuplanet Sustainable Solutions Ltd**
Assessor:	**Giles Murgatroyd**

THE CODE FOR SUSTAINABLE HOMES

CERTIFICATION MARK

Site Details	
Site Name:	71 Richmond Road Development
Site Registration:	71
Site Address:	Richmond Road
City/Town:	Twickenham
County:	Greater London
Postcode:	TW1 3AW
No. of Dwellings:	1
No. of Dwelling Types:	1
Planning Authority:	London Borough of Richmond upon Thames
Funding Body:	

Assessor Details	
Company:	Nuplanet Sustainable Solutions Ltd
Assessor Name:	Giles Murgatroyd
Cert Number:	STRO014966
Address:	13 Bigwood Avenue
City/Town:	Hove
County:	East Sussex
Postcode:	BN3 6FP
Tel:	01273739324
Email:	charlie@nuplanet.co.uk

Client Details	
Company:	71 Richmond Road Ltd
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Architect Details	
Company:	Clive Hawkins Architects
Contact Name:	Clive Hawkins
Job Title:	Director
Email:	design@clivehawkinsonline.com
Tel:	01273 245249
Address:	39 Riley Road
City/Town:	Brighton
County:	East Sussex
Postcode:	BN2 4AG

Developer Details	
Company:	71 Richmond Road Ltd
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Dwelling ID	Plot No.	Address	Social Unit
1	1	Unit 4, 71 Richmond Road Twickenham	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
1	71 Richmond Road units		0	68.23

Deviations from Standard

No deviations from standard

Score Sheet for 71 Richmond Road Development

	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	5.9	6	2	1	1	2	2	2	1	3	1	11	4	2	2	2	4	2	0	1	3	2	1	1	4	3	0	1	0	1	1	1	2	0	68.23	0

Summary Score Sheet

Dwelling Type: 71 Richmond Road units

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	5.9	10	22.9	31	73.87	36.4	26.89
ENE 2 Fabric Energy Efficiency	6	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	1	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	2	2					
ENE 8 Cycle Storage	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	3	5	4	6	66.67	9	6
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	11	15	17	24	70.83	7.2	5.1
MAT 2 Responsible Sourcing (Basic Building Elements)	4	6					
MAT 3 Responsible Sourcing (Finishing Elements)	2	3					
Surface Water Run-off							
SUR 1 Management of Surface Water Run-Off from Site	2	2	4	4	100	2.2	2.2
SUR 2 Flood Risk	2	2					
Waste							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	6	8	75	6.4	4.8
WAS 2 Construction Site Waste Management	2	3					
WAS 3 Composting	0	1					
Pollution							
POL 1 Global Warming Potential of Insulants	1	1	4	4	100	2.8	2.8
POL 2 NOx Emissions	3	3					
Health & Wellbeing							
HEA 1 Daylighting	2	3	8	12	66.67	14	9.33
HEA 2 Sound Insulation	1	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	4	4					
Management							
MAN 1 Home User Guide	3	3	4	9	44.44	10	4.44
MAN 2 Considerate Constructors Scheme	0	2					
MAN 3 Construction Site Impacts	1	2					
MAN 4 Security	0	2					
Ecology							
ECO 1 Ecological Value of Site	1	1	5	9	55.56	12	6.67
ECO 2 Ecological Enhancement	1	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	2	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 0		Total Points Scored: 68.23				

Evidence for ENE 1 (Dwelling Emission Rate) - 71 Richmond Road units
5.9 credits allocated
Assumptions for ENE 1
Based on SAP results

Evidence for ENE 2 (Fabric Energy Efficiency) - 71 Richmond Road units
6 credits allocated
Assumptions for ENE 2
Based on SAP results

Evidence for ENE 3 (Energy Display Device) - 71 Richmond Road units
Correctly specified display device showing current primary heating fuel consumption data. Correctly specified display device showing current consumption data.
Assumptions for ENE 3
Achievable through the installation of the FREE device offered by EOn

Evidence for ENE 4 (Drying Space) - 71 Richmond Road units
Compliant internal drying space
Assumptions for ENE 4
Assumed a complaint dryer installed in bathroom

Evidence for ENE 5 (Energy Labelled White Goods) - 71 Richmond Road units
EU energy efficiency labelling scheme leaflet provision/provided
Assumptions for ENE 5
Additional credit can be awarded if compliant appliances are installed

Evidence for ENE 6 (External Lighting) - 71 Richmond Road units
Complaint space lighting, no security lighting installed
Assumptions for ENE 6
Assummed only space lighting installed on balconies

Evidence for ENE 7 (Low or Zero Carbon Energy Technologies) - 71 Richmond Road units
Contribution of low or zero carbon technologies greater than or equal to 15%
Assumptions for ENE 7
Based on SAP results

Evidence for ENE 8 (Cycle Storage) - 71 Richmond Road units
2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling
Assumptions for ENE 8
Assumed that 1No. bike is provided for the 1 bed units, and 2No. for the 2 bed units

Evidence for ENE 9 (Home Office) - 71 Richmond Road units
Compliant home office
Assumptions for ENE 9
Assumed that a suitable space can be found for a home office with the correct daylight levels

Evidence for WAT 1 (Internal Water Use) - 71 Richmond Road units
Internal water use less than or equal to 105 litres per person per day
Assumptions for WAT 1
Minimum standards met with a maximum of 105L per person per day

Evidence for WAT 2 (External Water Use) - 71 Richmond Road units
Balconies provided
Assumptions for WAT 2

Evidence for MAT 1 (Environmental Impact of Materials) - 71 Richmond Road units
Mandatory requirements met: At least 3 elements rated A+ to D, 11 credits scored
Assumptions for MAT 1
This figure is based on previous experiances and should be achievable

Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements)) - 71 Richmond Road units
4 credits scored
Assumptions for MAT 2
This figure is based on previous experiances and should be achievable

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements)) - 71 Richmond Road units
2 credits scored
Assumptions for MAT 3
This figure is based on previous experiances and should be achievable

Evidence for SUR 1 (Management of Surface Water Run-Off from Site) - 71 Richmond Road units
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. No discharge to watercourse(s) for rainfall depth up to 5mm. Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.
Assumptions for SUR 1
A suitably Qualified Hydrologist will be required to confirm this. However, given the nature of the development i don't thing there will be any issues

Evidence for SUR 2 (Flood Risk) - 71 Richmond Road units
Low flood risk - zone 1
Assumptions for SUR 2
A suitably Qualified Hydrologist will be required to confirm this.

Evidence for WAS 1 (Household Waste Storage and Recycling Facilities) - 71 Richmond Road units
Mandatory requirements not met. Local authority collection: After collection sorting with appropriate internal storage of recyclable materials
Assumptions for WAS 1
An assumption that this can be met

Evidence for WAS 2 (Construction Site Waste Management) - 71 Richmond Road units
Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 50% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c
Assumptions for WAS 2
An assumption that a suitable SWMP will be developed to confirm a diversion of 50% of site waste from landfill

Evidence for WAS 3 (Composting) - 71 Richmond Road units
Credits not sought or no compliant composting provision
Assumptions for WAS 3
A credit could be available subject to a suitable Local Authority scheme being available

Evidence for POL 1 (Global Warming Potential of Insulants) - 71 Richmond Road units
All insulants have a GWP of less than 5
Assumptions for POL 1
Assuming that all insulaiton used within the development has a GWP of less than 5. Most major insulaiton maufacturers comply with this

Evidence for POL 2 (NOx Emissions) - 71 Richmond Road units
NOx emissions less than or equal to 40mg/kWh
Assumptions for POL 2
Assuming the suggested Worcester Bosch Greenstar boiler is installed in all flats - the maxium credits can be awarded as it has a certified NOx emission rating of below 40mg/kWh

Evidence for HEA 1 (Daylighting) - 71 Richmond Road units
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%
Assumptions for HEA 1
Assuming that suitable levels of light are available in the living room/kitchen

Evidence for HEA 2 (Sound Insulation) - 71 Richmond Road units
Robust details have been incorporated Airborne 3dB higher, impact 3dB lower
Assumptions for HEA 2
I have assumed that robust details will be adopted with an improvement of 3dB over current Part E building Regulations is achieved. Please note: 2 additional credits can be warded if the selected Robust detailing offers a 5dB improvement over current Regulation standards

Evidence for HEA 3 (Private Space) - 71 Richmond Road units
Individual private space provided.
Assumptions for HEA 3
Assuming that there is sufficient private space on the balconies

Evidence for HEA 4 (Lifetime Homes) - 71 Richmond Road units
All criteria of Lifetime Homes in line with all 16 principals of Lifetime Homes
Assumptions for HEA 4
Assuming that the three newly constructed units will be designed and built to Lifetimes Homes Standards

Evidence for MAN 1 (Home User Guide) - 71 Richmond Road units
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
Assuming that a suitable Home Users Guide is provided in all Newly constructed units

Evidence for MAN 2 (Considerate Constructors Scheme) - 71 Richmond Road units
Assumptions for MAN 2

Evidence for MAN 3 (Construction Site Impacts) - 71 Richmond Road units
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
Assuming that suitable proof can be provided to demonstrate procedures to minimise air and water pollution

Evidence for MAN 4 (Security) - 71 Richmond Road units
Assumptions for MAN 4

Evidence for ECO 1 (Ecological Value of Site) - 71 Richmond Road units
Land of low ecological value, achieved through checklist ECO 1. Development site has been identified as low ecological value by a suitably qualified ecologist
Assumptions for ECO 1
This is assumed that an Ecologist is instructed to demonstrate compliance. Given the nature of the development i believe that this credit will be available

Evidence for ECO 2 (Ecological Enhancement) - 71 Richmond Road units
Key recommendations and 30% additional recommendations by a suitably qualified ecologist
Assumptions for ECO 2
This is assumed that an Ecologist is instructed to demonstrate compliance. Given the nature of the development i believe that this credit will be available

Evidence for ECO 3 (Protection of Ecological Features) - 71 Richmond Road units
Land of low ecological value as identified under ECO 1
Assumptions for ECO 3
This is assumed that an Ecologist is instructed to demonstrate compliance. Given the nature of the development i believe that this credit will be available

Evidence for ECO 4 (Change of Ecological Value of Site) - 71 Richmond Road units
Neutral: Greater than -3 and less than or equal to +3
Assumptions for ECO 4
This is assumed that an Ecologist is instructed to demonstrate compliance. Given the nature of the development i believe that this credits will be available

Evidence for ECO 5 (Building Footprint) - 71 Richmond Road units
Assumptions for ECO 5

Assessor Declaration

I Giles Murgatroyd, 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:

Giles Murgatroyd
Nuplanet Sustainable Solutions Ltd
10 June 2014

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.

Disclaimer

The contents of this publication reflect the assessment produced by the licensed Code assessor. Stroma Certification Ltd is not liable for any loss or damage sustained as a consequence of this report or any related information.

Copyright