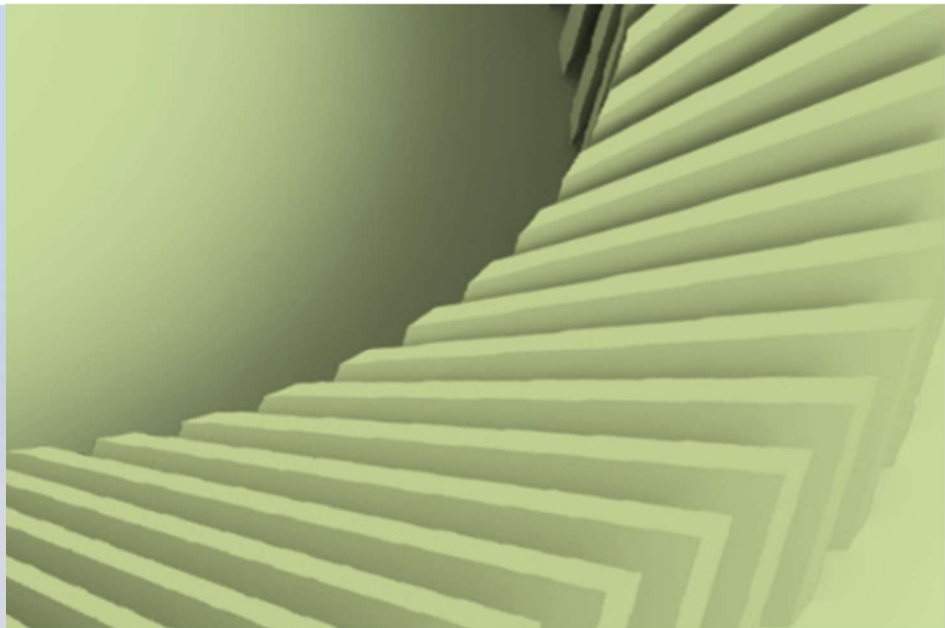


Planning Issues Ltd

Hemdean Road, Caversham

Energy Statement

January 2026



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1.0 Introduction

1.1 Purpose of the Report

Instructions were received from Planning Issues Ltd to produce an Energy Statement for the proposed development on the former Hemdean House School site, off Hemdean Road, Caversham. This report has been produced to support the planning application to be submitted for the proposed development, which is situated within the boundaries of Reading Borough Council.

This statement provides a response to the relevant Reading Borough Council documents and policies:

- Reading Borough Local Plan – Adopted November 2019
 - H5: Standards For New Housing
 - CC2: Sustainable Design and Construction
 - CC3: Adaptation To Climate Change
 - CC4: Decentralised Energy

1.2 Site and Building Description

The development will be located on the former Hemdean House School site, off Hemdean Road, Caversham, Reading RG4 7SD. The application seeks approval for the construction of a retirement living complex consisting of 51 apartment dwellings (a mix of 1- & 2-bed) and the refurbishment of a nursery and schoolhouse building into a 2-bed house and a 10 single-bed apartment building respectively. Associated parking space, landscaping, and communal areas will be provided for the wider development.

A proposed site layout has been included in Appendix 1.

1.3 Methodology

The proposed specifications, house type drawings and site plan were reviewed to gain a good understanding of the development; following this, sample SAP calculations for the proposed dwelling types and representative SBEM calculations have been utilised to determine the As Designed performance of the development. The application will be considered under the Part L 2022 regulations. Therefore, Elmhurst SAP 10 and SBEM software have been used to conduct the above calculations.

An assessment has been completed to review the potential connection of the proposed development to an existing low carbon heat network. Up to date map data has been provided by the Department for Energy Security & Net Zero Heat Networks Planning Database, to enable the suitability and distance in relation to the location of the proposed development from a low carbon heating network to be reviewed.

In relation to the Part G water requirements, a proposed sanitaryware specification has been assessed against the 110 litre/person/day limit outlined in Policy H5 and the building regulations requirements.

A BREEAM Pre-assessment strategy has been developed for the refurbishment elements of the scheme, to demonstrate the rating of 'Excellent' can be achieved as per Policy CC2.

2.0 Planning Policy

2.1 Reading Borough Local Plan – Adopted November 2019

The Reading Borough Local Plan – Adopted November 2019 outlines the requirements for new developments regarding sustainability, with Policies H5, CC2, CC3 and CC4 having been identified as relevant.

2.2 H5: Standards for New Housing

New build housing should be built to the following standards, unless it can be clearly demonstrated that this would render a development unviable:

- a. *All new build housing outside the Central Area as defined on the Proposals Map will comply with the nationally-described space standard.*
- b. *All new build housing will be built to the higher water efficiency standard under Regulation 36(3) of the Building Regulations.*
- c. *All major new-build residential development should be designed to achieve zero carbon homes.*
- d. *All other new build housing will achieve at a minimum a 19% improvement in the dwelling emission rate over the target emission rate, as defined in the 2013 Building Regulations.*
- e. *All new build housing will be accessible and adaptable in line with M4(2) of the Building Regulations, unless it is built in line with M4(3) (see below).*
- f. *On developments of 20 or more new build dwellings, at least 5% of dwellings will be wheelchair user dwellings in line with M4(3) of the Building Regulations. Any market homes provided to meet this requirement will be ‘wheelchair adaptable’ as defined in part M, whilst homes where the Council is responsible for allocating or nominating an individual may be ‘wheelchair accessible’.*

2.3 CC2: Sustainable Design and Construction

Proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care and take account of the effects of climate change.

To meet these requirements:

- *All major non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM ‘Excellent’ standards, where possible;*
- *All minor non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM ‘Very Good’ standard as a minimum;*
- *All non-residential development or conversions to residential should incorporate water conservation measures so that predicted per capita consumption does not exceed the appropriate levels set out in the applicable BREEAM standard. Both residential and non-residential development should include recycling greywater and rainwater harvesting where systems are energy and cost effective.*

2.4 CC3: Adaptation to Climate Change

All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change. The following measures shall be incorporated into development:

- *Wherever possible, new buildings shall be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements;*
- *Proposals involving both new and existing buildings shall demonstrate how they have been designed to maximise resistance and resilience to climate change for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls, etc;*
- *Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help to connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions; and*
- *All development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change*

2.5 CC4: Decentralised Energy

In meeting the sustainability requirements of this plan, developments of the sizes set out below shall demonstrate how consideration has been given to securing energy for the development from a decentralised energy source.

Any development of more than 20 dwellings and/ or non-residential development of over 1,000 sq m shall consider the inclusion of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision.

Where there is existing decentralised energy provision present within the vicinity of an application site, further developments of 10 dwellings or more or non-residential development of 1,000 sq m or more will be expected to link into the existing decentralised energy network or demonstrate why this is not feasible.

3.0 Policy Response

3.1 Energy Efficiency and Carbon Emissions

The Hemdean Road, Caversham development proposal is made up of three buildings. The new build 51 apartment retirement living block and the retained nursery and schoolhouse buildings refurbished into a 2-bed house and 10-bed apartment block.

3.1.1 Maximising Building Fabric Performance – New Build Apartment Block

In efforts to reduce the overall carbon emissions associated with the development and to maximise the energy efficiency, the developer has a robust ‘fabric first’ approach to the build specification, which allows it to achieve compliance with all metrics under the adopted and revised Approved Document Part L 2022.

This will be achieved in this project through building fabric improvements with an uplift on the minimum requirements of Approved Document Part L 2022, and also specification of efficient mechanical and electrical services, including a number of ‘add-on’ measures to improve efficiency and performance.

Fabric Energy Efficiency is a measure of the efficiency of the building fabric, the key areas being building fabric U-values, thermal bridging, air permeability, thermal mass and features which affect lighting and solar gains. A higher fabric energy efficiency means that the building will require less energy to heat and cool thus reducing the energy demand of the property and the CO₂ released.

Table 1 below demonstrates how the specification of the proposed apartment block compares to the limiting values and minimum efficiencies allowed within Part L 2022.

Table 1: Comparison with Building Regulations Part L 2022 – Apartment Block		
Building Element	Limiting Part L 2022 Specification	Proposed Part L 2022 Specification
External Walls U-Value	0.26	0.16
Roof U-Value	0.16	0.09/0.12
Ground Floor U-Value	0.18	0.12
Window U-Value	1.60	0.75
Party Wall U-Value	0.20	0.00
Heating Efficiency	100%	100%
Pressure Test	8.00	5.00
Lighting Lumens	75 lm/w	80 lm/w

The development is proposed to adopt a ‘fabric first’ approach to the specification and as detailed above, the proposed U-Values are an uplift on the minimum requirements under Part L.

The proposed build-up for the external wall for the development is a masonry construction, with a cavity fully filled that achieves a U-value of 0.16W/m²K. Well insulated cavity walls, roof, floors and openings provide a comfortable environment within the development and reduce the buildings’ reliance on the main heating system. The air permeability target for all dwellings is 5.00 m³/(h.m²), providing an improvement over the limiting building target.

Triple Glazed windows are currently proposed for the residential aspects of the scheme, which is a significant improvement over the requirements of ADL1. This improved U-Value will provide benefit to the overall performance of the scheme, minimising heat loss through this element.

Intelligent construction methods are also utilised in the specification of this development. The use of bespoke calculated thermal bridge details and a relatively simple building form ensures that thermal performance is enhanced by minimising heat and energy losses through thermal bridges and air gaps.

3.1.2 Maximising Building Fabric Performance – Proposed Schoolhouse & Nursery Conversion

Sample SAP calculations have been completed for the development to understand the current proposed energy and carbon performance. Due to the dated nature of the buildings, inference values have been used, derived from the software assumptions in order to estimate the u-values of the main core elements.

Table 2 demonstrates the specification of the refurbished nursery and schoolhouse buildings, based on the modelling and assumptions applied.

Table 2: Modelled U-Values – Proposed Schoolhouse & Nursery Conversion		
Building Element	Estimated Existing Specification	Proposed Specification
External Walls U-Value	0.65 (Inference)	0.30
Roof U-Value	0.25 (Inference)	0.16
Ground Floor U-Value	0.45 (Inference)	0.25
Window U-Value	3.51 (Inference)	1.40
Personnel doors	2.20 (Inference)	N/A
Heating Efficiency	65% (Inference)	100% (Electric Panel - SchoolHouse) / 269% (ASHP – Nursery)
Pressure Test	8.00	N/A
Lighting Lumens	95lm/w	80lm/w

The values assigned are indicative of the time of construction for a building of this type. Based on the above results modelled, an estimated baseline can be ascertained and the proposed improvements for the development can be quantified.

3.2 Heating and Services Strategy

Space Heating to both the new build and refurbished aspects of the Hemdean Road, Caversham development is serviced through direct electric panel heaters which provide efficiencies of up to 100%. Water Heating demand for all plots will be serviced by dual immersion heater, accompanied by a 150l hot water cylinder.

With regards to the single dwelling conversion of the existing nursery, it is assumed at this stage this will be serviced via ASHP to meet the space and water heating requirements.

The use of an electric heating solution strategy brings the client in line with what appears to be the Government's preferred direction of travel for domestic heating.

Solar Photovoltaic panels will be provided to the suitable roof areas of the new construction apartment building. The installation of PV panels helps to reduce the CO₂ emissions from the development, as electricity generated from solar panels is considered to be an on-site zero carbon solution as it does not release any carbon dioxide or other greenhouse gases.

An EVCP control unit is used to monitor electricity use within the apartment building and assists with distribution of the solar photovoltaic (PV) output around the building and to elements such as Electric Vehicle (EV) charging points. Each apartment also benefits from its own individual smart meter.

3.3 Policy CC4: Decentralised Energy

3.3.1 Combined Heat and Power District Heating

An exercise has been completed reviewing the potential for the proposed development, to connect to an existing low carbon heat network. The Department for Energy Security & Net Zero Heat Networks Planning Database has been reviewed to confirm the closest possible connection point.

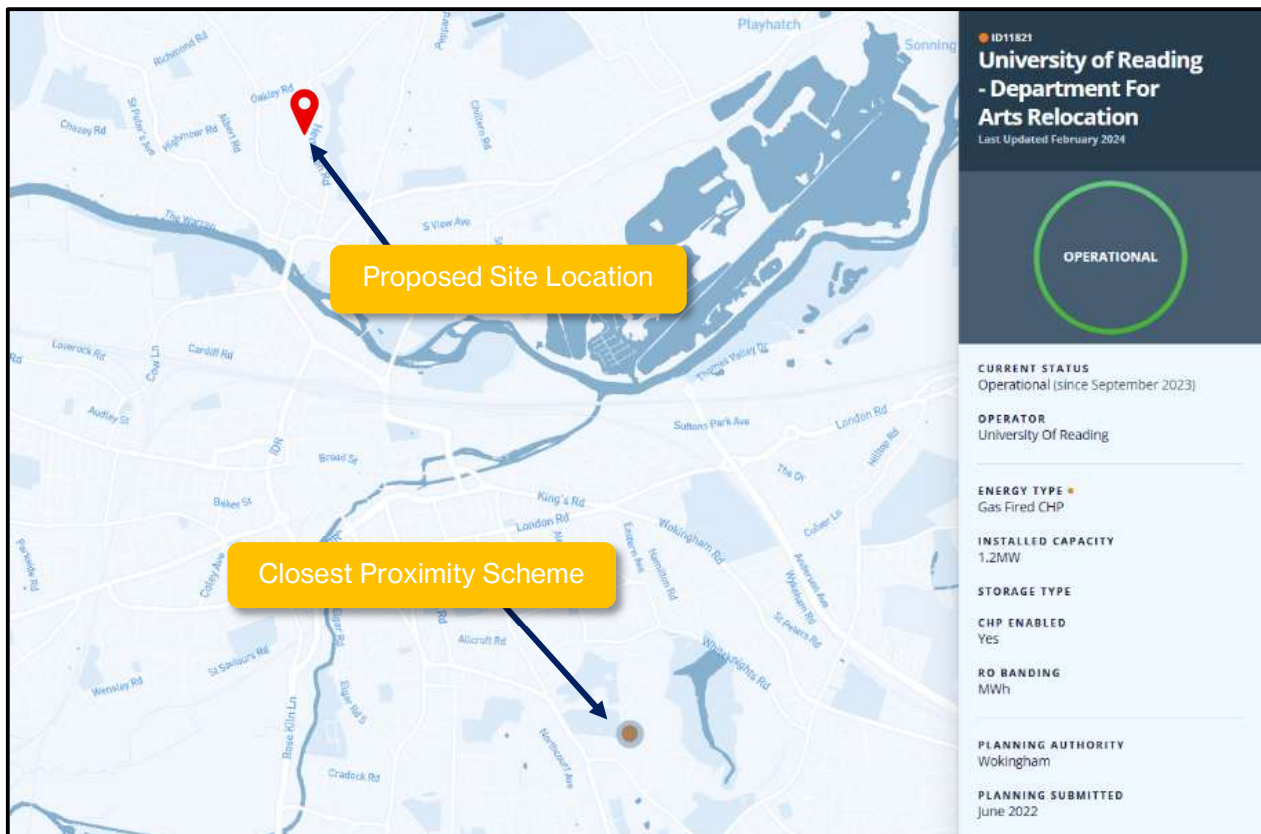


Figure 1 – Department for Energy Security & Net Zero Heat Networks Planning Database
https://data.barbour-abi.com/smart-map/repd/desnz/?type=heat_network

As demonstrated in Figure 1, the closest connection point is the *University of Reading – Department for Arts Relocation Connection* approximately 4.2 km from the proposed site location. Due to the extended distance between these two points, it is considered that this would not be a feasible application

The construction of heat networks is a carbon intensive process, even more so at greater distances from the proposed site location. It may not necessarily be favourable from a whole life carbon perspective as well as an energy use perspective to utilise such an approach. Decentralised solutions with the decreased infrastructure requirement and lower embodied carbon may be more environmentally favourable in comparison.

Discussions with the client have also considered the feasibility of incorporating on-site Combined Heat and Power (CHP). CHP systems are typically most effective in developments with a continuous, year-round demand for both heat and electricity.

The proposed scheme is residential in nature, with energy usage patterns characterised by intermittent loads, lower demand overnight and significant seasonal variation. Heating demand is expected to peak in winter and drop substantially in summer, reducing the operational efficiency of a CHP installation.

Given the local network context and the operational profile of the proposed dwellings, it is concluded that neither connection to an existing heat network nor the installation of an on-site CHP system would be an appropriate or feasible solution for this development.

3.4 Low and Zero Carbon Energy Generation

3.4.1 Photovoltaics

Photovoltaic panels convert solar radiation into direct current electricity. In principle, they are an ideal source of renewable energy as they harness the most abundant source of energy on the Earth, the sun, and they produce electricity, which is the most useful form of energy.

PV's are silent in operation, have no moving parts and have a long life with low maintenance levels. PV systems can be connected to the grid or battery arrays in remote locations. Grid connected systems consist of PV arrays connected to the grid through a charge controller and an inverter. PV cells are more efficient at lower temperatures so good ventilation should be allowed around the PV modules where possible.

The Hemdean Road, Caversham development includes a Solar PV array to contribute to total energy demand and reduce CO₂ emissions in operation. Table 2 shows the modelled PV energy contribution from the proposed system.

Table 2: Energy Reduction from PV	
System	Proposed Energy Reduction (kWh/yr)
Proposed Apartment Building	52,806.27

The results of the sample SAP & representative SBEM outputs demonstrate this generates energy equivalent to an amount of approximately 52,806.27 kWh/yr. Actual generation may vary depending on a number of factors, including orientation, angle and any shading to the PV panels installed.

3.5 Carbon Emissions

3.5.1 Energy Efficiency & Carbon Emissions

Sample SAP & representative SBEM calculations have been completed for the proposed development to understand the indicative performance in relation to carbon emissions.

The tables below detail the performance of the conversion buildings and apartment building against the Target Emission Rates of Part L 2022. The full outputs for the SAP & SBEM calculations used to derive these figures are provided in Appendix 2.

Table 3: Part L 2022 Carbon Emissions	
Proposed Apartment Building	Total Carbon Emissions (kg/CO ₂ /year)
Target Emission Rate (TER)	37,864.50
Dwelling / Building Emission Rate (DER / BER)	20,658.05
Carbon Reduction	17,206.45
Percentage Carbon Reduction	45.44%

Table 4: Part L 2022 Carbon Emissions

Proposed Schoolhouse Conversion	Total Carbon Emissions (kg/CO ₂ /year)
Dwelling Emission Rate	775.64
Proposed Nursery Conversion	Total Carbon Emissions (kg/CO ₂ /year)
Dwelling Emission Rate	6,882.63

Based on the Design Stage sample SAP & representative SBEM calculations completed, the new build apartment building will demonstrate an improvement in carbon emissions over the target value of approximately 45.44%. This is a significant improvement over the 19% carbon reduction of the Part L 2013 regulations target set in Policy H5.

With regards to the conversion units, due to the nature of refurbishment within Approved Document Part L1B, a target rating is not applicable, the performance will demonstrate an improvement in carbon emissions however following improvement works as highlighted in Table 2.

3.6 Water Use Efficiency

3.6.1 Water Efficiency

In order for the development to meet the policy requirement that planned water usage does not exceed Policy H5's target of 110 Litres/person/day, the development at Hemdean Road, Caversham will incorporate efficient, water saving sanitaryware to meet this goal. Where this is not possible, flow restrictors will be installed to limit water use of sanitaryware items.

Representative specifications are shown below in Tables 6 and 7. Based on these specifications, the 1 bed apartments at the site will achieve a predicted water consumption of 98.20 litres/person/day and the 2 bed apartments and the 2 bed house will achieve a predicted water consumption of 104.70 litres/person/day.

Table 6: Proposed Sanitaryware Specification Flow Rates (1 Bed Apartment)

Component	Water Usage
WC's	4.5 Litres (Full Flush Volume), 3 Litres (Part Flush Volume)
Showers	8 Litres/Minute
Wash-hand basin taps	4 Litres/Minute
Kitchen taps	5 Litres/Minute
Bath	N/A
Washing Machine	8.17 Litres/kg (Default Figures)
Dishwasher	1.25 Litres/Place Setting (Default Figures)

Table 7: Proposed Sanitaryware Specification Flow Rates (2 Bed Apartment and 2 Bed House)

Component	Water Usage
WC's	4.5 Litres (Full Flush Volume), 3 Litres (Part Flush Volume)
Showers	8 Litres/Minute
Wash-hand basin taps	4 Litres/Minute
Kitchen taps	5 Litres/Minute
Bath	155 Litres Capacity
Washing Machine	8.17 Litres/kg (Default Figures)
Dishwasher	1.25 Litres/Place Setting (Default Figures)

The specifications provide expected flow rates below the policy requirement of 110 Litres/person/day.

Whilst the final flow rates of individual sanitaryware items may change as detailed design progresses, performance sufficient to comply with this condition will be maintained. A full breakdown of calculations are available in Appendix 3.

3.7 BREEAM

The proposed new construction retirement apartment block is classified as residential therefore under Policy CC2 a BREEAM assessment is understood to not be relevant. However, the refurbishment of the nursery and schoolhouse buildings into a 2-bed house and a 10 single-bed apartment building is relevant under the BREEAM Domestic Refurbishment 2014 methodology.

As such a pre-assessment has been completed for the proposed refurbishment units, which is projected to achieve a score of 74.75%. The minimum requirement for a 'Excellent' BREEAM Rating is 70% therefore the proposal is forecast to comply with policy requirements. The achievement of this will be established post-construction, once the project has been assessed by the BRE and the certificate issued. The proposed strategy document can be found in Appendix 4.

3.8 Sustainable Construction

3.8.1 Material Selection

The proposed development at Hemdean Road, Caversham will strive to incorporate sustainable design into the building. Material selection will endeavour to show preference to suppliers who operate responsible sourcing practices and have current environmental management certificates. Examples including FSC/PEFC certified timber products will be utilised, this ensures all products have been obtained from sustainable and legal sources.

In relation to embodied carbon emissions, the developer is committed to implementing practices during the construction which will demonstrate a reduction in emissions. Whilst specific materials will be determined at a later stage of the project, consideration will be given to prioritising a reduction in carbon emissions through the procurement strategy. Namely, the use of recycled materials or low carbon options will be considered where feasible to the construction efforts, rather than defaulting to wholly new materials at each opportunity.

Furthermore, where aggregates are to be used, the procurement of secondary aggregates will be assessed in terms of viability to the design. Where feasible, contractors and site personnel required will be selected who are local to the site to aid the construction efforts. This again will reduce the associated CO₂ emissions of travel, in addition to supporting the local economy.

The development design will look to conform to standard material dimensions to avoid waste generation. This reduces waste not only at the manufacturing stage, but also during construction as it reduces the need to re-size materials on site. In addition, the use of standardised materials increases the ease of deconstruction and improves the likelihood that the materials will be reused, in the eventuality that the site is redeveloped in the future.

3.8.2 Waste and Recycling

As part of the design development and in efforts to reduce waste throughout the construction process, the design team have implemented several measures to eliminate potential excess.

A pre-demolition audit will be undertaken before any demolition of the existing buildings on site occurs to maximise the recovery of material for subsequent high grade or value applications. Key materials will be identified and quantified to assess applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy. Opportunities for reuse and recycling of demolition materials within the same development will be explored and taken wherever possible.

The contractor will be required to have an effective site waste management system adopting waste hierarchy principles of reduce, reuse, or recycle. All waste will be handled by a licensed waste contractor who will segregate, and process waste produced. Such waste will be separated into key waste groups and recycled at a waste processing plant to be refined into new products or reused in other projects where they cannot be reformed.

A target will be set for the contractor in terms of reduction of waste that is taken to landfill that will be an improvement on standard market practices, and they will be expected to demonstrate compliance with this. Site hoarding or materials where safe and appropriate will be transported from other sites for reuse.

The design of the dwellings will look to incorporate recycling facilities for residents further encouraging the principles of recycling. Reading Borough Council operate an alternative collection for refuse waste & recycling waste, allowing for residents to segregate waste types in a more sustainable manner. To enable efficient segregation of operational waste for their residents, sufficient spacings and access will be provided to enable waste bins to be collected in line with Reading Borough Council waste collection regime.

3.9 Building Orientation & Climate Change Resilience

The development at Hemdean Road, Caversham will be constructed from materials that have a high thermal mass meaning they can absorb excess heat throughout the day, keeping the surrounding area cooler, and then slowly release and re-radiate the stored heat as the temperature drops. This prevents rooms from becoming uncomfortably hot in summer and stores warmth in winter.

The current intended use of high mass and good insulation levels in this proposed scheme provides an effective medium for managing solar gains, having the ability to both hold heat and coolth. Passive cooling design measures have been incorporated, with use of openable windows to help limit gains at the height of summer.

The development proposes to plant new trees and landscaping to serve as green infrastructure. This green infrastructure has the potential to reduce the risk of heat island effect, acting as heat soak for the scheme.

Lighting will be LED with low levels of heat gain expected versus conventional lighting systems. It is therefore expected that internal gains should be kept to the minimum.

The client has incorporated passive ventilation into the design of the development to exploit both wind driven and buoyancy driven ventilation. This is in order to remove warm air from the indoor spaces without the use of mechanical ventilation therefore reducing the energy demand on the development for cooling processes and mitigating CO₂ emissions.

4.0 Conclusion

This statement has reviewed the proposed development on Hemdean Road, Caversham, consisting of a retirement living apartment complex consisting of 51 apartment dwellings (a mix of 1- & 2-bed) and the refurbishment of a nursery and schoolhouse building into a 2-bed house and a 10 single-bed apartment building respectively. Associated parking space, landscaping, and communal areas will be provided for the wider development. This statement has provided an assessment against the applicable planning policy criteria, namely;

- Reading Borough Local Plan – Adopted November 2019
 - H5: Standards For New Housing
 - CC2: Sustainable Design and Construction
 - CC3: Adaptation To Climate Change
 - CC4: Decentralised Energy

The statement has highlighted that the proposed buildings currently intend to utilise a robust, well insulated thermal envelope to minimise heat loss, as well as efficient heating and lighting systems, which will drive energy efficiency in the building. Solar Photovoltaic panels will be provided to the suitable roof areas of the scheme. This is in line with the Policy H5 objective of promoting development which minimises energy consumption, and in turn carbon emissions and greenhouse gas emissions.

The calculations completed on the retirement living development confirm that the specification provides a sizeable improvement in performance in relation to carbon emissions. The proposed carbon emissions of 20,658.05 kg/CO₂/yr, against the target carbon emissions of 37,864.50 kg/CO₂/yr, meet Building Regulations Part L 2022 requirements. The new build apartment building, utilising an efficient fabric and services strategy, is forecast to achieve carbon emission reductions of approximately 45.44%. This highlights the client's commitment for sustainable development, with a view of performance beyond that required for the nature of the building and greatly exceeds the Policy H5 19% carbon reduction target against Part L 2013 regulations.

The proposed Solar PV array is intended to provide approximately 52,806.27 kWh/yr of energy, based on the sample SAP calculations completed and representative SBEM utilised for the development.

A strategy has been submitted confirming the conversion units will achieve a minimum 'Excellent' rating in relation to the BREEAM assessment methodology.

The proposed sanitaryware specification confirms the higher Building Regulation's requirement of 110 Litres/person/day is achieved based on the initial anticipated sanitaryware flow rates.

Whilst the proposed water sanitaryware flow rates and construction specifications are the preferred at this present time, they may be subject to change as the design develops further. It will be ensured that where any changes are made, the policy requirements listed will be maintained.



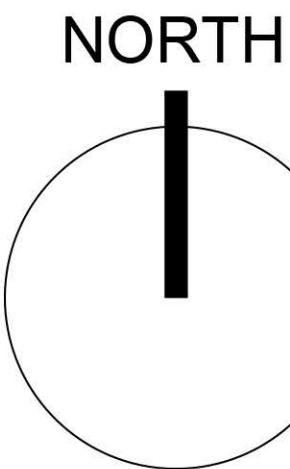
Appendix 1

Proposed Site Plan

Former Hemdean House School, Hemdean Road - Proposed Retirement Housing - Proposed Site Plan (with Retirement Ground Floor Plan)



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REVISIONS		
Rev.	Date	By



- * Proposed Lodge conversion to 1no. cottage
- ** Proposed School House conversion to 10no. open market flats
- *** Existing Music building to be retained
- Existing mature trees, some indicated with TPOs
- Mature trees to be removed
- Proposed retaining wall with banking
- +40.5m Assumed site level
- Existing & proposed levels based on Topographical Survey by cube surveys

Client


Churchill Living
Your lifestyle • Your choice

PROPOSED RETIREMENT APARTMENTS
FORMER HEMDEAN HOUSE SCHOOL
HEMDEAN ROAD, CAVERSHAM
RG4 7SD

PROPOSED SITE PLAN

PLANNING APPLICATION

Scale	1:400 @ A1	Date	JAN. 2026
Drawn	KLS	Checked	RJ
Drawing No.	10137CS PA00	Rev.	

10137CS PA00

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Scale 1:400



Appendix 2

Energy Calculations (SAP & SBEM Outputs –
available on request due to size)



Appendix 3

Part G Water Calculations



Job no:	R45731
Date:	22/01/2026
Assessor name:	Meridyth Rogerson
Registration no:	
Development name:	Caversham

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WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS - (BASIC CALCULATOR)

	House Type:	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7		Type 8		Type 9		Type 10	
		Description:		1 Bed Properties		2 Bed Properties & Cottage															
Installation Type	Unit of measure	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day
Is a dual or single flush WC specified?		Dual		Dual		Select option:		Select option:		Select option:		Select option:		Select option:		Click to Select		Click to Select		Click to Select	
WC	Full flush volume	4.5	6.57	4.5	6.57		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Part flush volume	3	8.88	3	8.88		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Taps (excluding kitchen and external taps)	Flow rate (litres / minute)	4	7.90	4	7.90		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Are both a Bath & Shower Present?		Shower only		Bath & Shower		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Bath	Capacity to overflow		0.00	155	17.05		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Shower	Flow rate (litres / minute)	8	44.80	8	34.96		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Kitchen sink taps	Flow rate (litres / minute)	5	12.56	5	12.56		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a washing machine been specified?		Yes		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Washing Machine	Litres / kg	8.17	17.16	8.17	17.16		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a dishwasher been specified?		Yes		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Dishwasher	Litres / place setting	1.25	4.50	1.25	4.50		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a waste disposal unit been specified?		No		No		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Water Softener	Litres / person / day		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Calculated Use		102.4		109.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
Normalisation factor		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91	
Code for Sustainable Homes	Total Consumption	93.2		99.7		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	Mandatory level	Level 3/4		Level 3/4		-		-		-		-		-		-		-		-	
Building Regulations 17.K	External use	5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0	
	Total Consumption	98.2		104.7		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
	17.K Compliance?	Yes		Yes		-		-		-		-		-		-		-		-	



Appendix 4

BREEAM Pre-assessment Credit Summary

FOCUS CONSULTANTS 2010 LLP

BREEAM DR 2014 Credit Summary



CLIENT:	Planning Issues Ltd
PROJECT:	Hemdean Road, Caversham
DATE:	Jan 26
REVISION:	1

Credit Issue		Credits Available	Credits Sought	Section Total	Total Available for Section	Approx Weighted Value of Each Credit	Contribution to Final Score (%)
MANAGEMENT							
MAN 01	Home User Guide	3	3	11	11	1.09	12.00
MAN 02	Responsible Construction Practices	2	2				
MAN 03	Construction Site Impacts	1	1				
MAN 04	Security	2	2				
MAN 05	Protection and enhancement of ecological features	1	1				
MAN 06	Project Management	2	2				
HEALTH & WELLBEING							
HEA 01	Daylighting	2	1	10	12	1.42	14.17
HEA 02	Sound Insulation	4	3				
HEA 03	Volatile Organic Compounds	1	1				
HEA 04	Inclusive Design	2	2				
HEA 05	Ventilation	2	2				
HEA 06	Safety	1	1				
ENERGY							
ENE 01	Improvement in Energy Efficiency Rating	6	3	20.5	29	1.48	30.40
ENE 02	Energy Efficiency Rating Post-Refurbishment	4	2.5				
ENE 03	Primary Energy Demand	7	4				
ENE 04	Renewable Technologies	2	2				
ENE 05	Energy Labelled White Goods	2	2				
ENE 06	Drying Space	1	1				
ENE 07	Lighting	2	2				
ENE 08	Energy Display Devices	2	2				
ENE 09	Cycle Storage	2	2				
ENE 10	Home Office	1	0				
WATER							
WAT 01	Water Consumption	3	2	3	5	2.20	6.60
WAT 02	External Water Use	1	0				
WAT 03	Water Meter	1	1				
MATERIALS							
MAT 01	Environmental Impact of Materials	25	10	14	48	0.17	2.33
MAT 02	Responsible Sourcing of Materials	15	4				
MAT 03	Insulation	8	0				
WASTE							
WAS 01	Household Waste	2	2	5	5	0.60	3.00
WAS 02	Refurbishment Site Waste Management	3	3				
POLLUTION							

FOCUS CONSULTANTS 2010 LLP

BREEAM DR 2014 Credit Summary



CLIENT:	Planning Issues Ltd
PROJECT:	Hemdean Road, Caversham
DATE:	Jan 26
REVISION:	1

Credit Issue		Credits Available	Credits Sought	Section Total	Total Available for Section	Approx Weighted Value of Each Credit	Contribution to Final Score (%)
POL 01	Nitrogen Oxide Emissions	3	0	3	8	0.75	2.25
POL 02	Surface Water Run-Off	3	1				
POL 03	Flooding	2	2				
INNOVATION							
MAN 02	Responsible Construction Practices	1	1	4	11	1.00	4.00
MAN 05	Protection and enhancement of ecological features	1	1				
MAN 06	Project Management	2	0				
HEA 04	Inclusive Design	1	1				
ENE 02	Energy Efficiency Rating Post Refurbishment	2	0				
ENE 08	Energy Display Devices	1	1				
WAT 01	Internal Water Use	1	0				
WAS 02	Refurbishment Site Waste Management	1	0				
POL 02	Surface Water Run-Off	1	0				
PROJECTED BREEAM SCORE							74.74

BREEAM Domestic Refurbishment Design Stage Evidence Tracker

Client:	Planning Issues Ltd
Project:	Hemdean Road, Caversham
Date:	Jan 26
Revision:	1

	%	Rating
Target Score	74.75	Excellent
Potential Score	74.75	Excellent
Awarded Score	0.00	Not Rated



			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
MANAGEMENT								
Man 01 Home Users Guide	Home Users Guide							
	PRINCIPAL CONTRACTOR	BREEAM Design Stage specification confirming commitment to supply the development with a Home User Guide covering all the issues required in the 'user guide contents list'.	N/A	3	3	0	0	All 3 credits are achieved where a BREEAM-compliant home user guide is produced and supplied to all dwellings. Only 1 dwelling is included in this assessment.
Man 02 Responsible Construction Practices	Small-scale projects							
	PRINCIPAL CONTRACTOR	Written confirmation of registration with Considerate Constructor Scheme or completion of Checklist A-3 before the commencement of refurbishment works.	N/A	2	2	0	0	- A CCS score of 35 with a score of 11 in each section (as per KBCN1500) OR - Fulfilment of all the mandatory items plus 80% of the optional items in Checklist A-3 by an alternative, independently assessed scheme.
		BREEAM Design Stage specification confirming commitment to comply with the scheme and achieve the target score.						
	Exemplary credit requirements							
	PRINCIPAL CONTRACTOR	BREEAM Design Stage Specification confirming commitment to achieve a score of 40 or more with a minimum 7 in each section OR confirmation all mandatory and optional items of Checklist A-3 will be achieved.	N/A	1	1	0	0	Either of the following must be achieved: - A CCS score of 39 overall with a minimum of 13 points per section OR - Fulfilment of all the mandatory and all optional items in Checklist A-3 by an alternative, independently assessed scheme.
Man 03 Construction Site Impacts	Small-scale projects							
	PRINCIPAL CONTRACTOR	Completed, signed and dated copy of Checklist A-5, identifying which items will form part of the main contractor's obligations.	N/A	1	1	0	0	2 or more of the sections a-d in Checklist A-5 are required to be completed.
		Written confirmation that site timber will be sourced from suppliers with appropriate certification documents / chain of custody (CoC) certificates.						
		A copy of the policy for sourcing site timber for the project / the contractor's environmental materials policy.						
		Written commitment to appointment of an appropriate individual to monitor and record site energy / CO2 consumption and water consumption, and confirmation of the targets set for each.						

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Man 04 Security	Secure windows and doors							
	PRINCIPAL CONTRACTOR	Retained external doors and windows: Written commitment that retained external windows and doors will meet the minimum security requirements given in CN6.	N/A	1	1	0	0	New external doors and windows: External or entrance door sets, or both, must achieve PAS 24:2012 or LPS 1175 Issue 7 Security Rating 1 or equivalent.
		New external doors and windows: Written commitment that either new external or entrance door sets, or both, will achieve PAS 24:2012 or LPS 1175 Issue 7 Security Rating 1 or equivalent.						
		Photographic evidence or drawings of the new and / or retained doors and windows.						
	Secured by design							
	PRINCIPAL CONTRACTOR	Evidence demonstrating a suitably qualified security consultant has been contacted to confirm the requirements of Section 2 - Physical Security of Secured by Design - New Homes will be met.	N/A	1	1	0	0	SBD officer to be engaged prior to commencement of works on site for credit to be achieved.
BREEAM Design Stage specification confirming advice provided by the security consultant will be followed and achieved.								
Man 05 Protection and Enhancement of Ecological Features	Protecting ecological features							
	PRINCIPAL CONTRACTOR	Building and site inspection report and photographic evidence demonstrating no ecological features on or surrounding the existing site.	N/A	1	1	0	0	The credit can be awarded where the refurbishment site is defined as 'land of low ecological value' and where the surrounding site contains no features of ecological value. This is assumed for the development.
	Exemplary credit requirements - Ecological enhancement							
	PRINCIPAL CONTRACTOR	Written confirmation, photographic evidence or drawings from the developer confirming that all recommendations from the SQE will be implemented & 30% of additional recommendations.	N/A	1	1	0	0	Developer to adopt all general ecological recommendations and 30% of additional recommendations.
Man 06 Project Management	Project roles and responsibilities							
	CLIENT	Written confirmation indicating when the collaboration began and the roles and responsibilities of the project team. This could take the form of: - Meeting minutes - Construction programme - Responsibilities schedule - Relevant section or clauses of the building specification or contract - Project implementation plan (typically in the case of small-scale projects)	N/A	1	1	0	0	Applicable stages: i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation
	Handover and aftercare							
	PRINCIPAL CONTRACTOR	Written confirmation of a commitment or contract to provide compliant aftercare support and training, including two or more of the following: - A site inspection within 3 months of occupation - Post-occupancy interviews with building occupants within 3 months of occupation - Longer-term aftercare for the first 12 months of occupation	N/A	1	1	0	0	Project Team to confirm which of the Aftercare activities are to be included in the project's scope of works, and ensure these are included in the project timeframe and budget.

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Man 06 Project Management	Exemplary credit requirements - Early design input							
	CLIENT	Written confirmation of the early-stage appointment of a BREEAM Accredited Professional (AP) or BREEAM Domestic Refurbishment Assessor as well as relevant section or clauses of the building specification / contract.	N/A	1	0	0	0	Early-stage BREEAM AP report produced by Becky Armstrong to be requested from eightversa.
		Written confirmation from the AP/Assessor that the key stages have been implemented (AP report).						
		A copy of the meeting notes or minutes, recorded correspondence or schedules that can demonstrate AP attendance at key design team meetings and that BREEAM issues are a regular agenda item.						
	Exemplary credit requirements - Thermographic survey and airtightness testing							
	PRINCIPAL CONTRACTOR	Copy of the pre-refurbishment thermographic survey	N/A	1	0	0	0	Thermographic surveying and airtightness testing must be undertaken at both pre- and post-refurbishment stages. Where an improved airtightness target has been set at design stage, post-refurbishment testing must demonstrate that the target has been achieved.
		Level 2 thermography certificate for the professional who undertook the pre-refurbishment testing						
		Pre-refurbishment airtightness testing results						
		Written confirmation from the refurbishment project manager of areas to be targeted as a result of the testing						
		Written commitment to undertake a post-refurbishment thermographic survey and airtightness testing.						Project Team confirmed post-refurbishment testing, but pre-refurbishment testing will be dependent on costs. Credit therefore to remain potential until further notice.
Total Credits				13	13	0	0	
Total Credits Weighted			1.09	16.00	14.00	0.00	0.00	

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional		
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments	
HEALTH & WELLBEING									
Hea 01 Daylighting	Maintaining good daylighting								
	ARCHITECT	Completed copy of Checklist A7 confirming the refurbishment results in a neural impact on the dwelling daylighting levels in the kitchen, living room, dining room and study, with 'no' answered for all questions in Parts 1 & 2.	N/A	1	1	0	0	Focus to provide template for Checklist A7 to the Architect for completion.	
Hea 01 Daylighting	Minimum daylighting								
	DAYLIGHTING CONSULTANT	Daylighting calculations produced by a daylighting expert to demonstrate average daylight factor (using Hea 01 calculator) and position of no-sky line and percentage of working plane that receives direct light from the sky.	N/A	1	0	0	0	Calculations to confirm the dwelling achieves the following daylighting criteria: - Kitchens: A minimum daylight factor of at least 2% - Living rooms, dining rooms and studies: A minimum average daylight factor of at least 1.5% - 80% of the working plane in the kitchen, living room, dining room and study, receives direct light from the sky. Internal daylighting assessment produced by NRG, dated October 2024, received, confirming compliance with Daylighting criteria for 2 credits.	
Hea 02 Sound Insulation	Properties where sound testing has been carried out								
	ACOUSTICIAN	Acoustic report produced by a suitably qualified acoustician* confirming that all separating walls and floors within the dwelling meet or go beyond regulations** for sound insulation: - Airborne sound insulation is 5dB higher than Part E regulations (≥ 43 for walls, floors and stairs) - Impact sound insulation is 5dB lower than Part E regulations (N/A for walls, ≤ 64 for floors and stairs) *An individual who holds a recognised acoustic qualification and membership of an appropriate professional body, e.g., the Institute of Acoustics. **The Building Regulations for England and Wales Approved Document E: Resistance to the Passage of Sound, 2003 edition incorporating 2004 and 2010 amendments	N/A	4	3	0	0	Acoustic report to be issued to Focus for review. Drawings or written confirmation from the developer confirming no separating construction between neighbouring habitable rooms are also required.	
Hea 03 Volatile Organic Compounds	Avoiding the use of VOCs								
	PRINCIPAL CONTRACTOR	Design stage commitment that the VOC content of all decorative paints and varnishes & at least five of the eight other product categories listed will comply with the standards specified within the criteria. Product types applicable to assessment: - Wood panels - Timber structures - Wood flooring - Resilient, textile and laminated Floor coverings - Suspended ceiling tiles - Wall and floor adhesives - Wall coverings	N/A	1	1	0	0	Finishes specification confirming the selected products and the VOC standards and testing requirements for each will be required, alongside product datasheets and drawings, once available. This is typically during PCS, but the requirements within Table 16 should be consulted during procurement to ensure selection of compliant products.	

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Hea 04 Inclusive Design	Accessibility (minimum & advanced)							
	PRINCIPAL CONTRACTOR	Access Statement completed by the inclusive design champion, NRAC auditors or NRAC consultant to address the requirements of Sections 6 – 9 of Part M, signed by the developer and, when completed by an inclusive design champion or NRAC auditor, the appointed assessor.	N/A	2	2	0	0	1 credit (minimum accessibility): The statement must demonstrate reasonable provision to provide accessibility to the dwelling covering section 1 of Checklist A8. 2 credits (advanced accessibility): The statement must demonstrate reasonable provision to provide accessibility to the dwelling covering sections 1 & 2 of Checklist A8.
	Exemplary performance requirements							
	M&E CONSULTANT	Access Statement completed by the inclusive design champion, NRAC auditors or NRAC consultant to address the requirements of Sections 6 – 9 of Part M, signed by the developer and, when completed by an inclusive design champion or NRAC auditor, the appointed assessor.	N/A	1	1	0	0	The statement must demonstrate reasonable provision to provide accessibility to the dwelling covering sections 1, 2 & 3 of Checklist A8.
Hea 05 Ventilation	Minimum ventilation requirements							
	M&E CONSULTANT	Ventilation strategy report confirming the level of background, extract and purge ventilation that will be implemented, demonstrating: - A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010. - A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bathrooms), compliant with section 5, Building Regulations Approved Document Part F 2010. - A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010.	HEA05	1	1	0	0	Project Team confirmed that the design of the development achieves Building Regulations Part F compliance, allowing the credit to be targeted.
		Letter confirming that the edwelling will comply with the above ventilation standards						
		Design drawings showing proposed ventilation systems and layout.						
	Advanced ventilation							
M&E CONSULTANT	Ventilation strategy report confirming that the ventilation will meet the requirements of Section 5 of Building Regulations Part F in full.	N/A	1	1	0	0	Project Team confirmed 'Advanced ventilation', is to remain untargeted due to requirement for additional extract ventilation.	

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Hea 06 Safety	Fire and carbon monoxide (CO) detection and alarm systems							
	PRINCIPAL CONTRACTOR	Design Stage confirmation that the fire detection and fire alarm system will be certified to the relevant standards.	HEA06	1	1	0	0	Dwelling will not be supplied with mains gas, and therefore a carbon monoxide detector is not required - only <u>Criterion 1</u> applies: 'The dwelling is provided with a compliant fire detection and alarm system in compliance with CN2-9' <u>CN2</u> : Fire detection and alarm systems should be in accordance with BS 5839-6:2013 and to at least a Grade D Category LD3 standard. <u>CN3</u> : A large dwelling of 2 storeys (excluding basement storeys) should be fitted with a fire detection system of Grade B category LD3 as described in BS 5839-6:2004. A large dwelling of 3 or more storeys (excluding basement storeys) should be fitted with a Grade A Category A LD2 system as described in BS 5839-6:2004. Project team to confirm the number of storeys and area of each.
	Total Credits			13	11	0	0	
	Total Credits Weighted			1.42	18.00	15.17	0.00	0.00

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
ENERGY								
Ene 01 Improvement in Energy Efficiency Rating	Improving the dwelling's energy efficiency rating (EER)							
	PRINCIPAL CONTRACTOR	A copy of the design stage energy performance certificate report or SAP 2012 worksheets to confirm the dwelling's energy efficiency rating pre-refurbishment and post-refurbishment.	N/A	6	3	0	0	Credits at this stage are awarded based on the Pre-refurbishment and Proposed design stage SAPs . As-built SAP will be required at the post-construction stage once build specification is finalised.
	FOCUS	A copy of the output from the BREEAM Domestic Refurbishment energy calculator						
Ene 02 Energy Efficiency Rating Post-Refurbishment	EER post-refurbishment							
	PRINCIPAL CONTRACTOR	A copy of the design stage energy performance certificate report or SAP 2012 worksheets post-refurbishment to confirm the dwellings energy efficiency rating.	VERY GOOD	4	2.5	0	0	Credits at this stage are awarded based on the Pre-refurbishment and Proposed design stage SAPs . As-built SAP will be required at the post-construction stage once build specification is finalised.
	FOCUS	A copy of the output from the BREEAM Domestic Refurbishment energy calculator						
	Exemplary performance requirements							
	PRINCIPAL CONTRACTOR	A copy of the design stage energy performance certificate report or SAP 2012 worksheets post-refurbishment to confirm the dwellings energy efficiency rating.	N/A	2	0	0	0	1 innovation credit: Achievement of an EER post-refurbishment of ≥ 90, equivalent to an energy performance certificate band A. 2 innovation credits: Achievement of an EER post-refurbishment of ≥ 100.
	FOCUS	A copy of the output from the BREEAM Domestic Refurbishment energy calculator						
Ene 03 Primary Energy Demand	Primary Energy Demand Post-Refurbishment							
	PRINCIPAL CONTRACTOR	A copy of the design stage energy performance certificate report, SAP 2012 or RdSAP April 2012 worksheets (or EPC report) post-refurbishment to confirm the dwelling's primary energy demand.	N/A	7	4	0	0	Credits at this stage are awarded based on the Pre-refurbishment and Proposed design stage SAPs . As-built SAP will be required at the post-construction stage once build specification is finalised.
	FOCUS	A copy of the output from the BREEAM Domestic Refurbishment energy calculator						
Ene 04 Renewable Technologies	Renewable technologies							
	M&E CONSULTANT	Specification confirming percentage of the dwellings Primary Energy Demand per annum to be supplied by low or zero carbon technologies.	N/A	2	2	0	0	At least 10% (1 credit) / 20% (2 credits) of the dwelling's primary energy demand per annum is supplied by low or zero carbon technologies - The dwelling has reduced energy demand prior to the specification of renewable technologies with a maximum primary energy demand of 250 kWh/m2/year .
		Design drawings showing the proposed layout of PV.						
		A copy of the design stage SAP 2012 or RdSAP outputs post-refurbishment to confirm the dwelling's primary energy demand in kWh/m2/year, AND Calculations confirming the renewable energy generation in kWh/m2/year from the PV.						
		Confirmation that the specified PV will meet the requirements defined in Directive 2009/28/EC						

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Ene 05 Energy Labelled White Goods	Fridges, freezers, fridge-freezers							
	CLIENT	Confirmation that the fridges and freezers or fridges/freezers have an E rating or better under the EU energy efficiency labelling scheme (as per KBCN1445)	N/A	1	1	0	0	Currently assumed that a Fridge and freezer or fridges/freezer will be installed within the dwelling. Datasheets and purchase orders for the products will be required at PCS.
		Confirmation that if the above white goods are not specified, the EU energy efficiency labelling scheme information leaflet will be provided to each dwelling.						
	Washing machines, dishwashers, tumble dryers and washer-dryers							
	CLIENT	Confirmation that (as per KBCN1445): - Washing machines have a B rating or better under the EU energy efficiency labelling scheme - Dishwashers have an D rating or better under the EU energy efficiency labelling scheme. - Washer-dryers and tumble dryers have a D-D rating or better under the EU energy efficiency labelling scheme (where a washer dryer is provided, it is not necessary to also provide a washing machine)	N/A	1	1	0	0	Currently assumed that a washing machine / washer dryer and dishwasher and will be installed within the dwelling. Datasheets and purchase orders for the products will be required at PCS.
		Confirmation that if the above white goods are not specified, the EU energy efficiency labelling scheme information leaflet will be provided to each dwelling.						
Ene 06 Drying Space	Drying space							
	CLIENT	Design stage commitment outlining the design specification that will be implemented (4m+ of drying line in an adequate internal space).	N/A	1	1	0	0	An adequate, secure internal or external space with posts and footings, or fixings holding to be provided The fixture or fitting needs to be a permanent feature of the room. Adequate space = A heated space with adequate, controlled ventilation, complying with Building Regulations Approved Document F Ventilation 2006.
	ARCHITECT	Design drawing labelled to show the proposed adequate location of the permanent drying line.						
Ene 07 Lighting	External lighting							
	M&E CONSULTANT	Design stage commitment confirming that energy efficient space lighting (including lighting in communal areas) and energy efficient security lighting (/no security lighting) will be provided.	N/A	1	1	0	0	Energy efficient space lighting = lighting more than 45 lumens per circuit watt.
		External lighting specification and calculations, if available at this stage						
		Design drawings showing the location of all external light fittings and their controls						
	Internal lighting							
	M&E CONSULTANT	Design stage commitment confirming the provision of a maximum average wattage across the total floor area of the dwelling of 9 watts/m2.	N/A	1	1	0	0	Confirmation of the quantity of all internal lamps, the wattage of each lamp and the m2 of the dwelling are required to determine compliance.
Internal lighting specification and calculations, if available at this stage								
Design drawings showing the location of all internal light fittings and their controls								

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Ene 08 Display Energy Devices	Display Energy Devices							
	CLIENT	Signed specification confirming a compliant energy display device will be installed within each dwelling in an accessible location	N/A	2	2	0	0	1 credit: The specified energy display device is capable of displaying current electricity or primary fuel consumption to occupants.
		Design drawing labelled to show the proposed accessible location of the energy display device						2 credits: - The specified energy display device is capable of displaying current electricity and primary fuel consumption to occupants, OR - Electricity is the primary heating fuel and current electricity consumption data are displayed to occupants by a compliant energy display device (assumed for the proposed development).
	Exemplary performance requirements							
	CLIENT	Signed specification confirming a compliant energy display device will be installed within each dwelling in an accessible location, capable of recording consumption data.	N/A	1	1	0	0	Project Team to confirm the device will be capable of recording consumption data. Assumed at present based on Pre-assessment.
		Design drawing labelled to show the proposed accessible location of the energy display device						
Ene 09 Cycle Storage	Cycle storage							
	ARCHITECT	Design drawings demonstrating the proposed number and location of compliant cycle storage spaces within 100m of the building entrance	N/A	2	2	0	0	1 credit: 1 cycle space per dwelling 2 credits: 2 cycle spaces per dwelling
	ARCHITECT	Statement confirming the number of bedrooms and number of compliant cycle spaces to be included within the development.						<u>CN3</u> - The internal cycle storage must not be accessed through the living room, dining room, bedrooms, etc. The space should be located on the ground floor, and sized to accommodate the minimum width needed for a person pushing a bicycle (1.10m width), and 2.0m bike length for manoeuvring the cycle round corners.

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Ene 10 Home Office	Home Office							
	ARCHITECT	Design drawings demonstrating the proposed location and size of the home office	N/A	1	0	0	0	Credit was not targeted in initial Pre-assessment. Project Team to confirm whether this is still to be the case.
		Design drawings demonstrating the provision of sufficient sockets, telephone points and ventilation into the space						Suitable room: For dwellings with three or more bedrooms, a suitable room is defined as a room other than the kitchen, living room, master bedroom or bathroom.
		Design stage commitment/specification outlining the compliant home office area to be provided						Sufficient services: The following must be provided in the suitable room intended as the home office: - Two double power sockets - Telephone point - Window (width & height to be no less than 450mm) - Adequate ventilation (openable window with minimum opening casement of 0.5m2 if no other ventilation provided, or alternative ventilation). If 1 credit is achieved under Hea 05, the requirements will be met. Sufficient space: Minimum wall length of 1.8m to allow a desk, chair, filing cabinet or bookshelf to be installed with adequate room to manoeuvre
Total Credits				32	21.5	0	0	
Total Credits Weighted			1.48	46.00	31.40	0.00	0.00	

				Template provided	Not Targeted	Incomplete	Fulfilled	Optional		
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments		
WATER										
Wat 01 Internal Water Use	Internal water use									
	FOCUS	Completed copy of the BREEAM Wat 01 calculator per dwelling type	VERY GOOD	3	2	0	0	Focus to complete Wat 01 calculator based on proposed sanitaryware specification. Confirmation of flow rates/volumes for each product are required to complete the tool. To obtain the 2.5 targeted credits, all kitchen, bathroom, utility room and WC room fittings are to be specified to 'Good'		
	M&E CONSULTANT	Design Stage specification/commitment confirming sanitaryware/water usage equipment flow rate/volume specification of from 96 to < 107 litres/person/day								
		Design drawings confirming equipment locations								
	Exemplary performance requirements									
	FOCUS	Completed copy of the BREEAM Wat 01 calculator per dwelling type	N/A	1	0	0	0	Not anticipated that the exemplary requirements will be met. To be confirmed following completion of the Wat 01 calculator upon receipt of proposed sanitaryware specification.		
	M&E CONSULTANT	Design Stage specification/commitment confirming sanitaryware/water usage equipment flow rate/volume specification of 80l/person/day								
		Design drawings confirming equipment locations								
Wat 02 External Water Use	External water use									
	ARCHITECT	Design stage site plan demonstrating there is no garden space, and therefore no external water use	N/A	1	0	0	0	Confirmed that the development will not have individual garden space . Credit can therefore be awarded by default if this is sufficiently evidenced.		
Wat 03 Water Meter	Water meter									
	M&E CONSULTANT	Signed specification confirming that a compliant water meter display device capable of displaying current consumption instantaneously or at half hourly intervals will be installed in an easily accessible location	N/A	1	1	0	0	Where an existing water meter is in place, this must meet the Wat 03 requirements indicated for the credit to be awarded.		
	ARCHITECT	Design drawings demonstrating the proposed accessible location of the water meter display device								
Total Credits				6	3	0	0			
Total Credits Weighted				2.20	12.00	6.60	0.00	0.00		

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
MATERIALS								
Mat 01 Environmental Impact of Materials	Environmental impact of materials							
	PRINCIPAL CONTRACTOR	Specification providing a detailed description of each new and retained applicable element, its constituent materials, and the Green Guide ratings for each material	N/A	25	10	0	0	Credits are awarded according to the impact of new materials and retained elements according to their Green Guide rating and their impact on improving the thermal performance of the dwelling. Applicable elements: a. Roof b. External walls c. Internal walls (including separating walls) d. Upper and ground floors e. Windows
	ARCHITECT	Design drawings or specification detailing the location and area (m2) of each applicable element						
	FOCUS	Completed copy of the Mat 01 calculator tool, including Green Guide ratings and element numbers						
Mat 02 Responsible Sourcing of Materials	Responsible sourcing of materials							
	PRINCIPAL CONTRACTOR	Design Stage specification/commitment confirming all timber will come from a 'legal source' and is not on the CITES list OR it has not been sourced from the country seeking to protect the species	MAT 02	15	4	0	0	Focus to complete the Mat 02 calculator following receipt of material specification and drawings containing all required information.
		The Principal Contractor's Sustainable Procurement Plan, OR A completed checklist A-9 if the principal contractor is a 'micro-enterprise'						
		Design Stage specification/commitment that the products shall be sourced from suppliers capable of providing certification to the level required						
		Drawings and/or materials specification confirming: - The proposed location of elements and materials specified - Details of the materials proposed for each element (product name, manufacturer, responsible sourcing certification, quantity/volume/area)						
	FOCUS	Completed copy of the output from the Mat 02 calculator tool						
Mat 03 Insulation	Embodied impact							
	PRINCIPAL CONTRACTOR	Drawings labelled the following details for the proposed insulation: - Location - Area (m2) - Thickness (m) / Volume (m3)	N/A	4	0	0	0	Any new insulation specified for use within the following building elements must be assessed: - External walls. - Ground floor. - Roof. - Building services. The credits are achieved where the insulation index for new insulation used in the buildings is ≥ 2, calculated using the BREEAM Mat 03 calculator. Focus to complete the Mat 03 calculator following receipt of insulation specification and drawings containing all required information.
		Insulation specification confirming the following details for each product: - Product name - Manufacturer - Thickness - Thermal conductivity - Green Guide rating and element number & relevant EPDs						
		Copies of environmental product declarations (EPDs) for insulation, where available						
		FOCUS						

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Mat 03 Insulation	Responsible sourcing							
	PRINCIPAL CONTRACTOR	Design Stage specification/commitment that the insulation shall be sourced from suppliers capable of providing responsible sourcing certification	N/A	4	0	0	0	Focus to complete the Mat 02 calculator following receipt of material specification and drawings containing all required information.
		Insulation specification confirming the following details for each product: - Product name - Manufacturer - Thickness - Thermal conductivity - Green Guide rating and element number & relevant EPDs - Responsible sourcing certification						
		Completed copy of the output from the Mat 02 calculator tool						
		Responsible sourcing certification from the manufacturers of all new insulation installed, if available at this stage						
Total Credits				48	14	0	0	
Total Credits Weighted			0.17	8.00	2.33	0.00	0.00	

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
WASTE								
Was 01 Household Waste	Recycling facilities							
	CLIENT	Design Stage specification/commitment confirming of the type and sizes of internal and external storage bins	N/A	1	1	0	0	<u>Criterion 1</u> has been followed as it is assumed a compliant council waste collection scheme is in place. Project Team to confirm. Requirements for internal bins: - 3 internal recycling containers where recycling is not sorted post collection - 1 internal recycling container provided where recycling is sorted post collection - Minimum 30 litre total capacity, no single container less than 7 litre capacity - To be located in a dedicated, unobtrusive position located in a cupboard in the kitchen, close to the non-recyclable waste bin, or located adjacent (within 10m) to the kitchen in a utility room, storage room or connected garage. Requirements for external bins: - External bins for recyclable materials with a minimum total capacity of 180 litres - Where the recycling waste is sorted post collection, 1 bin with a minimum capacity of 180 litres can be provided - The storage containers for recycling are provided in addition to non-recyclable external waste storage - Communal recyclable storage is provided in a dedicated external space or in a dedicated communal space within the building, sized according to the frequency of collection, based on guidance from the recycling scheme operator, with space for at least three types of recyclable waste
	ARCHITECT	Design drawings labelled to show the proposed dedicated locations of the internal and external storage bins						
	CLIENT	Confirmation from the local authority/waste collector of the types of waste collected, collection frequency and level of segregation required						
Was 01 Household Waste	Composting facilities							
	CLIENT	Design Stage specification/commitment confirming that a composting service/facility will be in place, and an interior composting container of at least 7 litre capacity is to be provided in a dedicated position for kitchen waste.	N/A	1	1	0	0	The composting service or facility must include one of the following: - An exterior home composting facility is provided for the dwelling for composting green/garden waste and kitchen waste within 30 metres from an entrance door to the dwelling - A local authority green/garden and kitchen waste collection system - A local communal or community composting service is in place, which the local authority runs or there is a management plan in place
	ARCHITECT	Design drawings labelled to show the proposed dedicated location of the internal composting container						

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
Was 02 Refurbishment Site Waste Management	Projects up to and equal to £100k in value							
	PRINCIPAL CONTRACTOR	Confirmation that the site's waste is to be managed in accordance with Checklist A-10	N/A	3	3	0	0	
		Completed checklist A-10, including confirmation of the following: - Waste to be taken away by a licensed carrier - Waste to be taken to a site with an appropriate permit or exemption - Options to be considered for reusing and recycling waste						
		Project budget confirming the value of the development						
	Exemplary level requirements							
	PRINCIPAL CONTRACTOR	Design Stage commitment confirming that the site's waste is to be managed in accordance with a compliant Level 1 SWMP.	N/A	1	0	0	0	Project Team confirmed that a site waste management plan is to be produced and implemented as part of the development. SWMP to address the following Level 1 requirements: - Procedures and commitments for minimising non-hazardous construction waste - Procedures for sorting, reusing and recycling construction waste and demolition waste (if generated) into key defined waste groups. See Table - 32 (according to the waste streams generated by the scope of the works), either on site or through a licensed external contractor and measuring the amount generated and diverted from landfill - Licence details for the waste carrier, and permit details for the site the waste is taken to, if waste is removed offsite - The name or job title of the individual responsible for implementing the above
Total Credits				6	5	0	0	
Total Credits Weighted			0.60	4.00	3.00	0.00	0.00	

			Template provided	Not Targeted	Incomplete	Fulfilled	Optional	
Credit	Action	Evidence Required	Minimum Standard	Credits Available	Credits Targeted	Credits Achieved	Potential Credits	Comments
POLLUTION								
Pol 01 Nitrogen Oxide Emissions	Low NOx space heating and hot water systems							
	M&E CONSULTANT	Confirmation of the NOx emissions of heating and hot water systems	N/A	3	0	0	0	Project Team confirmed that an all-electric heating and hot water system is proposed . Credits therefore unattainable.
Pol 02 Surface Water Run-Off	Neutral impact on surface water							
	DRAINAGE CONSULTANT	Copy of all relevant calculations and information necessary (e.g., drainage report, SuDS specification) to meet the requirements	N/A	3	1	0	0	1 credit: Neutral impact on surface water. There is no change in the size of the building footprint or hardstanding as a result of the refurbishment. 2 credits: Reducing run-off from site - Basic. All run-off from the roof for rainfall depths up to 5mm are managed on-site using source control methods. 3 credits: Reducing run-off from site - Advanced. Run-off as a result of the refurbishment is managed on-site using source control achieving a 75% reduction in peak rate of run-off and volume for the 1 in 100 year event of 6 hour duration, including an allowance for climate change in accordance with with best practice (PPS25, 2010). Calculations and drainage strategy are to be compiled by an Appropriately Qualified Professional (AQP).
		Drainage drawings showing the impermeable areas pre-refurbishment and post-refurbishment						
	PRINCIPAL CONTRACTOR	Written confirmation of the appointment of an appropriately qualified professional to carry out the calculations and provide design criteria for all relevant elements						
	Exemplary level requirements							
	DRAINAGE CONSULTANT	Copy of all relevant calculations and information necessary (e.g., drainage report, SuDS specification) to meet the requirements	N/A	1	0	0	0	- All run-off from the site is managed on site using source control - Peak rate run-off for the 1 in 100 year event is reduced to 0 - No volume of run-off discharged into the watercourses and sewers for a 1 in 100 year event of 6 hour duration - Allowance for climate change must be included for calculations, in line with best practice (PPS25, 2010).
		Drainage drawings showing the impermeable areas pre-refurbishment and post-refurbishment						
	PRINCIPAL CONTRACTOR	Written confirmation of the appointment of an appropriately qualified professional to carry out the calculations and provide design criteria for all relevant elements						
Pol 03 Flooding	DRAINAGE CONSULTANT	A copy of a flood risk assessment confirming flood zone or annual probability of flooding in the site location	EXCELLENT	2	2	0	0	Project Team to ensure a a Suitably Qualified Building Professional is appointed to produce an FRA, complete checklist A-11 and compile a drainage strategy and flood resilience strategy, if required.
		Correspondence from the appropriate statutory body confirming reduced annual probability of flooding due to existing flood defences (if the site has a medium/high flood risk)						
		Completed checklist A-11 (if the site has a medium/high flood risk)						
		Drainage strategy confirming measures to prevent water entering the development (if the site has a medium/high flood risk)						
		Flood resilience strategy completed by a Suitably Qualified Building Professional and evidence confirming how the recommendations will be implemented (if the site has a medium/high flood risk and avoidance of flooding is not possible)						
Total Credits			9	3	0	0		
Total Credits Weighted			0.75	7.00	2.25	0.00	0.00	