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Doherty Design & Planning Limited

REPORT ON THE CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT

Site
15A PARLIAMENT HILL, LONDON NW4 2SY

Proposal
ERECTION OF ONE RESIDENTIAL DWELLING

Applicant
WOOLLACOTT GILMARTIN ARCHITECTS

Ref. E217 - CSHPA - 00

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1.0 INTRODUCTION

a) Doherty Design and Planning Limited have been instructed by Woollacott Gilmartin Architects to undertake the Code for Sustainable Homes Pre-Assessment for the proposed development of a single new dwelling at 15A Parliament Hill, London, NW3 2SY.

b) The aim of this review is to give a brief description of the Code for Sustainable Homes Assessment, assess the current specification for the construction of the dwelling and highlight areas of improvement to enable Code Level 3 to be achieved.

c) In order to carry out the review, an initial review was held with Woollacott Gilmartin Architects to gain an understanding of the current specification. In some areas where the specification has not yet been defined, it is necessary to make assumptions that will need to be confirmed prior to the Code Assessment being submitted to the BRE. These assumptions, together with the required specification, have been clearly stated in Appendix A.

d) There is a planning obligation through the Section 106 agreement that at least 50% of the available credits in each of the Energy, Water and Materials sections are obtained.

2.0 INTRODUCTION TO CODE FOR SUSTAINABLE HOMES

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

b) The Code is based on EcoHomes and was launched in December 2006 and became operational in England in April 2007.

c) From 1st May 2008 it is mandatory for a Code Sustainability Certificate or nil rated Certificate (where an assessments has not taken place) to be included in the information provided to prospective purchasers of properties in England. The Code has been revised in November 2010 and this report is based on the November 2010 version.

d) The Code covers nine categories of sustainable design which are as follows:

- Energy and CO_2 emissions
- Water
- Materials
- Surface Water Run-off
- Waste
- Pollution
- Health and Wellbeing
- Management
- Ecology

e) Each category includes a number of environmental issues, which are assessed against performance targets for which credits are awarded. The performance targets are more demanding than the minimum standard needed to satisfy Building Regulations or other legislation. They represent good or best practise, are technically feasible and can be delivered by the building industry.

f) There are mandatory minimum performance standards set for some of the above issues. Four of these have a single mandatory requirement, whatever Code level is sought, however credits are not awarded for these issues.

g) If the mandatory minimum performance standard is met for these four issues, three further mandatory issues need to be considered. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

h) Tables 1.2 and 1.3 below, taken from the Code Technical Guide, illustrate how, for the creditable mandatory issues, the minimum mandatory standards increase with increasing rating levels.

For CO2 emissions there are increased mandatory minimum standards for each increase in Code Level.

Table 1.2: Code Levels for Mandatory Minimum Standards in CO_2 Emissions (Ene 1)

Code Level	Minimum Percentage Improvement in Dwelling Emission Rate over Target Emission Rate
Level 1 (★)	0% (Compliance with Part L 2010 only is required)
Level 2 (★★)	0% (Compliance with Part L 2010 only is required)
Level 3 (★★★)	0% (Compliance with Part L 2010 only is required)
Level 4 (★★★★)	25%
Level 5 (★★★★★)	100%
Level 6 (★★★★★★)	Net Zero CO_2 Emissions

For Indoor water use there are increased mandatory minimum standards at Code levels 1, 3 and 5.

Table 1.3: Code Levels for Mandatory Maximum Standards in Indoor Water Consumption

Code Level	Maximum Indoor Water Consumption in Litres per Person per Day
Level 1 (★)	120
Level 2 (★★)	120
Level 3 (★★★)	105
Level 4 (★★★★)	105
Level 5 (★★★★★)	80
Level 6 (★★★★★★)	80

i) In addition to the mandatory standards, each design category scores a number of percentage points. Weighting factors are applied to each category. These have been derived from extensive studies involving a wide range of stakeholders who were asked to rank a range of environmental impacts. The weighting factor is applied to the percentage points which results in the credit for that issue.

j) Table 1.4 shows how weightings are applied across all Code categories of environmental impact to adjust the relative values of credits within different categories. Within each category, credits are awarded for achieving specified degrees of performance. The weighting factors show the contribution made by each category to the total performance recognised and rewarded by the Code. The total available contribution is expressed as 100 per cent. The weighting of each category is expressed as a fraction of this, such that the sum of all the category contributions equals 100 per cent.

Table 1.4: Total Credits Available, Weighting Factors and Points

Categories of Environmental Impact	Total Credits in each Category	Weighting Factor (% points contribution)	Approximate Weighted Value of each Credit
Category 1 Energy and CO_2 Emissions	31	36.4%	1.17
Category 2 Water	6	9.0%	1.50
Category 3 Materials	24	7.2%	0.30
Category 4 Surface Water Run-off	4	2.2%	0.55
Category 5 Waste	8	6.4%	0.80
Category 6 Pollution	4	2.8%	0.70
Category 7 Health and Well-being	12	14.0%	1.17
Category 8 Management	9	10.0%	1.11
Category 9 Ecology	9	12.0%	1.33
Total	–	100.0%	–

k) The total number of credits establishes the Level or Rating for the dwelling. The certificate illustrates the rating achieved with a row of blue stars, one for each level. Where an assessment has taken place and no rating is achieved, the certificate states that no blue stars have been awarded.

l) Table 1.6 below, taken from the Code Technical Guide, shows the relationship between the Total percentage points score and the Code Level.

Table 1.6: Relationship Between Total Percentage Points Score and Code Level

Total Percentage Points Score (equal to or greater than)	Code Levels
36 Points	Level 1 (★)
48 Points	Level 2 (★★)
57 Points	Level 3 (★★★)
68 Points	Level 4 (★★★★)
84 Points	Level 5 (★★★★★)
90 Points	Level 6 (★★★★★★)

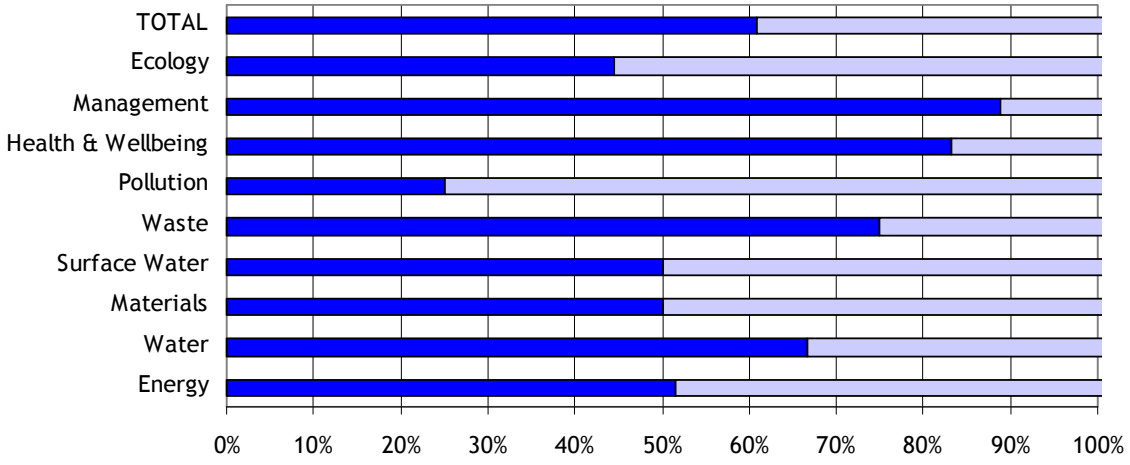
Tables used in this document are taken from The Code for Sustainable Homes Technical Guide Nov 2010.

3.0 IMPROVEMENTS

a) A Pre Assessment has been carried out for the proposed dwelling and this demonstrates that a Code Level 3 can be achieved if the requirements set out in Appendix A and B are implemented and all the evidence identified in Appendix C is gathered.

b) The Assessment shows that the dwelling achieves approximate 60.85% of the Credits. However, during detailed design and construction, care must be taken as it is very easy to lose credits, especially by not gathering and maintaining the evidence. During the project, a natural slippage may occur and it is likely to be in the region of 3-6 credits, therefore, the current of 3.85 credit margin may not be adequate.

c) This report will try to identify any improvements that can be incorporated into all the dwelling to improve their score. Graph 1 shows a break down of the credits for each category and highlights the predicted percentage of their maximum.



Graph 1 – Predicted Percentage of credits achievable - Total and by Category

d) It must also be remembered that the category's are weighted, as shown in Table 1.4 above and therefore it is not just a simple matter of targeting the lower scored categories, for example materials only achieves 0.3 of a credit.

e) In order to improve the rating, the more heavily weighted categories should be targeted first, e.g. Energy, Ecology, Water and Health & Well Being.

f) The dwelling currently has a score of 60.85. The table below shows some possible examples that could be incorporated, together with the revised Credit score if only the individual item is incorporated.

Category	Title	Improvement	New Score
Ene 1	Dwelling Emission Rate	Improve the Insulation, Air tightness etc to achieve a greater reduction in CO2 emissions 8% improvement – 1 Credits 16% improvement – 2 Credits 25% improvement – 3 Credits 36% improvement – 4 Credits	Current 62.03 63.20 64.37
Ene 2	Fabric Energy Efficiency	Improve the fabric energy efficiency performance thus future proofing reduction in CO2 for the life of the dwelling ≤ 60 – 3 Credits ≤ 55 – 4 Credits ≤ 52 – 5 Credits	Current 62.03 63.20
Wat 1	Indoor Water Use	Reduce the consumption of potable water in the home by specifying lower water use fittings/appliances or use rainwater harvesting ≤ 105 l/p/ day – 3 Credits ≤ 90 l/p/ day – 4 Credits	Current 62.35
Sur `	Management of Surface Water Run-off	Ensure no surface water run-off for the first 5mm of rainfall – 1 credit Ensure the run-off from hard surfaces receive appropriate treatment – 2 credits	61.40 61.95
Was 2	Construction Site Waste Management	A Site Waste Management Plan is currently being provided, However, if this included procedures to divert waste from landfill, extra credits can be awarded 50% – 1 Credit 85% – 2 Credits	61.65 62.45
Hea 2	Sound Insulation	Improve the Airborne sound insulation to 8dB higher than building regulations and the Impact sound insulation to 8dB lower than building regulations	62.02
Man 2	Considerate Constructors Scheme	Go beyond best practice site management principles using Considerate Constructors Scheme and achieve a score over 32 and gain an extra Credit	61.97
Eco 4	Change in Ecological Value of Site	Increase the number of species per hectare to create a Minor enhancement (between +3 and +9 new species per hectare) Increase the number of species per hectare to create a Major enhancement (greater than 9 new species per hectare)	62.18 63.52

4.0 CONCLUSION

a) The report has given a brief description of the Code for Sustainable Homes, assessed the current specification that is to be used for the construction of the new dwelling at 15A Parliament Hill, London, NW3 2SY and highlighted areas of improvement to ensure Code Level 3 to be achieved.

b) Assumptions have been made when the current specification failed to provide adequate information. These assumptions have been clearly stated in Appendix A. With regard to Ene1 and Ene2, the SAP assessments have not been undertaken at this stage as there is insufficient detailed design, however, once the working drawings are produced, these will need to be revisited.

c) The Code for Sustainable Homes has a number of mandatory elements that must be achieved to successfully acquire a code rating. During this review, it is assumed that the mandatory elements will be achieved. If any of the mandatory elements are not achieved, a nil rating is all that can be provided.

d) The assessment has highlighted areas where improvements can be made in order to achieve Code Level 3. If the current specification is incorporated and the current credits achieved, the Pre Assessment shows that a rating of for the dwelling is 60.85 or Level 3 can be possible. However, during detailed design and construction, care must be taken as it is very easy to lose credits, especially by not gathering and maintaining the evidence.

e) In order to satisfy the planning obligation that at least 50% of the credits in each of the Energy, Water and Materials sections are obtained, care was taken in assessing these categories. Graph 1 above demonstrates that at least 50% of the available credits in each of these categories are achieved.

f) It is important that the Client and Contractor understand the principles of the Code Assessment and they assist in gathering and recording the evidence.

g) Specialist consultants are be required in order to achieve some the credits targeted and these include an ecologist and hydrological engineer. These must be suitably qualified to the requirements set out by the BRE.

Appendix A – Assessment Comments

Issue ID	Description	Mandatory	Assumptions to Achieve Level 4	Credits Awarded	Comments	Max Credits
Category 1: Energy and Carbon Dioxide Emissions						
Ene 1	Dwelling Emission Rate	Yes	The DER is 8% better than TER	1	The U Values of the various constructions could be improved by adding extra insulation and changing the construction More efficient heating system or better controls Improved Air Permeability Incorporate renewable technology Incorporate secondary heating source	10
Ene 2	Fabric Energy Efficiency	Yes	The FEE better than 60kWhr/m^2/yr	3	This should be provided by SAP Assessor. 4 Credits are awarded if FEE is less than or equal to 55 and 5 Credits are awarded if FEE is less than or equal to 52 and follows a sliding scale	9
Ene 3	Energy Display Devices	No	Electric and primary fuel monitors are provided	2	For 1 Credit, primary heating fuel displayed or electricity displayed and 2 Credits can be awarded if both are displayed. If primary heating is feuled by electricty and the electrity is displayed, 2 credits can be awarded.	2
Ene 4	Drying Space	No	Rotary dryer to be provided in the garden	1	For 3+ bed dwelllings, 6+m of drying line are required. Permenant posts/fixingg required. Note - Rotary dryer has approximately 30m of line	1
Ene 5	Energy Labelled White goods	No	A+, A and B rated appliances and EU Energy Efficiency Information is being provided	2	1 Credit if Fridge & Freezer or Fridge Freezer - A+ rated 1 Credit if Washing Machine & Dishwasher - A rated AND EITHER washer dryer or tumbler dryer - B rated OR washer dryer or tumble dryer is not provided but information the EU Labelling Scheme is provided	2
Ene 6	External Lighting	No	Space lighting meets specification Compliant security lighting is provided	1 1	Space Lighting - 1 Credit where all external space lighting is provided by dedicated energy efficient fittings Security Lighting - 1 Credit where security light fittings are design for energy efficiency and are adequately controlled. All burglar security lights must have a maximum wattage of 150W, Movement detecting controls devices and daylight cut off sensors All other security lighting to be dedicated energy efficient fittings and fitted with daylight cut off sensors. It No Security lighting provided, security lighting credit can be awarded by default	2
Ene 7	Low or Zero Carbon Technology	No	Air Source Heat pump to provide heating and hot water	2	Detailed calculations to demonstrate a 10% reduction for 1 credit and 15% reduction for 2 Credits	2
Ene 8	Cycle Storage	No	Secure storage is being provided provided for 4 cycles and the other criteria is met Storage could be provided at entrance level	2	1 Credit - 2/3 bed - 1 cycle & 4+ bed - 2 cycles. 2 Credits - 2/3 bed - 2 cycles & 4+ bed - 4 cycles. Adequately sized - 2 cycles 2m long x 1.5m wide. Cycles must be able to be removed independently. If in a shed, 1m2 is also required for garden tools and must have concrete base and secure fixings. If in garage, car must fit as well as cycles. Convenient access - Easy and direct access from/to dwelling and public right of way, not through dwelling Secure entrance lock - Permanent lock (not padlock) that conforms to BS3621:2004 Secure fixing - a steel fixing set in concrete which allows both wheel and frame to be locked securely, e.g. Sheffield type frame. Secure storage - In dwellings - for fully enclosed solid structures - secure entrance lock or secure fixing; and for non solid enclosed structure - secure entrance lock and secure fixing: for non fully enclosed structures (three walls and roof) - secure fixings required. Weatherproof = adequate protection from elements - normally at least three walls and a roof	2
Ene 9	Home Office	No	Study shall be adequately sized to accommodate bedroom and office and include all necessary requirements	1	This space must have at least 1.8m wall length, 2 double sockets, two telephone lines (1 phone and broadband), window (daylight factor 1.5%) and adequate ventilation (openable window minimum 0.5m2 opening.	1
Category 2: Water						
Wat 1	Indoor Water Use	Yes	Calculations to show a flow rate of less than 105l/p/day In order to achieve this level, Assume that - 4/2 l dual flush WCs 5 l/min taps WHB 6 l/min sink 7 l/min shower 110 l bath 35 l/cycle WM 9 l/cycle dishwasher	3	Water Calculator tool (Wat 1) is used to calculate the water consumption for the dwelling. If appliance or fitting is specified the water consumption is used. If not, default figures are used, for example - Regular taps for sink or basin - 12l/min - High flow shower - 14 l/min - Standard bath - 225 l capacity to overflow - Washing machine - 49 l/use - Dishwasher - 13 l/use - WC - 6 l cistern The calculator tool uses standard usage patterns to estimate daily consumption. If all default figures are used, the daily consumption To achieve the flow rates stated, flow restrictors would need to be fitted. No grey water or rain water is assumed to be used within the dwellings	5
Wat 2	External Water Use	No	A correctly specificed water butt shall be provided	1	The water butt needs to be on a base, connected to downpipe with overflow and removable for cleaning.	1

Issue ID	Description	Mandatory	Assumptions to Achieve Level 4	Credits Awarded	Comments	Max Credits
Category 3: Materials						
Mat 1	Environmental Impact of Materials	Yes	Based on the Green Spec Guide, three elements have been given a rating Windows - A Roof - A Ext Wall - A Ext Wall (Party) - A	12	There is a mandatory requirement to achieve Green Guide Rating of between A+ and D for at least three of the five elements in the building envelope, those being - Roof - External walls - Internal walls (inc separating walls) - Upper and ground floors (inc separating walls) - Windows Then to achieve between 1 and 15 credits, the Mat 1 Calculator Tools must be used.	15
Mat 2	Responsible Sourcing of Material - Basic Building Elements	No	Not Targeted at this time. Further information on materials required	0	Points are awarded where materials used in the key basic building elements are sourced according to the following criteria - Where 80% of the assessed materials in the following building elements are responsibly sourced: - Frame - Ground floor - Upper floors (inc separating floors) - Roof - External walls - Internal walls (inc separating walls) - Foundations/substructures (exc sub base) - Staircase Additionally 100% of timer in these elements must be sourced legally.	6
Mat 2	Responsible Sourcing of Material - Finishing Elements	No	Not Targeted at this time. Further information on materials required	0	Points are awarded where materials used in the key basic building elements are sourced according to the following criteria - Where 80% of the assessed materials in the following finishing elements are responsibly sourced: - Stair - Window - Upper floors (inc separating floors) - External & internal doors - Skirting - Panelling - Furniture - Fascias Additionally 100% of timer in these elements must be sourced legally.	3
Category 4: Surface Water Run-off						
Sur 1	Management of Surface Water Run-off from development	Yes	Assume Mandatory element is met	M	The aim is to design housing developments which avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, in order to protect watercourses and reduce the risk of localised flooding. The mandatory element is to ensure that the **Peak Rate of Runoff** is no greater for the developed site than it was for the pre-developed site. An allowance for climate change as per PPS25 should be allowed. The **Volume of Runoff** caused by the development for a 1 in 100 year event of 6 hours, should be reduced using infiltration and/or made available for use in the dwelling as a replacement for potable water use in non-potable applications	
			Calcs and FRA required for a credits	0	2 credits are available for using SUDS to improve the rainwater discharged or for protecting the quality of the receiving waters by ensuring no discharge to the watercourse for rainfall depths of up to 5mm	2
Sur 2	Flood Risk	No	Site is in Zone 1 - Low risk of flooding	2	2 Credits are available for developments situated in Zone 1 - low annual probability of flooding, whilst 1 credit is available for developments situated in Zone 2 and 3 (medium to high annual probability and where mitigation has been incorporated, i.e. finished ground floor of habitable rooms and access routes to ground floor are at least 600mm above flood level	2
Category 5: Waste						
Was1	Storage of non-recyclable waste & recyclable waste	Yes	Mandatory element is met	M	The space allocated for waste storage should be able to accommodate containers with at least the minimum volume recommended by BS5906 based on a maximum collection of once per week.	M
			A Local Authority Collection scheme, at least fortnightly, will be provided		This is 100 litres for a single bedroom, with a further 70 litres for each additional bedroom	
			The recyclable waste is sorted after collection		All containers must be accessible to disabled people and sited on hard, level surface	
			A combination of internal storage capacity provided in an adequate internal space with a Local Authority scheme.	4		4
			A single 30 litre storage bin with adequate internal space is provided and the external storage has a min total capacity of 170 l, within 30m of the door.		A local Authority recycling scheme offering containers equal or greater than this volume would meet the requirement, providing outdoor space is allocated to them.	
Was 2	Construction Site Waste Management	Yes	Mandatory element is met	M	A Site Waste Management Plan must be developed and implemented, including monitoring and reporting the waste generated.	M
			SWMP is being developed and implemented	1	The SWMP must include procedures and commitments for reducing waste generated on site in accordance with best practise and the defined waste groups	1
			No targets are being set to sort and divert waste from landfill		The SWMP must include procedures and commitments to sort and divert waste from landfill (reuse, recycle, compost or otherwise recover) according to the defined waste groups. This must be preformed either on site or through a licensed external contractor. Procedure to divert and sort 50% of waster get 1 Credits and 85% of waste for 2 Credits	1
Was 3	Composting	No	Home Composting bin to be provided	1	Either individual or communal composting facilities can be provided. All facilities must be in a dedicate position, be accessible to disabled and have an information leaflet	1

Issue ID	Description	Mandatory	Assumptions to Achieve Level 4	Credits Awarded	Comments	Max Credits
Category 6: Pollution						
Pol 1	Global Warming Potential of Insulants	No	All insulating materials in elements have a GWP less than 5	1	Including roofs (including loft access), walls (internal and external, including acoustic insulation and lintels), all ground and upper floors, hot water cylinders, pipe, cold water tanks and external doors	1
Pol 2	NOx Emissions	No	Air Source Heat pump to provide heating and hot water, therefore mains electricity is being used, with Nox emissions of approximately 1200mg/kWh	0	A boiler with less than 100mg/kWh would get 1 credit, under 70mg/kWh gets 2 credits and less than 40mg/kWh gets 3 credits.	3
Category 7: Health & Wellbeing						
Hea 1	Daylighting	No			The average daylight factor, position of no-sky line and the percentage of working plane that receives direct sun light calculations need to be carried out	3
			Kitchen achieves daylight factor of at least 2%	1	1 Credit if kitchen achieves a minimum average daylight factor of at least 2% - Calculations are required to prove this.	
			Living room and Home Office achieves daylight factor of at least 1.5%	1	1 Credit all living and dining rooms and studies achieve a daylight factor of at least 1.5% - Calculations are required to prove this.	
			Calculations are required to show that view of sky is achieved for all assessed rooms		1 Credit if 80% of the working plane in each kitchen, living room ,dinning room and study receive direct light from the sky - Calculations are required to prove this.	
Hea 2	Sound Insulation	No	Detached properties will achieve 4 credits		1 Credit where the airbourne sound insulation values are at least 3dB higher and the impact sound insulation values are at least 3dB lower than the performance standards of the Bldg Regs	4
			Assume airbourne sound insulation is 5dB better & impact sound insulation is 5db lower	3	3 Credit where the airbourne sound insulation values are at least 5dB higher and the impact sound insulation values are at least 5dB lower than the performance standards of the Bdg Regs	
					4 Credit where the airbourne sound insulation values are at least 8dB higher and the impact sound insulation values are at least 8dB lower than the performance standards of the Bdg Regs	
Hea 3	Private Space	No	Ample private space is being provided	1	Where outdoor space has been provided that is a minimum size that allows all occupants to sit outside, allows easy access to all occupants, including wheelchairs and accessible only to occupants to the designated dwellings (minimum size 1.5m2/bedroom)	1
Hea 4	Lifetime Homes	Yes (Level 6)	Dwelling has been designed in accordance with the requirements of Lifetimes Homes	4	All principles of Lifetime Homes have to be compiled with to achieve 4 Credits. A completed Lifetime Homes Checklist Hea4 indicating compliance with all applicable points from 1-16, signed by the developer	4
Category 8: Management						
Man 1	Home User Guide	No	Home user guide will be provided and include operational issues	2	2 Credits for a home user guide, complied using Checklist Man 1 Part 1 together with information that the guide is available in alternative accessible formats. Checklist Man 1 Part 1 includes - Environmental strategy/design features - Energy - Water Use - Recycling and Waste - Sustainable DIY - Emergency Information - Links, References and Further Information - Provision of Information in Alternative Formats	3
			This will include site and surroundings information	1	1 Credit where the guide also covers information relating to the site and its surroundings, compiled using Checklist Man 1 Part 2 Checklist Man 1 Part 2 includes - Recycling and Waste - Sustainable (Urban) Drainage Systems - Public Transport - Local amenities - Responsible Purchasing - Emergency Information - Links, References and Further Information	
Man 2	Considerate Constructors Scheme	No	Contractor to achieve a score between 24 and 31.5	1	Where there is a commitment to meet Best Practice under the Considerate Constructors Scheme there is 1 Credit, but 2 Credits are given where the commitment is to go significantly beyond Best Practice	2
Man 3	Construction Site Impacts	No	Assume 2 of the procedures are implemented, probably the following ones-	2	When procedures that cover the following items are put in place:	2
			Monitor, report and set targets for the energy use arising from site activities		- Monitor, report and set targets for the CO2 production or energy use arising from site activities	
			air (dust) pollution arising from site activities		- Monitor and report CO2 or energy use arising from commercial transport to and from site	
			water consumption from site activities		- Monitor, report and set targets for water consumption from site activities	
			80% of site timber is reclaimed, re-used or responsibly sourced.		- Adopt best practise policies in respect of air (dust) pollution arising from site activities	
					- Adopt best practise policies in respect of water (ground and surface) pollution occurring on the site	
					- 80% of site timber is reclaimed, re-used or responsibly sourced.	
					1 Credit if 2 or more procedures are adopted and 2 Credits if 4 or more are adopted	
Man 4	Security	No	Police are to be consulted and advice implemented	2	Where an Architectural Liaison Officer or Crime Prevention Design Advisor from the local police is consulted at the design stage and their recommendations incorporated into the design of the dwellings	2

Issue ID	Description	Mandatory	Assumptions to Achieve Level 4	Credits Awarded	Comments	Max Credits
Category 9: Ecology						
Eco 1	Ecological Value of Site	No	The site is believed to have an ecological value.	0	Where the development site is confirmed as land of inherently low ecological value, **EITHER** By meeting the criteria for low ecological value using Checklist Eco 1, **OR** By being confirmed by a Suitably Qualified Ecologist, **OR** Where an independent ecological report of the site, prepared by a Suitably Qualified Ecologist, confirms that the construction zone is of low ecological value **AND** Any land of ecological value outside the construction zone but within the development site remain undisturbed by the construction works	1
Eco 2	Ecological Enhancement	No	Commitment to enhance the ecological value of the site	1	Where a Suitably Qualified Ecologist has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site, **AND** Where the developer adopts all key recommendations and 30% of additional recommendations.	1
Eco 3	Protection of Ecological Features	No	Existing ecological features shall be protected	1	Where all existing features of ecological value on the developments site potentially affected by the works are maintained and adequately protected during site clearance, preparation and construction works.	1
Eco 4	Change in Ecological Value of Site		The dwelling will retain the garden spaces and it is intended to enhance these. However, at this stage it is assumed that there will be a neutral change in ecological value	2	The ecological value before and after development is measured, and the overall change in species per hectare is: - 1 Credit - Minor negative change between -9 and less than or equal to -3 - 2 Credits - Neutral change greater than -3 and less than or equal to +3 - 3 Credits - Minor enhancement greater than 3 and less than or equal to 9 - 4 Credits - Major Enhancement greater than +9	4
Eco 5	Building Footprint	No	The ratio of combined floor area of the dwelling is 2.3, which is not greater than 2.5:1	0	1 Credit where the Net Internal Floor Area:Net Ground Floor Area ratio is greater than or equal to 3:1 or 2 Credits where the Net Internal Floor Area:Net Ground Floor Area ratio is greater than or equal to 4:1	2

Appendix B – Pre-Assessment Estimator

Results

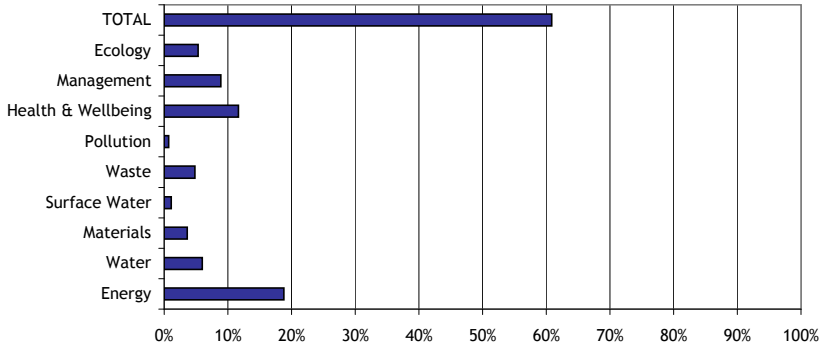
Development Name:	15a Parliement Hil
Dwelling Description:	4 Bed Detached Dwelling
Name of Company:	W G Architects
Code Assessor's Name:	Jason Doherty
Company Address:	Doherty Design and Planning Limited 22 Station Road Manea, Cambridgeshire
Notes/Comments:	Pre-Assessment to Support Planning Application (20th January 2012)

PREDICTED RATING - CODE LEVEL: 3

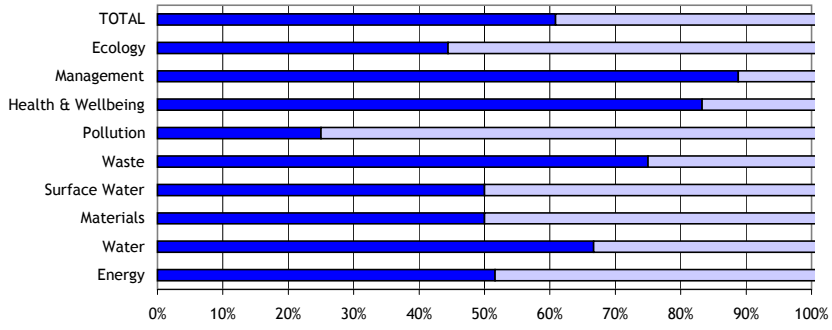
Mandatory Requirements: **All Levels**

% Points:	**60.85%**	**- Code Level: 3**
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: 3	Overall Score	60.85
% of Section Credits Predicted:	51.61	Credits	Level
Contribution to Overall % Score:	18.78 points	16.0 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 2009. 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? 1.0 OR Are zero net CO_2 emissions achieved? ☐	1.0 of 10 Credits	Level 3
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? 3.0	3.0 of 9 Credits	No Level
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	-

Issue		Credits	Level
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	-
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	-

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**	-

Issue		Credits	Level
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**	-
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: 4 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**	-
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**	-

CATEGORY 2 WATER	Overall Level: 3	Overall Score	60.85
% 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
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	-

CATEGORY 3 MATERIALS	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted: 50.00		Credits	Level
Contribution to Overall Score: 3.60 points		12 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? 12	12 of 15 Credits	All Levels
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?	0 of 6 Credits	-
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?	0 of 3 Credits	-

CATEGORY 4 SURFACE WATER RUN-OFF	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted:	50.00%	Credits	Level
Contribution to Overall Score:	1.10 points	2 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 ☐

0 of 2 Credits | **All Levels**

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 ☐

2 of 2 Credits | -

* Planning Policy Statement 25 - Planning and Flood Risk

** FRA - Flood Risk Assessment

CATEGORY 5 WASTE	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted:	75.00%	Credits	Level
Contribution to Overall Score:	4.80 points	6 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) ☐

0 of 2 Credits

Local Authority collection Scheme

Post Collection sorting
Internal storage (capacity 30 litres) ☑

Pre-collection sorting
Internal storage (3 separate bins, capacity 30 litres) ☐

4 of 4 Credits | **All Levels**

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 4 Credits

Issue		Credits	Level
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.	**1 of 3 Credits**	
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.	**1 of 1 Credit**	-

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 ○

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

CATEGORY 6 POLLUTION	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted: 25.00%		Credits	Level
Contribution to Overall Score: 0.70 points		1 of 4 Credits	All Levels

Pol 1 Global Warming Potential (GWP) of Insulants	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. 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	-
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 ( )	0 of 3 Credits	-

CATEGORY 7 HEALTH & WELLBEING	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted: 83.00%		Credits	Level
Contribution to Overall Score: 11.66 points		10 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	-
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 ○	3 of 4 Credits	-

Issue		Credits	Level
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	-
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

CATEGORY 8 MANAGEMENT	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted:	88.00%	Credits	Level
Contribution to Overall Score:	8.88 points	8 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	-
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.	1 of 2 Credits	-
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	-

Issue		Credits	Level
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	-

CATEGORY 9 ECOLOGY	Overall Level: 3	Overall Score	60.85
% of Section Credits Predicted: 44.00%		Credits	Level
Contribution to Overall Score: 5.33 points		4 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.	0 of 1 Credits	-
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	-
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	-

Issue		Credits	Level
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 ○	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: 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) ○	0 of 2 Credits	

Appendix C – Evidence Requirements

- Energy Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Ene 1	Design Stage - SAP 2009 Worksheets	✓		As Built Stage – SAP 2009 Worksheet		✓
	Plans and elevations showing construction details	✓		Evidence confirming build form as described in As Built SAP Worksheets		✓
	Specification text confirming intention where SAP cannot be produced at design stage		✓	Code Assessor Site Inspection Report		✓
	Copy of Design Stage Part L1A Building Regulations Compliance Checklist	✓		Confirmation of construction details for each Energy Type		✓
	Copy of outputs from Ene1/Ene7 tool	✓		Copy of As Built Part L1A Building Regulations Compliance Checklist	✓	
	Utility location maps		✓	Documentary evidence from Building Control Officer		✓
	Copy of outputs from SAP input tool		✓	Copy of outputs from SAP input tool		✓
				Copy of outputs from Ene1/Ene7 tool	✓	
				Utility location maps		✓
Ene 2	Design Stage - SAP 2009 Worksheets	✓		As Built Stage – SAP 2009 Worksheet		✓
	Copy of Design Stage Part L1A Building Regulations Compliance Checklist	✓		Evidence of final construction materials, built form and specifications	✓	
	Written confirmation from the Environmental Agency where under protection of existing flood defences	✓		Copy of As Built Part L1A Building Regulations Compliance Checklist	✓	
	Specification text confirming intention where SAP cannot be produced at design stage		✓	Letter of conformity to specification		✓
				Assessor Site Inspection Report		✓
				Documentary evidence from Building Control Officer		✓
Ene 3	Drawings/specification text detailing the type of Energy Display device to be used	✓		As Built drawings and specifications		✓
	Specification text confirming intention to install just an electric or to include primary heating supply		✓	Manufacturer's details of the Energy Diplay Devices	✓	
	Letter of instruction to contractor/supplier		✓	Assessor Site Inspection Report		✓
	Letter from developer to assessor giving the specific undertaking		✓	Purchase orders/receipts for energy display devices		✓
Ene 4	Text describing location and length of drying line	✓		Photographic evidence for each spec ID Text describing location and length of drying line	✓	✓
	Drawings showing location and details of internal drying space and ventilation		✓	Drawings showing location and details of internal drying space and ventilation		✓
	Drawings showing location of fixtures/footings of external drying space		✓	Drawings showing location of fixtures/footings of external drying space		✓
	Specification text confirming intention where drying space specification is not known at design stage		✓	Specification text confirming intention where drying space specification is not known at design stage		✓
	Letter of instruction to contractor/supplier		✓	Letter of instruction to contractor/supplier		✓
	Letter from developer to assessor giving the specific undertaking		✓	Letter from developer to assessor giving the specific undertaking		✓
				Purchase orders/receipts of drying devices		✓
				Photographic evidence for each spec ID		✓
Ene 5	Specification text confirming make and model of white goods provided		✓	Assessor Site Inspection Report Manufacturer's literature for any white goods installed		✓ ✓
	Confirmation of energy rating for all white goods provided		✓	Assessor Site Inspection Report		✓
	Copy of EU Energy Efficiency Labelling Scheme leaflet		✓	Purchase orders/receipts for all white goods provided		✓
	Specification text/drawings confirming intention to provide leaflets or white goods		✓	Copy of EU Energy Efficiency Labelling Scheme leaflet		✓

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
	Letter of instruction to contractor/supplier		✓	Specification text/drawings confirming leaflets will be provided to all dwellings		✓
	Letter from developer to assessor giving the specific undertaking		✓	Letter of instruction to contractor/supplier		✓
				Letter from developer to assessor giving the specific undertaking		✓
				Written confirmation of information provided to dwellings		✓
Ene 6	Drawings showing location of all external light fittings	✓		As Built drawings/specifications confirming construction in accordance with design stage	✓	
	Text confirming location and type of all external light fittings	✓		Manufacturer's literature	✓	
	Specification text confirming intention where external lighting specification is not known at design stage		✓	Purchase orders/receipts		✓
	Letter of instruction to contractor/supplier		✓	Photographic evidence		✓
	Letter from developer to assessor giving the specific undertaking		✓	Assessor Site Inspection Report		✓
Ene 7	Confirmation that feasibility study has been completed by an independent energy specialist	✓		Confirmation that design has been carried out by an independent energy specialist	✓	
	Design Stage – SAP 2009 Worksheet	✓		Design Stage – SAP 2009 Worksheets and supporting information		✓
	Drawings showing location of LZC technologies	✓		As Built – SAP 2009 Worksheets for each Energy Type		✓
	Specification text detailing type, location and use of LZC equipment in dwellings	✓		Drawings showing location of LZC technologies	✓	
	Manufacturer's details for LZC technologies		✓	Assessor Site Inspection Report		✓
	Specification text confirming intention where details of LZCs are not known at design stage		✓	Photographic evidence		✓
				Manufacturer's details for LZC technologies		✓
Ene 8	Drawings showing location, size, security and access to cycle storage	✓		Assessor Site Inspection Report		✓
	Specification text detailing location, size, security and access to cycle storage	✓		Purchase orders/receipts		✓
	Drawings/specification text detailing any proprietary system		✓	Photographic evidence		✓
	Confirmation of bedrooms served by cycle storage and relevant calculations	✓				
	Letter of instruction to contractor/supplier		✓			
	Letter from developer to assessor giving the specific undertaking		✓			
Ene 9	Drawings/specification text detailing location, size and services to the home office	✓		Assessor Site Inspection Report		✓
	Drawings/specification text confirming adequate ventilation to home office	✓		As Built drawings showing location and services		✓
	Text confirming broadband availability to each dwelling		✓	Photographic evidence		✓
	Specification text confirming intention where details of home office are not known at design stage		✓			
	Average Daylight Factor calculations	✓				
	Letter of instruction to contractor/supplier		✓			
	Letter from developer to assessor giving the specific undertaking		✓			

- Water Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Wat 1	Specification text detailing water fittings	✓		As Built drawings/specification detailing internal, rainwater and greywater systems		✓
	Drawings showing the location of internal water fittings	✓		Letter from developer confirming installed fittings and equipment		✓
	Manufacturers literature for water fittings and appliances confirming flow rates of any water reduction equipment		✓	Manufacturer's literature for internal water fittings, and any greywater or rainwater systems	✓	
	Specification text detailing rainwater and greywater collection systems		✓	Assessor Site Inspection Report		✓
	Manufacturer's literature for rainwater and greywater appliances		✓	Photographic evidence		✓
	Drawings showing any rainwater and greywater systems		✓	Completed Code Water Calculator Tool, showing internal potable water use for each Spec ID	✓	
	Completed Code Water Calculator Tool, showing internal potable water use for each Spec ID	✓				
	Specification text confirming intention where details of water fittings are not known at design stage		✓			
	Letter of instruction to contractor/supplier		✓			
	Letter from developer to assessor giving the specific undertaking		✓			
Wat 2	Drawings showing location of any rainwater collection systems	✓		Letter from developer confirming installed systems		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences	✓		As built drawings/specifications		✓
	Specification text confirming intention where details of external water collection systems are not known at design stage		✓	Manufacturer's details of installed systems	✓	
	Letter of instruction to contractor/supplier		✓	Assessor Site Inspection Report		✓
	Letter from developer to assessor giving the specific undertaking		✓	Photographic evidence		✓

- Materials Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Mat 1	Drawings showing location, areas and specification of elements	✓		Letter from developer confirming dwellings were constructed as at design stage		✓
	Specification text confirming element specification details	✓		As Built drawings/specifications		✓
	Completed Code Mat 1 Calculator Tool	✓		Assessor Site Inspection Report		✓
	Confirmation of Bespoke Ratings		✓	Documentary evidence for materials		✓
	Letter of instruction to contractor/supplier		✓	Completed Code Mat 1 Calculator Tool showing elements As Built	✓	
Mat 2	Letter from developer to assessor giving the specific undertaking Drawings or specification text detailing location, areas and details of materials	✓	✓	Confirmation of Bespoke Ratings Letter from developer confirming dwellings were constructed as at design stage		✓ ✓
	Completed Code Mat 2 Calculator Tool or relevant calculations	✓		As Built drawings/specifications		✓
	Confirmation to use specific timber schemes	✓		Purchase orders, receipts or certificates/letters confirming materials	✓	
	Confirmation to use EMS suppliers certified for key process and for extraction stage		✓	Completed Code Mat 2 Calculator Tool or relevant calculations		✓
	Confirmation of any elements being recycled/reused		✓	Documentary details for re-used materials		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓	Documentary details for recycled materials		✓
	Letter of instruction to contractor/supplier		✓	Documentary evidence for materials certified through EMS		✓
	Letter from developer to assessor giving the specific undertaking		✓	CoC certificate for certified timber materials		✓
				Written confirmation from suppliers confirming status of non-certified timber materials		✓
Mat 3	Drawings or specification text detailing location, areas and details of materials	✓		Letter from developer confirming dwellings were constructed as at design stage		✓
	Completed Code Mat 3 Calculator Tool or relevant calculations	✓		As Built drawings/specifications		✓
	Confirmation to use specific timber schemes	✓		Purchase orders, receipts or certificates/letters confirming materials	✓	
	Confirmation to use EMS suppliers certified for key process and for extraction stage		✓	Completed Code Mat 3 Calculator Tool or relevant calculations		✓
	Confirmation of any elements being recycled/reused		✓	Documentary details for re-used materials		✓
	Confirmation to use suppliers who provide EMS certification (recycled materials)		✓	Documentary details for recycled materials		✓
	Letter of instruction to contractor/supplier		✓	Documentary evidence for materials certified through EMS		✓
	Letter from developer to assessor giving the specific undertaking		✓	CoC certificate for certified timber materials		✓
				Written confirmation from suppliers confirming status of non-certified timber materials		✓

- Surface Water Runoff Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Sur 1	***To achieve Mandatory Elements***					
	Confirmation of appropriate consultant appointment	✓		Written confirmation that solutions designed have been implemented		✓
	Consultants report	✓		As Built drawings/specifications and calculations		✓
	Flood Risk Assessment	✓		Confirmation that Flood Risk Assessment still up to date	✓	
	Drawings and Text specifications necessary to confirm claims	✓				
	To achieve tradable credits					
	Consultants report with design specifications, calculations and drawings to support awarding credits	✓		Confirmation from hydrological consultant that system meets credit requirements	✓	
	Proposed operation and maintenance plans.	✓		As Built drawings and calculations		✓
				Manufacturers' data for all devices	✓	
Sur 2	Flood Risk Assessment confirming the zone of the development	✓		Copies of SUDs agreements Confirmation that Flood Risk Assessment still up to date	✓	✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓
	Manufacturers details for flood protection measures for the dwelling		✓	Manufacturers details for flood protection measures for the dwelling		✓
	Site plans		✓	Site plans		✓
	Drawings showing location of flood protection measures		✓	Drawings showing location of flood protection measures		✓
				Confirmation that specifications same as design stage		✓
				As Built plans/specifications		✓

- Waste Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Was 1	***To achieve Mandatory Elements***					
	Completed Supplementary Information Sheet	✓		Completed Supplementary Information Sheet	✓	
	Completed Checklist Was 1	✓		Completed Checklist Was 1	✓	
	To achieve tradable credits					
	Drawings or specification text confirming number of bedrooms & specifications of external storage	✓		As Built drawings/specifications		✓
	Confirmation from LA detailing container specifications/frequency and waste streams of collection		✓	Written confirmation dwellings were constructed as at design stage		✓
	Confirmation of intention to use a private operator and details of the scheme		✓	Written justification for bins further than 30m from external door		✓
	Letter of instruction to contractor/supplier		✓	Confirmation of LA or similar private scheme details	✓	
	Letter from developer to assessor giving the specific undertaking		✓	Assessor Site Inspection Report		✓
				Photographic Evidence		✓
Was 2	***To achieve Mandatory Elements***					
	Written confirmation from the Environmental		✓	Copy of the Site Waste Management Plan		✓
	Documentary Legal evidence confirming agreed cost of development		✓	Completed Checklist Was 2a		✓
	Letter of instruction to contractor/supplier		✓	Completed Checklist Was 2d		✓
	Letter from developer to assessor giving the specific undertaking		✓	Records confirming monitoring of site waste throughout construction		✓
				Documentary Legal evidence confirming agreed cost of development		✓
	To achieve tradable credits					
	Completed checklist Was 2b		✓	Completed checklist Was 2b		✓
	Completed checklist Was 2c		✓	Completed checklist Was 2c		✓
	Completed checklist Was 2d		✓	Completed checklist Was 2d		✓
Was 3	Completed copy of Checklist 1 – Was 1	✓		Summary Report outlining overall waste performance Letter from developer to assessor	✓	✓
	Drawings or specification text confirming location, size and access to storage	✓		Assessor Site Inspection Report		✓
	Specification text confirming that an information booklet will be supplied to residents	✓		Drawings showing location, size and access route		✓
	Letter of instruction to contractor/supplier		✓	Photographic evidence		✓
	Letter from developer to assessor giving the specific undertaking		✓			
	Manufacturer's information for proposed composting facilities		✓			
	Details of communal/community composting scheme		✓			
	Details of Local Authority kitchen waste collection scheme		✓			
	Details of the automated waste collection system		✓			

- Pollution Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Pol 1	Completed Checklist Pol 1	✓		Manufacturer's/installer's literature for any foamed or blown insulation	✓	
	Drawings or specification text showing type and location of insulation materials	✓		Written confirmation that Checklist 6.1 Pol 1 is unchanged		✓
	Manufacturer's/installer's literature for any foamed or blown insulation		✓	Purchase order/receipts		✓
	Letter of intent to meet requirements for a Design and Build contract		✓	As built drawings/specification text showing type and location of		✓
	Letter of instruction to contractor/supplier		✓	Assessor Site Inspection Report		✓
Pol 2	Letter from developer to assessor giving the specific undertaking Drawings or specification text detailing heating systems	✓	✓	Manufacturer's literature confirming dry NOx levels/boiler class of all heating systems		✓
	Specification text confirming Dry NOx levels and/or boiler class	✓		Letter/email from manufacturer confirming dry NOx levels		✓
	Manufacturer's literature details of heating system		✓	Purchase order/receipts		✓
	Calculation Procedures of dry NOx or weighted average NOx in accordance with the Guidance		✓	Assessor Site Inspection Report		✓
	Design Stage – SAP 2005 Worksheets		✓	Calculation of dry or ave NOx		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓	As Built Stage – SAP 2005 Worksheet		✓
	Letter from developer to assessor giving the specific undertaking		✓	Evidence of contractual commitment to activate heating system within 18 months of completion		✓

- Health & Wellbeing Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Hea 1	Average Daylight Factor calculations	✓		Calculations for all dwelling As Built	✓	
	No-sky line calculations	✓		Confirmation that inputs are accurate		✓
	Details of angle of visible sky, window glazing and room surface areas	✓		On-site measurements		✓
	Plans indicating room heights, glazed areas, and external buildings	✓				
	Manufacturer's details confirming specs where default values are not used		✓			
	Letter of instruction to contractor/supplier		✓			
	Letter from developer to assessor giving the specific undertaking		✓			
Hea 2	Specification text committing to meet relevant sound insulation performance levels	✓		Specification text committing to meet relevant sound insulation performance levels	✓	
	Details of pre-completion testing		✓	Details of pre-completion testing		✓
	Details of separating walls		✓	Details of separating walls		✓
	Confirmation of commitment to carry out remedial work where necessary		✓	Confirmation of commitment to carry out remedial work where necessary		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓	Compliant Test Body accreditation details		✓
	Confirmation that Robust Details will achieve necessary standards		✓	Confirmation that Robust Details will achieve necessary standards		✓
	Confirmation that site is registered by RDL		✓	Confirmation that site is registered by RDL		✓
	Letter of instruction to contractor		✓	Letter of instruction to contractor		✓
	Letter from developer to assessor giving the specific undertaking		✓	Letter of intent from developer to assessor giving the specific undertaking		✓
				Confirmation of sound insulation results		✓
				Completed Robust Details Ltd Checklist		✓
Hea 3	Plan(s)/specification text showing the number of bedrooms served	✓		As-Built drawing/specification confirmation		✓
	Plan(s)/specification text showing location and size of private space(s)	✓		Confirmation that dwellings constructed in accordance with design stage spec		✓
	Details of accessibility in accordance with BS8300	✓				
	Details of control arrangements for shared private spaces		✓			
	Letter of instruction to contractor/supplier		✓			
	Letter from developer to assessor giving the specific undertaking		✓			
Hea 4	Completed and signed Checklist Hea 4 – Lifetime Homes	✓		Completed As Built Lifetime Homes Checklist Hea 4	✓	
				Assessor Site Inspection Report		✓
				As Built Drawings		✓

- Management Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Man 1	Confirmation that Homes User Guide will be supplied to all dwellings	✓		Copy of the Home User Guide for each type of dwelling	✓	
	Checklist Man 1 Part 1		✓	Confirmation that Home User Guide has been supplied to all dwellings		✓
	Checklist Man 1 Part 1 AND Checklist Man 1 Part 2		✓	Copy of letter to occupants and hard copy of contents page		✓
	Summary of Home User Guide contents	✓				
	Letter from developer to assessor giving the specific undertaking		✓			
Man 2	Confirmation on/from contractor/developer to achieve a specific CCS score		✓	Copy of CCS certificate		✓
	Completed Checklist Man 2 where an alternative scheme is to be used		✓	Copy of CCS monitored report with scorings		✓
	Letter of instruction/intent from developer to contractor or assessr giving specific undertaking		✓	Copy of alternative schemes certificate or equivalent documentary evidence		✓
Man 3	Commitment to meet either, two or more, or four or more items in Checklist Man 3	✓		Documentary evidence that design stage items from Man 3 have been adhered to		✓
	Completed Checklist Man 3 if available at design stage		✓	Documentary evidence of target records		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences		✓	Graphs comparing consumption with targets		✓
				Delivery records		✓
				Documentary evidence of site procedures for minimising pollution		✓
				Coc certificates for site timber		✓
				Purchase orders confirming re-used/reclaimed timber		✓
Man 4	Letter of appointment/letter from ALO/CPDA confirming appointment	✓		Confirmation that ALO/CPDA recommendations have been implemented in design	✓	
	Confirmation of commitment to meet Section 2 of Secured By Design	✓		Confirmation that site meets Section 2 of Secured by Design	✓	
	Confirmation of commitment to follow advice of the ALO/CPDA	✓		Copy of Secured by Design certificate		✓
	Letter of instruction to contractor		✓	Assessor Site Inspection Report		✓
	Letter from developer to assessor giving the specific undertaking		✓	As-built drawings		✓

- Ecology Category -

Issue	Design Stage			Post Construction Stage		
	All	Mandatory	Where Applicable	All	Mandatory	Where Applicable
Eco 1	Plans of site and surrounding area prior to development		✓	Plans of site and surrounding area prior to development		✓
	Site visit report		✓	Site visit report		✓
	Completed Checklist Eco 1		✓	Completed Checklist Eco 1		✓
	Ecologists report using CSH Ecology Report Template		✓	Ecologists report using CSH Ecology Report Template		✓
	Plans defining the construction site	✓		Plans defining construction site		✓
	Confirmation that ecologist's qualifications meet the requirements		✓	Confirmation that ecologist's qualifications meet the requirements		✓
	Letter of instruction to contractor/supplier		✓	As Built plans identifying features present		✓
Eco 2	Letter from developer to assessor giving the specific undertaking		✓	Assessor Site Inspection Report		✓
	Completed Ecologists Report using the CSH Ecology Report Template	✓		Plans showing both proposed and implemented recommendations		✓
	Specification text/illustrations detailing implementation of recommendations	✓		Photographic evidence		✓
	Confirmation that Ecologist qualifications meet the requirements	✓		Assessor Site Inspection Report		✓
	Written confirmation from the Environmental Agency where under protection of existing flood defences	✓		Confirmation of contract or letter confirming planting will be completed within 18 months		✓
	Confirmation ecologist made site visit prior to commencement of initial site preparation works	✓				
	Confirmation detailing how ecologists recommendations will be implemented	✓				
	Drawings/letter of instruction to contractor/supplier		✓			
Eco 3	Letter from developer to assessor giving the specific undertaking		✓	Photographic evidence of protection measures		✓
	Site Visit Report from design team	✓				
	Drawings/specification text detailing how ecological features will be protected	✓		Photographic evidence of protected features		✓
	Plans of site and boundary highlighting ecological features prior to development		✓	Assessor Site Inspection Report		✓
	Evidence of any requirement to remove a feature		✓			
	Confirmation that all EU and UK laws to protect species have been adhered to		✓			
	Completed Ecologist's report using the CSH Ecology Report template		✓			
	Letter of instruction to contractor/supplier		✓			
Eco 4	Letter from developer to assessor giving the specific undertaking		✓			
	Plans of the site pre-development showing areas, landscape and plot types	✓		Completed Eco 4 Calculator Tool or similar calculations		✓
	Copy of calculations (from assessor) of proposed change in ecological value	✓		Letter/certificate of conformity from the developer		✓
	Completed Ecologist's report using the CSH Ecology Report template		✓	Confirmation of contract or letter confirming completion date		✓
	Specification text/illustrations showing implementation of Ecologist's recommendations		✓			
	Planting Schedule		✓			
	Letter of instruction to contractor/supplier		✓			
Eco 5	Letter from developer to assessor giving the specific undertaking		✓			
	Plans showing the Net Internal Floor and Ground Floor areas of all buildings	✓		As Built drawings/specifications		✓
	Elevations showing the number of storeys for each building	✓		Letter from developer confirming construction as at design stage		✓
	Building Footprint Ratio Calculations	✓				