BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

BUILDINGS AND BUILT ENVIRONMENT

OnSide Youth Zones

Barnsley Youth Zone

Schwabisch Gmund Way,

Barnsley

BREEAM 2018 Pre-Assessment Report

www.bwbconsulting.com

BWB

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TABLES

1. INTRODUCTION

Project Details

1.1 BWB Consulting Limited (BWB) was instructed by OnSide Youth Zones (the Client) to provide a BREEAM Pre-Assessment for the construction of the proposed Youth Zone in Barnsley.

1.2 The current proposal for the site shows the construction of a new Youth club containing two storey main facility, sports hall, kick pitch, climbing wall, entrance/ reception and associated facilities at Schwabisch Gmund Way, Barnsley.

1.3 The development is assessed under BREEAM 2018 New Construction scheme 'fully fitted', Sector: Assembly and Leisure: Indoor sports, fitness and recreation centre (without pool), criteria (Version 3.0).

1.4 This report shall explain the importance of, and methodology behind, the BREEAM assessment criteria. The report shall detail the project specific requirements to achieve the mandatory credits to attain the desired 'Very Good' BREEAM Rating.

1.5 It will go on to detail the recommended requirements for tradable credits which, within the experience of BWB, represent the most efficient 'road-map' to achieving the BREEAM 'Very Good' Rating as required by Barnsley Borough Council.

1.6 The assessment shall involve collecting evidence from various members of the project team. Responsibility for providing evidence for each credit shall be set at the beginning of the Design Stage Assessment - which is typically at a Pre-Planning Stage.

1.7 By its nature, achieving a BREEAM rating must be a collaborative effort between the whole design and construction team, responsibility cannot be placed solely with one individual or organisation.

1.8 Due to the nature of the pre-assessment being undertaken at an early stage, some assumptions have been made and these shall all be clearly noted within the body of this report.

Assessment Tracking and Management

1.9 For all BREEAM assessments performed by BWB, 'IES TAP' is utilised. IES TAP is a secure, cost effective and easy to use online project management system to streamline, manage and automate the certification process for BREEAM assessments.

1.10 It encourages effective collaboration with the whole project team working towards certification. This becomes the focal point of the assessment where additional guidance can be found, evidence can be uploaded, and live up to the minute reports can be accessed and downloaded by any member of the project team at any time.

2. BREEAM 2018

Context

2.1 The BRE Environmental Assessment Method (BREEAM) is a holistic measure of the sustainability of both new and majorly refurbished non-domestic buildings.

2.2 BREEAM is the leading and most widely used environmental assessment method for buildings and sets the standard for best practice in sustainable design.

2.3 The objectives of BREEAM are as follows:

i. Provide market recognition for low environmental impact buildings
ii. Ensure best environmental practice is incorporated in buildings
iii. Set criteria and standards surpassing those required by regulations
iv. Challenge the market to provide innovative solutions to minimise the environmental impact of the built environment
v. Raise awareness of the benefits of low environmental impact buildings to owners, occupants and operators
vi. Allow organisations to demonstrate progress towards corporate environmental objectives.

Assessment Process

2.4 The BREEAM assessment process awards a number of credits depending upon whether or not the sufficient evidence can be provided to demonstrate that the BREEAM requirements have been fulfilled.

2.5 One of the strengths of the BREEAM Assessment process is that it examines the performance of a development over a wide range of issues. These issues are weighted according to their perceived importance, with the credits in some sections being more valuable than others.

2.6 In order to standardise the BREEAM Assessment process there are a number of issues that are common to all building types. Within these common credits there are a number of mandatory minimum performance requirements that all building types need to achieve in order to secure a particular rating.

2.7 Please refer to Table 2 for details of the minimum performance standards for the BREEAM New Construction 2018 scheme. The remaining credits are tradable and give the design team the flexibility to choose which credits to target in order to achieve a particular rating.

2.8 The requirements of individual credits vary considerably, both between credits and between schemes. BREEAM aims to assess many aspects of a project, from the initial decisions taken by clients and architects, through the detail of engineering design, to the policies, and agreements reached by, prospective tenants and building owners.

2.9 The BREEAM assessment is carried out by awarding credits for environmental improvement on each of the issues. Each credit awarded must be supported by full evidence in the form of details documented in the design drawings and specification.

2.10 There are additional Innovation Credits available as recognition for buildings that either meets exemplary performance standards for an existing BREEAM credit or for a particular building feature, system or process that is exemplary. This is determined by the BRE on a case by case basis. An additional 1% can be awarded for each innovation credit achieved, up to a maximum of 10%.

2.11 On submission and successful QA of the Design Stage Assessment, an interim BREEAM rating is awarded to the development. The development is then assessed again at Post Construction stage upon successful submissions and QA of this report, the final BREEAM rating is awarded by the BRE. Formal certification cannot be achieved until this assessment is completed and submitted to BREEAM for approval.

2.12 BWB can make no warranty in respect of BREEAM predictions, as all credits are dependent on supporting evidence being provided to the BREEAM assessor at the time of the formal BREEAM assessment.

2.13 Until a formal BREEAM assessment takes place, with supporting evidence provided to a certified BREEAM Assessor and the BRE complete their quality assurance process, no building can claim to hold a BREEAM rating.

BREEAM Thresholds

2.14 BREEAM ratings range between 'Pass' and 'Outstanding'. The rating achieved is dependent on the percentage score achieved and achieving the required minimum standards appropriate to each rating level. Percentage thresholds are given in Table 1:

Table 1 – BREEAM scoring thresholds

BREEAM Rating	% Score	Sustainability Performance	% of UK new non-domestic buildings
Outstanding	≥85	Innovator	Less than top 1%
Excellent	≥70	Best Practice	Top 10%
Very Good	≥55	Advanced Good Practice	Top 25%
Good	≥45	Intermediate Good Practice	Top 50%
Pass	≥30	Standard Good Practice	Top 75%
Unclassified	<30		

2.15 It is recommended to aim to surpass the minimum percentage points target at the pre-assessment stage as there are frequently credits targeted at this stage which may not be achievable for the completed building due to unforeseen circumstances.

Minimum Standards

2.16 BREEAM requires minimum standards to be met. The minimum standards for Pass, Good, Very Good, Excellent and Outstanding ratings are outlined in Table 2:

Table 2 – BREEAM Minimum Standards

BREEAM Issue	Minimum Standards by BREEAM rating level				
	Pass	Good	Very Good	Excellent	Outstanding
Man 03 - Responsible Construction Practices	None	None	None	One credit (Responsible construction management)	One credit (Responsible construction management)
Man 04 - Commissioning & Handover	None	None	One credit (Commissioning-test schedule & responsibilities)	One credit (Commissioning-test schedule & responsibilities)	One credit (Commissioning-test schedule & responsibilities)
Man 04 - Commissioning & Handover	None	None	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)
Man 05 - Aftercare	None	None	None	One credit (Commissioning implementing)	One credit (Commissioning implementing)
Ene 01 - Reduction of energy use and carbon emissions	None	None	None	Four credits (Energy performance)	Six credits (Energy performance), Four credits (Energy modelling)
Ene 02 - Energy Monitoring	None	None	One credit (First sub-metering credit)	One credit (First sub-metering credit)	One credit (First sub-metering credit)
Wat 01 - Water consumption	None	One credit	One credit	One credit	Two credits
Wat 02 - Water monitoring	None	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Mat 03 - Responsible sourcing of materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Wst 01 - Construction Waste Management	None	None	None	None	One credit
Wst 03 - Operational Waste	None	None	None	One credit	One credit

3. ASSESSMENT CRITERIA

BREEAM Fully-Fitted Assessment

3.1 The proposed development will be assessed under 'New Construction' compliance notes. The BREEAM assessment will include all aspects of the design as the building will be fully-fitted.

3.2 'New Construction' is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation/use for the first time upon completion of the works.

3.3 It should be noted that if the required minimum standards are not met then the BREEAM 'Very Good' target rating will not be achieved regardless of overall score. The Minimum Standards Required for Very Good Rating (Fully-Fitted) are:

i. **Man 04** – It is mandatory to prepare a schedule of commissioning and testing, identify the appropriate standards, appoint project team member to monitor and programme pre-commissioning and principal contractor to account for commission within their budget.

ii. **Man 04** – Building User Guide (**Criterion 11 only**): It is mandatory to develop two building user guides (non-technical for the occupier) & (technical for manager) prior to handover.

iii. **Ene 02** – It is mandatory that at least 90% of the estimated energy consumption of each fuel shall be metered using an appropriate energy monitoring and management system.

iv. **Wat 01** – It must be demonstrated that a reduction of at least 12.5% is achieved for the predicted development water consumption compared to a notional baseline.

v. **Wat 02** – Water Monitoring (**Criterion 1 only**): It is mandatory that each unit is provided with a water meter on the main supply to the building.

vi. **Mat 03** – Responsible Sourcing of Materials (**Criterion 1 only**): It is mandatory that 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).

Scoring Scenarios

3.4 The pre-assessment scores have been based on the following scoring scenarios:

i. **Targeted** - The number currently targeted/likely to be achieved. These items have been targeted and are likely to be achievable under the current scheme design without any further specification.

ii. **Potential** – Targeted credits, plus credits which can be potentially gained with additional cost and commitment. The items identified within the 'Potential' column are those that will require additional investment and commitment from the design team and appointed contractor. These credits could be achieved but may require alterations to the design.

3.5 Table 3 scores are considered achievable under each scenario for each type of assessment:

Table 3 – Targeted and Potential Scores

	Targeted Score	Potential Score
Expected Score (Rating)	**57.80% (Very Good)**	**63.90% (Very Good)**

4. ASSESSMENT OF BARNSLEY YOUTH ZONE AGAINST BREEAM 2018 NEW CONSTRUCTION 'FULLY-FITTED' CRITERIA

Management		Available	Targeted	Potential	Comments
Man01 Project Brief & Design	Stakeholder Consultation (Project Delivery)	**1**	1		**EARLY ACTION REQUIRED PRIOR TO RIBA STAGE 2** Prior to completion of the Concept Design (RIBA Stage 2), it is assumed that the project delivery stakeholders shall meet to identify and define their roles, responsibilities and contributions **for each of the key phases** of project delivery. The project team shall be required to demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence: Initial Project Brief, Project Execution Plan, Communication Strategy and Concept Design. **Early Action: Fixed Stage** Consult all relevant delivery stakeholders prior to completion of the Concept Design stage.
	Stakeholder Consultation (Interested Parties)	**1**	1		**EARLY ACTION REQUIRED PRIOR TO RIBA STAGE 2** Prior to completion of the Concept Design (RIBA Stage 2), it is assumed that the project interested parties' stakeholders shall meet and the project team to demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Prior to completion of the detailed design (RIBA Stage 4) al interested parties to give and receive consultation feedback. **Early Action: Fixed Stage** Consult all relevant interested parties prior to completion of the Concept Design stage.
	Sustainability Champion (Concept Design)	**1**	0		This credit cannot be targeted.
	Sustainability Champion (Developed Design)	**1**	0		This credit cannot be targeted.

		Available	Targeted	Potential	Comments
Man02 Life Cycle Costing & Service Life Planning	Life Cycle Cost (LCC)	2	0		This credit has not been targeted.
	Component Level LCC Plan	**1**	0		This credit has not been targeted.
	Capital Cost Reporting	**1**	1		Cost per square metre to be provided, in £k/m^2 to BRE. **Action** Project capital cost estimate to be provided at design stage.
Man03 Responsible Construction Practices	Environmental Management	**1**	1		**PRE-REQUISITE THAT ALL TIMBER AND TIMBER-BASED PRODUCTS USED ON THE PROJECT ARE 'LEGALLY HARVESTED AND TRADED TIMBER'** Main contractor to have an Environmental Management system in place. **Action** Ensure main contract includes requirements of this issue.
	BREEAM Advisory Professional (site)	**1**	1		A BREEAM Advisory Professional (AP) to be appointed to monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages. **Action** Ensure the BREEAM (AP) site is appointed on time.
	Considerate Construction Management	**2**	2		The principal constructors exceed compliance in CCS and achieves the mandatory 9 items from BREEAM Table 4.1 list of Responsible Construction Management items plus six additional. **Action** Ensure main contract includes requirements of this issue.
	Monitoring Construction Site Impacts Utility Consumption (Energy & Water)	**1**	1		The principal constructor's and subcontractors' energy consumption and potable water consumption - as a result of the use of construction plant & equipment- will be monitored and recorded. **Action** Ensure main contract includes requirements of this issue.

		Available	Targeted	Potential	Comments
	Monitoring Construction Site Impacts Transport of Construction Materials & Waste	**1**	1		The principal constructor's and subcontractors' transport movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site - will be monitored and recorded. **Action** Ensure main contract includes requirements of this issue.
Man04 Commissioning & Handover	Commissioning - Testing Schedule and Responsibilities **(MANDATORY)**	**1**	1		A commissioning schedule shall be developed, responsibilities accounted for and commissioning manager appointed to ensure that all building services are commissioned to the relevant standards (Current Building Regulations, BSRIA guidelines, CIBSE guidelines etc). **Action** Ensure M&E specification includes requirements of this issue.
	Commissioning - Design and Preparation	**1**	1		A specialist commissioning manager to be appointed to carry out the commissioning-design and preparation. **Action** A specialist commissioning manager to carry out all necessary procedures.
	Testing and Inspecting Building Fabric	1	0		This credit has not been targeted.
	One credit – Handover **(MANDATORY)**	**1**	1		Prior to handover, two building user guides shall be developed for the following users: 1. A non-technical user guide for distribution to the building occupiers 2. A technical user guide for the premise's facilities managers. **Action** Ensure M&E specification includes requirements of this issue.
Man05 Aftercare	Aftercare Support	**1**	1		Provide aftercare support to building occupiers through operational infrastructure and resources for 12 months. **Action** Ensure main contract includes requirements of this issue.

		Available	Targeted	Potential	Comments
	Commissioning - implementation	**1**	1		A specialist commissioning manager shall complete a BREEAM compliant commissioning activities over a minimum 12-month period, once the building becomes substantially occupied. **Action** Ensure M&E specification includes requirements of this issue.
	Post-occupancy evaluation (POE)	**1**	1		POE exercise to be carried out one year after the building is occupied to gain comprehensive in-use performance feedback and identifies gaps between design intent and in-use performance. **Action** Ensure that funds are secured to pay for the POE in advance. This credit has not been targeted but has been added to the potential credits.
Weighting	**0.52%**	**Total Available** **21**	Targeted total **15**	Potential total **0**	
		11.00%	**7.80%**	**0.00%**	
Health & Wellbeing					
	Glare	**1**	1		It is anticipated that a glare control system is designed, either through building form and layout and/or building design measures. **Early Design Consideration/Action** Ensure Design is in compliant with BREEAM glare control strategy.

		Available	Targeted	Potential	Comments
Hea01 Visual Comfort	Day lighting	**1**	0	1	**POTENTIAL CREDIT** Due to building form and the provided openings in all occupied spaces, this credit has been identified as potential at this stage. **Early Design Consideration/Action (Commissioning)** Ensure Design is in compliant with BREEAM daylighting criteria, **AND** Commission a detailed daylight modelling exercise to demonstrate that the daylight criteria may be achieved.
	View Out	**1**	0		Due to the building form and deep plan, this credit has not been targeted.
	Internal and External Lighting Levels, Zoning and Control	**1**	1		Internal lighting in all relevant areas of the building shall be designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 20121 and any other relevant industry standard. All external lighting levels shall be designed in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. Zoning and occupant control shall be in accordance with the relevant BREEAM criteria. **Action** Ensure M&E specification includes requirements of this issue.
Hea02 Indoor Air Quality	Ventilation	**1**	1		**PRE-REQUISITE; A SITE-SPECIFIC INDOOR AIR QUALITY PLAN HAS BEEN PRODUCED AND IMPLEMENTED IN ACCORDANCE WITH THE GUIDANCE IN GUIDANCE NOTE GN06** It is assumed that the building shall be designed to minimise the indoor concentration and recirculation of pollutants in the building. **Early Design Consideration/Action (Commissioning)** Consider design to minimise concentration & recirculation of pollutants in the building **AND** Commission Air Quality Plan

		Available	Targeted	Potential	Comments
	Emissions from construction products	**2**	1	1	Ensure that three out of the five product types meet the emission limits, testing requirements and any additional requirements and all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum. **EXTRA POTENTIAL CREDIT** Ensure that all product types meet the emission limits, testing requirements and any additional requirements.
	Post-construction indoor air quality measurement	**1**	0		This credit has not been targeted.
Hea04 Thermal Comfort	Thermal modelling	**1**	1		Dynamic thermal modelling shall be performed to demonstrate that the building fabric specification and services are sufficient to maintain thermal comfort. **Early Design Consideration/Action (Commissioning)** Commission BREEAM Compliant Thermal Comfort analysis such that results can inform building services design.
	Design for future thermal comfort	**1**	1		An additional modelling scenario including an allowance for changes in external conditions due to climate change shall be considered to ensure that the design is adaptable. **Early Design Consideration/Action (Commissioning)** Commission BREEAM Compliant Thermal Comfort analysis such that results can inform building services design.
	Thermal zoning and controls	**1**	1		The findings of the thermal comfort analysis shall inform the building services system zoning and controls. **Early Design Consideration/Action (Commissioning)** Commission BREEAM Compliant Thermal Comfort analysis such that results can inform building services design.

		Available	Targeted	Potential	Comments
Hea05 Acoustic Performance	Sound insulation	**1**	0	1	**POTENTIAL CREDIT** That a suitable qualified acoustician is appointed to ensure airborne sound insulation between rooms and other occupied areas comply with the design ranges given in Section 7 of BS8233:2014. **Action (Commissioning)** Consult with Acoustician with regards to designing and testing acoustic performance
	Indoor ambient noise levels	**1**	1		That a suitable qualified acoustician is appointed to ensure indoor ambient noise levels comply with the design ranges given in Section 7 of BS 8233:2014. **Action (Commissioning)** Consult with Acoustician with regards to designing and testing acoustic performance
	Room acoustics	**1**	1		That a suitable qualified acoustician is appointed to ensure the requirements relating to sound absorption and reverberation times, comply with the ranges given in Section 7 of BS 8233:2014. **Action (Commissioning)** Consult with Acoustician with regards to designing and testing acoustic performance.
Hea06 Security	Security of Site & Building	**1**	1		**EARLY ACTION REQUIRED PRIOR TO RIBA STAGE 2 (OR EQUIVALENT)** A Suitably Qualified Security Specialist (SQSS) will be consulted to conduct an evidence-based Security Needs Assessment (SNA) during or prior to RIBA Stage 2 (Concept stage or equivalent). Any recommendations or solutions proposed by the SQSS shall be implemented. **Early Action: Fixed Stage** Appoint a Suitably Qualified Security Specialist (SQSS) by RIBA Stage 2 or equivalent.
Hea07 Safe and Healthy Surroundings	Safe Access	**1**	1		The design shall include dedicated cycle routes to the cycle stores and dedicated pedestrian crossings where the footpaths cross roadways. **Early Design Consideration/Action** Ensure Design is in compliant with BREEAM Safe Access requirement

		Available	Targeted	Potential	Comments
	Outdoor Space	**1**	1		The design shall include outside space providing building users with an external amenity area. **Early Design Consideration/Action** Ensure Design includes outside space in accordance with BREEAM requirements.
Weighting	**0.82%**	**Total Available**	Targeted section total	Potential section total	
		17	**12**	**3**	
		14.00%	**9.88%**	**2.47%**	
Energy					
Ene01 Reduction of Energy & CO_2	Energy Performance	**9**	2	1	It is predicted that a minimum of 2 credits can be achieved. **Action (Commissioning)** Commission SBEM calculation at an early stage to confirm the required standard for specification of building services and fabric. **EXTRA POTENTIAL CREDIT** The BRUKL document input to improve to gain extra credit.
	Prediction of operational energy consumption	**4**	0		This credit has not been targeted.
Ene02 Energy monitoring	Sub-metering of end-use categories **(MANDATORY)**	**2**	2		It is assumed that a BMS system shall provide the capability to sub-meter at least 90% of all energy end-uses in accordance with CIBSE TM39 as well as sub-metering of high energy load areas. Sub-meters shall be provided to relevant end-uses for the installed services along with each main function. Building users should identify the energy consuming end uses, for example through labelling or data outputs. **Action** Ensure M&E specification includes requirements of this issue.

		Available	Targeted	Potential	Comments
Ene03 External Lighting	External lighting	**1**	1		Ensure the average initial luminous efficacies of external light fittings are at least 70 lumens/Watt as well as having automatic controls for the prevention of operation during daylight hours. Any non-security lighting in areas of intermittent pedestrian traffic should be controlled by a presence detector. **Action** Ensure M&E specification includes requirements of this issue.
Ene04 Low Carbon Design	Passive Design	**1**	0		This credit has not been targeted.
	Free Cooling	**1**	0		This credit has not been targeted.
	Low Zero Carbon (LZC) Feasibility Study & Specification	**1**	1		**EARLY ACTION REQUIRED BY RIBA STAGE 2** There are proposals to include low and zero carbon energy into the development to respond to Local Authority Planning requirements, however a BREEAM Compliant LZC Feasibility Report would also be required at Stage 2 to ensure that this credit may be awarded. **Early Action (Commissioning): Fixed Stage** Commission an LZC Feasibility study to be performed by RIBA Stage 2
Ene06 Energy efficient transportation systems	Energy consumption	**1**	1		**A** transportation analysis is carried out to determine and specify the optimum number, size and types of lifts within the building in order to maximise energy efficiency. **Early Action (Commissioning)** Commission transportation analysis at an early stage to inform the lift requirements for the design
	Energy efficient features	**1**	1		The specified lifts shall include relevant BREEAM compliant energy-efficiency features. **Early Action (Commissioning)** Commission transportation analysis at an early stage to inform the lift requirements for the design.

		Available	Targeted	Potential	Comments
Ene08 Energy Efficient Equipment	Domestic-scale appliances and Kitchen/ catering facilities	**2**	0		These credits have not been targeted.
Weighting	**0.70%**	**Total Available**	Targeted section total	Potential section total	
		23	**8**	**1**	
		16.00%	**5.60%**	**0.70%**	
Transport					
Tra01 Transport assessment and travel plan	Transport Assessment and Travel Plan	**2**	2		**EARLY ACTION REQUIRED BY RIBA STAGE 2** A BREEAM Compliant Travel Plan is produced by RIBA Stage 2 which includes recommendations to increase or improve sustainable travel options. **It is assumed that a Transport Assessment would be required to support the planning application.**
Tra02 Sustainable transport measures	Sustainable transport measure	**10**	5		There are a number of different measures that can be selected in order to make up a maximum number of 10 credits. The site Accessibility Index (AI) assumed to be <25 (**TBC within Travel Plan**), and the following measure are assumed to be targeted for this development: • Provide BREEAM compliant cycle spaces • Provide complaint cyclists facilities (showers, changing area, lockers) • At least 3 existing accessible amenities are present (within 500m) of site. • Provide a public (real-time) transport information system. • Provide electric charging stations for a min of 10% of the car parking spaces. **Action** Ensure design plans show the designated suitably sized spaces and above facilities in order to meet all BREEAM criteria for this issue.

		Available	Targeted	Potential	Comments
Weighting	**0.83%**	**Total Available**	Targeted section total	Potential section total	
		12	**7**	**0**	
		10.00%	**5.80%**	**0.00%**	
Water					
Wat01 Water Consumption	Water consumption **(MANDATORY)**	**5**	3		It must be demonstrated that a reduction of at least 40% is achieved for the predicted development water consumption compared to a notional baseline. **Action** Ensure M&E specification includes efficient water consuming components to meet the target of this issue.
Wat02 Water Monitoring	Water Monitoring **(MANDATORY – CRITERION 1)**	**1**	1		The incoming water supply to the building will be metered (with pulsed output meter). **Risk** In some cases, Water Authority meters are not pulsed output. **Action** Ensure M&E specification includes requirements of this issue.
Wat03 Water Leak Detection	Leak Detection System	**1**	1		A leak detection system capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is required to be installed. **Action** Ensure M&E specification includes requirements of this issue.

		Available	Targeted	Potential	Comments
	Flow Control devices	**1**	1		Ensure that each Core Toilet area/ individual Toilets has its own flow control device (PIR linkage to the water supply).
Wat04 Water Efficient Equipment	Any irrigation or vehicle wash equipment specified	**1**	0		This credit has not been targeted.
Weighting	**0.77%**	**Total Available**	Targeted section total	Potential section total	
		9	**6**	**0**	
		7.00%	**4.66%**	**0.00%**	
Materials					
Mat01: Environmental impacts from construction products - LCA	Building Life Cycle Assessment (LCA) - Superstructure	**6**	0	0	These credits have not been targeted.
	Building Life Cycle Assessment (LCA) - Substructure and Hard Landscaping	**1**	0		This credit has not been targeted.
Mat02: Environmental impacts from construction products - EPD	Environmental Product Declarations	**1**	0		This credit has not been targeted.

		Available	Targeted	Potential	Comments
Mat03: Responsible Sourcing of Materials	Sustainable Procurement Plan **(MANDATORY – TIMBER PROCUREMENT)**	**1**	1		**PRE-REQUISITE; ALL TIMBER AND TIMBER-BASED PRODUCTS USED ON THE PROJECT IS LEGALLY HARVESTED AND TRADED.** The design team to have a sustainable procurement plan in place by Concept Design Stage. **Action** Ensure there is a compliant sustainable procurement plan.
	Responsible sourcing of materials	**3**	2		2 Credits may be awarded where at least 20% of the available points for responsible sourcing of the building superstructure, Internal finishes, Substructure and hard landscaping are achieved. **Action** Ensure main contract includes requirements from the Main Contractor for this issue.
Mat05: Designing for durability and resilience	Protecting building from damage & material degradation	**1**	1		Credit may be awarded where risks of damage to the internal and external building fabric from building usage, vehicles, malicious damage & environmental degradation have been considered and mitigations of these risks have been included within the proposed design. **Early Design Consideration/Action** Ensure Design identifies vulnerable areas of building and specify adequate protection. Specify construction materials resilient to environmental degradation in accordance with BREEAM requirements. Architect shall be required to produce a statement identifying vulnerable areas of building and specifying adequate protection measures. This statement shall include assessment of materials at risk from environmental degradation

		Available	Targeted	Potential	Comments
Mat06: Material Efficiency	Identify & implement material efficiency measures	**1**	1		**ACTIONS REQUIRED AT PREPARATION AND BRIEF AND CONCEPT DESIGN STAGES** This credit requires targets are set and opportunities to optimise material use have been considered, reported and implemented in design, procurement, construction, maintenance and end of life. In order to achieve this credit evidence needs to be provided to demonstrate that material efficiency has been formally considered at preparation & brief and concept design stages. **Early Action: Fixed Stage** Records of discussions/assessments relating to material efficiency shall be kept documenting this process throughout ALL RIBA stages.
Weighting	**1.07%**	**Total Available**	Targeted section total	Potential section total	
		14	**5**	**0**	
		15.00%	**5.35%**	**0.00%**	
Waste					
Wst01: Construction Waste Management	Pre-demolition audit	**0**	0		Not applicable credit
	13.3 m3/100m2 gross internal floor area or 11.1 tonnes- one credit 7.5 m3/100m2 gross internal floor area or 6.5 tonnes- two credits 3.4 m3/100m2 gross internal floor area or 3.2 tonnes- three credits	**3**	3		It is further assumed that a waste target of 3.4 m3/100m2 (or 3.2 tonnes/100m2) was fair and achievable by a contractor and so two have been targeted. **Early Action: Fixed Stage** Commission competent person independent of project to perform Pre-Demolition Waste Audit **AND** ensure main contract includes requirements from the Main Contractor for the waste target issue.
	Diversion from Landfill 80% volume or 90% tonnage	**1**	1		One credit has also been targeted for achieving an 70% by volume (or 80% by tonnage) diversion from landfill. **Action** Ensure main contract includes requirements from the Main Contractor for this issue.

		Available	Targeted	Potential	Comments
Wst02: Recycled and Sustainably Sourced Aggregates	Sustainable Aggregate Points (3.5 – 6 points required)	**1**	0		This credit has not been targeted.
Wst03: Operational Waste	Dedicated recyclable waste storage & installation of static waste compactor/baler as appropriate.	**1**	1		A dedicated recyclable waste storage area will be provided to facilitate ease of collection in addition to the provision of general waste storage area. Vessels will be provided for composting organic waste OR adequate spaces for storing segregated food waste for external collection with a tap for cleaning. **Early Design Consideration/Action** Ensure BREEAM compliant dedicated waste storage and recyclable waste storage area is clearly marked and labelled on the design drawings.
Wst05: Adaptation to Climate change	Structural & fabric resilience strategy in response to climate change	**1**	1		**EARLY ACTION REQUIRED BY RIBA STAGE 2** A systematic risk assessment to be carried out to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle.
Wst06: Design for Disassembly and Adaptability	Design for disassembly and adaptability by RIBA stage 2	**2**	1		**EARLY ACTION REQUIRED BY RIBA STAGE 2** A study to be conducted to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.
Weighting	**0.66%**	**Total Available**	Targeted section total	Potential section total	
		9	**7**	**0**	
		6.00%	**4.66%**	**0.00%**	
Land Use & Ecology					

		Available	Targeted	Potential	Comments
LE01 Site Selection	Previously Occupied Land	**1**	1		Due to the current parking area, it is assumed that more that 75% of the proposed development's footprint is on an area of land which has previously been occupied. **Action** Provide existing and proposed site plan
	Contaminated Land	**1**	0	0	Credit not thought to be achievable as it is assumed that there is no significant land contamination on site such that remediation measures are necessary.
LE02 Identifying & Understanding Ecological Risks & Opportunities	Survey & Evaluation	**1**	1		**PRE-PLANNING ACTIONS REQUIRED.** It is assumed that the input from a Suitably Qualified Ecologist (SQE) shall be required to assess & advise with regards to Ecology for BREEAM (Route 2) in accordance with the GN34 risk assessment. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity.
	Determining Ecological Outcomes	**1**	1		**PRE-PLANNING ACTIONS REQUIRED.** It is assumed that the input from a Suitably Qualified Ecologist (SQE) shall be required to assess & advise with regards to Ecology for BREEAM (Route 2) in accordance with the GN34 risk assessment. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity.
LE03 Managing Negative Impacts on Ecology	Planning, liaison & implementation of data	**1**	1		**LINKED PRE-PLANNING ACTION, LE 02 IS A PREREQUISITE TO ACHIEVING CREDITS FOR THIS ISSUE.** Roles and responsibilities shall be defined at an early stage to ensure that the project ecological outcomes are successfully achieved; site preparation & construction works are planned at an early stage; and any on-going liaison between relevant stakeholders continues during site preparation & construction phases.

		Available	Targeted	Potential	Comments
	Managing negative impacts	**2**	0	1	**POTENTIAL CREDIT** The loss of ecological value is not known therefore this credit has been put as potential. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity.
LE04 Enhancing Site Ecology	Liaison, implementation and data collation	**1**	1		**A PRE-REQUISITE THAT LE03 ROLES & RESPONSIBILITIES ARE DEFINED AT AN EARLY STAGE AND THAT SITE PREPARATION AND CONSTRUCTION WORKS ARE PLANNED TO OPTIMISE ECOLOGICAL BENEFITS AND OUTPUTS.** The first credit may be awarded for implementing solutions & measures to enhance ecology derived based on survey data & stakeholder consultation. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity.
	Change & enhancement of ecology	**3**	1	1	It is assumed that 1 credit could be achieved based on the calculation of the change in ecological value occurring as a result of the project. This shall be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity. **EXTRA POTENTIAL CREDIT** An extra credit can be awarded if there is increase in the ecological value of the site due to the ecologist recommendations for site enhancements.

		Available	Targeted	Potential	Comments
LE05 Long Term Ecology Management and Maintenance	Planning, liaison, data, monitoring and review management and maintenance	**1**	0	1	**A PRE-REQUISITE THAT LE03 ROLES & RESPONSIBILITIES ARE DEFINED… AS DETAILED IN LE04.** **POTENTIAL CREDIT** on-going monitoring & review would be required to assess the effectiveness of the ecological protection & enhancement measures as well as developing and reviewing on-going maintenance arrangements in accordance with survey data & stakeholder consultation. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity
	Landscape and ecology management plan (or similar) development	**1**	1		It is assumed that a Landscape and Ecology Management Plan shall be developed in accordance with BS 42020:2013 covering a minimum of 5 years to support on-going maintenance of the ecological value. **Early Design Consideration/Action** Appoint Ecologist for the BREEAM 2018 scope at the earliest opportunity.
Weighting	**1.00%**	**Total Available**	Targeted section total	Potential section total	
		13	**7**	**3**	
		13.00%	**7.00%**	**3.00%**	
Pollution					
Pol01 Impact of refrigerants	Impact of refrigerants	**2**	2		**PRE-REQISITE** All systems with electric compressors comply with the requirements of BSEN 378:2016

		Available	Targeted	Potential	Comments
	Leak detection	**1**	0		and Refrigeration systems containing ammonia comply with the Institute of refrigeration Ammonia Refrigeration Systems code of practice. It is assumed that the services strategy will use refrigerants that have direct effect life cycle CO_2 equivalent emissions (DELC) of ≤100 CO_2-eq/kW. The provision of a complaint refrigerant leak detection system has not been thought of.
Pol02 Local Air Quality	Local air quality	**2**	2		Emissions from all installed combustion plant that provide space heating and domestic hot water will not exceed the levels required to achieve the two credits. **Action** The NO_x and PM10 to comply with the emissions for a high pollution location.
Pol03 Surface Water Run Off	Flood Resilience - two credits	**2**	2		**IT IS A PRE-REQUISITE THAT AN APPROPRIATE PROFESSIONAL IS APPOINTED TO CARRY OUT THE FLOOD RISK AND SURFACE WATER ASSESSMENT.** Initial investigations indicate that the site is in a low flood risk area (flood zone 1). **Early Design Consideration/Action** Commission appropriate consultant to carry out site specific Flood Risk Assessment and to design an appropriate drainage strategy in accordance with BREEAM criteria.
	Surface Water run-off	**2**	1		One credit has been targeted for the surface water run-off -Rate by meeting the credit's criteria. **Early Design Consideration/Action** Commission appropriate consultant to carry out site specific Flood Risk Assessment and to design an appropriate drainage strategy in accordance with BREEAM criteria.
	Minimising Water Pollution	**1**	0	0	This credit has not been targeted.

		Available	Targeted	Potential	Comments
Pol04 Reduction of Night Time Pollution	External lighting in accordance with ILP guidance notes and switched off between 11pm & 7am	**1**	1		All external lighting to be specified in accordance with the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011 and must switch off between 23.00 and 07.00, amongst meeting the other BREEAM requirements for security lighting where this is specified. **Action** Ensure M&E specification includes requirements of this issue.
Pol05 Reduction of noise pollution	Noise impact assessment to BS 4142:2014, or no noise sensitive building located within 800m of the assessed site.	**1**	1		A compliant noise impact assessment will be undertaken for the project and the post-completion test results will comply with the required noise levels and will be at least 5dB lower than the background noise throughout the day and night.
Weighting	**0.67%**	**Total Available**	Targeted section total	Potential section total	
		12	**9**	**0**	
		8.00%	**6.00%**	**0.00%**	
Innovation					
Man 03	Responsible Construction Practices	**1**	0		The innovation credit for this issue has not been targeted.
Hea 01	Visual comfort	**2**	0		These innovation credits for this issue have not been targeted.
Hea 06	Security	**1**	0		The innovation credit for this issue has not been targeted.
Ene 01	Reduction of energy use and carbon emissions	**5**	0		These innovation credits for this issue have not been targeted.
Wat 01	Water Consumption	**1**	0		The innovation credit for this issue has not been targeted.
Mat 01	Building LCA	**3**	0		The innovation credit for this issue has not been targeted

		Available	Targeted	Potential	Comments
Mat 03	Responsible sourcing materials	**1**	0	0	The innovation credit for this issue has not been targeted.
Wst 01	Construction Site Waste Management	**1**	1		The innovation credit for this issue has been targeted.
Wst 02	Recycled & Sustainably Aggregates	**1**	0	0	The innovation credit for this issue has not been targeted.
Le 02	Identifying & understanding ecological risks & opportunities	**1**	0	0	The innovation credit for this issue has not been targeted.
Le 04	Adaptation to Climate Change	**1**	0	0	The innovation credit for this issue has not been targeted.
Weighting	**1.00%**	**Total Available**	Targeted section total		
		10	**1**	**0.00**	
		10%	**1.00%**	**0.00%**	
			Targeted Grand Total	**Potential Grand Total**	
			57.80%	**63.90%**	

5. CONCLUSION

5.1 This BREEAM pre-assessment has demonstrated potential strategies for achieving a BREEAM 'Very Good' rating for the proposed Barnsley Youth Zone. An expected BREEAM score of **57.80%** - 'Very Good' BREEAM rating shall be achieved if the recommendations are followed.

5.2 Typically, a target higher than the minimum required to achieve a particular BREEAM rating is aspired to in order to allow for any unforeseen circumstances that may result in credits targeted at the Design Stage not being possible to achieve in the Post Construction assessment. As such the project team, should investigate those credits which have been highlighted as Potential credits to determine their feasibility and inclusion into the scheme. As it stands the potential credits identified as probably achievable and not at unreasonable cost amount to **63.90%.**

5.3 Particular attention should be paid to 'Early Design Consideration/Action' and 'Early Action: Fixed Stage' where urgent attention at this point is required to ensure that the most cost-effective approach to BREEAM may be followed, and there are risks that the desired BREEAM rating may not be achieved without actions at the required Fixed RIBA Stages.

5.4 It should be ensured that all mandatory credits are achieved as required for BREEAM 'Very Good', otherwise this target rating cannot be achieved.

5.5 Some details of the evidence required to be produced in order to achieve each credit has been provided in this pre-assessment report. However, BWB suggest organising a dedicated BREEAM meeting with the project team members where the issues can be discussed in detail and delegation of credit responsibility would be proposed, thereby committing the relevant design team member to ensure that the requirements are incorporated into design and build specifications and are subsequently delivered.

Further details of these requirements would be provided on BWB online BREEAM progress tracking system on the commencement of the BREEAM design stage assessment. This online system will allow all the design team members to view requirements, upload the information that is required to achieve credits for the issues they have been allocated responsibility for and track the progress of the BREEAM assessment.

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