

Forty Acre Care Home Halebourne Care Group Limited

BREEAM 2014 Pre-Assessment Report
Multi-residential – Fully Fitted

AES Sustainability Consultants Ltd

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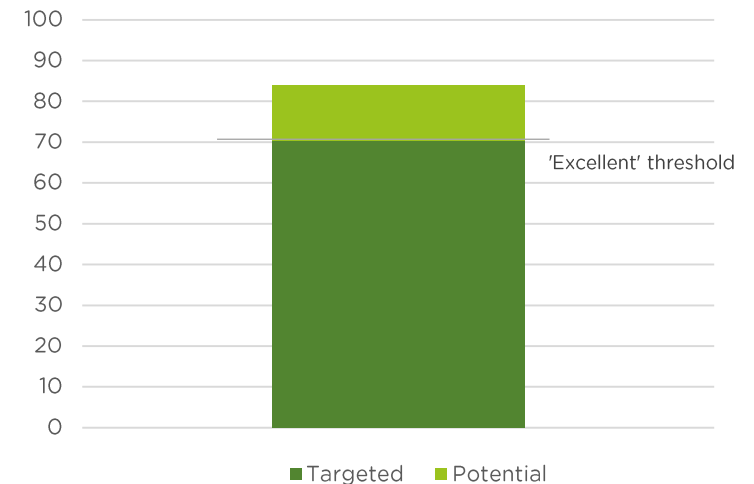
Contents

1. Executive Summary.....	3
2. Introduction.....	4
3. BREEAM Assessment Process.....	4
4. Minimum Standards.....	5
5. Early Stage Consultation & Action.....	6
6. Pre-Assessment Score Summary.....	9
7. Conclusion & Recommendations.....	10

1. Executive Summary

- 1.1. AES Sustainability Consultants were instructed by Halebourne Care Group Ltd to complete a BREEAM 2014 Pre-assessment in order to outline a strategy to achieve BREEAM 'Excellent' for the 66-bed Care Home on the land off Havant Road, Havant.
- 1.2. The assessment was undertaken using the BREEAM UK New Construction 2014 Technical Manual (Version 5.0), based on criteria and credits for a Multi-residential accommodation building type of 'Residential Institution (Care Home)'. The building will be assessed as a 'Fully Fitted' scope of works.
- 1.3. Should the building type and/or scope of works change through the course of the detailed design and/or construction stages, the applicable criteria and credits would be subject to change, hence the strategy laid out in this report would require significant amendment.
- 1.4. Where information is not available at this stage of the development, several assumptions have been made, with some based on a worst-case scenario, and some based on previous experience. In addition, some credits have been targeted in accordance with minimum standards and a certain number of credits required to achieve the Excellent rating.
- 1.5. A number of early stage requirements have been identified within the assessment. It is the project team's responsibility to ensure these are fulfilled, and to take further action where required. This is to prevent any detrimental impact on the targeted strategy, and to ensure further credits can be unlocked at the design and post-construction stages.
- 1.6. The targeted score of 70.40% meets the required BREEAM Excellent rating threshold (70%) with all minimum standards deemed achievable. However, this does not include the recommended safety buffer of at least 4-5% to safeguard the rating. As such further credits from those identified as 'potential' should be targeted during the detailed design stage, with a recommended target score of between 75% and 80%.

Forty Acre Care Home
New Construction 2014 - BREEAM Pre-Assessment



2. Introduction

- 2.1. AES Sustainability Consultants have been instructed by Halebourne Care Group Ltd to complete a BREEAM Pre-assessment in order to outline a strategy to achieve BREEAM 'Excellent' for the Forty Acre Care Home.
- 2.2. This assessment will be undertaken using BREEAM 2014 New Construction in accordance with the confirmed project details, with assumptions made where appropriate as in the below table:

BREEAM Stage:	Pre-Assessment
BREEAM Manual:	BREEAM New Construction 2014 v5.0
BREEAM Building Type:	Residential Institution (Care Home)
BREEAM Scope:	Fully fit
BRE Registration:	BREEAM-0084-3193
Project Size (NIFA):	3758m ²
Target Rating:	Excellent – 70%

- 2.3. It is important to note that should the scope of works change from 'Fully Fitted' to either 'Shell Only' or 'Shell and Core', the applicable criteria and credits within the assessment would be subject to change.
- 2.4. For reference a 'Shell Only' scope of works is defined by BREEAM as new-build works to the fabric, substructure and superstructure of the building only. A 'Shell and Core' scope of works is defined as per the 'Shell Only' above, but with the addition of core building services.

3. BREEAM Assessment Process

- 3.1. There are typically three stages within the BREEAM Assessment process, as detailed as follows:

- BREEAM Pre-Assessment: The relevant stakeholders will meet/liase with the BREEAM Assessor to establish a robust strategy to ensure the required BREEAM rating is achievable. Targets are set at this stage based on information available and reasonable assumptions. Through this process consultation with the stakeholders will be undertaken to identify early stage actions required.
- BREEAM Design Stage Assessment: The project team will have to provide evidence to prove that the targeted credits have been incorporated into design. This will be verified by the BREEAM assessor. A submission will be made to the BRE for Interim Certification.
- BREEAM Post-Construction Stage Assessment: As built information will have to be provided in order to confirm commitments made, to achieve the targeted credits, have been met. The BREEAM assessor will also undertake a site inspection. A submission will be made to the BRE for Final Certification.

- 3.2. A number of credit issues refer to the RIBA stages, as outlined below.

RIBA Stage 0 – Strategic Definition
 RIBA Stage 1 – Preparation & Brief
 RIBA Stage 2 – Concept Design
 RIBA Stage 3 – Developed Design
 RIBA Stage 4 – Technical Design
 RIBA Stage 5 – Construction
 RIBA Stage 6 – Handover and Close Out
 RIBA Stage 7 – In Use

- 3.3. Further details on credit issues and criteria impacted by actions taken at particular RIBA Stages are highlighted within Section 5 of this report.

4. Minimum Standards

- 4.1. In addition to the BREEAM scoring benchmark there are a number of minimum standards that must be met in order to achieve the required 'Excellent' rating. These minimum standards, applicable to a 'Fully Fitted' assessment, are summarised in the table below. Further details on the applicable criteria associated with them should be reviewed and can be found in Appendix A – Pre-Assessment Strategy of this report.

BREEAM Issue	Credits Required	BREEAM Excellent Minimum Standards
Man 03: Responsible construction practices	One Credit	The principal contractor needs to comply with the considerate construction scheme, achieving a score 25.
Man 04: Commissioning and handover	Criterion 10 Only	A Building User Guide is developed prior to handover, for distribution to the building occupiers and premises managers.
Man 05: Aftercare	One Credit	Seasonal commissioning activities will be completed over a 12-month period once the building becomes substantially.
Ene 01: Reduction of energy use and carbon emissions	Five Credits	An Energy Performance Ratio equivalent to at least 0.375 to be achieved.
Ene 02: Energy Monitoring	One Credit	Sub-metering of all major energy consuming systems.
Wat 01: Water consumption	One Credit	12.5% Improvement over baseline building water consumption
Wat 02: Water monitoring	Criterion 1 Only	Specify a water meter with a pulsed output on the mains water supply to each building.
Mat 03: Responsible sourcing of construction products	Criterion 1 Only	All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP).
Wst 03: Operational waste	One Credit	A dedicated space is provided for the segregation and storage of operational recyclable waste volumes generated by the building.
Le 03: Minimising Impact on Existing Site Ecology	One Credit	The change in ecological value of the site is less than zero but equal to or greater than minus nine plant species i.e. a minimal change.

5. Early Stage Consultation & Action

5.1. As part of the BREEAM Pre-Assessment process, consultation with a number of stakeholders is required to inform the design and ensure a robust strategy to achieve BREEAM 'Excellent' is set.

5.2. This report has also been based on the information provided in the following reports:

- A *Statement of Community Involvement (April 2018)* was prepared for the development. Section 3.3 suggests that amendments were made to the design as a result of consultation, however further evidence will be required to support this. This is also supported by the *"Response to consultee comments - A108712 (October 2018)"*.
- A *Sustainability Review (October 2018)* prepared by Paul Basham Associates confirms that a sustainability champion has been appointed to achieve the Man 01.2.
- *The Planning Application (April 2018)* prepared by Barratt David Wilson Homes which provides detailed information about facilities provided for and within the care home.
- *Correspondence from Stuart York, Crime Prevention Design Officer (June 2018)* confirms that security consultation has been undertaken for the site. Additional correspondence should be sought for the care home to achieve the related Hea 06 credit.
- *The Transport Assessment and Travel Plan (September 2019)* have been prepared for the site by Paul Basham Associates which confirm the applicability of the Tra 05 credit.
- *The Bin and Cycle Storage Plan (April 2018)* prepared by ID Partnership Northern confirms the provision of cycle storage (Tra 03) and waste areas (Wst 03) for the care home.

- A *Ground Briefing Note (July 2016)* prepared by Dominic Brightman confirms there is no contamination at the site (Le 01)
- A *Habitat Regulations Assessment (August 2019)* and *Phase 1 Habitat Survey (April 2018)* have been prepared by WYG Associates, which will support the Landscape & Ecology credits (LE 02-04).
- An *Ecology Report (June 2019)* prepared for the development which will support the Landscape & Ecology credits (LE 02-04).
- A *Mitigation Strategy (June 2020)* prepared by WYG Associates which will support the Landscape & Ecology credits (LE 02-04).
- A *Landscape Maintenance and Management Plan (April 2018)* prepared by Fabrik confirms the applicability of the LE 05 credit.
- A *Flood Risk Assessment (April 2018)* has been prepared by RCP Architecture & Civil Engineering which confirms the residential and care-home developments lie within Zone 1 (low flood risk) with the undeveloped portion of the site lying in Zone 2 & 3.
- A *preliminary Noise Assessment (August 2019)* prepared by WYG Associates includes preliminary assessment of the care home, with further evidence required for the credit (Pol 05).

5.3 The following key stakeholders require further engagement or appointments:

- A BREEAM Suitably Qualified Acoustician;
- Indoor Air Quality Consultant;

Critical RIBA Stage 1- 2 Actions

The following items detailed are time relevant actions that must be undertaken at RIBA Stage 1 or 2. These items must be addressed immediately. Please refer to the BREEAM Technical Manual 2014: Version: SD5076 – Issue: 5.0 – Issue Date: 23/08/2016 or contact AES Sustainability Consultants for further detail on compliance, where required. Requirements are specific therefore delivery of these items without reference to the criteria, may not comply.

Credit	RIBA Stage	Criteria / Requirement Summary	Early Action Undertaken	Further Action Required
Tra 05: Travel Plan	1	A travel plan must be developed based on a site-specific travel assessment or statement. The travel assessment must cover the minimum requirements as defined in the technical manual.	Yes	Paul Basham Associates Ltd have completed a Transport Statement and Travel Plan however a bespoke set of recommendations to promote sustainable transport for the care home is also required.
LE 04: Enhancing Site Ecology	1	Appointment of a suitably qualified ecologist to provide a BREEAM compliant ecology report within RIBA Stage 2. The Ecology Report should include appropriate recommendations for the enhancement of the site's ecology.	Yes	Ecology assessment undertaken by WYG. The next step would be for WYG to complete the BRE GN13 note to finalise the necessary BREEAM actions to secure the credits.
Man 01.1 Stakeholder Consultation	2	Project delivery stakeholders must meet prior to RIBA Stage 2 to identify roles, responsibilities and contributions for key phases of project delivery. Demonstration that delivery stakeholders have influenced or changed the initial design brief (e.g. project execution plan/quality plan, communication strategy or concept design).	Yes	The Design Team have met have and identified their roles and responsibilities. Meeting minutes to be provided to provide evidence of this.

Credit	RIBA Stage	Criteria / Requirement Summary	Early Action Undertaken	Further Action Required
Hea 06: Safety and security	2	Security specialist or ALO/CPDA to be consulted at Concept Design Stage to carry out a Security Needs Assessment. A security needs assessment is a site-specific report produced by an ALO or equivalent, and must include a visual audit of site and surroundings and identify specific risks to the building and communities. Any ALO/CPDA/DOCO must still demonstrate that they hold the qualifications, experience and memberships required.	Yes	Security Needs Assessment completed by a suitably qualified security specialist (e.g. ALO or CPDA).
Ene 04.2: Low or zero carbon technologies	2	A feasibility study has been carried out during RIBA stage 2 to establish the most appropriate LZC source/s. - The built form should allow for the future installation of the most cost effective LZC options - The feasibility study quantifies the reduction in regulated CO₂ emissions	None	Low or Zero Carbon Energy Source Feasibility study by M&E Engineer is required to demonstrate compliance.
Mat 06: Material Efficiency	2	Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life.	None	Design team to undertake a study and implement any measures to increase material efficiency.
Wst 05: Adaptation to Climate Change	2	Conduct a climate change adaptation strategy appraisal for structural and fabric resilience to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts.	None	Design team to undertake study and confirm compliance to the design team.
Wst 06: Functional Adaptability	2	A building-specific Functional Adaptation Strategy Study conducted no later than RIBA Stage 2 which includes recommendations for measures to be incorporated to facilitate future adaptation.	None	Design team to undertake study and provide a set of design recommendations to facilitate Functional Adaptability.

6. Pre-Assessment Score Summary

6.1. The Pre-assessment has established the following:

- **Available Credits:** Credits that are available to the building type
- **Targeted Credits:** Credits that will need to be targeted in order to achieve the required rating
- **Potential Credits:** Credits that should be targeted where they are considered feasible, to ensure there is a safety buffer.

6.2. The adjacent table and graph summarises the available, targeted and potential credits, percentages and totals for the 'Fully Fitted' Residential Care Home at Forty Acre.

6.3. Based on the credits targeted; the current design stage target score is 70.40%.

6.4. The total percentage if all targeted **and** potential credits were achieved would be 83.99%.

Section	Available		Targeted		Potential	
	Credits	Percent	Credits	Percent	Credits	Percent
Management	21	12.00%	17	9.71%	1	0.57%
Health and Wellbeing	18	15.00%	13	10.83%	3	2.50%
Energy	22	15.00%	13	8.86%	5	3.41%
Transport	9	9.00%	5	5.00%	1	1.00%
Water	9	7.00%	8	6.22%	1	0.78%
Materials	14	13.50%	11	10.61%	1	0.96%
Waste	8	8.50%	4	4.25%	1	1.06%
Land Use and Ecology	10	10.00%	7	7.00%	1	1.00%
Pollution	13	10.00%	9	6.92%	3	2.31%
Innovation	10	10.00%	1	1.00%	0	0.00%
Total	134	110.0%	88	70.40%	17	13.59%

7. Conclusion & Recommendations

- 7.1. A strategy has been completed to show a route to achieving a score of 70.40% which translates in to a BREEAM 'Excellent' rating.
- 7.2. It is recommended that a safety buffer of +4-5% is incorporated in order to protect the rating and therefore +4-5% should be targeted i.e. 75% in total. A list of potentially suitable credits is detailed below:
- Man 03.1: Responsible construction practices: Environmental management (One Credit = +0.57%)
 - Hea 01.2: Visual comfort: Daylighting (One Credit = +0.83%)
 - Hea 01.3: Visual comfort: View out (One Credit = +0.83%)
 - Hea 02.1: Indoor Air Quality: Minimising sources of air pollution: Ventilation (One Credit = +0.83%)
 - Ene 01: Reduction of Energy Use and Carbon Emissions (One Credit = +0.68%)
 - Ene 04.2: Low carbon design: Low or zero carbon technologies (One Credit = 0.68%)
 - Ene 08: Energy Efficient Equipment (One Credit = +0.68%)
 - Tra 02: Proximity to Amenities (One Credit = +1.00%)
 - Wat 01: Water Consumption (One Credit = +0.78%)
 - Mat 01: Life Cycle Impacts (One Credit = +0.96%)
 - Mat 03: Responsible Sourcing of Materials (One credit = +0.96%)
 - Wst 01.1: Construction Waste Management: Construction resource efficiency (One Credit = +1.06%)
 - LE 02: Ecological Value of Site and Protection of Ecological Features: Ecological value of site (One Credit = +1.00%)
 - Pol 01: Impact of Refrigerants: Leak detection (One Credit = +0.77%)
 - Pol 02: NOx Emissions (One Credit = +0.77%)
- 7.3. In order to achieve BREEAM 'Excellent' it is important to ensure all minimum standards are met. Section 4 of this report provides more detail on the applicable standards.
- 7.4. There are several early stage requirements in BREEAM 2014 that require review and action. Please refer to Section 5 of this report for further details on the actions required in order to secure targeted credits.
- 7.5. In accordance with the BREEAM Assessment Process (outlined in Section 3 of the report), moving forward it is essential that there is timely provision of evidence, and advance warning of credits areas that are no longer achievable.

Appendix A – Detailed BREEAM Strategy

The detailed BREEAM strategy and summary of compliance requirements for the Forty Acre Care Home is outlined below, in addition the responsible party for actioning these requirements is also detailed. Please refer to the BREEAM Technical Manual 2014: Version: SD5076 – Issue: 5.0 – Issue Date: 23/08/2016 or contact AES Sustainability Consultants for further detail on compliance, where required. Requirements are specific therefore delivery of these items without reference to the criteria, may not comply.

Management: 1 Credit = 0.57%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Man 01.1: Project brief and design: Stakeholder consultation: Project delivery	<u>One credit – Stakeholder consultation (Project delivery)</u> - Project delivery stakeholders must meet prior to RIBA Stage 2 to identify roles, responsibilities and contributions for key phases of project delivery. - Demonstration that delivery stakeholders have influenced or changed the initial design brief (e.g. project execution plan/quality plan, communication strategy or concept design).	1	1	0	Client & Design Team	
Man 01.1: Project brief and design: Stakeholder consultation: Third party	<u>One credit - Stakeholder consultation (Third party)</u> - All relevant third-party stakeholders have been consulted and demonstration of how their contributions have influenced the brief/concept design. - Consultation feedback has been given and received by all parties by completion of RIBA Stage 4.	1	1	0	Client & Design Team	Statement of Community Involvement (April 2018, Produced by Barratt David Wilson Homes) Response to consultees (October 2018, Produced by WYG Environment Planning Transport Limited) Public were invited to an exhibition on the 2 nd November 2017 and given the chance to question and make suggestions to the project as well as making any relevant changes to the project brief.
Man 01.2: Project brief and design: Sustainability Champion: Design	<u>One credit - Sustainability Champion (Design)</u> - A sustainability champion must be appointed during RIBA Stage 1 (Preparation and Brief Stage) to facilitate the setting and achievement of the BREEAM target. - The defined BREEAM performance targets must be formally agreed between client and project team no later than Concept Design (RIBA Stage 2). The targeted rating must be achieved.	1	1	0	Client & BREEAM AP	Sustainability Review (October 2018, produced by Paul Basham Associates, prepared by Jessica Lloyd, checked and approved by Mark Smith – appointed as the sustainability champion to facilitate achievement of BREEAM target.) BREEAM target rating has been set by the client as a BREEAM Excellent rating.
Man 01.2: Project brief and design: Sustainability Champion: Monitoring	<u>One Credit - Sustainability Champion (Monitoring)</u> As well as the above, the sustainability champion must be appointed to monitor progress against the target, formally report progress and must attend key project team meetings.	1	1	0	Client & BREEAM AP	Sustainability Review (October 2018, produced by Paul Basham Associates, prepared by Jessica Lloyd, checked and approved by Mark Smith – appointed as the sustainability champion to facilitate achievement of BREEAM target.)

Management: 1 Credit = 0.57%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Man 02.1: Life cycle cost and service life planning: Elemental life cycle	<u>Two credits – Elemental life cycle</u> Elemental LCC analysis complete during RIBA stage 2 to include building structure, fabric and servicing.	2	0	0	Cost Consultant & Design Team	
Man 02.2: Life cycle cost and service life planning: Component level life cycle cost	<u>One credit – Component level life cycle cost</u> Component level LCC plan developed during RIBA stage 4 to include envelope, services, finishes and external spaces. Must be used to influence design/specification to minimise project LCC.	1	0	0	Cost Consultant & Architect	
Man 02.3: Life cycle cost and service life planning: Capital cost reporting	<u>One credit – Capital cost reporting</u> Report the capital cost for the building in pounds per square metre (£k/m²)	1	1	0	Cost Consultant OR Main Contractor	
Man 03.1: Responsible construction practices: Environmental management	<u>Pre-requisite</u> - All timber and timber-based products used on the project is 'Legally harvested and traded timber' <u>One credit – Environmental management</u> - The principal contractor operates an environmental management system (EMS) covering their main operations. The EMS must be either: - third party certified, to ISO 14001/EMAS or equivalent standard; or - have a structure that is in compliance with BS 8555:2003 - The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6.	1	0	1	Main Contractor	
Man 03.2: Responsible construction practices: Construction stage Sustainability Champion	<u>One credit – Sustainability Champion (Construction)</u> - A sustainability champion is appointed to monitor compliance with the BREEAM target during construction, handover and close out stages (RIBA 5&6). - The BREEAM target must form a requirement of the principal contractor's contract and the target must be achieved.	1	1	0	Main Contractor & BREEAM AP	

Management: 1 Credit = 0.57%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Man 03.3: Responsible construction practices: Considerate construction	<u>Up to two credits - Considerate Construction</u> CCS score of 35 or more and in addition a score of at least 7 in each of the five sections must be achieved. Note - Additional Innovation Credit available with CCS Score of 40 or more - refer to Innovation Section.	2	2	0	Main Contractor	
Man 03.4: Responsible construction practices: Monitoring of construction site impacts	<u>Up to two credits - Monitoring of construction site impacts</u> - Individual(s) with appropriate authority is responsible for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site construction processes (and dedicated off-site monitoring) throughout the build programme. <u>First monitoring credit - Utility consumption</u> - Monitoring and reporting of energy and water used for all construction plants, equipment and site accommodation. Reporting of total kgCO2/project value and m3. <u>Second monitoring credit - Transport of construction materials and waste</u> - Monitoring and recording data on transport movement and impact resulting from delivery of the majority of construction materials and waste.	2	2	0	Main Contractor	
Man 04.1: Commissioning and handover: Commissioning and testing schedule and responsibilities	<u>One credit - Commissioning and testing schedule and responsibilities</u> - Production of a commissioning and testing schedule with appropriate BSRIA and CIBSE standards - Appointment of appropriate team member to monitor and programme pre-commissioning, commissioning, testing and re-commissioning - Commissioning and testing programme is accounted for in contractor's budget and main programme of works	1	1	0	Main Contractor	
Man 04.2: Commissioning and handover: Commissioning building services.	<u>One credit - Commissioning building services</u> - The commissioning and testing schedule and responsibilities credit is achieved. - Where a specialist commissioning manager is appointed during the design stage for complex systems to undertake design reviews, have input into programming and manage commissioning, performance testing and handover.	1	1	0	Main Contractor	

Management: 1 Credit = 0.57%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Man 04.3: Commissioning and handover: Testing and inspecting building fabric	<u>One credit - Testing and inspecting building fabric</u> Completion of thermographic survey and airtightness test and inspection, along with any defects remediated.	1	1	0	Main Contractor	
Man 04.4: Commissioning and handover: Handover	<u>One credit - Handover</u> - Distribution of a Building User Guide to building occupiers and premises manager/s. - A training schedule is prepared for building occupiers/ premises manager/s at handover.	1	1	0	Main Contractor	
Man 05.1: Aftercare: Aftercare Support	<u>One credit - Aftercare support</u> - Where there will be operational infrastructure and resources in place to provide aftercare support to building occupiers which includes: - Introduction meeting with the aftercare team - On site facilities management training - Initial aftercare support provision (weekly site attendance) - Longer term aftercare support (e.g. a helpline for a minimum of 12 months after handover) - Where resources are in place to collect and monitor energy and water consumption for a minimum of 12 months.	1	1	0	Main Contractor & Client	
Man 05.2: Aftercare: Seasonal Commissioning	<u>One credit - Seasonal commissioning</u> Seasonal commissioning will be complete over a minimum 12-month period once the building is occupied.	1	1	0	Main Contractor & Client	
Man 05.3: Aftercare: Post occupancy evaluation	<u>One credit - Post occupancy evaluation</u> A commitment is made to carry out a post-occupancy evaluation (POE) through an independent third party after initial building occupation and to disseminate the findings.	1	1	0	Client & Tenant	
Management Totals		21	17	1		

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 01.1: Visual comfort: Glare control	<u>One credit - Glare control</u> Where glare control (e.g. building form, layout and/or design measures) has been designed to eliminate the potential for disabling glare and avoid increasing lighting energy consumption.	1	1	0	Architect	Glazing features and projecting gable fronts (section 3.3, planning statement)
Hea 01.2: Visual comfort: Daylighting	<u>Two credits - Daylighting</u> - Kitchens, living rooms, dining rooms, studies and non-residential or communal occupied spaces to achieve: 2% average daylight factor 80% of spaces to comply - Either - uniformity ratio of 0.3 or minimum point daylight factor of 0.6%. Space with glazed roofs must achieve uniformity of 0.7 or minimum point 1.4% - Or room depth criterion met	1	0	1	Architect & Daylighting Consultant	
Hea 01.3: Visual comfort: View out	<u>One credit - View out</u> 95% of the floor area in each relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out. - The window/opening must be $\geq 20\%$ of the surrounding wall area. Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in table 1.0 of BS 8206. - For Self-contained flats - living rooms & Sheltered housing - communal lounges, individual bedrooms and bedsits: All positions within relevant areas are to be within 5m of a wall which has a window or permanent opening providing an adequate view out. The window/opening must be $\geq 20\%$ of the surrounding wall area.	1	0	1	Architect	

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 01.4: Visual comfort: Internal and external lighting, Zoning and control	<u>One credit - Internal and external lighting levels, zoning and control</u> - All fluorescent and compact florescent lamps must be fitted with high frequency ballasts - Internal illuminance levels in compliance with the SLL Code for Lighting 2012 and any other relevant industry standard - Where computer screens are used, compliance is met with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9 - All external lighting within the construction zone in accordance with BS5489-1:2013 and BS EN12464-2:2014 - Internal lighting is zoned to allow for separate occupant control of different areas	1	1	0	M & E Engineer	
Hea 02.1: Indoor Air Quality: Minimising sources of air pollution: Indoor Air Quality Plan	<u>One credit - Indoor air quality (IAQ) plan</u> - An indoor air quality plan has been produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following: a. Removal of contaminant sources b. Dilution and control of contaminant sources c. Procedures for pre-occupancy flush out d. Third party testing and analysis	1	1	0	Architect & M & E Engineer	
Hea 02.1: Indoor Air Quality: Minimising sources of air pollution: Ventilation	<u>One credit - Ventilation</u> Building designed to minimise the concentration and recirculation of pollutants.	1	0	1	Architect & M & E Engineer	
Hea 02.1: Indoor Air Quality: Minimising sources of air pollution: VOC emission levels: Products	<u>One credit - Volatile organic compound (VOC) emission levels (Products)</u> Use of products with low Volatile Organic Compounds (VOC).	1	1	0	Architect & Main Contractor	

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 02.1: Indoor Air Quality: Minimising sources of air pollution: VOC emission levels: Post Construction	<u>One credit – Volatile organic compound (VOC) emission levels (Post Construction)</u> Measurement of formaldehyde concentrations post construction.	1	1	0	Main Contractor	
Hea 02.2: Indoor air quality: Adaptability – potential for natural ventilation	<u>One credit – Adaptability – potential for natural ventilation</u> - Naturally ventilated, demonstrated through: - Room depth in accordance with CIBSE AM10 section 2.4 with openable window area in each occupied space equivalent to 5% of the gross internal floor area of that room/floor plate; or - Demonstration (through tools recommended by CIBSE AM10) that adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates is provided - The natural ventilation strategy must be capable of providing at least 2 levels of user control on the supply of fresh air to occupied spaces (i.e. higher and lower levels of ventilation). - Multi-residential buildings with self-contained flats and individual bedrooms must have a degree of openable window function. This does not need to provide two levels of user-control (as required above), but must be occupant controlled.	1	0	0	Architect & M & E Engineer & Main Contractor	
Hea 03: Safe containment in laboratories	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL BUILDING TYPE ASSESSMENT</i>	N/A	N/A	N/A	N/A	N/A
Hea 04: Thermal Comfort: Thermal modelling	<u>One credit – Thermal modelling</u> - Full dynamic thermal analysis to be carried out using software in accordance with CIBSE AM11 to demonstrate that compliance is met with CIBSE Guide A. If naturally ventilated the building limits risk of overheating using the adaptive comfort methodology outlined with CIBSE TM52. - For Air-conditioned buildings, the predicted mean vote (PMV) and predicted percentage of dissatisfied (PPD) indices are reported.	1	1	0	M & E Engineer	

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 04: Thermal Comfort: Adaptability - for a projected climate change scenario	<u>One credit - Adaptability - for a projected climate change scenario</u> - The previous credit is achieved. - Thermal modelling demonstrates thermal comfort is achieved for the projected climate change environment.	1	1	0	M & E Engineer	
Hea 04: Thermal Comfort: Thermal zoning and controls	<u>One credit - Thermal zoning and controls</u> - The first credit is achieved. - The thermal analysis has informed the temperature control strategy. - The strategy demonstrates that it has addressed zones, degree of occupant control required, how the proposed systems will interact with each other and access to manual override for any automatic systems.	1	1	0	M & E Engineer	
Hea 05.1: Acoustic performance: Education, Healthcare, Office and Law Courts building types	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL BUILDING TYPE ASSESSMENT</i>	N/A	N/A	N/A	N/A	N/A
Hea 05.2: Acoustic performance: Industrial, retail, Prisons and 'Other' building types	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL BUILDING TYPE ASSESSMENT</i>	N/A	N/A	N/A	N/A	N/A

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 05.3: Acoustic performance: Multi-residential and 'other residential institutions' building types	Where the building meets the acoustic performance standards and testing requirements achieving the following; <u>One credit</u> - Airborne sound insulation values are at least 3dB higher and impact sound insulation values are at least 3dB lower than the performance standards in the relevant Building Regulations or Standards. <u>Three credits</u> - Airborne sound insulation values are at least 5dB higher and impact sound insulation values are at least 5dB lower than the performance standards in the relevant Building Regulations or Standards. <u>Four credits</u> - Airborne sound insulation values are at least 8dB higher and impact sound insulation values are at least 8dB lower than the performance standards in the relevant Building Regulations or Standards.	4	3	0	Architect & Suitably Qualified Acoustician & Main Contractor	

Health and Wellbeing: 1 Credit = 0.83%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Hea 06: Safety and security: Safe access	<u>One credit – Safe access</u> - Where dedicated cycle paths provide direct access from the site entrance to cycle storage and connect to any off-site cycle paths - Footpaths on site provide direct access from the site entrance to the building entrance and connect to off-site footpaths - Drop-off areas designed to provide direct access to pedestrian footpaths - Dedicated pedestrian crossings provided where pedestrian routes cross vehicle access routes and appropriate traffic calming measures - Large developments with a high number of public users, footpaths must be signposted to local amenities and public transport nodes - Lighting for access roads pedestrian routes and cycle lanes must be compliant with BS5489-1:2013 Where delivery vehicles require access: - Delivery areas must not be accessed directly through general parking areas and do not cross or share pedestrian and cyclist routes - Dedicated parking/waiting areas for goods vehicles away from maneuvering area and car parking - Parking and turning areas designed for simple maneuvering according to the type of delivery vehicle likely to access the suite Dedicated pace for storage of refuse skips and pallets away from the delivery vehicle manoeuvring area and parking (if appropriate).	1	1	0	Architect & Main Contractor	Site plan for the care home and its surroundings shows criteria 1-13 for safe access have been met.
Hea 06: Safety and security: Security of site and building	<u>One credit – Security of site and building</u> A Suitably Qualified Security Specialist conducts an evidence-based Security Needs Assessment during, or prior to, RIBA stage 2. Recommendations/ solutions must be implemented. Note: The Secured by Design (SBD) consultation process, may provide an appropriate framework for demonstrating compliance, however achieving SBD certification is not a specific requirement of BREEAM.	1	1	0	Architect & Landscape Architect & Security Consultant & Main Contractor	Crime Prevention Design Advisor Statement (Stuart York, June 2018) – recommendations given to improve security of the site and buildings to design out crime.
Health and Wellbeing Totals		18	13	3		

Energy: 1 Credit = 0.68%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Ene 01: Reduction of energy use and carbon emissions	<u>Up to twelve credits - Energy performance</u> Calculate an Energy Performance Ratio for New Constructions (EPRNC). Compare the EPRNC achieved with the benchmarks in Table - 25 of the BREEAM manual and award the corresponding number of BREEAM credits.	12	7	2	M & E Engineer	
Ene 02: Energy Monitoring	<u>One credit - Sub-metering of major energy consuming systems</u> - Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. - The energy consuming systems in buildings with a total useful floor area greater than 1,000m². are metered using an appropriate energy monitoring and management system. - The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. - The energy consuming end uses are identifiable to the building users, for example through labelling or data outputs.	1	1	0	M & E Engineer	
Ene 03: External lighting	<u>One credit - External Lighting</u> - The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances). - OR where the building does have external lighting, one credit can be awarded where the Average initial luminous efficacy of the external light fittings is not less than 60 luminaire lumens per circuit Watt and has automatic control for prevention of operation during daylight hours.	1	1	0	M & E Engineer	
Ene 04.1: Low carbon design: Passive design: Passive design analysis	<u>One credit - Passive design - Passive design analysis</u> - The first Hea04 credit must be achieved. - An analysis is carried out during RIBA stage 2 to identify opportunities for the implementation of passive design solutions that reduce the building energy demand. - The building must use passive measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings, and this demonstrates at least 5% reduction in the total energy demands.	1	1	0	Architect & M & E Engineer	

Energy: 1 Credit = 0.68%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Ene 04.1: Low carbon design: Passive design: Free cooling	<u>One credit – Passive design – Free cooling</u> The first credit must be achieved and the passive design analysis includes analysis of free cooling, identifies opportunities for its implementation and the building uses a free cooling strategy.	1	0	0	Architect & M & E Engineer	
Ene 04.2: Low carbon design: Low or zero carbon technologies	<u>One Credit - Low and zero carbon technologies</u> Where a feasibility study has been carried out during RIBA stage 2 to establish the most appropriate LZC source/s and these are specified in line with the recommendations of the study to supply 5% reduction in regulated CO2.	1	0	1	M & E Engineer & Main Contractor	
Ene 05: Energy efficient cold storage: Refrigeration energy consumption	If the building does not contain commercial/industrial sized refrigeration system(s), this issue is not applicable to the assessment (CN3).	N/A	N/A	N/A	N/A	KBCN00029 – Kitchen and catering facilities refers to commercial-sized, but self-contained, off-the-shelf units (e.g. large freezers or fridges) which are delivered and installed incorporating their own refrigeration systems. These are not assessed under this issue.
Ene 05: Energy efficient cold storage: Indirect greenhouse gas emissions	If the building does not contain commercial/industrial sized refrigeration system(s), this issue is not applicable to the assessment (CN3).	N/A	N/A	N/A	N/A	KBCN00029 – Kitchen and catering facilities refers to commercial-sized, but self-contained, off-the-shelf units (e.g. large freezers or fridges) which are delivered and installed incorporating their own refrigeration systems. These are not assessed under this issue.
Ene 06: Energy efficiency transport systems	<u>One credit - Energy consumption</u> - An analysis of the transportation demand (lifts/escalators/moving walkways) and usage patterns for the building must be carried out to determine optimum number and size of lifts. - The energy consumption must be calculated in line with BS EN ISO 25745 for either 2 types of system, an arrangement of systems or a system fit for purpose. - Use of a regenerative drive should be considered if appropriate and the system with the lowest energy consumption must be specified.	1	1	0	Architect & M & E Engineer	

Energy: 1 Credit = 0.68%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Ene 06: Energy efficiency transport systems	<u>Two credits - Energy efficient features</u> - Where the previous credit is achieved. - Where there is a standby condition for off-peak periods, lighting and display has an average lap efficacy of >55 lamp lumens/circuit Watt and where there is a drive controller capable of variable speed, voltage and frequency. - Where regenerative drives will save energy, they are installed.	2	2	0	Architect & M & E Engineer	
Ene 07: Energy efficient laboratory systems	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL BUILDING TYPE ASSESSMENT</i>	N/A	N/A	N/A	N/A	N/A
Ene 08: Energy Efficient equipment	<u>Two credits - Energy efficient equipment</u> The building's unregulated energy consuming loads must be identified. Any systems or processes that use a significant proportion must be identified and a meaningful reduction achieved.	2	0	2	M & E Engineer	Second Floor plan shows a communal laundry and kitchen and catering facilities. Energy consuming equipment used within these areas needs to demonstrate energy efficiency. Predicted types of equipment: - Small power, plug-in equipment - Communal laundry facilities with commercial sized appliances - Domestic scale appliances (individual and communal facilities) - Kitchen and catering facilities
Ene 09: Drying space	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL ASSESSMENTS FOR SUPPORTED LIVING FACILITIES</i>	N/A	N/A	N/A	M & E Engineer	N/A
Energy Totals		22	13	5		

Transport: 1 Credit = 1.00%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Tra 01.1: Public transport accessibility: Accessibility Index	<u>Up to five credits – Accessibility Index</u> The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded in accordance with the table of building types, AI benchmarks and BREEAM credits in the manual. The Accessibility Index is determined by entering the following information in to the BREEAM Tra 01 calculator: - The distance (m) from the main building entrance to each compliant public transport node - The public transport type(s) serving the compliant node e.g. bus or rail - The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day	3	2	0	BREEAM Assessor	The main bus stop is located 147.72m from the site and is serviced by the Number 21 and 23. The Number 21 has an average of 2.09 services and the Number 23 has an average of 5.54 services, This gives an AI of 4.06.
Tra 01.1: Public transport accessibility: Dedicated bus service	<i>CREDIT(S) NOT APPLICABLE – ACCESSIBILITY INDEX ROUTE USED</i>	N/A	N/A	N/A	N/A	N/A
Tra 02: Proximity to amenities	<u>Up to two credits</u> 4 amenities (including 2 core amenities) available within 500m AND/OR 7 amenities (including 2 core amenities) available within 1000m - Core amenities: - Appropriate food outlet - Access to cash - Access to an outdoor open space (public or private, provided suitably sized and accessible to building users) - Other amenities: - Access to a recreation/leisure facility for fitness/sports - Publicly available postal facility - Community facility - Over the counter services associated with a pharmacy - Public sector GP surgery or general medical centre - Child care facility or school	2	1	1	BREEAM Assessor	Credit 1 – within 1000m - Dining areas located within the site e.g. bistro, bar, coffee lounge. - Tesco Express ATM – 669.69m - Courtyard surrounding the care home Activities room/East Lodge recreation ground tennis court – 663.53m - Farlington post office – 669.69m - Cinema located in the care home - Farlington day nursery – 905.08m Credit 2 – within 500m - Dining areas located within the site e.g. bistro, bar, coffee lounge. - Courtyard surrounding the care home Activities room - Cinema located in the care home

Transport: 1 Credit = 1.00%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Tra 03: Cyclist facilities: Cycle storage and cyclist facilities	<u>One credit – Cycle storage and facilities</u> 1 cycle space per 10 staff (where number of staff is the maximum number using the building at any time/shift). 1 cycle space/wheelchair/buggy storage space per 10 residents*. - Cycle storage must be covered, set-in or fixed, allow for appropriate access in a prominent site location, adequately lit (refer to Hea01). - At least two of the following types of compliant cyclist facilities need to be provided: showers, changing facilities lockers, and/or drying spaces. - If 50% of Tra 01 credits achieved the above requirements can be reduced by 50%.	1	1	0	Architect	Planning application (April 2018, produced by Barratt David Wilson Homes) confirms 8 spaces for 60 full time staff which is sufficient. Provision of 1 wheelchair or electric buggy space is required to meet the credit requirements.
Tra 04: Maximum car parking capacity	<u>Up to two credits – Maximum car parking capacity</u> - Maximum car parking capacity – 1 space per 'x' building users against specific (Tra 01) Accessibility Index (AI): <u>1 credit:</u> - AI less than 4 = 1 space per 4 building users - AI between 4 & 8 = 1 space per 5 building users - AI more than 8 = 1 space per 6 building users <u>2 credits:</u> - AI less than 4 = 1 space per 5 building users - AI between 4 & 8 = 1 space per 6 building users - AI more than 8 = 1 space per 7 building users	2	0	0	N/A	<i>Planning application (April 2018, produced by Barratt David Wilson Homes)</i>
Tra 05: Travel plan	<u>One credit – Travel Plan</u> Travel plan and assessment/statement with a package of measures to encourage use of sustainable modes of transport. The occupier must be involved in its development and confirm the travel plan will be implemented.	1	1	0	Transport Consultant & Main Contractor & Client	Travel plan (September 2019, produced by Barratt David Wilson Homes) – covers the criteria set out in the minimum standards of a travel plan.
Transport Totals		9	5	1		

Water: 1 Credit = 0.78%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Wat 01: Water consumption	<u>Up to five credits – Water consumption</u> - An assessment of the efficiency of the building's domestic water consuming components is undertaken using the BREEAM Wat 01 calculator. - The water consumption (litres/person/day) for the assessed building is compared against a baseline performance within the manual.	5	4	1	Architect & M & E Engineer & Main Contractor	
Wat 02: Water monitoring	<u>One credit – Water Monitoring</u> - Water meter on mains supply - Submetering of all water consuming plant or building areas, consuming more than 10% of the building's total water demand - Meters to be pulsed (or similar)	1	1	0	M&E Engineer	
Wat 03: Water leak detection: Leak detection system	<u>One credit – Leak detection system</u> Installation of a water leak detection system capable of detecting major water leaks on the mains water supply within the building and between the building and the utilities water meter.	1	1	0	M&E Engineer	
Wat 03: Water leak detection: Flow control devices	<u>One credit – Flow control devices</u> - Installation of flow control devices that regulate the supply of water to each WC area/facility according to demand. Not required in en-suite or single bathrooms. - Does not apply to 26ensuite facilities in residential areas e.g. 26ensuite in individual private bedrooms and a single bathroom for a collection of individual private bedrooms in halls of residence, key worker accommodation or sheltered accommodation. Where only 26ensuite facilities are provided, the credit can be awarded by default. The credit and criteria are however applicable to buildings with guest bedrooms with ensuite facilities, e.g. hotel rooms, and communal WC areas/facilities, e.g. communal WC facilities in hotels/hostels and care homes.	1	1	0	M&E Engineer	

Wat 04: Water efficient equipment	<u>One credit – Water Efficient Equipment</u> Identification of all unregulated water demands that could realistically be mitigated or reduced and systems or processes have been identified to reduce the demand which lead to a meaningful reduction. Examples include external landscaping and planting that relies solely on precipitation, during all seasons of the year.	1	1	0	M&E Engineer & Landscape Architect & Main Contractor	
Water Totals		9	8	1		

Materials: 1 Credit = 0.96%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Mat 01: Life cycle impacts	<u>Up to five credits – Life Cycle Impacts</u> - BREEAM awards credits on the basis of the building's quantified environmental life cycle impact through assessment of the main building elements, as follows: - External Walls - Windows - Roof - Upper Floor Slab - Floor Finishes/Coverings - Credits are awarded on the basis of the total number of points achieved. This point's score is based on the Green Guide rating(s) achieved for the specifications that make up the main building elements. - Where an independently verified third party Environmental Product Declaration (EPD), covering part of or the whole life cycle, is available for a material or product that forms part of an assessed building element, this can be used to increase the contribution of that element to the building's Mat 01 performance.	6	4	1	Architect & Main Contractor	
Mat 02: Hard landscaping and boundary protection	<u>One credit – Hard landscaping and boundary protection</u> Where at least 80% of all external hard landscaping and 80% of all boundary protection (by area) in the construction zone achieves an A or A+ rating, as defined in the Green Guide to Specification.	1	1	0	Architect & Landscape Architect & Main Contractor	
Mat 03: Responsible sourcing of materials: Pre-requisite and Sustainable procurement plan	<u>Pre-requisite</u> - All timber used on the project is 'Legally harvested and traded timber' <u>One credit – Sustainable procurement plan</u> - The principal contractor sources materials for the project in accordance with a sustainable procurement plan. A Sustainable Procurement plan sets out a clear framework for the responsible sourcing of materials to guide procurement throughout a project and by all involved in the specification and procurement of construction materials. The plan may be prepared and adopted at an organizational level or be site/project specific.	1	1	0	Main Contractor	

Materials: 1 Credit = 0.96%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Mat 03: Responsible sourcing of materials: Responsible sourcing of materials (RSM)	<u>Up to 3 credits - Responsible sourcing of materials (RSM)</u> Available for the responsible sourcing of materials e.g. FSC, PEFC, BES6001, ISO14001, CARES SCS (steel) 1 credit = % of available RSM points achieved is $\geq 18\%$ 2 credits = % of available RSM points achieved is $\geq 36\%$ 3 credits = % of available RSM points achieved is $\geq 54\%$	3	2	0	Main Contractor	
Mat 04: Insulation	<u>One credit - Embodied impact</u> - Any new insulation specified for use within the following building elements must be assessed: - External walls - Ground floor - Roof - Building services The Insulation index for the building fabric and services insulation is the same as or greater than 2.5.	1	1	0	Architect & M&E Engineer & Main Contractor	
Mat 05: Designing for durability and resilience	<u>One credit - Designing for durability and resilience</u> - The building must incorporate suitable durability and protection measures to prevent damage to vulnerable parts of the building including, protection from high pedestrian traffic, internal vehicular/trolley movement and vehicular collision. - Appropriate design and specification measures are implemented to limit material degradation (the corrosion, dimensional change, fading, rotting, leaching, blistering, melting, salt crystallisation or abrasion of foundations, external walls, roof/balconies, glazing, external doors, railings, claddings, external stairs, hard landscaping) due to environmental factors (including solar radiation, temperature variation, water/moisture, wind, precipitation, extreme weather conditions and biological agents - vegetation, pests, air contaminants and ground contaminants).	1	1	0	Architect & Main Contractor	

Materials: 1 Credit = 0.96%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Mat 06: Material efficiency	<u>One credit – Material efficiency</u> - Opportunities have been identified to optimise the use of materials in the building design, procurement, construction, maintenance and end of life by the design/construction team in consultation with relevant parties at each of the following RIBA stages: - Preparation and Brief - Concept Design - Developed Design - Technical Design - Construction	1	1	0	Architect & Structural Engineer & Main Contractor	
Materials Totals		14	11	1		

Waste: 1 Credit = 1.06%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Wst 01.1: Construction waste management: Construction resource efficiency	<u>Up to three credits - Construction resource efficiency</u> - Where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and off-site manufacture or fabrication generated by the building's design and construction. - Where existing buildings on the site will be demolished a pre-demolition audit of existing buildings, structures or hard surfaces is completed to determine if refurbishment/reuse is feasible and, if not, to maximise the recovery of material from demolition. - The audit must be referenced in the RMP and cover: a. Identification of the key refurbishment/demolition materials. b. Potential applications and any related issues for the reuse and recycling of the key c. refurbishment and demolition materials in accordance with the waste hierarchy - Where construction waste related to on-site and off-site construction (excluding demolition and excavation waste) meets or is lower than the following (per 100m²): a. 1 Credit: ≤13.3m³ or ≤11.1 tonnes b. 2 Credits: ≤7.5m³ or ≤6.5 tonnes c. 3 Credits: ≤3.4m³ or ≤3.2 tonnes	3	0	1	Main Contractor	
Wst 01.2: Construction waste management: Diversion of resources from landfill	<u>One credit - Diversion of resources from landfill</u> - Where the following percentages of non-hazardous construction waste and excavation waste have been diverted from landfill: a. Non demolition: 70% volume or 80% tonnage b. Demolition: 80% volume or 90% tonnage	1	1	0	Main Contractor	

Waste: 1 Credit = 1.06%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Wst 02: Recycled aggregates	<u>One credit – Recycled aggregates</u> - Where high grade aggregate meets minimum levels (by weight and volume) that are recycled or secondary aggregate: - Structural frame – 15% - Bitumen or hydraulically bound base, binder, and surface courses for paved areas and roads – 30% - Building foundations – 20% - Concrete road surfaces – 15% - Pipe bedding – 100% - Granular fill and capping – 100% - Where the total amount of recycled or secondary aggregate specified is greater than 25% (by weight or volume) of the total high grade aggregate specified for the project.	1	0	0	Main Contractor	
Wst 03: Operational waste	<u>One credit - Operational waste</u> - Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. - Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the further compliant facilities are provided. - In addition to the above, for every six bedrooms further internal recyclable storage requirements must be met.	1	1	0	Architect	Bin store drawing (April 2018, produced by idPartnership Northern) – shows dedicated areas for bin storage – provision of 9 x 1000L bins in the bin store located adjacent to the car park. An area needs to be specified for recycling which much include space for food waste and have access to a tap for cleaning.
Wst 04: Speculative floor and ceiling finishes	<i>CREDIT(S) NOT APPLICABLE TO MULTI-RESIDENTIAL BUILDING TYPE ASSESSMENT</i>	N/A	N/A	N/A	N/A	N/A

Waste: 1 Credit = 1.06%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Wst 05: Adaptation to climate change	<u>One credit - Structural and fabric resilience</u> - Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach: - Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages: - Hazard identification - Hazard assessment - Risk estimation - Risk evaluation - Risk management.	1	1	0	Design Team & Main Contractor	
Wst 06: Functional adaptability	<u>One credit - Functional adaptability</u> - Where a building specific functional adaptation strategy has been undertaken by RIBA stage 2 which includes recommendations for measures to be incorporated to facilitate future adaption which are then implemented (by RIBA stage 4). The strategy must consider: - Potential for major refurbishment - Design aspects that facilitate plant replacement - Degree of adaptability of internal environment to accommodate changes in working practices - Degree of adaptability of the internal physical space and external shell to accommodate change in use - The extent of accessibility to local services (power/data)	1	1	0	Design Team & Main Contractor	
Waste Totals		8	4	1		

Land Use and Ecology: 1 Credit = 1.00%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
LE 01.1: Site selection: Previously occupied land	<u>One credit – Previously occupied land</u> Where it is demonstrated that at least 75% of the proposed development is on an area of previously developed land.	1	0	0	Architect	No mention of site being previously occupied land. Designated as a SINCE on the West side of the site (Phase 1 Habitat Survey (1) Figure 3, April 2018, produced by Barratt David Wilson Homes).
LE 01.2: Site selection: Contaminated land	<u>One credit – Contaminated land</u> - Where a contaminated land specialist's report deems the site to be affected by contamination. - The client or principal contractor confirms that remediation will be carried out in accordance with the recommended remediation strategy.	1	0	0	Engineer / Surveyor	Ground Briefing Note (written by Dominic Brightman, July 2016) – site is not contaminated.
LE 02: Ecological value of site and protection of ecological features: Ecological value of site	<u>One Credit – Ecological value of site</u> Where the land within the assessment zone is defined as 'land of low ecological value'.	1	0	1	Suitably Qualified Ecologist	Ecology report (June 2019, produced by Barratt David Wilson Homes) and Ecological value (August 2019, produced by Havant Borough Council – SQE (Kevin Wood Grad CIEEM (Senior Ecologist); John Simper MCIEEM (Senior Ecologist); and David West CEnv MCIEEM (Associate Ecologist)) determined that the site is of low use and a secondary support site (para 3.4.3, pg.3).
LE 02: Ecological value of site and protection of ecological features: Protection of ecological features	<u>One Credit- Protection of ecological features</u> - All existing features of ecological value within and surrounding the construction zone and site boundary area are adequately protected from damage during clearance, site preparation and construction activities in line with BS42020: 2013. - In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities).	1	1	0	Suitably Qualified Ecologist & Main Contractor	Tree consultants have been contacted and the removal/protection of some trees has been conducted (Arboriculture Assessment, April 2018, produced by Barrell Tree Consultancy, Consultant – Mark Wadey NDArb CUEW

Land Use and Ecology: 1 Credit = 1.00%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
LE 03: Minimising impact on existing site ecology	<u>First Credit - Minimal species change</u> - Where the change in ecological value of the site is less than zero but equal to or greater than minus nine plant species, i.e. a minimal change using habitat types in the BREEAM calculator or through the use of an ecologist. the ecologist suggests there will be a small improvement of the number of species. <u>Second Credit - No negative species change</u> - This is achieved where there is no negative impact on the ecological value of the site due to the proposed development. the ecologist suggests there will be a small improvement of ecological value.	2	2	0	Suitably Qualified Ecologist & Landscape Architect & Main Contractor	Phase 1 Habitat Survey (1) Figure 2 (April 2018, produced by Barratt David Wilson Homes) – demonstrates that most of the site is arable land (10.25); improved grassland (4.28-14.28); with some areas at the periphery as broadleaved plantation woodland (20.91). In terms of ecological value this would deem the value of the site to change minimally or increase with the introduction of hedgerows and trees.
LE 04: Enhancing site ecology: Ecologist's report and recommendations	<u>One credit - Ecologist's report and recommendations</u> - Where a suitably qualified ecologist has been appointed by the end of RIBA stage 1 to advise on Ecology at an early stage. - An ecology report must be provided by RIBA stage 2 which is based on a site survey and includes appropriate recommendations for the enhancement for the site's ecology. - Recommendations from the report must be implemented.	1	1	0	Suitably Qualified Ecologist & Landscape Architect & Main Contractor	Mitigation strategy (June 2020, produced by WYG) – SQE appointed and provided recommendations for the mitigation area for the Solent Waders and Brent Geese (para 1.2)
LE 04: Enhancing site ecology: Increase in ecological value	<u>One credit - Increase in ecological value</u> The recommendations of the Ecology Report for the enhancement of site ecology have been implemented in the final design and build, and the SQE confirms that this will result in an increase in ecological value of the site, with an increase of six plant species or greater.	1	1	0	Suitably Qualified Ecologist & Landscape Architect & Main Contractor	

Land Use and Ecology: 1 Credit = 1.00%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
LE 05: Long term impact on biodiversity	<u>Up to two credits</u> - Where an ecologist is appointed prior to commencement of activities on site and they confirm all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with - Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first 5 years after project completion. - The following additional measures should be implemented, unless deemed by the ecologist as 'not applicable' - Nomination of biodiversity champion - Training site workforce in ecology - Contractor recording actions taken to protect biodiversity - Where ecologically valuable habitat is created it supports nationally, regionally or locally important species - Where flora/fauna exist on site, the programme is set to minimise disturbance to wildlife	2	2	0	Suitably Qualified Ecologist & Landscape Architect & Main Contractor	Management Plan (April 2018, produced by Fabric) – provides a detailed summary of the site maintenance after completion of the project.
Land Use and Ecology Totals		10	7	1		

Pollution: 1 Credit = 0.77%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Pol 01: Impact of refrigerants	<u>Up to two credits – Impact on refrigerants</u> 3 credits would be awarded where there are no refrigerants. - Any refrigerant systems must comply with BS EN 378:2008 parts 2 and 3. - Where they have Direct Effect Life Cycle CO₂ equivalent emissions of 100kgCO₂e/kW cooling/heating capacity, or less, 2 credits may be awarded. 1 credit where the DELCCO₂e is 1000 or less.	2	1	0	M & E Engineer & Main Contractor	
Pol 01: Impact of refrigerants: Leak detection	<u>One credit – Leak detection</u> - Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; OR where an inbuilt automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks. - The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident.	1	0	1	M & E Engineer & Main Contractor	
Pol 02: NOx Emissions	<u>Up to three credits – NOx emissions</u> - Where the installed plant to meet the building's delivered heating and hot water demand has a NOx emission level of: a. 100mg/kWh - 1 credit b. 70mg/kWh - 2 credits c. 40mg/kWh - 3 credits - CHP systems have the potential to achieve 3 credits depending on specification.	3	1	2	M & E Engineer & Main Contractor	
Pol 03.1: Surface water run-off: Flood risk	<u>Two credits – Low flood risk</u> A site-specific flood risk assessment must be provided confirming the flood zone and flood risk from all sources.	2	2	0	Drainage Engineer / Flood Risk Assessment (FRA) Specialist	Flood risk assessment (April 2018), produced by Terry Seymour of Rogers Cory Partnership Limited) – defined the site as mostly located in Zone 1 with the southern parts of the site in Zone 2/3. However, all of the residential areas are located within Zone 1 (para 2.0).

Pollution: 1 Credit = 0.77%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Pol 03.2: Surface water run-off: Surface water run-off (Rate)	<u>One Credit – Surface water run-off (Rate)</u> - Where drainage measures are specified to ensure that the peak rate of run-off from the site to watercourse is no greater for the developed site than it was for the pre-development site, complying with the 1 year and 100-year return periods and provide an allowance for climate change. - In addition, relevant maintenance agreements for the ownership, long term operation and maintenance of all SuDs are in place.	1	1	0	Drainage Engineer	Surface water run-off (Flood Risk Assessment, April 2018, produced by Terry Seymour of Rogers Cory Partnership Limited) – criteria met.
Pol 03.2: Surface water run-off: Surface water run-off (Volume)	<u>One Credit – Surface water run-off (Volume)</u> - Where flooding of property will not occur in the event of local drainage system failure and either: - Drainage measures are specified to ensure the post development run-off volume, over the development lifetime, is not greater than it would have been prior to development for 100year 6-hour event, with allowance for climate change; or where this cannot be achieved - Justification why the above cannot be achieved (i.e. where infiltration or SuDs not viable and drainage design measures are specified to ensure post development peak rate or run-off is reduced to the limiting discharge (highest of: predevelopment 1-year peak flow, mean annual flow rate Qbar or 2L/s/ha). This must include allowance for climate change.	1	1	0	Drainage Engineer	Surface water run-off (Flood Risk Assessment, April 2018, produced by Terry Seymour of Rogers Cory Partnership Limited) – criteria met.

Pollution: 1 Credit = 0.77%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility	Relevant Documentation
Pol 03.3: Surface water run-off: Minimising water course pollution	<u>One credit - Minimising watercourse pollution</u> - Where there is no discharge from the developed site for rainfall up to 5mm. - In areas of low risk of watercourse pollution appropriate level of SuDs are used - In areas of high risk of watercourse pollution separators are installed in surface water drainage systems. - Any chemical store must have a means of containment (i.e. shutoff valves) - All water pollution prevention systems must be designed and installed in accordance with Pollution Prevention Guideline (PPG) 3 and the SuDs manual where applicable. Vehicle wash systems must meet PPG13. - Drainage plans will be made available to occupiers and maintenance agreements for the ownership, long term operation and maintenance of all SuDs must be in place. - Any external storage and delivery areas must be designed and detailed in accordance with current best practice planning guidance.	1	1	0	Drainage Engineer	Minimising water course pollution (Flood Risk Assessment, April 2018, produced by Terry Seymour of Rogers Cory Partnership Limited) – criteria met.
Pol 04: Reduction of night time light pollution	<u>One Credit – Reduction of night time light pollution</u> - External Lighting is designed in compliance with Table 2 of the ILP Guidance notes for the reduction of obtrusive light 2011, with the exception of safety and security lighting, can be switched off between 2300 and 0700. - Where illuminated advertisements are designed in compliance with the ILE Technical report 5 – The Brightness of Illuminated Advertisements.	1	1	0	M & E Engineer & Main Contractor	
Pol 05: Reduction of noise pollution	<u>One credit – Reduction of noise pollution</u> Where there are noise sensitive areas within 800m a noise impact assessment must be complete in compliance with BS 7445 to determine existing background noise levels and the rating noise level from the new noise source (plant). There must be a difference no greater than +5dB during the day and +3dB at night compared to background noise levels.	1	1	0	Architect & Suitably Qualified Acoustician & Main Contractor	Noise assessment (April 2018, produced by WYG, Emma Aspinall (Environmental Consultant); Graham Davis (Senior Environmental Consultant); and Nigel Mann (Director – Environmental Consultant) – Noise assessment is compliant with BS 7445 was conducted and carried out by a SQAQ. Mitigation strategies have been suggested to ensure compliance with criterion 4 (para 6.0/page 20).
Pollution Totals		13	9	3		

Innovation: 1 Credit = 1%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility
Inn 01: Innovation	When an innovative product/service is used in the project and an application is made to the BRE.	1+	0	0	Project Team & BREEAM Assessor
Man 03: Responsible construction practices	CCS Score of 40 or more.	1	0	0	Main Contractor
Man 05: Aftercare	Where there is operational infrastructure and resources to collect and analyse building data at quarterly interval for the first three years of occupation. Analysis of the data, setting targets, feedback and reporting would also be expected.	1	1	0	Main Contractor
Hea 01: Visual comfort	Daylighting criteria in excess of that described under Hea 01.	1	0	0	Daylight Consultant
Hea 02: Indoor air quality	Air quality criteria in excess of that described under Hea 02.	2	0	0	Specialist Consultant
Ene 01: Reduction of energy use and carbon emissions	Exemplary reduction of energy and CO2 consumption.	1	0	0	M & E Engineer
Wat 01: Water consumption	Exemplary reduction of water use in line with Wat 01 requirements.	1	0	0	M & E Engineer
Mat 01: Life cycle impacts	Exemplary levels of materials rated A or A+ from The Green Guide described in Mat 01.	3	0	0	Architect

Innovation: 1 Credit = 1%	Compliance Requirements Summary	Available	Targeted	Potential	Responsibility
Mat 03: Responsible sourcing of materials	Available for the responsible sourcing of materials e.g. FSC, PEFC, BES6001, ISO14001, CARES SCS (steel).	1	0	0	Main Contractor
Wst 01: Construction site waste management	- Where the construction waste resource efficiency meets ≤ 1.6 m³ or ≤ 1.9 tonnes waste per 100m² gross internal floor area and where the following percentages of non-hazardous construction waste and excavation waste have been diverted from landfill: a. Non demolition: 85% volume or 90% tonnage b. Demolition: 85% volume or 95% tonnage c. Excavation: 95% volume or 95% tonnage	1	0	0	Main Contractor
Wst 02: Recycled aggregates	- Where high grade aggregate meets minimum levels (by weight and volume) that are recycled or secondary aggregate: a. Structural frame – 30% b. Bitumen or hydraulically bound base, binder, and surface courses for paved areas and roads – 75% c. Building foundations – 35% d. Concrete road surfaces – 45% e. Pipe bedding – 100% f. Granular fill and capping – 100% - Where the total amount of recycled or secondary aggregate specified is greater than 35% (by weight or volume) of the total high-grade aggregate specified for the project and is sourced from within 30km by road transport.	1	0	0	Main Contractor
Wst 05: Adaptation to climate change	- Awarded where the following credits are achieved: a. Wst 05 – Adaption to Climate Change b. Hea 04 – Thermal Comfort c. Ene 01 – Reduction of Energy Use & Carbon Emissions (8 credits) d. Ene 04 – Low Carbon Design (Passive Design Analysis) e. Wat 01 – Water Consumption (3 credits) f. Mat 05 – Designing for Durability and Resilience (Material degradation issue) g. Pol 03 – Flood Risk (1 credit), Surface Water Runoff (2 credits)	1	0	0	Various – See adjacent credit issues
Innovation Totals		10	1	0	-