50 AVENUE ROAD

SUSTAINABILITY STATEMENT

September 2013

DRAFT ISSUE FOR COMMENT

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Audit Sheet

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Contents

1.0 EXECUTIVE SUMMARY

This report describes the Sustainability Statement for the proposed development at 50 Avenue Road.

The development comprises of a single residential building located in The London Borough of Camden, situated on Avenue road within South Hampstead.

The project has been developed with energy efficiency, environmental performance and the local context as a key design parameter.

This sustainability statement responds specifically to:

- UK national sustainable development policy;
- The London Plan;
- The requirements of London Borough of Camden Core Strategy and Development Policies.

The proposals summarised within this report promote a design centred on a low energy and sustainable development with ambitious carbon performance and Code for Sustainable Homes (CSH) targets.

Environmental Assessment Method

The Proposed Development has been designed with the aim of achieving a Level 4 rating under Code for Sustainable Homes.

Whilst the CSH Pre-Assessment demonstrates that the development is capable of achieving Code for Sustainable Homes Level 4, the overall minimum score has been exceeded which demonstrates the commitment being made in seeking to achieve higher standards.

Appendix A includes the Code for Sustainable Homes Pre-Assessment which demonstrates a Level 4 rating being achieved.

Energy & CO_2 Savings

An energy demand assessment has been undertaken to demonstrate that passive design and energy efficiency measures will help to reduce energy demand substantially. Energy efficiency and passive design will be utilised in order to reduce CO_2 emissions.

“Be Lean” measures are proposed within the report. The overall development reduction in CO_2 emissions over a Part L 2010 compliant scheme due to the energy efficiency proposals is approximately 21%.

A micro-CHP unit has been considered appropriate for this scheme. The incorporation of the CHP unit results in a further 2% saving over the “Be Lean” scheme.

Various renewable technologies have been appraised. The technology that has been considered appropriate for the scheme is solar photovoltaic. The incorporation of solar photovoltaic results in a further 4% reduction in carbon dioxide emissions over the “Be Clean” scheme.

The overall predicted reduction in CO_2 emissions from the baseline development (which is Part L 2010 compliant) is approximately 25%, which represents an annual saving of approximately 6 tonnes of CO_2.

Overall, 50 Avenue Road will be ~25% better than Part L 2010.

Sustainability Measures

Among the key sustainability measures which have been incorporated into the design, and the key performance levels targeted, the following should be noted:

A ***construction waste management strategy*** will be implemented in order to limit construction waste sent to landfill. A target of 50% by weight or by volume of non-hazardous construction waste will be diverted from landfill in accordance with CSH requirements.

The development will include ***water saving measures*** including efficient water installations. The water consumption for the property will be ≤ 105 litres per person per day.

Materials used in the development will be ***responsibly and sustainably sourced*** and recycled where feasible, and will be chosen with focus on achieving a low overall environmental impact.

Public transport and cycling will be promoted to and from the development. The site shall include storage for 4 no. bicycles.

Users of the building will have a ***Building User Guide*** to help them use the building in the most energy-efficient way.

The main contractor will conform to the ***Considerate Contractors Scheme*** and aspire to achieving a best practice score of no less than 32.

The project will adhere to the principles of ***Secured by Design*****,** where feasible.

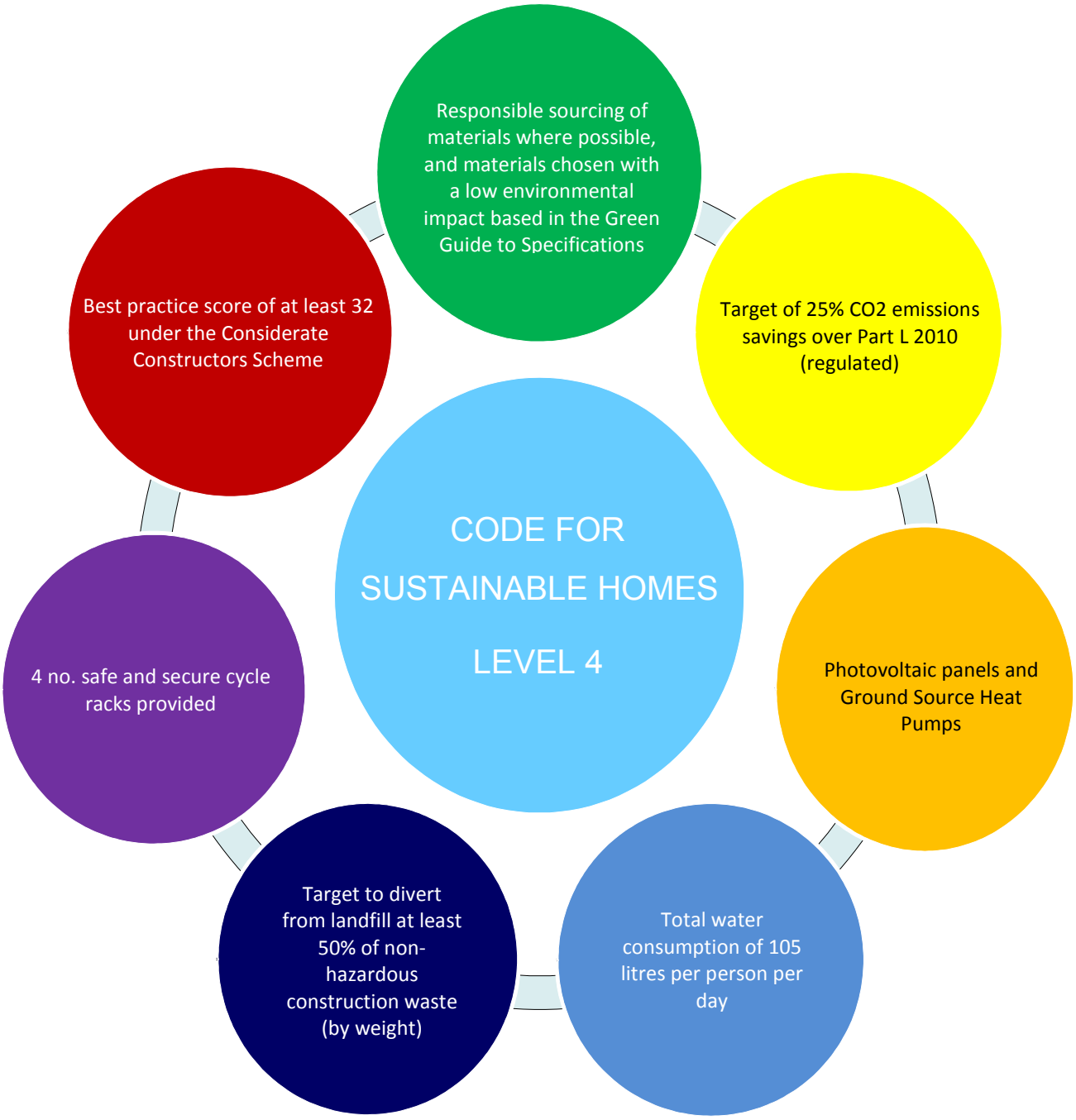

Figure 1.0: Code for Sustainable Homes Level 4

2.0 INTRODUCTION

The Proposed Development is a residential property located in the London Borough of Camden.

The proposal includes ambitious sustainability targets to reduce the dwellings' environmental impact through design, during construction, and sustainable operation. The following targets are proposed which demonstrate high levels of sustainability:

- To achieve the minimum requirements for ***Code for Sustainable Homes Level 4*** (minimum target score of 68%), with aspirations to improve on the minimum requirements where possible.
- Approximately ***25% CO_2 improvement on 2010 Building Regulations***, achieved through a combination of passive design, energy efficiency, and Low and Zero Carbon technologies.

This report describes how the Proposed Development will implement sustainable measures. The report takes a holistic approach to sustainability, addressing matters from management to energy and water savings, sourcing of materials, waste management, transport and more. The purpose of this statement is to promote sustainable design and to integrate the principles of sustainability into the preparation and adoption of plans.

This sustainability strategy responds specifically to:

- UK national sustainable development policy;
- The London Plan;
- The requirements of the London Borough of Camden Core Strategy and Development Policies.

The Proposed Development has been designed with the aim of achieving a Level 4 rating under Code for Sustainable Homes (Version: November 2010).

3.0 SUSTAINABILITY STRATEGY

A demonstration of the commitment to sustainable design and construction is the target of achieving Code for Sustainable Homes Level 4 certification, with aspirations to improve on the minimum requirements where possible. The current pre-assessment scores are achievable based on current design proposals.

The following is a summary of the key sustainability points derived from the Code for Sustainable Homes Pre-Assessment.

3.1 Summary of Key Sustainability Points

Water Strategy

Water consumption in the Proposed Development will be minimised by the specification of highly efficient water installations. The residential property will meet the Code for Sustainable Homes mandatory water requirement of 105 litres per person per day.

Materials and Other Resources

Materials with low environmental impact will be implemented where feasible. Recycled, sustainably and locally sourced materials will be used where possible. A full review of the materials specified for the development will be undertaken during the detailed design development stages using the BRE's *Green Guide to Specification*.

Transport Strategy

The site benefits from excellent access to public transport. Secure, sheltered cycle parking will be provided for the building residents.

Pollution Strategy

The insulation materials will be selected to ensure that they have a Global Warming Potential (GWP) of less than 5. The gas boilers will be selected with consideration of the NOx emissions and low emission plant will be selected where possible.

Further Measures

The main contractor will aspire to achieve a best practice score of 32 or higher under the Considerate Constructors Scheme. The contractor will furthermore monitor and set targets for energy usage, water usage and construction waste related to the site for the duration of the works.

The proposed development will facilitate principles of 'Secured by Design', where feasible.



A building user guide will be produced on completion to give details of operation and energy performance.

The Proposed Development will aspire to achieving compliant daylighting levels in the kitchen (2.0%), living room (1.5%), dining room (1.5%) and home office (1.5%).

The Proposed Development will not lead to an increase in surface water run-off; this principle will be followed as far as possible within the drainage design. There will also be no runoff into watercourses for the first 5mm of rainfall.

3.2 Refuse and Recycling

Construction site waste management

A strategy to monitor, sort and recycle construction waste on site will be prepared by the contractor. Construction site waste will be minimised, and waste will be diverted from landfill where feasible.

Operational waste

Waste storage areas are incorporated into the Proposed Development.

The refuse areas are designed for easy access and carefully placed to result in short dragging distances within the building as well as from the storage room to outside collection. A dedicated area for recycled waste will be provided within the refuse storage.

3.3 Code for Sustainable Homes Pre-Assessment

Code for Sustainable Homes (version Nov 2010) is being used as a benchmarking tool in the design of new residential developments. The aim of the Code for Sustainable Homes is to estimate the sustainability of buildings and to promote a programme of design improvement.

Code for Sustainable Homes Pre-assessment Summary

The targeted score is ***70.95% equivalent to Code Level 4 rating*** with a margin of 2.95% above the minimum required score of 68%.

Table 3.2 is a summary of the key credits targeted for the Proposed Development.

Please refer to Appendix A for a full overview of the Proposed Developments Code for Sustainable Homes pre-assessment.

Table 1.0: Key Code for Sustainable Homes targets for the 50 Avenue Road

Energy	– Exemplar CO_2 performance will be achieved through passive design, a very efficient fabric and very energy efficient services; – Cycle storage will be provided; – Suitable space to be provided along with adequate ventilation, power and data sockets to provide a home office; – All white goods will be provided within the dwellings and EU Energy Labelling Scheme details will be provided within the home user guide; – Overall 25% better than Part L 2010.
Water	– Internal water consumption will be limited to no more than 105 litres per person per day to comply with the minimum standard requirement for achievement of a Code Level 4. – A rainwater collection system will be considered for external irrigation
Materials	– Materials will be responsibly sourced; – Timber products will require FSC or similar certification, and for non-timber products that the materials have EMS certification at either the process stage or the process and extraction phases.
Surface Water Run-off	– The peak rate of run-off into watercourses will be no greater for the developed site than it was for the pre-developed site and the additional predicted volume of rainwater discharge caused by the new development will be entirely reduced as far as possible in accordance with the Code criteria. – No runoff into watercourses for the first 5mm of rainfall.
Waste	– Adequate storage for recyclable materials will be provided to ensure that all credits are achieved. A local authority collection scheme is in place which does not require recyclable waste to be sorted prior to collection; – At least 50% of non-hazardous construction waste will be diverted from landfill through either re-use on site or other sites, salvage/reclaim for re-use, return to the supplier via a 'take-back' scheme, compost, recovery and recycling using and approved waste management contractor.
Pollution	– All insulation materials within the development will have a GWP of no greater than 5; – A suitable low NOx emission heating plant will be specified <70mg/kWh
Health and Wellbeing	– Compliant daylight factors are anticipated in the kitchen, living room, dining room and home office space; – Acoustic performance will be in compliance with a 5dB improvement over Part E; – Private external space will be provided for the Proposed Development.
Management	– A compliant home user guide will be provided to the dwelling; – The contractor will be required to achieve a score of at least 32 under the Considerate Constructors Scheme; – It is anticipated that Secured by Design compliance will be achieved.

Ecology	– A minor enhancement (between +3 and +9) will be achieved in the species numbers in the development site; – The development site is anticipated to have a low ecological value; – A suitably qualified ecologist will be appointed to recommend appropriate ecological features that will positively enhance the ecology of the site. The ecologist's key recommendations and 30% of additional recommendations will be adopted.

4.0 CONCLUSION

The proposals summarised within this report promote a design centred on a low energy and sustainable dwelling with ambitious carbon performance, and Code for Sustainable Homes targets.

Environmental Assessment Method

The Proposed Dwelling has been designed with the aim of achieving a Code for Sustainable Homes Level 4.

Energy & CO_2 Savings

An energy demand assessment has been undertaken to demonstrate that passive design and energy efficiency measures will help to reduce energy demand substantially. Energy efficiency and passive design will be utilised in order to reduce CO_2 emissions.

"Be Lean" measures are proposed within the report. The overall development reduction in CO_2 emissions over a Part L 2010 compliant scheme due to the energy efficiency proposals is approximately 21%.

A micro-CHP unit has been considered appropriate for this scheme. The incorporation of the CHP unit results in a further 2% saving over the "Be Lean" scheme.

Various renewable technologies have been appraised. The technology that has been considered appropriate for the scheme is solar photovoltaic. The incorporation of solar photovoltaic results in a further 4% reduction in carbon dioxide emissions over the "Be Clean" scheme.

The overall predicted reduction in CO_2 emissions from the baseline development (which is Part L 2010 compliant) is approximately 25%, which represents an annual saving of approximately 6 tonnes of CO_2.

Overall, 50 Avenue Road will be ~25% better than Part L 2010.

Sustainability measures

Among the key sustainability measures which have been incorporated into the design, and the key performance levels targeted, the following should be noted:

Materials used in the development will be ***responsibly and sustainably sourced*** and recycled where feasible, and will be chosen with focus on achieving a low overall environmental impact.

The Proposed Development will comprise **water saving measures** including the specification of highly efficient water installations. The residential property will meet the Code for Sustainable Homes mandatory water requirement of 105 litres per hour/per day.

Facilitating **recycling of operational waste** has been a key component of the design.

A strategy to monitor, sort and recycle **construction waste** on site will be prepared by the contractor. Construction site waste will be minimised, and waste will be diverted from landfill where feasible.

Public transport and cycling will be promoted to and from the Proposed Development. The development site is connected to the rest of London by St John's Wood underground, and several regular bus routes. Secure, sheltered cycle parking will be provided for the building residents only.

The dwellings occupants will have a ***Building User Guide*** to help them use the building in the most energy-efficient way.

The main contractor will conform to the ***Considerate Contractors Scheme*** and achieve a best practice score of no less than 32.

The project will adhere to the principles of ***Secured by Design***.

APPENDIX A – CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT (V. NOV 2010)

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Results

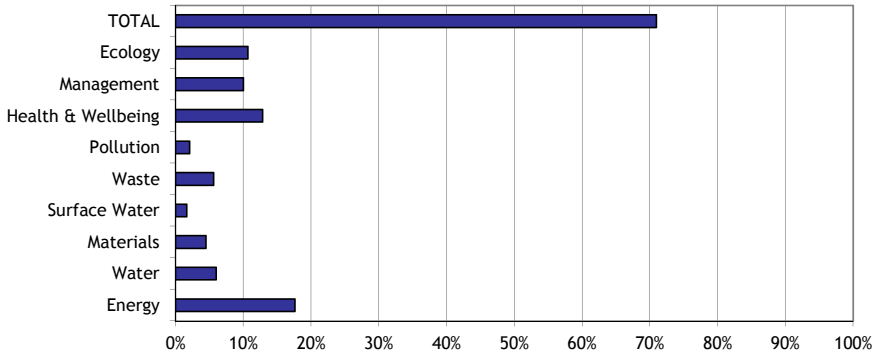
Development Name:	50 Avenue Road
Dwelling Description:	Detached Dwelling
Name of Company:	Hoare Lea
Code Assessor's Name:	Georgina Smith
Company Address:	Enterprise House, Old School Lane, Ferndown Dorset BH22 9UN
Notes/Comments:	This pre-assessment identifies the credits which will need to be targeted in order to successfully achieve Code for Sustainable Homes Level 4 compliance at both design and post construction assessment stages.

PREDICTED RATING - CODE LEVEL: 4

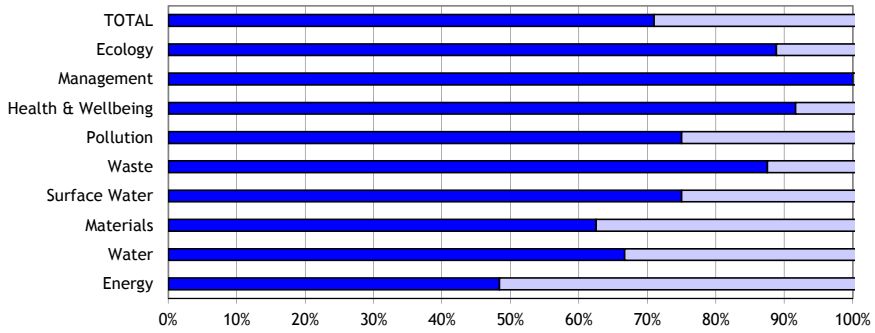
Mandatory Requirements: **All Levels**

% Points:	**70.95%**	**- Code Level: 4**
Breakdown:	**Energy**	**- Code Level: 4**
	Water	**- Code Level: 4**

Graph 1: Predicted contribution of individual sections to the total score and percentage of total achievable score



Graph 2: Predicted percentage of credits achievable: Total and by Category



NOTE: The rating obtained by using this Pre Assessment Estimator is for guidance only. Predicted ratings may differ from those obtained through a formal assessment, which must be carried out by a licensed Code assessor.

CATEGORY 1 ENERGY	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 48.38		Credits	Level		
Contribution to Overall % Score: 17.61 points		15.0 of 31 Credits	Level 4		
Ene 1 Dwelling Emission Rate	Credits are awarded based on the percentage improvement of the Dwelling Emission Rate (DER) over the Target Emission Rate (TER) as calculated using SAP¡¯09. Minimum standards for each Code level apply. The Code energy calculator can be used to calculate a predicted score. Enter the predicted score What is the predicted number of credits? 3.0 OR Are zero net CO_2 emissions achieved?	3.0 of 10 Credits	Level 4	The dwelling is required to comply with Part L 2010. This will be outlined within the Energy Strategy Report.	Detailed documentary evidence confirming the TER, DER and percentage improvement of DER over TER based on design stage SAP outputs*. Confirmation of FEE performance where SAP section 16 allowances have been included in calculations.
Ene 2 Fabric Energy Efficiency	Credits are awarded based on the Fabric Energy Efficiency ($kWh/m^2/yr$) of the dwelling. Minimum standards apply at Code levels 5 and 6. The Code energy calculator can be used to calculate a predicted score. Enter the predicted score Apartments, Mid-terrace ○ OR End terrace, Semi and Detached ◉ OR Staggered Mid terrace ○ What is the predicted number of credits? 0.0	0.0 of 9 Credits	-	Based on the initial SAP calculations no credits are anticipated to be achievable.	Detailed documentary evidence confirming the TER, DER and percentage improvement of DER over TER based on design stage SAP outputs*.
Ene 3 Energy Display Devices	Credits are awarded where a correctly specified Energy Display Device is installed monitoring electricity and/or primary heating fuel consumption. Select whether the EDD monitors electricity and/or fuel None Specified ○ Primary Heating only ○ OR Electricity only ○ OR Electricity and primary heating fuel ◉	2 of 2 Credits	-	It is anticipated that electricity and primary heating fuel monitoring will be provided.	Detailed documentary evidence confirming that the correctly specified energy display device is dedicated to the dwelling. The consumption data displayed by the correctly specified energy display device. * or a letter of instruction to a contractor/supplier or a formal letter from the developer giving the specific undertaking can be allowed.

Issue		Credits	Level	Assumptions Made	Evidence Required
Ene 4 Drying Space	One credit is awarded for the provision of either internal or external secure drying space with posts and footings or fixings capable of holding 4m+ of drying line for 1-2 bed dwellings and 6m+ for dwellings with 3 bedrooms or greater. Will drying space meeting the criteria be provided? Yes ◉ OR No ○	1 of 1 Credits	-	It is anticipated that drying space will be provided within the proposed development. For 3+ bedroom dwellings, the drying equipment must be capable of holding 6m+ of drying line. The drying space (internal of external) must be secure.	For internal drying space, detailed documentary evidence confirming the location of drying fixings, details/location of ventilation provided, the length of drying line. For external drying space, detailed documentary evidence confirming the location fixings, the lengths of drying line.
Ene 5 Energy Labelled White Goods	Credits are awarded where each dwelling is provided with either information about the EU Energy Labelling Scheme, White Goods with ratings ranging from A+ to B or a combination of the previous according to the technical guide. Select the appropriate option below EU Energy labelling information only ☐ A+ rated appliances ☐ A+, A and B rated appliances ☐ Combination of compliant rated white goods with EU Energy Labelling Scheme ☑	2 of 2 Credits	-	It is anticipated that all white goods provided within the dwellings will be A+ or B rated and EU Energy Labelling Scheme details will be provided within the home user guide.	Text* describing make and model of all white goods to be provided, a copy of the EU Energy Efficient Labelling Scheme energy rating for all white goods to be provided; Where details cannot be produced at this stage a formal letter form the developer giving the specific undertaking.
Ene 6 External Lighting	Credits are awarded based on the provision of space lighting* with dedicated energy efficient fittings and security lighting fittings with appropriate control gear.. Space Lighting None provided ○ OR Non Code compliant lighting ○ OR Code compliant lighting ◉ Security Lighting None provided ○ OR Non Code compliant lighting ○ OR Code compliant lighting and controls ◉ Dual lamp luminaires Compliant with both above criteria ☐ * Statutory safety lighting is not covered by this requirement	2 of 2 Credits	-	External lighting will be specified to be energy efficient fittings. Security lighting will be designed for energy efficiency and is adequately controlled such that: - all burglar security lights have a maximum wattage of 150 W; - movement detecting control devices (PIR); - daylight cut-off sensors.	Relevant drawings clearly showing location of all external light fittings; Confirmation of the types of light fittings and efficacy, in lumens per circuit watt, for all lamps; The control systems applicable to each light fitting or group of fittings. Drawings and text* showing location, type and size of storage, access to cycle storage, any security measures, details of proprietary system; or a letter of instruction to a contractor/supplier or a formal letter from the developer to the Code Assessor giving the specific undertaking.

Issue		Credits	Level	Assumptions Made	Evidence Required
Ene 7 Low or Zero Carbon Technologies	Credits are awarded where there is a 10% or 15% reduction in CO_2 emissions resulting from the use of low or zero carbon technologies. Select % contribution made by low or zero carbon technologies Less than 10% of demand ○ OR 10% of demand or greater ○ OR 15% of demand or greater ◉	2 of 2 Credits	-	This is the anticipated performance based on the SAP assessment. The technologies that have been considered appropriate for the scheme is a ground source heat pump and solar photovoltaic. The incorporation of renewable technologies results in a 20% reduction in carbon dioxide emissions over the energy efficient scheme.	A copy of calculations as detailed in the assessment methodology based on design Stage SAP outputs. Detailed documentary evidence confirming that the specified low or zero carbon technologies: - meet any additional requirements defined in Directive 2009/28/EC; - and are certified under the Microgeneration Certification Scheme.
Ene 8 Cycle Storage	Credits are awarded where adequate, safe, secure and weather proof cycle storage is provided according to the Code requirements. Fill in the development details below Number of bedrooms: 6 Number of cycles stored per dwelling* 4.0 * if you have storage for 1 cycle per two dwellings insert 0.5 in number of cycles stored per dwelling	2 of 2 Credits	-	A compliant number of cycle spaces will be provided in a weatherproof secure location. The minimum Storage area required to store 1 cycle on the floor, defined by the Metric Handbook which includes space to allow the cycles to be moved independently is 2m long x 0.75m wide.	Detailed documentary evidence showing: - the number of bedrooms and the corresponding number of cycle storage space per dwelling; - location, type and size of storage; - convenient access to cycle storage; - any security measures; * or a letter of instruction to a contractor/supplier or a formal letter from the developer to the Code Assessor giving the specific undertaking.
Ene 9 Home Office	A credit is awarded for the provision of a home office. The location, space and services provided must meet the Code requirements. Will there be provision for a Home Office? Yes ◉ OR No ○	1 of 1 Credits	-	Suitable space to be provided along with adequate ventilation, power and data sockets to provide a home office. The space dedicated for use as a home office must achieve an average daylight factor of 1.5%.	- Drawings or specification text* detailing location of sufficient space for the home office, sockets, telephone points, that adequate ventilation will be provided, confirmation of a cable connection or that broadband is available at the site level. * or a letter of instruction to a contractor/supplier or a formal letter to the Code Assessor giving the undertakings.

CATEGORY 2 WATER	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 66.66		Credits	Level		
Contribution to Overall Score: 6.00 points		4 of 6 Credits	Level 4		
Wat 1 Indoor Water Use	Credits are awarded based on the predicted average household water consumption, calculated using the Code Water Calculator Tool. Minimum standards for each code level apply. Select the predicted water use / Mandatory Requirement greater than 120 litres/ person/ day ○ OR ≤ less than 120 litres/ person/ day ○ OR ≤ less than 110 litres/ person/ day ○ OR ≤ less than 105 litres/ person/ day ◉ OR ≤ less than 90 litres/ person/ day ○ OR ≤ less than 80 litres/ person/ day ○	3 of 5 Credits	Level 3 AND Level 4	Internal water consumption will be limited to no more than 105 litres per person per day to comply with the minimum standard requirement for achievement of a Code Level 3.	Drawings and specification text* detailing location, details and type of appliances/fittings that use water in the dwelling including specific water reduction equipment with the capacity/flow rate of equipment. This should include confirmation that the hot and cold water system will be designed to avoid the risk of microbial contamination in line with best practice. * or letter of instruction to a contractor or a formal letter from developer to the CSH assessor giving the specific undertakings.
Wat 2 External Water Use	A credit is awarded where a compliant system is specified for collecting rainwater for external irrigation purposes. Where no outdoor space is provided the credit can be achieved by default. Select the scenario that applies No internal or communal outdoor space ○ OR Outdoor space with collection system ◉ OR Outdoor space without collection system ○	1 of 1 Credits	-	Rainwater collection will need to be accommodated to ensure landscaping can be fully irrigated without the use of mains water. Similarly any water features must be 100% rainwater topped up.	Documentary evidence stating type, siaze and location of collection facilities OR letter of instruction to a contractor or a formal letter from developer to the CSH assessor giving the specific undertakings.

CATEGORY 3 MATERIALS	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 62.50		Credits	Level		
Contribution to Overall Score: 4.50 points		15 of 24 Credits	All Levels		
Mat 1 Environmental Impact of Materials	Mandatory Requirement: At least three of the five key building elements must achieve a Green Guide 2008 Rating of A+ to D. Tradable Credits: Points are awarded on a scale based on the Green Guide Rating of the specifications. The Code Materials Calculator can be used to predict a potential score. Mandatory Requirement Will the mandatory requirement be met? ☑ Enter the predicted score What is the predicted number of credits? 10	10 of 15 Credits	All Levels	The mandatory requirement will be met along with additional elements having Green Guide 2008 ratings of B and above to achieve additional tradable credits. The key elements of building elements are: Roof, External Walls, Internal Walls (including separating walls, Upper and Ground Floors (including separating floors), Windows.	Drawings or specification text* detailing: - location and area of the elements; - details of the materials used within the elements. Completed Code Mat1 Calculator Tool, showing building elements at the design stage.
Mat 2 Responsible Sourcing of Materials - Basic Building Elements	Credits are awarded where materials used in the basic building elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score. Enter the predicted Score What is the predicted number of credits? 3	3 of 6 Credits	-	The basic building elements are: frame, ground floor, upper floor, roof, external walls, internal walls, foundation, staircase. A minim of 5 elements must be assessed. A minimum 80% of an assessed element of each element must comply with Tiers 1 to 4. Additionally, 100% of any timber in these elements must be legally sourced.	As MAT 1 plus: - for re-used and recycled materials - documentation stating which materials will be re-used; trade information; - for certified materials - copy of certification from supplier
Mat 3 Responsible Sourcing of Materials - Finishing Elements	Credits are awarded where materials used in the finishing elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score. Enter the predicted Score What is the predicted number of credits? 2	2 of 3 Credits	-	The finishing elements are: stair, window, external & internal door, skirting, panelling, furniture, fascias. A minim of 5 elements must be assessed. A minimum 80% of an assessed element of each element must comply with Tiers 1 to 4. Additionally, 100% of any timber in these elements must be legally sourced.	As MAT 1 plus MAT 2.

CATEGORY 4 SURFACE WATER RUN-OFF	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted:	75.00%	Credits	Level		
Contribution to Overall Score:	1.65 points	3 of 4 Credits	All Levels		
Sur 1 Management of Surface Water Run-off from developments	Mandatory Requirement: Peak rate of run-off into watercourses is no greater for the developed site than it was for the pre-development site and that the additional predicted volume of rainwater discharge caused by the new development is entirely reduced as far as possible in accordance with the assessment criteria. Desiging the drainage system to be able to cope with local drainage system failure. Tradable Credits: Where SUDS are used to improve water quality of the rainwater discharged or for protecting the quality of the receiving waters. Mandatory Requirement Will the mandatory requirement be met? ☑ Select the appropriate option No SUDS ☐ No runoff into watercourses for the first 5 mm of rainfall ☑ Runoff from hard surfaces will receive an appropriate level of treatment ☐	1 of 2 Credits	All Levels	Appointment of an appropriately qualified engineer or consultant is required to carry out the calculations and to prepare the appropriate Flood Risk Assessment. The dwelling will be designed so that there is no runoff into watercourses for the first 5mm of rainfall. The mandatory requirements will be met.	Confirmation of the appointment of an appropriately qualified engineer or consultant to carry out the calculations and provide design criteria for all relevant elements. Copy of the consultant's or engineer's report and Flood Risk Assessment containing all information necessary to meet the mandatory requirements. Drawings showing the pre-development drainage for the site. Drawings showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels. Confirmation from the appropriately qualified professional that local drainage system failure would not cause an increase in the risk of flooding within dwellings either on or off site.
Sur 2 Flood Risk	Credits are awarded where developments are located in areas of low flood risk or where in areas of medium or high flood risk appropriate measures are taken to prevent damage to the property and its contents in accordance with the Code criteria in the technical guide. Select the annual probability of flooding (from PPS25*) Zone 1 - Low ◉ OR Zone 2 - Medium ○ OR Zone 3 - High ○ Select the apropriate option(s) Low risk of flooding from FRA** ☑ All measures of protection are demonstrated in FRA ☐ Ground floor level and access routes are 600 mm above design flood level ☐ * Planning Policy Statement 25 - Planning and Flood Risk ** FRA - Flood Risk Assessment	2 of 2 Credits	-	It has been assumed that the development is situated in Zones 1 - low annual probability of flooding. To be confirmed by the Flood Risk Assessment.	A Flood Risk Assessment prepared according to good practice guideline as outlined in Development and Flood Risk: A practice guide companion to PPS25, which shows that there is a low risk of flooding from all sources.

CATEGORY 5 WASTE	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted:	87.00%	Credits	Level		
Contribution to Overall Score:	5.60 points	7 of 8 Credits	All Levels		

Was 1 Storage of non-recyclable waste and recyclable household waste	Mandatory Requirement: The space provided for waste storage should be sized to hold the larger of either all external containers provided by the Local Authority or the min capacity calculated from BS 5906. Tradable Credits are awarded for adequate internal and/ or external recycling facilities. Mandatory Requirement Will the minimum space be provided and be accessible to disabled people? ☑ Internal Recyclable household waste storage Where there is no external recyclable waste storage and no Local Authority collection scheme Internal storage (capacity 60 litres) ☐ Local Authority collection Scheme Post Collection sorting Internal storage (capacity 30 litres) ☑ Pre-collection sorting Internal storage (3 separate bins, capacity 30 litres) ☐ External Storage, no Local Authority collection scheme 3 separate internal storage bins (capacity 30 litres) ☐ AND Houses External Storage(capacity 180 litres) ☐ Flats Private recycling operator ☐ 3 or greater types of waste collected ☐	0 of 2 Credits 4 of 4 Credits 0 of 4 Credits	All Levels	The storage requirements will be fully met. There is also the mandatory requirement that the external waste storage is accessible via a compliant route which fulfils the requirements of the IPD Checklist.	Detailed documentary evidence stating: - the location of internal and external storage; - the number, types and sizes of internal and external storage. A letter, leaflet, website or other published information from the Local Authority/waste scheme provider* describing: - the types of waste collected; - the frequency of collection; - if there will be pre or post collection sorting. * In the case of an automated collection system, the waste scheme operator will only need to confirm the types of waste collected and if there will be pre or post collection sorting.

Issue		Credits	Level	Assumptions Made	Evidence Required
Was 2 Construction Site Waste Management	A credit is awarded where a compliant SWMP is provided with targets and procedures to minimise construction waste. Credits are available where the SWMP include procedures and commitments for diverting either 50% or 85% of waste generated from landfill. SWMP details Does the SWMP include: + No SWMP ○ + SWMP with targets and procedures to minimise waste? ○ + SWMP with procedures to divert 50% of waste ◉ + SWMP with procedures to divert 85% of waste ○	2 of 3 Credits		Compliant Site Waste Management Plant that contains target benchmarks for resource efficiency set in accordance with best practice, procedures and commitments to minimize non-hazardous construction waste, procedures for minimising hazardous waste, monitoring, measuring and reporting of hazardous and non-hazardous site waste according to the defined waste groups. At least 50% of non-hazardous construction waste has been diverted from landfill through either re-use on site or other sites, salvage/reclaim for re-use, return to the supplier via a 'take-back' scheme, compost, recovery and recycling using and approved waste management contractor.	a copy of the compliant SWMP containing the appropriate benchmarks, commitments and procedures for waste minimisation and diversion form landfill in line with the criteria. Or Confirmation from the developer that the SWMP includes/will include benchmarks, procedures and commitments for minimising and diverting waste from landfill in line with the criteria.
Was 3 Composting	A credit is awarded where individual home composting facilities are provided, or where a community/ communal composting service, either run by the Local Authority or overseen by a management plan is in operation. Select the facilities available No composting facilities ○ Individual composting facilities ◉ OR Communal/ community composting*? ○ Local Authority ☐ OR Private with management plan ☐ * including if an automated waste collection system is in place	1 of 1 Credit	-	Individual home composting facilities: - to be in a dedicated position (max. distance 30m from entrance); - provide inclusive access and usability; - space for a internal kitchen waste container (7 litres); - have a supporting information leaflet provided.	Detailed documentary evidence stating: - the location and size of internal and external storage; - that an information leaflet will be supplied; - distance of storage form dwelling

CATEGORY 6 POLLUTION	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 75.00%		Credits	Level		
Contribution to Overall Score: 2.10 points		3 of 4 Credits	All Levels		
Pol 1 Global Warming Potential (GWP) of Insulants	A credit is awarded where all insulating materials only use substances (in manufacture AND installation) that have a GWP of less than 5. Select the most appropriate option All insulants have a GWP less than 5 (●) OR Some insulants have a GWP of less than 5 (○) OR No insulants have a GWP of less than 5 (○)	1 of 1 Credits	-	All insulation materials within the development will have a GWP of no greater than 5.	For each element drawings or specification text* clearly showing type and location of all insulation materials. Where insulation materials have been specified, manufacturer's literature for any foamed insulation or materials installed using blowing agents.
Pol 2 NOx Emissions	Credits are awarded on the basis of NOx emissions arising from the operation of the space and water heating system within the dwelling. Select the most appropriate option Greater than 100 mg/kWh (○) OR Less than 100 mg/kWh (○) OR Less than 70 mg/kWh (●) OR Less than 40 mg/kWh (○) OR Class 4 boiler (○) OR Class 5 boiler (○) OR All space and hot water energy requirements are met by systems who do not produce NOx emissions (○)	2 of 3 Credits	-	A suitable low NOx emission gas boiler will be specified.	Text describing (on drawings or in specification*): - details of the primary and any secondary heating systems and flue type; - dry Nox levels and/or boiler class of the primary and any secondary heating systems. Where a system has been specified, manufacturer's literature confirming the dry Nox levels and/or boiler class of the primary and any secondary system. * or letter of instruction to a contractor or a formal letter from developer to the CSH assessor giving the specific undertakings.

CATEGORY 7 HEALTH & WELLBEING	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 91.00%		Credits	Level		
Contribution to Overall Score: 12.83 points		11 of 12 Credits	No level		
Hea 1 Daylighting	Credits are awarded for ensuring key rooms in the dwelling have high daylight factors (DF) and a view of the sky. Select the compliant areas Room Kitchen: Avg DF of at least 2% ☑ Living Room*: Avg DF of at least 1.5% ☑ Dining Room*: Avg DF of at least 1.5% ☑ Study*: Avg DF of at least 1.5% ☑ 80% of working plane in all above rooms receive direct light from the sky? ☐ Any room used for Ene 9 Home Office must also achieve a min DF of 1.5%.	2 of 3 Credits	-	The credit is to be achieved in the family room for the confirmation of the home office credit. It is likely that the living rooms, kitchens and dining rooms could comply, a full daylight assessment would need to be undertaken to confirm this.	Calculations* required: - Average daylight factor, - Position of the no-sky line and percentage of area of the working plane that receives direct light from the sky. Confirmation from the developer that the calculations accurately reflect the dwelling as designed.
Hea 2 Sound Insulation	Credits are awarded where performance standards exceed those required in Building Regulations Part E. This can be demonstrated by carrying out pre-completion testing or through the use of Robust Details Limited. Select a type of property Detached Property ◉ Attached Properties: - Separating walls and floors only exist between non habitable spaces ○ - Separating walls and floors exist between habitable spaces ○ Select a performance standard Performance standard not sought ◉ Airborne: 3db higher; Impact: 3dB lower ○ OR Airborne: 5db higher; Impact: 5dB lower ○ OR Airborne: 8db higher; Impact: 8dB lower ○	4 of 4 Credits	-	Credits awarded by default.	Credit awarded by default - no evidence is required.

Issue		Credits	Level	Assumptions Made	Evidence Required
Hea 3 Private Space	A credit is awarded for the provision of an outdoor space that is at least partially private. The space must allow easy access to all occupants. Will a private/ semi-private space be provided? Yes, private/semi-private space will be provided ◉ OR No private/semi-private space ○	1 of 1 Credits	-	Minimum space requirements private space: 1.5 sqm per bedroom.	Detailed documentary evidence confirming: - the number of bedrooms served by outdoor space; - that the outdoor space meets the minimum size requirements.
Hea 4 Lifetime Homes	Mandatory Requirement: Lifetime Homes is mandatory when a dwelling is to achieve Code Level 6. Tradable credits: Credits are awarded where the developer has implemented all of the principles of the Lifetime Homes scheme. Mandatory Requirement Dwelling to achieve Code Level 6? ☐ Lifetime Homes Compliance All Lifetime Homes criteria will be met ◉ OR Exemption from LTH criteria 2/3 applied ○ Credit not sought ○	4 of 4 Credits	No level	Compliance with the requirements for Lifetime Homes is anticipated.	Completed checklist and drawings to confirm checklist compliance.

CATEGORY 8 MANAGEMENT	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 100.00%		Credits	Level		
Contribution to Overall Score: 10.00 points		9 of 9 Credits	All Levels		
Man 1 Home User Guide	Credits are awarded where a simple guide is provided to each dwelling covering information relevant to the 'non-technical' home occupier, in accordance with the Code requirements. Tick the topics covered by the Home User Guide Operational Issues? ☑ Site and Surroundings? ☑ Is available in alternative formats? ☑	3 of 3 Credits	-	A compliant home user guide will be provided to the dwelling. The Home User Guide is a guide to occupants of the dwelling containing necessary details about the everyday use of the home in a form that is easy to users to understand. The Home User Guide should be provided in an appropriate format for users. This might include translation into foreign languages, braille, large print or audio cassette/CD.	Confirmation in the Specification* that the guide will be: - supplied to all dwellings within the development; - be developed to the required standards (as a minimum including a list of contents showing that the guide will cover all of the issues required in Checklist Man 1 Part 1 and Part 2.
Man 2 Considerate Constructors Scheme	Credits are awarded where there is a commitment to comply with best practice site management principles using either the Considerate Constructors Scheme or an alternative locally/ nationally recognised scheme. Select the appropriate scheme and score No scheme used ○ Considerate Constructors OR Best Practice: Score between 24 and 31.5 ○ OR Best Practice+: Score between 32 and 40 ◉ Alternative Scheme* OR Mandatory + 50% optional requirements ○ OR Mandatory + 80% optional requirements ○ * In the first instance, contact a Code Service Provider if you are considering to use an alternative scheme.	2 of 2 Credits	-	The contractor will be required to achieve a score between 32 and 40 under the Considerate Constructors Scheme (CCS). The CCS is a UK certification scheme that encourages the considerate management of construction sites. The scheme is operated by the Construction Confederation and points are awarded in increments of 0.5 over the following eight sections: Considerate; Environmentally Aware; site Cleanliness; Good Neighbour; Respectful; Safe; Responsible; Accountable.	Specification clause or other confirmation* of commitment from the contractor or developer to comply with the Considerate Construction Scheme and achieve formal certification under the scheme with a score of 24 and above. Confirmation that registration with the Considerate Constructor Scheme has taken place no later than the commencement of the construction phase.
Man 3 Construction Site Impacts	Credits are awarded where there is a commitment and strategy to operate site management procedures on site as following: Tick the impacts that will be addressed Monitor, report and set targets, where applicable, for: - CO_2/ energy use from site activities ☐ - CO_2/ energy use from site related transport ☐ - water consumption from site activities ☑ Adopt best practice policies in respect of: - air (dust) pollution from site activities ☑ - water (ground and surface) pollution on site ☑ 80% of site timber is reclaimed, re-used or responsibly sourced ☑	2 of 2 Credits	-	The contractor will be required to ensure the relevant targets and monitoring are undertaken during construction. The BRE do not prescribe targets only requiring that the contarctor sets targets and reports on performance against these (achievement of the targets is also not a requirement)	Completed copy of Checklist MAN 3 (signed and dated) detailing the procedures that will be employed to minimise construction site impacts. Specification clause or other confirmation* of commitment from the contractor or developer demonstrating a commitment to meet assumed items.

Issue		Credits	Level	Assumptions Made	Evidence Required
Man 4 Security	Credits are awarded for complying with Section 2 - Physical Security from Secured by Design - New Homes. An Architectural Liaison Officer (ALO), or alternative, needs to be appointed early in the design process and their recommendations incorporated. Secured by Design Compliance Credit not sought ○ OR Secured by Design Section 2 Compliance ◉	2 of 2 Credits	-	Contact with an ALO at design stage is vital and incorporation of their recommendations to achieve SBD Section 2 compliance into the final design.	Confirmation from the design team that an ALO has been consulted and that their recommendations will be implemented.

CATEGORY 9 ECOLOGY	Overall Level: 4	Overall Score	70.95	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 88.00%		Credits	Level		
Contribution to Overall Score: 10.66 points		8 of 9 Credits	All Levels		
Eco 1 Ecological Value of Site	One credit is awarded for developing land of inherently low value. Select the appropriate option Credit not sought ○ OR Land has ecological value ○ OR Land has low/ insignificant ecological value* ◉ * Low ecological value is determined either a) by using Checklist Eco 1 across the whole development site; or b) where an suitably qualified ecologist is appointed and can confirm or c) produces an independent ecological report of the site, that the construction zone is of low/ insignificant value; AND the rest of the development site will remain undisturbed by the works.	1 of 1 Credits	-	The development site is anticipated to have a low ecological value. To be confirmed by Checklist Eco 1 or by a Suitably Qualified Ecologist.	Ecologists Report
Eco 2 Ecological Enhancement	A credit is awarded where there is a commitment to enhance the ecological value of the development site. Tick the appropriate boxes Will a *Suitably Qualified Ecologist* be appointed to recommend appropriate ecological features? ☑ AND Will all key recommendations be adopted? ☑ AND 30% of other recommendations be adopted? ☑	1 of 1 Credits	-	A suitably qualified ecologist will need to be appointed to recommend appropriate ecological features that will positively enhance the ecology of the site. The ecologist's key recommendations and 30% of additional recommendations must be adopted.	A copy of the ecologist's report containing required information. Detailed documentary evidence stating: - how the key recommendation and 30% additional recommendations will be incorporated in the design; - the planting schedule of any species to be incorporated from suitably qualified ecologist's recommendations.
Eco 3 Protection of Ecological Features	A credit is awarded where there is a commitment to maintain and adequately protect features of ecological value. Type and protection of existing features Site with features of ecological value? ○ OR Site of low ecological value (as Eco 1)? ◉ AND All* existing features potentially affected by site works are maintained and adequately protected? ☐ *If a suitably qualified ecologist has confirmed that a feature can be removed due to insignificant ecological value or poor health conditions, as long all the rest have been protected, then this box can be ticked.	1 of 1 Credits	-	This credit can be achieved by default due to the low ecological value of the development site.	Site visit report including photographs confirming ecological features present prior to commencement of construction works. Drawings or specification text detailing how ecological features will be protected. Copy of the ecologist's report.

Issue		Credits	Level	Assumptions Made	Evidence Required
Eco 4 Change of Ecological Value of Site	Credits are awarded where the change in ecological value has been calculated in accordance with the Code requirements and is calculated to be: Change in Ecological Value Major negative change: fewer than -9 ○ Minor negative change: between -9 and -3 ○ OR Neutral: between -3 and +3 ○ Minor enhancement: between +3 and +9 ◉ Major enhancement: greater than 9 ○	3 of 4 Credits	-	It is anticipated that a minor enhancement (between +3 and +9) will be achieved in the species numbers in the development site.	Proposed site layout; The pre-development site survey indicating natural and built features on the site and land surrounding before the proposed development; Landscape and plot categories with a list of site areas for before and after development; CSH Ecology Report completed by ecologist; Written confirmation from the developer how the ecologist's recommendations will be implemented including a planting schedule.
Eco 5 Building Footprint	Credits are awarded where the ratio of combined floor area of all dwellings on the site to their footprint is: Ratio of Net Internal Floor Area: Net Internal Ground Floor Area Credit Not Sought ○ OR Houses: 2.5:1 OR Flats: 3:1 ○ OR Houses: 3:1 OR Flats: 4:1 ◉ OR Houses & Flats Weighted (2.5:1 & 3:1) ○ OR Houses & Flats Weighted (3:1 & 4:1) ○	2 of 2 Credits		The 6 storey nature of the development should be compliant with the achievement of 2 credits.	Calculation of the building footprint ratio, stating the Net Internal Floor Area (NIFA) and the Net Internal Ground Floor Area (NIGFA).