



**CODE FOR SUSTAINABLE HOMES
PRE-ASSESSMENT**

FOR

QUEENS HALL, TWICKENHAM

VERSION 2.0

Issued by:-

Silcock Dawson & Partners
4/5 Tower Court, Horns Lane
Princes Risborough

Buckinghamshire HP27 0AJ

Tel: +44 (0) 1844-347474

Fax: +44 (0) 1844-345539

www.silcockdawson.co.uk

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June 2013

Code for Sustainable Homes Pre-Assessment

BACKGROUND

This Code for Sustainable Homes pre-assessment has been prepared to accompany the planning application by F&C Reit Asset Management for a mixed use development at Queens Hall, Twickenham. The development comprises 4 dwellings and one commercial unit. Two of the dwellings are two bed flats with a floor area of approximately 87m², the other two units contain one bedroom with an area of approximately 56m².

The client has employed Silcock Dawson and Partners as licensed Code assessors to undertake a pre-assessment for the scheme. Silcock Dawson and Partners have obtained from the BRE the Code criteria for this development.

This document includes a copy of the pre-assessment spreadsheet and a number of explanatory remarks regarding the credits.

The target Code rating for the development is Level 4, 68 percent. Achieving Level 4 provides 8 points on the LBRUT checklist.

This pre-assessment shows that the dwellings perform well when assessed by the Code, achieving a score of 71 percent. This illustrates that the development has gone beyond the minimum sustainability standards that might be expected. The key issues that have contributed towards this performance are:

- Insulation standards matching passive house standards
- The use of solar thermal renewable technology
- Grey water recycling
- The re-use of parts of the existing structure and the specification of new materials with a low environmental impact.
- Enhanced ecology, within the limitations of the site
- The employment of best practice construction techniques to minimise waste and pollution



Results

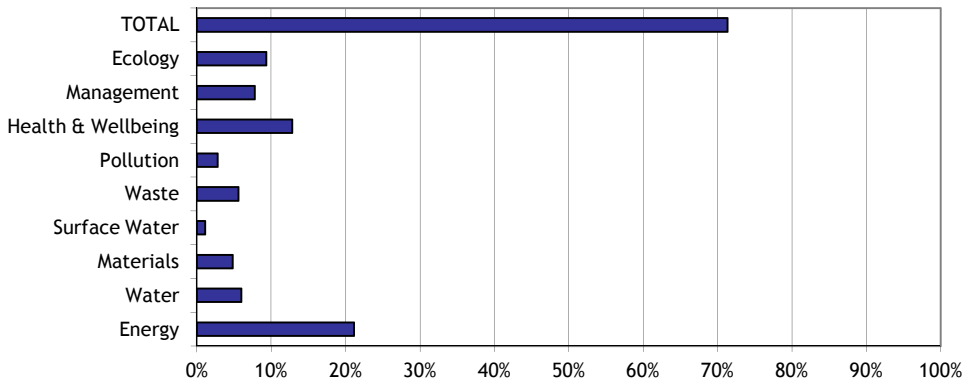
Development Name:	Queens Hall, Twickenham
Dwelling Description:	Development of 4 flats above a commercial space.
Name of Company:	Silcock Dawson and Partners
Code Assessor's Name:	Silcock Dawson and Partners
Company Address:	Tower Court 4-5 Horns Lane Princes Risborough Bucks HP27 9E 1
Notes/Comments:	Pre-Assessment for Planning. June 2013

PREDICTED RATING - CODE LEVEL: 4

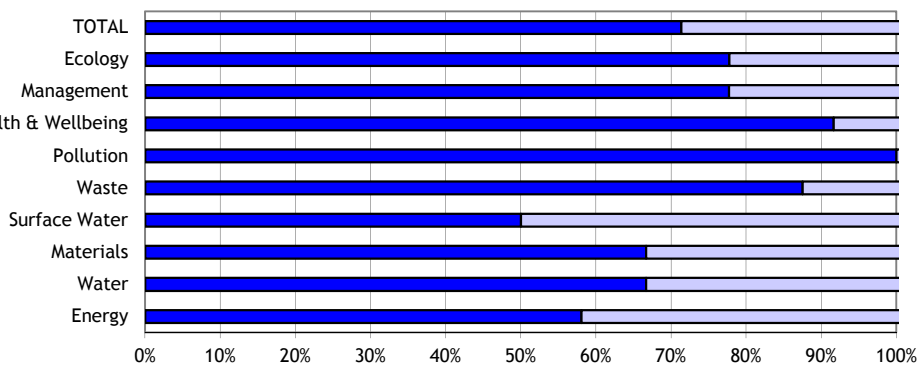
Mandatory Requirements: All Levels

% Points: 71.36% - 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 71.36		
% of Section Credits Predicted: 58.06		Credits Level		Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
Contribution to Overall % Score: 21.13 points		18.0 of 31 Credits	Level 4		
Ene 1 Dwelling Emission Rate	<p>Credits are awarded based on the percentage improvement of the Dwelling Emission Rate (DER) over the Target Emission Rate (TER) as calculated using SAP 2009. Minimum standards for each Code level apply. The Code energy calculator can be used to calculate a predicted score.</p> <p>Enter the predicted score _____</p> <p>What is the predicted number of credits? <input type="text" value="3.0"/></p> <p>OR Are zero net CO₂ emissions achieved? <input type="checkbox"/></p>	3.0 of 10 Credits	Level 4	<p>SAP calcs required to demonstrate 25% betterment over ADL1A 2010.</p> <p>Note: Samples for typical dwellings has been produced for energy statement purpose, the SAPs are showing a comfortable compliance with the requirement</p>	<p>SAP 2009 version 9.90 rev. October 2010 outputs for each Energy Type an accompanying list of specifications. Confirmation of FEE performance where SAP section 16 allowance have been included in the calculation</p>
Ene 2 Fabric Energy Efficiency	<p>Credits are awarded based on the Fabric Energy Efficiency (kWh/m²/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.</p> <p>Enter the predicted score _____</p> <p>Apartments, Mid-terrace <input checked="" type="radio"/></p> <p>OR End terrace, Semi and Detached <input type="radio"/></p> <p>OR Staggered Mid terrace <input type="radio"/></p> <p>What is the predicted number of credits? <input type="text" value="5.0"/></p>	5.0 of 9 Credits	-	<p>Fabric energy efficiency has been assumed to be better than 44kWh/m²/year or less for the apartments.</p> <p>Note: Samples for typical dwellings has been produced for energy statement purpose, the SAPs are showing compliance with the requirement</p>	<p>Detail documentary evidence confirming fabric energy efficiency based on DS SAP 2009 outputs</p>
Ene 3 Energy Display Devices	<p>Credits are awarded where a correctly specified Energy Display Device is installed monitoring electricity and/or primary heating fuel consumption.</p> <p>Select whether the EDD monitors electricity and/or fuel _____</p> <p>None Specified <input type="radio"/></p> <p>Primary Heating only <input type="radio"/></p> <p>OR Electricity only <input type="radio"/></p> <p>OR Electricity and primary heating fuel <input checked="" type="radio"/></p>	2 of 2 Credits	-	<p>Current electricity fuel consumption data to be displayed to occupants by a correctly specified energy display device As a minimum the visual display unit must be capable of displaying the following information:</p> <ul style="list-style-type: none"> Local time, Current mains energy consumption, emissions (g/kg CO₂), tariff and cost Display accurate account balance information Visual presentation of data Historical consumption data so that consumers can compare their current and previous usage in a meaningful way. 	<p>Detailed documentary evidence confirming:</p> <p>That the correctly specified energy display device is dedicated to the dwelling AND The consumption data displayed by the correctly specified energy display device Where detailed documentary evidence cannot be produced at this stage: A specification can be allowed as evidence of intent to meet specific requirements</p>

Issue	Credits	Level	Assumptions Made	Evidence Required
<p>Ene 4 Drying Space</p> <p>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.</p> <p>Will drying space meeting the criteria be provided? _____</p> <p>Yes <input checked="" type="radio"/></p> <p>OR No <input type="radio"/></p>	1 of 1 Credits	-	<p>Assumed that drying line over bath will be provided</p> <p>Where fixings capable of holding 4m+ of drying line for 1–2 bed dwellings, and 6m+ of drying line for 3+ bed dwellings, is provided for drying clothes.</p> <p>The space (internal or external) should be secure.</p> <p>Internal drying space must comply with Part F of the B1g Regs</p>	<p>Detailed documentary evidence confirming:</p> <ul style="list-style-type: none"> • The location and length of drying fixings • Details/location of ventilation provided • Details of the lock provided (for communal drying space only) <p>A heated space with controlled intermittent extract ventilation, the extract ventilation must achieve a minimum extract rate of 30/s and be controlled according to the requirements for intermittent extract ventilation defined in AD F 2010</p>
<p>Ene 5 Energy Labelled White Goods</p> <p>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.</p> <p>Select the appropriate option below _____</p> <p>EU Energy labelling information only <input type="checkbox"/></p> <p>A+ rated appliances <input type="checkbox"/></p> <p>A+, A and B rated appliances <input type="checkbox"/></p> <p>Combination of compliant rated white goods with EU Energy Labelling Scheme <input checked="" type="checkbox"/></p>	2 of 2 Credits	-	<p>It is assumed that the EU Energy Labelling Scheme only provided.</p> <p>EU labelling leaflet to be provided</p> <p>OR</p> <p>Where Fridges and freezers or fridge-freezers provided and have an A+ rating, 1 Credit</p> <p>For an additional credit</p> <p>Where washing machines and dishwashers are provided and have an A rating AND EITHER</p> <p>Washer-dryers or tumble dryers have a B rating OR</p> <p>Where washer-dryers or tumble dryers are not provided, information on the EU Energy Labelling Scheme is provided</p>	<ul style="list-style-type: none"> • A copy of the information that will be provided on the EU Energy Efficiency Labelling Scheme <p>AND</p> <ul style="list-style-type: none"> • Confirmation that the information will be provided to all dwellings <p>AND</p> <ul style="list-style-type: none"> • Confirmation that all appliances available for purchase with the dwelling are compliant with the assessment criteria <p>Where details cannot be produced at this stage:</p> <ul style="list-style-type: none"> • A formal letter from the developer giving the specific undertaking
<p>Ene 6 External Lighting</p> <p>Credits are awarded based on the provision of space lighting* with dedicated energy efficient fittings and security lighting fittings with appropriate control gear..</p> <p>Space Lighting _____</p> <p>None provided <input type="radio"/></p> <p>OR Non Code compliant lighting <input type="radio"/></p> <p>OR Code compliant lighting <input checked="" type="radio"/></p> <p>Security Lighting _____</p> <p>None provided <input type="radio"/></p> <p>OR Non Code compliant lighting <input type="radio"/></p> <p>OR Code compliant lighting and controls <input checked="" type="radio"/></p> <p>Dual lamp luminaires _____</p> <p>Compliant with both above criteria <input checked="" type="checkbox"/></p> <p>* Statutory safety lighting is not covered by this requirement</p>	2 of 2 Credits	-	<p>All external space lighting, including lighting in common areas, will be provided by dedicated energy efficient fittings with appropriate control systems.</p> <p>Note: Statutory safety lighting is not covered by this requirement</p> <p>Security Lighting</p> <p>Where all security lighting is designed for energy efficiency and is adequately controlled such that:</p> <p>All burglar security lights have:</p> <ul style="list-style-type: none"> • A maximum wattage of 150 W <p>AND</p> <ul style="list-style-type: none"> • Movement detecting control devices (PIR) <p>AND</p> <ul style="list-style-type: none"> • Daylight cut-off sensors <p>All other security lighting:</p> <ul style="list-style-type: none"> • Is provided by dedicated energy efficient fittings <p>AND</p> <ul style="list-style-type: none"> • Is fitted with daylight cut-off sensors OR a time switch 	<p>Relevant drawings clearly showing location of all external light fittings</p> <p>AND</p> <p>Confirmation of the types of light fittings and efficacy, in lumens per circuit watt, for all lamps.</p> <p>AND</p> <p>Text in specification or relevant design stage drawings clearly showing the location of all external light fittings.</p>

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 <input checked="" type="radio"/> OR 10% of demand or greater <input type="radio"/> OR 15% of demand or greater <input type="radio"/>	0 of 2 Credits	-	The Energy Strategy indicates that 10% of the total energy consumption will not be provided from renewable technology.	A copy of calculations as detailed in the assessment methodology based on design stage SAP outputs AND Detailed documentary evidence confirming that the specified low or zero carbon technologies: • Meet any additional requirements defined in Directive 2009/28/EC as applicable. • 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: <input type="text" value="2"/> Number of cycles stored per dwelling* <input type="text" value="2.0"/> * if you have storage for 1 cycle per two dwellings insert 0.5 in number of cycles stored per dwelling	2 of 2 Credits	-	Aiming for 2 credits. Cycle storage facilities are provided at ground floor for each flat. The stores are approx 2.3mx1.5m, the code guidance states this is large enough for two cycles.	Detailed documentary evidence showing: • The number of bedrooms and the corresponding number of cycle storage spaces per dwelling • Location, type and size of storage • Convenient access to cycle storage • Any security measures • Details of the proprietary system (if applicable)
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 <input checked="" type="radio"/> OR No <input type="radio"/>	1 of 1 Credits	-	Aiming for this credit. Assume living room. openable window with an openable casement of a minimum of 0.5m ² . Sufficient services. The following services must be provided in the suitable room intended as a home office: Two double power sockets; One telephone point where the dwelling is connected to cable or broadband is available at the address; Window (daylight factor of at least 1.5%); adequate ventilation.	Drawings or specification text detailing: – Location of and sufficient space for the home office – Location and number of sockets – Location of telephone points – That adequate ventilation will be provided – Results of day light study – Confirmation of a cable connection or that broadband is available at the site

CATEGORY 2 WATER		Overall Level: 4	Overall Score	71.36	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	<p>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.</p> <p>Select the predicted water use / Mandatory Requirement</p> <p>greater than 120 litres/ person/ day <input type="radio"/></p> <p>OR ≤ less than 120 litres/ person/ day <input type="radio"/></p> <p>OR ≤ less than 110 litres/ person/ day <input type="radio"/></p> <p>OR ≤ less than 105 litres/ person/ day <input checked="" type="radio"/></p> <p>OR ≤ less than 90 litres/ person/ day <input type="radio"/></p> <p>OR ≤ less than 80 litres/ person/ day <input type="radio"/></p>	3 of 5 Credits	Level 3 AND Level 4	<p>Aiming for Level 4 and 3 credits. Water calculator to be completed. Target consumption is 105l/person/day.</p> <p>A grey water recycling device will be provided for each dwelling. The shower and bath water will be recycled for use in the WC.</p>	<p>Drawing or specification text detailing location, details, type and flow of appliances.</p> <p>Where this is not available a formal letter shall be provided from the developer giving a specific undertaking to meet the requirement, and provide sufficient information to allow the calculation to be completed.</p> <p>SDP to provide limiting flow rates and criteria.</p>	
Wat 2 External Water Use	<p>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.</p> <p>Select the scenario that applies</p> <p>No internal or communal outdoor space <input checked="" type="radio"/></p> <p>OR Outdoor space with collection system <input type="radio"/></p> <p>OR Outdoor space without collection system <input type="radio"/></p>	1 of 1 Credits	-	Dwellings are provided with balconies. No garden spaces within the development.	If the credit is sought: Drawing or specification text detailing location, details, type	

CATEGORY 3 MATERIALS		Overall Level: 4	Overall Score	71.36	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: 4.80 points		16 of 24 Credits	All Levels			
Mat 1 Environmental Impact of Materials	<p>Mandatory Requirement: At least three of the five key building elements must achieve a Green Guide 2008 Rating of A+ to D.</p> <p>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.</p> <p>Mandatory Requirement _____ Will the mandatory requirement be met? <input checked="" type="checkbox"/></p> <p>Enter the predicted score _____ What is the predicted number of credits? <input type="text" value="10"/></p>	10 of 15 Credits	All Levels	<p>Assumed mandatory requirements will be met and 6 credits assumed.</p> <p>Five key elements of the building envelope achieve a rating of A+ to D in the 2008 version of The Green Guide:</p> <ul style="list-style-type: none"> • Roof • External walls • Internal walls (including separating walls) • Upper and ground floors (including separating floors) • Windows <p>Parts of the existing building, notably the external walls, will be re-used to form part of the external fabric of the dwellings.</p>	<p>Drawings or confirmation of:</p> <ul style="list-style-type: none"> • Location and area of the elements • Details of the materials used within the elements 	
Mat 2 Responsible Sourcing of Materials - Basic Building Elements	<p>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.</p> <p>Enter the predicted Score _____ What is the predicted number of credits? <input type="text" value="4"/></p>	4 of 6 Credits	-	<p>Assume that the development will achieve 4 of the 6 credits.</p> <p>Responsible sourcing has also be targeted in the BREEAM assessment for the D2 areas.</p>		
Mat 3 Responsible Sourcing of Materials - Finishing Elements	<p>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.</p> <p>Enter the predicted Score _____ What is the predicted number of credits? <input type="text" value="2"/></p>	2 of 3 Credits	-	<p>Assume that the development will achieve 2 of the 3 credits.</p>		

CATEGORY 4 SURFACE WATER RUN-OFF		Overall Level: 4	Overall Score	71.36		
% of Section Credits Predicted: 50.00%		Credits		Level	Assumptions Made	
Contribution to Overall Score: 1.10 points		2 of 4 Credits		All Levels	Evidence Required (The below cells can be formatted by assessors if required.)	
Sur 1 Management of Surface Water Run-off from developments	<p>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. Designing 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.</p> <p>Mandatory Requirement _____</p> <p>Will the mandatory requirement be met? <input checked="" type="checkbox"/></p> <p>Select the appropriate option _____</p> <p>No SUDS <input checked="" type="checkbox"/></p> <p>No runoff into watercourses for the first 5 mm of rainfall <input type="checkbox"/></p> <p>Runoff from hard surfaces will receive an appropriate level of treatment <input type="checkbox"/></p>	0 of 2 Credits	All Levels	<p>Assume mandatory requirements will be met. No tradable credits awarded.</p> <p>2 credits are available for using SUDS to improve water quality of the rainwater discharged or for protecting the quality of the receiving waters by:</p> <p>One credit available by ensuring no discharge to the watercourse for rainfall depths up to 5mm.</p> <p>One credit can be awarded by ensuring the run-off from all hard surfaces shall receive an appropriate level of treatment in accordance with the SuDS Manual to minimise the risk of pollution.</p>	<p>Statement from the appropriately qualified professional confirming that they are qualified in line with the Code definition.</p> <p>AND</p> <p>The appropriately qualified professional's report containing all information necessary to demonstrate compliance with the peak rate of run-off and volume of run-off requirements.</p>	
Sur 2 Flood Risk	<p>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.</p> <p>Select the annual probability of flooding (from PPS25*) _____</p> <p>Zone 1 - Low <input checked="" type="radio"/></p> <p>OR Zone 2 - Medium <input type="radio"/></p> <p>OR Zone 3 - High <input type="radio"/></p> <p>Select the appropriate option(s) _____</p> <p>Low risk of flooding from FRA** <input checked="" type="checkbox"/></p> <p>All measures of protection are demonstrated in FRA <input type="checkbox"/></p> <p>Ground floor level and access routes are 600 mm above design flood level <input type="checkbox"/></p>	2 of 2 Credits	-	<p>Site is situated in zone 1</p> <p>2 credits are available for developments situated in Zone 1 - low annual probability of flooding (as defined in PPS25 - 'Planning and Flood Risk') and where the site specific Flood Risk Assessment (FRA) indicates that there is low risk of flooding from all sources.</p> <p>2 credits have been awarded on the assumption that a compliant flood risk assessment will be undertaken.</p>	<p>A Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 Development and Flood Risk) which shows that there is a low risk of flooding from all sources</p>	
* Planning Policy Statement 25 - Planning and Flood Risk						
** FRA - Flood Risk Assessment						

CATEGORY 5 WASTE		Overall Level: 4	Overall Score 71.36		
% of Section Credits Predicted: 87.00%		Credits Level		Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
Contribution to Overall Score: 5.60 points		7 of 8 Credits	All Levels		
<p>Was 1 Storage of non-recyclable waste and recyclable household waste</p>	<p>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. <u>Tradable Credits</u> are awarded for adequate internal and/ or external recycling facilities.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Mandatory Requirement</p> <p>Will the minimum space be provided and be accessible to disabled people? <input checked="" type="checkbox"/></p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Internal Recyclable household waste storage</p> <p>Where there is no external recyclable waste storage and no Local Authority collection scheme</p> <p>Internal storage (capacity 60 litres) <input type="checkbox"/></p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Local Authority collection Scheme</p> <p>Post Collection sorting</p> <p>Internal storage (capacity 30 litres) <input type="checkbox"/></p> <p>Pre-collection sorting</p> <p>Internal storage (3 separate bins, capacity 30 litres) <input checked="" type="checkbox"/></p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>External Storage, no Local Authority collection scheme</p> <p>3 separate internal storage bins (capacity 30 litres) <input type="checkbox"/></p> <p>AND</p> <p>Houses</p> <p>External Storage(capacity 180 litres) <input type="checkbox"/></p> <p>Flats</p> <p>Private recycling operator <input type="checkbox"/></p> <p>3 or greater types of waste collected <input type="checkbox"/></p> </div>	<p>0 of 2 Credits</p> <p>4 of 4 Credits</p> <p>0 of 4 Credits</p>	<p>All Levels</p>	<p>An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:</p> <ul style="list-style-type: none"> The minimum volume recommended by British Standard 5906 (British Standards Institution, 2005) based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom. The total volume of the external waste containers provided by the Local Authority. <p>Storage space must provide inclusive access and usability (Checklist IDP). Containers must not be stacked.</p> <p>It is assumed the dwellings will be serviced by the Local Authority Collection Scheme</p> <p>In addition to a Local Authority Collection Scheme (with a collection frequency of at least fortnightly) the following requirements must be met:</p> <ul style="list-style-type: none"> where recyclable household waste is sorted after collection and at least a single 30 litre bin is provided in an adequate internal space. 	<p>Provide table: Cat 5.1 - Supplementary Information Sheet for Was 1 and Checklist IDP</p> <p>For additional credits</p> <p>Documentary evidence of:</p> <ul style="list-style-type: none"> the number of bedrooms the location of internal and external storage (where applicable) the types and sizes of internal and external storage how the storage is accessed written justification where it has not been possible to locate bins within 30m of an external door. <p>AND</p> <p>A letter, leaflet, website or other published information from the Local Authority/waste scheme provider* describing;</p> <ul style="list-style-type: none"> the types of waste collected the frequency of collection if there will be pre or post collection sorting

Issue	Credits	Level	Assumptions Made	Evidence Required
<p>Was 2 Construction Site Waste Management</p>	<p>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.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>SWMP details</p> <p>Does the SWMP include:</p> <p>+ No SWMP <input type="radio"/></p> <p>+ SWMP with targets and procedures to minimise waste? <input type="radio"/></p> <p>+ SWMP with procedures to divert 50% of waste <input checked="" type="radio"/></p> <p>+ SWMP with procedures to divert 85% of waste <input type="radio"/></p> </div>	2 of 3 Credits	<p>One credit for minimising Construction Waste - Site Waste Management Plan (SWMP) that contains:</p> <p>a. 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</p> <p>b. Procedures and commitments to minimize non-hazardous construction waste at design stage.</p> <p>c. Procedures for minimising hazardous waste</p> <p>d. Monitoring, measuring and reporting of hazardous and non-hazardous site waste production</p> <p>One credit will be sought for diverting from landfill at least 50% by weight or by volume of non-hazardous construction waste generated by the project</p>	<p>A copy of the compliant SWMP containing the appropriate benchmarks, commitments and procedures for waste minimisation and diversion from landfill in line with the criteria and with Checklists Was 2a, Was 2b and Was 2</p>
<p>Was 3 Composting</p>	<p>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.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Select the facilities available</p> <p>No composting facilities <input type="radio"/></p> <p>Individual composting facilities <input type="radio"/></p> <p>OR Communal/ community composting*? <input checked="" type="radio"/></p> <p style="padding-left: 20px;">Local Authority <input checked="" type="checkbox"/></p> <p style="padding-left: 20px;">OR Private with management plan <input type="checkbox"/></p> </div>	1 of 1 Credit	<p>The London Borough of Richmond Upon Thames operate a waste composing scheme and it is assumed that this will be used.</p>	

* including if an automated waste collection system is in place

CATEGORY 6 POLLUTION		Overall Level: 4	Overall Score	71.36	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: 2.80 points		4 of 4 Credits	All Levels			
Pol 1 Global Warming Potential (GWP) of Insulants	<p>A credit is awarded where <u>all</u> insulating materials only use substances (in manufacture AND installation) that have a GWP of less than 5.</p> <p>Select the most appropriate option</p> <p>All insulants have a GWP less than 5 <input checked="" type="radio"/></p> <p>OR Some insulants have a GWP of less than 5 <input type="radio"/></p> <p>OR No insulants have a GWP of less than 5 <input type="radio"/></p>	1 of 1 Credits	-	All specified insulation materials will have a GWP of less than 5. This requirement will also be specified for any insulating material to be selected by contractors.	Completed Checklist Pol 1 showing the proposed insulation materials (or none) for each element and whether they are foamed using blowing agents or are unfoamed (from table Cat 6.1)	
Pol 2 NOx Emissions	<p>Credits are awarded on the basis of NOx emissions arising from the operation of the space and water heating system within the dwelling.</p> <p>Select the most appropriate option</p> <p>Greater than 100 mg/kWh <input type="radio"/></p> <p>OR Less than 100 mg/kWh <input type="radio"/></p> <p>OR Less than 70 mg/kWh <input type="radio"/></p> <p>OR Less than 40 mg/kWh <input checked="" type="radio"/></p> <p>OR Class 4 boiler <input type="radio"/></p> <p>OR Class 5 boiler <input type="radio"/></p> <p>OR All space and hot water energy requirements are met by systems who do not produce NOx emissions <input type="radio"/></p>	3 of 3 Credits	-	It has been assumed that a gas fired combi boiler or similar will be provided and that it will have very low Nox emissions.	Detail documentary evidence describing: the primary and any secondary heating system and flue type dry Nox levels of the primary and secondary heating system	

CATEGORY 7 HEALTH & WELLBEING		Overall Level: 4	Overall Score	71.36	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	<p>Credits are awarded for ensuring key rooms in the dwelling have high daylight factors (DF) and a view of the sky.</p> <p>Select the compliant areas</p> <table border="1"> <tr> <td><u>Room</u></td> <td></td> </tr> <tr> <td>Kitchen: Avg DF of at least 2%</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Living Room*: Avg DF of at least 1.5%</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Dining Room*: Avg DF of at least 1.5%</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Study*: Avg DF of at least 1.5%</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>80% of working plane in all above rooms receive direct light from the sky?</td> <td><input checked="" type="checkbox"/></td> </tr> </table> <p>Any room used for Ene 9 Home Office must also achieve a min DF of 1.5%.</p>	<u>Room</u>		Kitchen: Avg DF of at least 2%	<input checked="" type="checkbox"/>	Living Room*: Avg DF of at least 1.5%	<input checked="" type="checkbox"/>	Dining Room*: Avg DF of at least 1.5%	<input checked="" type="checkbox"/>	Study*: Avg DF of at least 1.5%	<input checked="" type="checkbox"/>	80% of working plane in all above rooms receive direct light from the sky?	<input checked="" type="checkbox"/>	3 of 3 Credits	-	<p>Assumed that 3 credits will be achieved for meeting the following criteria:</p> <p>Kitchens must achieve a minimum Average Daylight Factor of at least 2%</p> <p>All living rooms/dining rooms must achieve a minimum Average Daylight Factor of at least 1.5%</p> <p>80% of the working plane in each kitchen, living/dining room and must receive direct light from the sky</p> <p>Confirmation required regarding daylighting,</p>	<p>Calculations signed-off by the developer to demonstrate:</p> <ul style="list-style-type: none"> Average daylight factor using the formula described in the definitions section (method described in Littlefair (1998) as set out in BS 8206-2) or computer simulation or scale model measurements Position of the no-sky line and percentage of area of the working plane that receives direct light from the sky 				
<u>Room</u>																					
Kitchen: Avg DF of at least 2%	<input checked="" type="checkbox"/>																				
Living Room*: Avg DF of at least 1.5%	<input checked="" type="checkbox"/>																				
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Study*: Avg DF of at least 1.5%	<input checked="" type="checkbox"/>																				
80% of working plane in all above rooms receive direct light from the sky?	<input checked="" type="checkbox"/>																				
Hea 2 Sound Insulation	<p>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.</p> <p>Select a type of property</p> <table border="1"> <tr> <td>Detached Property</td> <td><input type="radio"/></td> </tr> <tr> <td>Attached Properties:</td> <td></td> </tr> <tr> <td>- Separating walls and floors only exist between non habitable spaces</td> <td><input type="radio"/></td> </tr> <tr> <td>- Separating walls and floors exist between habitable spaces</td> <td><input checked="" type="radio"/></td> </tr> </table> <p>Select a performance standard</p> <table border="1"> <tr> <td>Performance standard not sought</td> <td><input type="radio"/></td> </tr> <tr> <td>Airborne: 3db higher; Impact: 3dB lower</td> <td><input type="radio"/></td> </tr> <tr> <td>OR Airborne: 5db higher; Impact: 5dB lower</td> <td><input checked="" type="radio"/></td> </tr> <tr> <td>OR Airborne: 8db higher; Impact: 8dB lower</td> <td><input type="radio"/></td> </tr> </table>	Detached Property	<input type="radio"/>	Attached Properties:		- Separating walls and floors only exist between non habitable spaces	<input type="radio"/>	- Separating walls and floors exist between habitable spaces	<input checked="" type="radio"/>	Performance standard not sought	<input type="radio"/>	Airborne: 3db higher; Impact: 3dB lower	<input type="radio"/>	OR Airborne: 5db higher; Impact: 5dB lower	<input checked="" type="radio"/>	OR Airborne: 8db higher; Impact: 8dB lower	<input type="radio"/>	3 of 4 Credits	-	<p>All dwellings will achieve a 5dB improvement over AD E(2003 Edition, with amendments 2004) requirements.</p>	<p>Where pre-completion testing will be carried out;</p> <p>A letter from the developer confirming the intent to meet the relevant sound insulation performance levels.</p> <p>Use a Compliant Test Body to complete testing</p> <p>Where Robust Details will be used;</p> <p>Confirmation that the Robust Details chosen will achieve the required performance standards for sound insulation (as applicable)</p> <p>Confirmation that the relevant plots are registered with RDL (the Purchase Statement)</p>
Detached Property	<input type="radio"/>																				
Attached Properties:																					
- Separating walls and floors only exist between non habitable spaces	<input type="radio"/>																				
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OR Airborne: 8db higher; Impact: 8dB lower	<input type="radio"/>																				

Issue	Credits	Level	Assumptions Made	Evidence Required	
Hea 3 Private Space	<p>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.</p> <p>Will a private/ semi-private space be provided? _____</p> <p>Yes, private/semi-private space will be provided <input checked="" type="radio"/></p> <p>OR No private/semi-private space <input type="radio"/></p>	1 of 1 Credits	-	<p>The balconies/terraces provide a private outdoor space for each flat that is:</p> <ul style="list-style-type: none"> • Of a minimum size that allows all occupants to use the space -Private space: 1.5 m2 per bedroom • Provided with inclusive access and usability (Checklist IDP). • Accessible only to occupants of designated dwellings. 	<p>Detailed documentary evidence confirming:</p> <ul style="list-style-type: none"> • The number of bedrooms served by the outdoor space • That the outdoor space meets the minimum size requirements <p>AND</p> <p>Completed Checklist IDP</p> <p>Where a shared outdoor space is provided, detailed documentary evidence demonstrating:</p> <ul style="list-style-type: none"> • The private space is accessible only to occupants of
Hea 4 Lifetime Homes	<p>Mandatory Requirement: Lifetime Homes is mandatory when a dwelling is to achieve Code Level 6.</p> <p>Tradable credits: Credits are awarded where the developer has implemented all of the principles of the Lifetime Homes scheme.</p> <p>Mandatory Requirement _____</p> <p>Dwelling to achieve Code Level 6? <input type="checkbox"/></p> <p>Lifetime Homes Compliance _____</p> <p>All Lifetime Homes criteria will be met <input checked="" type="radio"/></p> <p>OR Exemption from LTH criteria 2/3 applied <input type="radio"/></p> <p>Credit not sought <input type="radio"/></p>	4 of 4 Credits	No level	<p>4 credits are targeted as the dwellings will be designed in accordance with all of the principles of lifetime homes.</p>	<p>Confirmation from the developer that all 16 of the Lifetime Homes design criteria are met</p> <p>OR</p> <p>Where an exemption from Lifetime Homes criteria 2 and/or 3 is sought:</p> <ul style="list-style-type: none"> • Confirmation from the developer that all other design criteria are met <p>AND</p> <p>Detailed documentary evidence demonstrating access routes subject to steeply sloping gradients at pre development and completion</p>

CATEGORY 8 MANAGEMENT		Overall Level: 4	Overall Score	71.36	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 77.00%		Credits	Level			
Contribution to Overall Score: 7.77 points		7 of 9 Credits	All Levels			
Man 1 Home User Guide	<p>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.</p> <p>Tick the topics covered by the Home User Guide</p> <p>Operational Issues? <input checked="" type="checkbox"/></p> <p>Site and Surroundings? <input checked="" type="checkbox"/></p> <p>Is available in alternative formats? <input checked="" type="checkbox"/></p>	3 of 3 Credits	-	<p>User guide will be produced and include details for the operational issues of the site and its surroundings. Compiled in accordance with Checklist MAN 1, Part 1 and Part 2.</p>	<p>Documentary evidence that a guide will be: Supplied to all dwellings within the development 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 2)</p> <p>Checklist to be signed by developer</p>	
Man 2 Considerate Constructors Scheme	<p>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.</p> <p>Select the appropriate scheme and score</p> <p>No scheme used <input type="radio"/></p> <p><u>Considerate Constructors</u></p> <p>OR Best Practice: Score between 24 and 31.5 <input type="radio"/></p> <p>OR Best Practice+: Score between 32 and 40 <input checked="" type="radio"/></p> <p><u>Alternative Scheme*</u></p> <p>OR Mandatory + 50% optional requirements <input type="radio"/></p> <p>OR Mandatory + 80% optional requirements <input type="radio"/></p> <p>* In the first instance, contact a Code Service Provider if you are considering to use an alternative scheme.</p>	2 of 2 Credits	-	<p>A score of 32 points and above of the Considerate Constructors Scheme is targeted.</p>	<p>Specification clause or other confirmation of commitment from the contractor or developer to comply with the Considerate Constructors Scheme and achieve formal certification under the scheme with either a pass score or a score of 32 points and above AND</p> <p>Confirmation that registration with the Considerate Constructor Scheme has taken place no later than the commencement of the construction phase</p>	
Man 3 Construction Site Impacts	<p>Credits are awarded where there is a commitment and strategy to operate site management procedures on site as following:</p> <p>Tick the impacts that will be addressed</p> <p><u>Monitor, report and set targets, where applicable, for:</u></p> <p>- CO₂/ energy use from site activities <input checked="" type="checkbox"/></p> <p>- CO₂/ energy use from site related transport <input type="checkbox"/></p> <p>- water consumption from site activities <input type="checkbox"/></p> <p><u>Adopt best practice policies in respect of:</u></p> <p>- air (dust) pollution from site activities <input checked="" type="checkbox"/></p> <p>- water (ground and surface) pollution on site <input checked="" type="checkbox"/></p> <p><u>80% of site timber</u> is reclaimed, re-used or responsibly sourced <input checked="" type="checkbox"/></p>	2 of 2 Credits	-	<p>Targets will be set, and consumption monitored and reported for CO₂/energy used on site and water consumption from site activities.</p> <p>Best Practice policies will be applied to dust and water pollution occurring on site.</p> <p>80% of site timber is reclaimed, re-used or responsibly sourced</p> <p>Key performance indicators generated by Constructing Excellence for the construction industry. See www.kpizone.com</p>	<p>Completed copy of Checklist Man 3 (signed and dated) detailing the procedures that will be employed to minimise construction site impacts</p> <p>See checklist Man 3</p>	

Issue	Credits	Level	Assumptions Made	Evidence Required	
<p>Man 4 Security</p>	<p>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.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Secured by Design Compliance</p> <p style="text-align: right;">Credit not sought <input checked="" type="radio"/></p> <p>OR Secured by Design Section 2 Compliance <input type="radio"/></p> </div>	<p>0 of 2 Credits</p>	<p>-</p>	<p>Assumed that Secured by Design Section 2 compliance will not be achieved</p>	

CATEGORY 9 ECOLOGY		Overall Level: 4	Overall Score	71.36	Assumptions Made	Evidence Required (The below cells can be formatted by assessors if required.)
% of Section Credits Predicted: 77.00%		Credits	Level			
Contribution to Overall Score: 9.33 points		7 of 9 Credits	All Levels			
Eco 1 Ecological Value of Site	<p>One credit is awarded for developing land of inherently low value.</p> <p>Select the appropriate option</p> <p>Credit not sought <input type="radio"/></p> <p>OR Land has ecological value <input type="radio"/></p> <p>OR Land has low/ insignificant ecological value* <input checked="" type="radio"/></p> <p>* Low ecological value is determined either a) by using Checklist Eco 1 across the whole development site; or b) where a 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.</p>	1 of 1 Credits	-	The land has been assessed as being of low ecological value as it is current occupied by a building	A copy of the Eco 1 checklist.	
Eco 2 Ecological Enhancement	<p>A credit is awarded where there is a commitment to enhance the ecological value of the development site.</p> <p>Tick the appropriate boxes</p> <p>Will a <i>Suitably Qualified Ecologist</i> be appointed to recommend appropriate ecological features? <input checked="" type="checkbox"/></p> <p>AND Will all key recommendations be adopted? <input checked="" type="checkbox"/></p> <p>AND 30% of other recommendations be adopted? <input checked="" type="checkbox"/></p>	1 of 1 Credits	-	A suitably qualified ecologist will be appointed during the detailed design stage to produce a report compliant with the requirements of the Code and BREEAM. Their recommendations will be adopted.		
Eco 3 Protection of Ecological Features	<p>A credit is awarded where there is a commitment to maintain and adequately protect features of ecological value.</p> <p>Type and protection of existing features</p> <p>Site with features of ecological value? <input type="radio"/></p> <p>OR Site of low ecological value (as Eco 1)? <input checked="" type="radio"/></p> <p>AND All* existing features potentially affected by site works are maintained and adequately protected? <input type="checkbox"/></p> <p>*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.</p>	1 of 1 Credits	-	Site is of low ecological value so credit is awarded.		

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:			At this stage it is assumed there will be a neutral change in species per hectare	Copy of calculations by the assessor.
Change in Ecological Value ————— Major negative change: fewer than -9 <input type="radio"/> Minor negative change: between -9 and -3 <input type="radio"/> OR Neutral: between -3 and +3 <input checked="" type="radio"/> Minor enhancement: between +3 and +9 <input type="radio"/> Major enhancement: greater than 9 <input type="radio"/>		2 of 4 Credits	-		
Eco 5 Building Footprint	Credits are awarded where the ratio of combined floor area of all dwellings on the site to their footprint is:			Two credits awarded. The ratio of net internal floor area to net internal ground floor area is greater than 4:1	Calculation of the building footprint ratio, stating the Net Internal Floor Area (NIFA) and the Net Internal Ground Floor Area (NIGFA) General layout drawings and elevations including dimensions for:
Ratio of Net Internal Floor Area: Net Internal Ground Floor Area ————— Credit Not Sought <input type="radio"/> OR Houses: 2.5:1 OR Flats: 3:1 <input type="radio"/> OR Houses: 3:1 OR Flats: 4:1 <input checked="" type="radio"/> OR Houses & Flats Weighted (2.5:1 & 3:1) <input type="radio"/> OR Houses & Flats Weighted (3:1 & 4:1) <input type="radio"/>		2 of 2 Credits			<ul style="list-style-type: none"> • Each type of dwelling • All other buildings with permanent foundations, such as bin/cycle stores, garages • The site plan