

1.0 GRANGE CENTRE – BREEAM DESIGN NOTE

- 1.1 Greengage Environmental Ltd was commissioned to undertake a BREEAM pre-assessment for the proposed site known as the Outdoor Learning Facilities at the Grange Centre for people with disabilities in Bookham, Surrey.
- 1.2 This note has been produced to support a planning submission for the site, which seeks demolition, refurbishment and construction of buildings in the area north of the existing Walled Garden in order to provide enhanced horticultural, educational, training, support and storage facilities ancillary to the use of The Grange, together with hard and soft landscaping and car and cycle parking.
- 1.3 Greengage undertook a BREEAM pre-assessment under the New Construction 2018 methodology for the building type *Education* assuming a Shell and Core assessment. A Fully Fitted assessment was also produced to inform the design team.
- 1.4 A BREEAM workshop was conducted by Greengage on the 19th of August 2021 to identify early action credits and help determine what BREEAM rating could be achieved for the proposed development. Each BREEAM category was reviewed with the design team (Matter Architecture and MHA Consult) to produce an assessment as close to reality as possible, while reaching for the higher credits where feasible.
- 1.5 To secure enough credits for BREEAM Very Good, Greengage advise the following actions to be undertaken at early stage (end of Stage 1/early Stage 2):
- **Man01 Project Brief and Design** – confirm project team roles and responsibilities. Ensure all relevant third-party stakeholders have been consulted on the project.
 - **Man01 BREEAM AP** – appoint a BREEAM AP to work with the team to maximise project's performance throughout Concept, Design and Construction stages.
 - **Ene04 Low Carbon Design** - carry out Low Zero Carbon Feasibility Study.
 - **Tra01 Transport assessment and travel plan** – develop a transport statement and travel plan with involvement of the client or occupier of the building.
 - **Mat03 Responsible sourcing of construction products** – develop a Sustainable Procurement Plan.
 - **Wst01 Construction Waste Management** – conduct a pre-demolition audit.
 - **Wst05 Adaptation to Climate Change** - conduct a climate change adaptation strategy appraisal for structural and fabric resilience.

- **Wst06 Design for disassembly and adaptability** – conduct a building-specific functional adaptation strategy study, which includes recommendations for measures to be incorporated to facilitate future adaptation.
 - **LE02 Identifying and understanding the risks and opportunities for the project** - project team to liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the site.
- 1.6 Additional appointments to be conditioned for planning include BREEAM AP (Man01 & Man03) and pre-demolition audit (Wst 01).
- 1.7 A pre-demolition audit needs to be conducted at early stage to make an inventory of materials on the existing site to be demolished identifying opportunities for reclamation, re-use, and recycling. Once the audit is done, a report will be produced detailing materials arisings as well as a list of suggested actions to be undertaken so that maximum material recovery is achieved.
- 1.8 An overall score of **58.57%**, equivalent to BREEAM **Very Good** rating, could be achieved with the credits targeted as per the latest Shell and Core tracker – see overleaf.
- 1.9 A rating of **Excellent** could be targeted, providing further appointments are made, including Thermal modelling, Daylight and Life Cycle Assessment. Potential credits were identified in the pre-assessment tracker. These would need to be reviewed by the design team to confirm which ones could be achieved for a higher rating to potentially be reached.

BREEAM New Construction (2018) Design Stage Summary Tracker



Project Name	Grange Centre	
Project Number	551796	
Date	20/08/2021	
Targeted BREEAM Rating	VERY GOOD	58.57%
Potential BREEAM Rating	EXCELLENT	76.96%
Awarded Credits	NO RATING	0.00%

Project Notes:
 BREEAM 2018 New Construction
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 V1

Further appointment required
 Potential credits identified

Category	Credit ID	Credit Name	Credit(s) Available	Proposed Scenario	Potential Uplift	Credits Awarded	Responsibility	Completion	Credit Issue	Design Team Delivery
Man 01	Project Brief and Design		1	1			Architect/Project Manager	Time Critical Concept Design	Project Delivery Consultation A meeting(s) must be undertaken between the key project delivery stakeholders (as a minimum: the client, the building occupier, the design team and the Principal Contractor [or someone with construction experience]), identifying roles, responsibilities and contributions for key phases of project delivery.	Required: - Project Directory - Minutes kick off - Project brief
			1	1			Planning Consultant	Time Critical Concept Design - Technical Design	Stakeholder Consultation (third parties) - All relevant interested parties (building users, existing community, partnerships and networks) have been consulted by the design team. - Stakeholder contributions and consultation outcomes have influenced Initial Project Brief and Concept Design. - Consultation feedback has been given to, and received by, all relevant parties prior to completion of detailed design.	Required: - Minutes of meetings - Consultation with relevant parties - Minimum consultation requirements
			1	1			Assessor/ Client	Time Critical Concept Design	BREEAM AP (Concept Design) Pre-requisite: Project team, including client, formally agree strategic performance targets early in design process. AP is appointed to work with team to maximise project's performance against BREEAM throughout Concept Design, monitor progress against targets, identify risks & opportunities, provide feedback, monitor/coordinate evidence generation.	Required: - Confirmation of BREEAM AP Appointment - Pre-Assessment Report - Minutes Kick-Off confirming set BREEAM target - RIBA Stage Reports - Meeting minutes with AP
			1	1			Assessor/ Client	Time Critical Concept Design & Developed Design	BREEAM AP (Developed Design) Pre-requisite: Project team, including client, formally agree strategic performance targets early in design process. BREEAM AP (Concept Design) credit must be achieved first. AP is appointed to work with team to maximise project's performance against BREEAM throughout Developed Design, monitor progress against targets, identify risks & opportunities, provide feedback, monitor/coordinate evidence generation.	Required: - Confirmation of BREEAM AP Appointment - Meeting/workshop minutes - RIBA Stage Reports
Man 02	Life cycle cost and service life planning		2	0			Cost Consultants/ Client	Time Critical Concept Design	Elemental Life Cycle Cost (LCC) Outline entire asset elemental life cycle cost plan carried out.	Required: Life cycle cost analysis report
			1	0		Time Critical Technical Design		Component level life cycle costing (LCC) In line with PD 156865:2008 & includes (where present): - Envelope, e.g. cladding, windows, and/or roofing - Services, e.g. heat source cooling source, and/or controls - Finishes, e.g. walls, floors and/or ceilings - External spaces, e.g. alternative hard landscaping, boundary protection. Examples of how the LCC has influenced the design must be given.	Required: - Component life cycle costing	
			1	1				Capital Cost Reporting in £/sqm At the design stage, where the final information is not available, credit can be awarded where the client provides predicted capital cost, including contingencies, and commits to providing this information for the final stage of assessment.	Required: - Confirmation of Cost (£/sqm) - Capital Cost Report	

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Management	Man 03	Responsible construction practices	✓	✓	✓	✓	Contractor	Time Critical Construction	Pre-requisite - All timber and timber-based products used during construction are 'legally harvested and traded timber'.	
			1	1					Environmental Management All parties who control the site site (principal contractor, demo-contractor) operate EMS (ISO14001 or equivalent) for all main operations and best practice pollution prevention in accordance with Pollution Prevention Guidelines PPG6. Required: - Contractor confirmation EMS / ISO14001 or BES8555	
			1	1					BREEAM AP (site) Pre-requisite: Client and contractor formally agree performance targets. BREEAM AP is appointed to assist with maximise performance, going beyond design intent, monitor progress against targets, identify risks/opportunities, provide feedback, coordinate generation of evidence. Required: - BREEAM AP Meeting Minutes - BREEAM RIBA Stage Reports - Project Summary Update	
			2	2					Responsible construction management One credit - achieve items in responsible construction management table required for one credit Two credits - achieve the above plus six additional items from table. Table items include: vehicle movement, pollution management, tidiness, health & wellbeing, security, training and reporting. Required: - Policy documents - Construction logistics plan - Training records - Reporting procedures	
			2	2					Monitoring of Construction Site Impacts An individual is appointed to record the utility consumption (energy & water) and transport of construction materials & waste to/from site. Targets must be set and monitored. Required: - Contractor commitment to monitor site impacts. - Clarification of targets	
	Man 04	Commissioning and handover	✓	✓	✓	✓	Contractor / M&E	Design Stage	Mandatory Criterion 9- Provision of a Building User Guide (BUG)	
			1	1					Commissioning - Testing Schedule and Responsibilities - A schedule of commissioning including suitable timescale for commissioning/ re-commissioning of all complex/ non-complex building services and control systems and testing and inspecting building fabric. - Commissioning activities carried out in accordance with current Building Regulations, BSRIA, CIBSE guidelines. - Appoint a team member to monitor and programme pre-commissioning, commissioning, testing activities on behalf of the client. - Contractor accounts for the commissioning within their budget and timeline. Required: - MEPH Services Report Commissioning compliance with BSRIA / CIBSE - Contractor confirmation of schedule of commissioning & appointment of a team member to programme pre-commissioning, commissioning, testing activities on behalf of the client.	
			1	1					Commissioning - design and preparation Appoint appropriate project team member (by either the client or the principal contractor) to undertake design reviews, give advice, provide commissioning management input during installation and performance testing during handover. Required: - MEPH Services Report Commissioning - Appointment of appropriate project team member	
			1	0	1				Testing and inspecting building fabric Thermographic survey and airtightness testing. Required: - Thermographic Survey - Airtightness testing	
			1	1					Handover Develop two BUGs and two Training Schedules: 1) Non-technical for distribution to building occupiers; and 2) Technical for FMs. Required: - Contractor to confirm producing BUGs & training schedules	
0.61%		Total Credits	18	14	1	0				
Per Credit		Section Score	11.00%	8.56%	0.61%	0.00%				

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Health a	Hea 01	Visual Comfort	2	0	2		Architect/ M&E		Daylighting 2% daylight factor across 80% NIFA. Calculations required to confirm feasibility.	Required: - GA drawings and daylighting calculations	
			1	0	1				View Out 95% of floor area in 95% of spaces is within 8m of an external wall with window providing adequate view out and window/opening must be ≥ 20% of the surrounding wall area.	Required: - GA Drawing highlighting cladding & solid cladding. - Elevations showing total percentage of solid cladding vs cladding - BS Standard Table 8.	
			1	1					Internal and External lighting levels, Zoning and Controls -Internal & external lighting to required illuminance levels (where applicable) including SLL Code for Lighting, CIBSE Lighting Guide 5 & 7 and BS EN 12464. -Internal lighting zoned for occupant control as per criteria.	Required: - Lighting schedule confirming specifications of any fittings. LED lighting strategy will typically achieve compliance - Design to comply with BS5489 - MEPH RIBA Stage Report	
	Hea 02	Indoor Air Quality	✓	✓	✓	✓	Air Quality Specialist		Pre-requisite: Indoor Air Quality Plan Consideration of: -removal of contaminant sources -dilution and control of contaminant sources -procedures for pre-occupancy flush out -third party testing and analysis -maintaining indoor air quality in use	Required: Copy of the IAQP	
			1	1					Indoor Air Quality Specialist / M&E engineer		Ventilation Ventilation pathways minimise build-up of air pollutants. Air intakes must be 10m horizontal distance from building exhausts and other external sources of pollution. HVAC systems incorporate suitable filtration. Variable occupancy areas have CO2 sensors linked to mechanical ventilation system.

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nd Wellbeing	Hea 04	Thermal comfort	1	0	1		M&E		Thermal Modelling Thermal modelling has been carried out using software in accordance with CIBSE AM11. Building designed for over heating in accordance with CIBSE TM52. PMV & PPD reported for air conditioned buildings.	Required: - Thermal Comfort Report	
			1	0	1				Design for future thermal comfort Thermal modelling demonstrates that the building design and services strategy can deliver the same thermal comfort levels, PMV and PPD indices in occupied spaces achieved for the first credit under a projected climate change environment.	Required: - Thermal Comfort Report to include reference to a Projected Climate Change Scenario	
	Hea 05	Acoustic performance	1	1			Acoustician		Sound Insulation, Indoor Ambient Noise and Room acoustics The building meets the appropriate acoustic performance standards and testing requirements for the building type.	Required: - Acoustic Report referring to indoor spaces.	
	Hea 06	Security	1	0	1		Architect	Time Critical Concept Design	Security of Site and Building - Suitably qualified security specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) including visual audit and the recommendations implemented.	Required: - Secure by Design / ALO Consultation	
	Hea 07	Safe and healthy surroundings	1	1			Architect		Safe access Dedicated cycle paths Dedicated/safe footpaths Pedestrian drop off areas providing direct access to footpaths Delivery areas not accessed through general parking areas. Dedicated parking/waiting area for goods vehicles separate to manoeuvring area Parking/turning designed for simple manoeuvring.	Required: - GA drawings showing site areas	
			1	1			Architect		Outside space Providing building users with external amenity area.	Required: - GA drawing showing external space with seating	
	0.73%	Total Credit	11	5	6	0					
Per Credit	Section Score	8.00%	3.64%	4.36%	0.00%						

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Energy	Ene	Description	Credits				M&E	Design Stage	Requirements	Required
			Targeted	Actual	Weighted	Score				
Energy	Ene 01	Reduction of Energy Use and Carbon Emissions	9	3	1		M&E	Energy Performance Based on energy performance BRUKL document Mandatory requirement for 4 credits for Excellent	Required: - BRUKL Input File - Details entered in Scoring Reporting Tool.	
			4	0			M&E / Architect	Prediction of operational energy consumption Pre-requisite: Preliminary design workshop on operational energy performance Additional energy modelling to generate predicted operational energy consumption figures. Risk assessment carried out.	Required: - Workshop minutes - Additional energy modelling output	
	Ene 02	Energy Monitoring	1	1			M&E	Mandatory - Sub-metering of end-use categories Labelling required for each output: Space heating, Domestic Hot Water, Cooling, Lighting, Small power, Other major energy-consuming items. BMS for buildings over 1000sqm	Required: - MEP Services Report meters, sub-meters, pulsed-output	
			1	1			M&E	Sub-metering of high energy load and tenancy areas Accessible energy monitoring and management system for tenanted areas or relevant function areas or separate sub-meters.	Required: - MEP Services Report meters, sub-meters, pulsed-output	
	Ene 03	External Lighting	1	1			M&E/ Architect	External Lighting The average initial luminous efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit Watt. All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.	Required: - LED Lighting to be specified. - Fittings are automatically controlled for prevention of operation - MEPH Services Report	
	Ene 04	Low Carbon Design	1	0	1		Architect/M&E	Passive Design Analysis Thermal modelling credit under Hea 04 has been achieved. Identify opportunities for passive design solutions by Concept Design stage Implement passive design measures and quantify reduced total energy demand and CO2 emissions	Required: - PDA to be completed, often as part of LZCT Report. - Calculations to work out reduced demand	
			1	0	1			Free Cooling Analysis of free cooling and implementation opportunities within passive design analysis	Required: Detail of the free cooling strategy and capability	
			1	1				Low Zero Carbon Feasibility Study LZC study by energy specialist and a local LZC technology has been specified in line with the feasibility study. Quantify reduced regulated CO2 emissions as a result of feasibility study.	Required: - Low Zero Carbon Feasibility Study with calculations.	
	0.74%	Total Credits	19	7	3	0				
		Per Credit Section Score	14.00%	5.16%	2.21%	0.00%				

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Section	Credit	Description	Target	Actual	Weighted	Score	Assessor	Requirements	Notes
Transport	Tra 01	Transport assessment and travel plan	2	2			Assessor	Developing a travel plan, based upon the findings set out within a travel assessment/statement, incorporating the sustainable measures into the design.	Required: Site-specific travel assessment Travel plan
	Tra 02	Sustainable transport measures	10	5	1		Assessor	Transport options implementation Tra 01 is pre-requisite Identify sustainable transport options, award credits based on AI and number of options. Measures include - dedicated bus service, public transport information system, electric charging, car sharing, cycle storage, cycle facilities , existing amenities, new amenities	Required: AI for building calculated. GA drawings/reports, information depending on measures chosen
	0.96%	Total Credit	12	7	1	0			
	Per Credit	Section Score	11.50%	6.71%	0.96%	0.00%			
Water	Wat 01	Water Consumption	5	3			M&E/ Architect	Mandatory 1 credit for 12.5% improvement 1 credit - 12.5% improvement over baseline performance- litres/person/day. 2 credits - 25% improvement over baseline performance- litres/person/day. 3 credits - 40% improvement over baseline performance- litres/person/day. 4 credits - 50% improvement over baseline performance- litres/person/day . 5 credits - 55% improvement over baseline performance- litres/person/day. >3 credits requires the implementation of greywater/rainwater recycling.	Required: - Wat 01 completed calculator - Final sanitaryware schedule Uplift dependent on final sanitary ware specification
	Wat 02	Water Monitoring	1	1			M&E	Mandatory Criterion 1 Criterion 1- specification of water meter on mains - Areas of 10% + of water consumption fitted with sub-meters - Sub-meters connected to BMS - Pulsed water meter.	Required: - MEP Services Report Water metering strategy
	Wat 03	Water Leak Detection	1	0			M&E	Leak Detection System Leak detection system capable of detecting major leak on mains.	Required: - MEP Services Report with leak detection system specified
			1	1				Flow Control Devices Sanitary supply shut-off. Flow control devices to be fitted to each WC area/facility to ensure water is supplied only when needed.	Required: - MEPH Services Report with sanitary supply shut-off / Solenoid valve.
	Wat 04	Water efficient equipment	1	1			M&E	Water efficient equipment Identify water demands that can be realistically mitigated or reduced. Identify systems or processes to reduce relevant water demand	Required: - MEPH report, drawings
	0.78%	Total Credit	9	6	0	0			
Per Credit	Section Score	7.00%	4.67%	0.00%	0.00%				

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Materials	Material ID	Description	Credits				Responsible Party	Design Stage	Requirements	Required
			Available	Used	Not Used	Weighted				
Materials	Mat 01	Environmental impacts from construction products - Building life cycle assessment (LCA)	6	0	3		Architect	Time Critical Concept Design & Technical Stage	Superstructure Building LCA options appraisal of 2-4 significantly different superstructure design options at Concept Design. Building LCA options appraisal of 2-3 significantly different superstructure design options at Technical Design.	Required: - LCA options appraisals
			1	0	1		Architect	Time Critical Concept Design	Substructure and hard landscaping options appraisal during Concept Design LCA options appraisal on a combined at least 6 different substructure or hard landscaping design options (at least 2 of each)	Required: - LCA options appraisals
	Mat 02	Environmental impacts from construction products - Environmental Product Declarations (EPD)	1	1			Architect		Specification of products with a recognised environmental product declaration (EPD) Total EPD points score of at least 20	Required: - Specification of materials with EPD certificates
	Mat 03	Responsible sourcing of construction products	✓	✓	✓	✓	Architect/ Contractor	Time Critical Concept Design	Mandatory - Pre-requisite - All timber used must be "legally harvested and traded as per UK Government Timber Procurement Policy"	
			1	1					Enabling Sustainable Procurement Contractor sources materials in accordance with a Sustainable Procurement Plan (SPP).	Required: Sustainable Procurement Plan
				3	2	1			Responsible Sourcing of Materials One credit - Superstructure & >10% of points Two/three credits - internal finishes and substructure & hard landscaping & >20% or >30%	Required: Contractor commitment to achieve suppliers capable of BES 6001 / ISO 14001
Mat 05	Designing for Durability and Resilience	1	1			Architect		Protecting Vulnerable Parts of the Building from Damage. Design and specification measures to limit material degradation due to accidental/malicious damage. Protecting exposed parts of the building from material degradation Exposed building elements designed to limit degradation due to environmental factors through appropriate quality standard or a detailed assessment of the element's resilience. Convenient access to roof and facade for cleaning/repair and design roof to prevent water damage/ingress.	Required: Marked up drawing showing how the scheme has been designed to protect vulnerable parts Specification with required quality standards or environmental assessment.	
Mat 06	Material Efficiency	1	0			Architect/ Contractor	Time Critical all design stages from Preparation & Brief	Material Efficiency Opportunities and measures to optimise the use of materials in building design, procurement, construction, maintenance and end of life have been identified. Measures must be implemented and targets/actual material efficiencies achieved reported.	Required: - D&A Statement - RIBA Stage Reports showing design progression	
1.25% Total Credit			14	5	5	0				
Per Credit Section Score			17.50%	6.25%	6.25%	0.00%				

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Waste	Wst ID	Description	Credits				Responsible Party	Time Critical	Requirements	Required
			Targeted	Actual	Potential	Score				
			1	1			Demolition contractor	Time Critical Concept Design	Pre-demolition audit Pre-demo audit carried out at Concept Design and referred to in RMP.	Required: Pre-demolition audit
	Wst 01	Construction Waste Management	3	2	1		Contractor		Construction Resource Efficiency - Construction Resource Management Plan (CRMP) ≤7.5m3 (≤6.5 tonnes) per 100 sqm of non-hazardous construction waste generated.	Required: - Contractor commitment upon appointment. Contractor to provide comment on the likely waste generation targets that are considered achievable.
			1	1					Diversion of Waste from Landfill Non-Demo - 70% Volume / 80% Tonnage Demolition - 80% Volume / 90% Tonnage	Required: - Contractor commitment upon appointment.
	Wst 02	Use of recycled and sustainably sourced aggregates	1	0	1		Contractor / Structural Engineer		Project sustainable aggregate points Pre-requisite - pre-demo audit if applicable. Identify all aggregates including quantity, source, distance travelled.	Required: - Detail on all aggregates specified - Assessor to complete Wst 02 calculator tool
	Wst 03	Operational Waste	1	1			Architect		Mandatory 1 Credit - Operational waste Where there is a dedicated space to cater for the segregation and storage of operational recyclable waste volumes generated clearly labelled, accessible, of capacity appropriate.	Required: - GA Drawing showing dedicated area for recycling with total area m2 and No. of bins. - Waste Strategy Consultation - Proposed Bin Layout & Delivery Strategy
	Wst 05	Adaptation to Climate Change	1	1			Architect / Assessor	Time Critical Concept Design & Technical Design	Resilience of structure, fabric, building services and renewables installation Climate change adaptation strategy appraisal Develop recommendations based on appraisal Provide update during technical design on implementation of recommendations	Required: - Adaption to Climate Change assessment - Drawing showing implementation of recommendations
	Wst 06	Design for disassembly and adaptability	1	1			Architect / Assessor	Time Critical Concept Design	Design for disassembly and functional adaptability - recommendations - Study to explore ease of disassembly and functional adaptation potential of different designs - Develop recommendations and solutions by end of Concept Design	Required: - Functional adaptability/disassembly template - Marked up drawings
			1	0	1		Architect / Assessor	Time Critical Technical Design	Disassembly and functional adaptability - implementation Update during Technical Design on implementation of recommendations or solutions and any changes. Produce building adaptability and disassembly guide for prospective tenants.	Required: - Drawings/stage reports showing implementation of measures - Building adaptability and disassembly guide
	0.70%	Total Credits	10	7	3					0.00%
	Per Credit	Section Score	7.00%	4.90%	2.10%					0.00%

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Land Use and Ecology	LE	Description	Credits				Responsible Party	Time Critical	Requirements	Required
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LE 01	Site Selection		1	1			Ecologist		Previously occupied land At least 75% of the proposed development's footprint on an area of land which has previously been developed.	Required: - Pre and Post development plans
			1	0			Contaminated Land Specialist		Contaminated Land Credit if land is deemed to be contaminated land is subsequently remediated.	Required: Specialist's site investigation, risk assessment and remediation strategy
LE 02	Identifying and understanding the risks and opportunities for the project		2	2			Ecologist	Time Critical Concept Design	Survey and evaluation Pre-requisite - assessment route determined using GN34. Compliance against legislation monitored. Survel & evaluation by ecologist to determine baseline and ecological outcomes.	Required: - Ecologist/checklist - Ecology survey, report and outcomes - Stakeholder consultation if required
LE 03	Managing negative impacts on ecology		1	1			Ecologist	Time Critical Concept Design	Planning, liaison, implementation and data Roles & responsibilities defined. Site preparation to optimise benefits. Collaboration with stakeholders, solutions implemented.	Required: Meeting minutes/contractor team roles
			2	2			Ecologist	Time Critical Concept Design	Managing negative impacts of the project Negative impacts from construction managed according to hierarchy (2 credits = no overall loss of ecological value).	Required: Confirm management solutions
LE 04	Change and enhancement of ecological value		1	1			Ecologist / Contractor	Time Critical Concept Design	Liaison, implementation and data collation Only available if ecologist used. Parts of LE03 are pre-requisite. Stakeholder liaison solutions and measures implemented in a way that enhances ecological value on site as priority.	Required: Ecologist to confirm ecological value as a result of measures
			3	2	1			Time Critical Concept Design	Enhancement of ecology Data provided to local environmental records centre. Change in ecological value to award credits	Required: - Ecologist Report - BREEAM Calculator
LE 05	Long term ecology management and maintenance		1	1			Ecologist		Planning, liaison, data, monitoring, and review management and maintenance Parts of LE04 are pre-requisite. Stakeholder collaboration. Monitoring and reporting on project outcomes.	Required: -Ecologist Report
			1	1			Ecologist		Landscape and ecology management plan (or similar) development Plan developed in accordance with BS 42020:2013 covering first five years after completion.	Required: - Management plan
1.15%			Total Credits	13	11	1	0			
Per Credit			Section Score	15.00%	12.69%	1.15%	0.00%			

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Awarded Credits	NO RATING	0.00%

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 BREEAM 2018 New Construction
 Education
 Shell and Core
 Reviewed with design team on 19/08/21
 V1

Further appointment required
 Potential credits identified

Category	Policy/Measure	Description	Targeted	Actual	Weighted	Score	Weighted Score	Requirements
Pollution	Pol 01	Impact of Refrigerants	2	1	1			Pre-requisite- compliance with BS EN 378:2016 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. Impact of refrigerant 2 credits: Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELCO2e) of ≤ 100 kgCO2e/kW cooling/heating capacity OR all refrigerants used have GWP <10. 1 Credit : Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELCO2e) of ≤ 1000 kgCO2e/kW cooling/heating capacity.
			1	0			Required: - MEPH Services Report stating DELCO2e of refrigerant.	
	Pol 02	Local air quality	2	2			Required: - Measurements provided by manufacturers following labelling requirements of European directive 2009/125/EC	
	Pol 03	Flood and surface water management	2	2			Required: - Flood Risk Assessment (FRA).	
			2	1			Required: - Flood Risk Assessment (FRA). - Drainage strategy	
			1	0			Required: - Flood Risk Assessment (FRA). - Drainage strategy	
	Pol 04	Reduction of Night Time Light Pollution	1	1			Required: - MEPH Services Report confirming external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.	
Pol 05	Reduction of Noise Pollution	1	1			Required: - Acousticians Noise Report		
0.75% Total Credit			12	8	1	0		
Per Credit Section Score			9.00%	6.00%	0.75%	0.00%		
Innovation	Man 03	Responsible Construction Practices	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Hea 01	Visual comfort	2	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Hea 02	Indoor air quality	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Hea 06	Security	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Ene 01	Reduction of energy use and carbon emissions	5	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Wat 01	Water consumption	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Mat 01	Life Cycle Impacts	3	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Mat 03	Responsible Sourcing of Materials	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Wst 01	Construction Site Waste Management	5	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
	Wst 02	Recycled Aggregates	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system
Wst 05	Adaptation to Climate Change	1	0	0			Required: - MEPH Services Report detailing inclusion of a refrigerant leak detection system	

BREEAM New Construction (2018) Design Stage Summary Tracker



Project Name	Grange Centre	
Project Number	551796	
Date	20/08/2021	
Targeted BREEAM Rating	VERY GOOD	58.57%
Potential BREEAM Rating	EXCELLENT	76.96%
Awarded Credits	NO RATING	0.00%

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Further appointment required									
Potential credits identified									
1.00%	LE 02	Identifying and understanding the risks and opportunities for the project	1	0	0		Ecologist / Landscape Architect / Structures		Wider Site Sustainability Wider sustainability related activities and potential ecosystem service benefits are considered as part of determining the optimal ecological outcomes for the site. Hea 07: Both credits Pol 03: Surface Water Run-off and Minimising Watercourse Pollution credits Pol05: 1 credit
	LE 04	Change & enhancement of ecological value	1	0	0		Ecologist / Landscape Architect		Change and Enhancement of Ecology Demonstrate a significant ecological net gain (110%)
	Total Credit		10	0	0	0			
	Per Credit		Section Score	10.00%	0.00%	0.00%	0.00%		
Overall Credits			128.00	70.00	21.00	0.00			
Final BREEAM Score			110.00%	58.57%	18.40%	0.00%			
BREEAM Rating			-	VERY GOOD	EXCELLENT	NO RATING			