McCann and partners

Consulting Engineers

LONDON SOUTHEND AIRPORT, SOUTHEND-ON-SEA

BREEAM New Construction 2014: Other - Transport Hub
Pre-assessment

29th March 2018/ Revision 3.0

Legacy: McCann Sustainability - McCann and Partners

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Project Reference:	6395
Assessment Date:	26th September 2017
Revision:	3.0
Report Issue Date:	29th March 2018
BRE Reference:	BREEAM-0071-0707

BREEAM 2014 New Construction: Other - Transport Hub

Performance Summary:

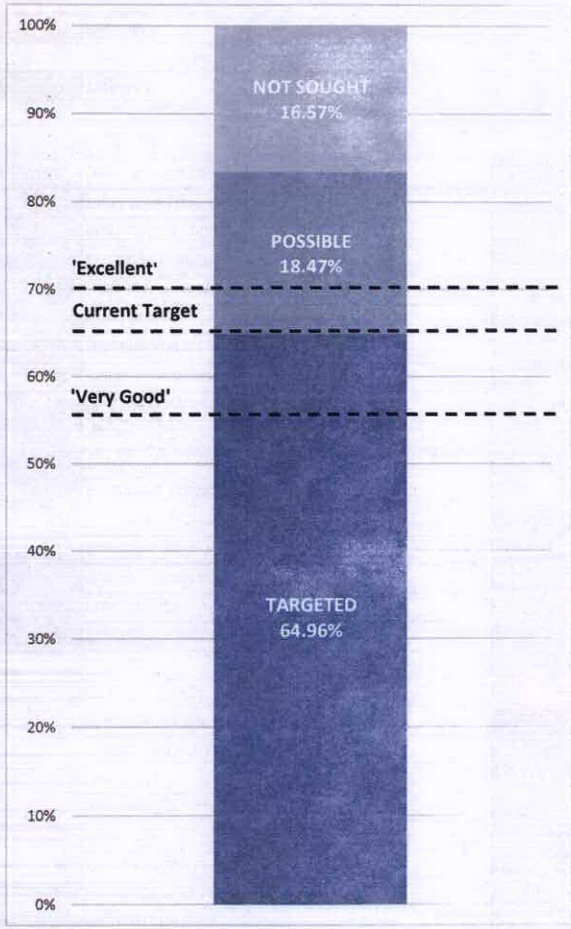
Required Score:	70.00	'Excellent'
Targeted Score:	64.96	'Very Good'

The project comprises the development of two extensions to London Southend Airport; a single storey extension approximately 1,242m^2 (for HBS) and a single storey extension approximately 2,095m^2 (for baggage reclaim), which is required to achieve a BREEAM 'Excellent' rating as required by planning.

A pre-assessment has been undertaken by Michael Davey (Legacy: McCann Sustainability - McCann and Partners), who is a licenced BREEAM Assessor and Sustainability Champion.

A 'Very Good' score of 64.96% has been identified as being realistically achievable, which is 9.96% above the 'Very Good' threshold but 5.04% below the 'Excellent threshold. With this in mind, the development could potentially achieve one, or a combination of 'possible' credits; however it must be noted that these include credits where compliance is not guaranteed and/ or credits that will incur additional capital costs - please refer to the 'Pre-assessment' part of this report and the accompanying 'BREEAM Summary' document for further details.

A package of information will be issued to relevant members of the team in due course to assist with the design stage assessment.



Credit Summary:

SECTION	TOTAL CREDITS	WEIGHTING (%)	VALUE (%)	AWARDED SCORE (%)	TARGETED SCORE (%)	POSSIBLE SCORE (%)	NOT SOUGHT SCORE (%)
Management	21	12.0	0.57	0.00	8.00	2.86	1.14
Health and Wellbeing	17	15.0	0.88	0.00	10.59	3.53	0.88
Energy	20	15.0	0.75	0.00	9.00	0.00	6.00
Transport	7	9.0	1.29	0.00	5.14	1.29	2.57
Water	9	7.0	0.78	0.00	3.89	0.00	3.11
Materials	14	13.5	0.96	0.00	9.64	0.96	2.89
Waste	8	8.5	1.06	0.00	5.31	1.06	2.13
Land Use and Ecology	10	10.0	1.00	0.00	7.00	1.00	2.00
Pollution	13	10.0	0.77	0.00	5.38	0.77	3.85
Innovation	10	10.0	1.00	0.00	1.00	7.00	10.00
Total	129	110.0	-	0.00	64.96	18.47	34.57

AWARDED	Credits that require no further evidence - information provided demonstrates compliance with the credit criteria
TARGETED	Credits that have been agreed - evidence to follow
POSSIBLE	Credits that require further investigation - some may have a risk, cost and/ or requirement for changes to the design associated with them
NOT SOUGHT	Credits that have been deemed unachievable
NOT APPLICABLE	Credits or criteria that are deemed not applicable to the scheme in question

BREEAM New Construction 2014: Other - Transport Hub
London Southend Airport, Southend-On-Sea

Ref: 6395

PRE-ASSESSMENT SUMMARY

CREDIT		
ID	TITLE	STATUS
Man 01	Consultation (Project Delivery)	
	Consultation (Third Party)	
	Sustainability Champion (Design)	
	Sustainability Champion (Monitoring)	
Man 02	Life Cycle Cost (LCC) - Elemental	
	LCC - Component	
	LCC - Capital Cost	
Man 03	Pre-requisite 1	
	Environmental Management	
	Sustainability Champion (Construction)	
	Considerate Constructors Scheme (CCS)	
	Pre-requisite 2	
	Utility Consumption	
	Transport	
	Innovation (CCS)	
Man 04	Testing Schedule	
	Services Testing	
	Thermographic Survey/ Air Tightness Test	
	Building User Guide	
Man 05	Aftercare	
	Seasonal Testing	
	Post Occupancy Evaluation	
	Innovation (Aftercare)	
Hea 01	Glare Control	
	Daylighting	
	View Out	
	Internal and External Lighting	
	Innovation (Daylighting)	
Hea 02	IAQP	
	Ventilation	
	VOC Specification	
	VOC Testing	
	Natural Ventilation	
	Innovation (VOC Testing)	
Hea 03	Containment Devices	
	Containment Level	
Hea 04	Thermal Model	
	Climate Change Adaptability	
	Temperature Control	

CREDIT		
ID	TITLE	STATUS
Hea 05	Acoustics	
Hea 06	Safe Access	
	Security	
Ene 01	Energy Performance	
	Innovation	
Ene 02	Energy Metering	
	Area Metering	
Ene 03	External Lighting	
Ene 04	Passive Design	
	Free Cooling	
	LZCT	
Ene 05	Refrigeration Energy	
	Indirect Greenhouse Gas emissions	
Ene 06	Transportation Energy	
	Efficient Features	
Ene 07	Lab Specification	
	Lab Energy Efficiency	
Ene 08	Energy Efficient Equipment	
Ene 09	Drying Space	
Tra 01	Public Transport	
Tra 02	Local Amenities	
Tra 03	Cycle Storage	
	Cyclist Facilities	
Tra 04	Car Parking Capacity	
Tra 05	Travel Plan	
Wat 01	Water Efficiency	
	Innovation	
Wat 02	Water Meter	
Wat 03	Major Leak Detection	
	Flow Control	
Wat 04	Unregulated Water	
Mat 01	Materials Specification	
	Innovation	
Mat 02	Hard Landscaping/ Boundary Protection	
Mat 03	Pre-requisite	
	Procurement Plan	
	Responsible Sourcing	
	Innovation	
Mat 04	Insulation	

CREDIT		
ID	TITLE	STATUS
Mat 05	Designing for Robustness and Resilience	
Mat 06	Material Efficiency	
Wst 01	Construction Waste Management	
	Diverting from Landfill	
	Innovation	
Wst 02	Recycled Aggregates	
	Innovation	
Wst 03	Operational Waste	
Wst 04	Floor/ Ceiling Finishes	
Wst 05	Adaptation to Climate Change	
	Innovation	
Wst 06	Functional Adaptability	
LE 01	Previously Developed	
	Contaminated Land	
LE 02	Ecological Value of Site	
	Ecological Protection	
LE 03	Minimising Ecological Impact	
LE 04	Ecologist's Recommendations	
	Increase in Ecological Value	
LE 05	Long Term Impact on Biodiversity	
Pol 01	Refrigerant Impact	
Pol 02	NOx Emissions	
Pol 03	Flood Risk	
	Peak Rate Reduction	
	Discharge Limitation	
	Watercourse Pollution	
Pol 04	Night Time Light Pollution	
Pol 05	Noise Attenuation	

	Targeted
	Possible
	Not Sought
	Not applicable

MANAGEMENT

Man 01	Project Brief and Design	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Stakeholder Consultation (Project Delivery)	Project delivery stakeholders have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery (must be before RIBA Stage 2)	All	1	0.57		1			The project team have already met to clarify team roles and responsibilities
	Project delivery stakeholders and outcomes of the consultation process have influenced or changes the initial Project Brief (including the Project Execution Plan, Communication Strategy and the Concept Design, where applicable)								Consultation with project delivery stakeholders has influenced numerous changes
Credit 2 - Stakeholder Consultation (Third Party)	All relevant third parties have been consulted with on the minimum consultation content (prior to the end of the Concept Design Stage, RIBA Stage 2)	Client/ Architect	1	0.57			1		Third party consultation is currently ongoing; however it is unknown whether feedback will be of any use - to be reviewed
	The project demonstrates how consultation has influenced the Initial Project Brief and Concept Design								
	Consultation feedback has been provided (prior to the end of the Technical Design Stage, RIBA Stage 4)								
Credit 3 - Sustainability Champion (Design)	A sustainability champion has been appointed during the preparation and brief stage (RIBA Stage 1)	-	1	0.57				1	A Sustainability Champion was not appointed at RIBA Stage 1; therefore this credit is unavailable
	The BREEAM performance target has been contractually agreed between the client and design team (no later than the Concept Design Stage)								
	Completed design stage BREEAM report								
Credit 4 - Sustainability Champion (Monitoring Progress)	Credit 3 has been achieved	-	1	0.57				1	As above
	A sustainability champion has been appointed to monitor progress against the BREEAM target throughout the design process and progress is formally reported throughout each stage								

Man 02	Life Cycle Cost and Service Life Planning	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 and 2 - Elemental Life Cycle Costs (LCC)	An elemental LCC has been carried out at RIBA Stage 2 together with any design option appraisals in line with 'Standardised Method of Life Cycle Costing for Construction Procurement' PD 156865: 2008	Cost Consultant	2	1.14			2		An elemental level LCC may be carried out - to be reviewed
	The LCC analysis shows an outline LCC plan based on the buildings basic structure and envelope over the 20, 30, 50+ years								
	The LCC analysis shows the fabric and servicing strategy outlining services components and fit-out options over a 15 year period, in the form of an 'Elemental LCC Plan'								
Credit 3 - Component Level LCC Plan	LCC Plan developed at the end of RIBA Stage 4 in line with PD 156865: 2008 and covers the required component types	Cost Consultant	1	0.57			1		A component level LCC may be carried out - to be reviewed
	Examples have been provided demonstrating how the component level LCC plan has been used to influence building and systems design/ specification								
Credit 4 - Capital Cost Reporting	The predicted capital cost for the building in pounds per square metre (£/m^2) is reported	Cost Consultant	1	0.57		1			The capital cost for the building (£/m^2) will be provided

Man 03	Responsible Construction Practices	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Pre-requisite	All site timber is sourced in accordance with the UK Government's Timber Procurement Policy	Contractor	Pre-requisite						All timber used to facilitate construction will be in accordance with the UK Government's Timber Procurement Policy
Credit 1 - Environmental Management	Principal contractor is ISO 14001 certified or equivalent OR	Contractor	1	0.57		1			The selected contractor will be ISO 14001 certified
	Have a structure in accordance with BS 8555: 2003 and has reached phase four of the implementation stage, 'implementation and operation of the environment management system', and has completed phase audits 1-4, as defined in BS 8555	n/a							n/a
	Best practice pollution prevention policies and procedures in accordance with PPG6 (Working at Construction and Demolition Sites) are implemented	Contractor							The selected contractor will have policies in relation to air and water pollution
Credit 2 - Sustainability Champion (Construction)	A sustainability champion has been appointed to monitor progress against the BREEAM target throughout the construction, handover and close out stages	Legacy (if appointed)	1	0.57			1		A Sustainability Champion may be appointed to monitor progress throughout the construction stage - see additional services section in our fee proposal for quotation
	The required BREEAM rating is a contractual requirement on the contractor								
	Completed post construction BREEAM report								
Credits 3 and 4 - Considerate Construction	The contractor uses a recognised considerate construction scheme and performance against the scheme is confirmed by independent assessment and verification: **1 Credit:** CCS score ≥25-34 with at least 5 points awarded in each section; **2 Credits:** CCS score ≥35-39 with at least 7 points awarded in each section	Contractor	2	1.14		2			A score of at least 35 will be achieved with at least 7 points being awarded in each section
Pre-requisite	Responsibility has been assigned to an individual (with appropriate authority and responsibility) for monitoring, recording and reporting energy use, water consumption and transport data resulting from on-site construction process (and off-site where possible)	Contractor	Pre-requisite						An individual will be responsible for monitoring, recording and reporting information
Credit 5 - Utility Consumption	Monitor and record energy consumption in kWh and litres of fuel (where applicable) as a result of construction activities and site accommodation	Contractor	1	0.57		1			Site energy and water will be monitored
	Report total carbon dioxide emissions (total $kgCO_2$/ project value)								
	Monitor and record potable water consumption in m^3 as a result of construction activities and site accommodation								
	Report total net water consumption (m^3)								
Credit 6 - Transport of Construction Materials and Waste	Monitor and record transport movements and impacts resulting from the delivery of construction materials to and construction waste from site	Contractor	1	0.57		1			Transport data for construction materials and waste will be monitored
	Report (for materials and waste separately) total fuel consumption (litres) and total carbon dioxide emissions ($kgCO_2eq$) and total distance travelled (km)								

Minimum Standard Check - Credit 1: Timber requirement must be met for 'ANY' rating		
Minimum Standard Check - Credits 3 and 4: One credit required for 'EXCELLENT' rating		
Minimum Standard Check - Credits 3 and 4: Two credits required for 'OUTSTANDING' rating		**Note:** Scheme currently targeting 'Excellent'

Man 04	Commissioning and Handover	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Commissioning Schedule and Responsibilities	Commissioning schedule is produced	M&E	1	0.57		1			Commissioning will be undertaken on behalf of the client in accordance with the credit criteria
	Commissioning is undertaken in accordance with current Building Regulations, BSRIA and CIBSE Guidelines (plus other appropriate industry standards)								
	Where a BMS is provided the applicable commissioning procedures are followed								
	Design team member appointed to monitor and programme pre-commissioning, commissioning and re-commissioning (where necessary)								
	Principal contractor accounts for the commissioning programme								
Credit 2 - Commissioning Building Services	**Complex Systems:** A specialist commissioning manager appointed during design stage	M&E/ Contractor	1	0.57		1			A specialist commissioning manager will be appointed during the design stage to undertake design reviews, provide commissioning management input and management of commissioning, performance testing and handover stages
	Simple Systems: An appropriate team member is appointed during design stage								
Credit 3 - Testing and Inspecting Building	Credit 1 has been achieved	Contractor	1	0.57		1			A thermographic survey will be undertaken
	Building fabric integrity is assessed via a thermographic survey and air tightness testing								
	Any defects are rectified prior to handover and close out								
Credit 4 - Handover	A building user guide is developed prior to handover	Contractor	1	0.57		1			A Building User Guide will be completed and handed over to the building occupants prior to handover
	A compliant training schedule is developed (covering the required content)								A training schedule will be development, which will include the building's design intent, the available aftercare provision, introduction to installed systems and building user guide, and maintenance requirements

Minimum Standard Check - Credit 4 (Building User Guide) required for 'EXCELLENT' and 'OUTSTANDING' ratings	

Man 05	Aftercare	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Aftercare Support	Aftercare support will be provided (for 12 months following occupation)	Contractor	1	0.57		1			Aftercare support will be provided for the first 12 months after occupation. In addition to this, energy and water consumption data will be collected during this time
	Energy and water consumption will be collected (for 12 months following occupation) and where discrepancies are identified adjustments are made								
Credit 2 - Seasonal Commissioning	Appropriate seasonal commissioning activities are to be completed (over a minimum 12 month period from the building being substantially occupied)	Contractor/ M&E	1	0.57		1			A specialist commissioning manager will be appointed to undertake seasonal commissioning over a 12 month period after occupation
Credit 3 - Post Occupancy Evaluation (POE)	Commitment is made to undertake a POE exercise (by an independent third party) one year after occupation	Client	1	0.57		1			The client will commit to undertaking a POE one year after occupation to determine occupant satisfaction
	Feedback from the above is given to the appropriate people to share good practice, lessons learned etc.								

Minimum Standard Check - Credit 2 required for 'EXCELLENT' and 'OUTSTANDING' ratings	

TOTAL CREDITS	21	-	0	14	5	2
SCORE EQUIVALENT (%)	12.00	-	0.00	**8.00**	2.86	1.14

HEALTH AND WELLBEING

Hea 01	Visual Comfort	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Glare Control	Disabling glare has been designed out of all relevant building areas	Legacy	1	0.88		1			The scope of the assessment does not include any relevant building areas; therefore this credit is awarded by default
	The strategy avoids increasing lighting energy consumption								
Credit 2 - Daylighting	The applicable daylighting criteria has been met (average daylight factor of 2% for at least 80% of the floor area) in all occupied areas **AND**	Architect/ M&E	1	0.88			1		Preliminary calculations will be undertaken to determine whether this credit can be achieved - to be reviewed
	A uniformity ratio of at least 0.3 or a minimum point factor of at least 0.3 times the average daylight factor above **OR** at least 80% of the room has a view of sky from desk height (0.7m) **AND** the room depth criterion is satisfied								
	Alternatively: The applicable good practice average and minimum point daylight illuminance criteria have been met (an average illuminance of 300 lux for 2,000 hours per annum with a minimum illuminance of at least 90 lux for 2,000 hours per annum) for 80% of the floor area in all occupied spaces								
Credit 3 - View Out	95% of floor space in relevant building areas is within 7m of a wall within window/ permanent opening providing an adequate view out	Legacy	1	0.88		1			The scope of the assessment does not include any relevant building areas; therefore this credit is awarded by default
	All positions within relevant areas are within 5m of a wall which has a window or permanent opening providing an adequate view out that is >20% of the surrounding wall area								
Credit 4 - Internal and External Lighting Levels, Zoning and Control	All fluorescent/ compact fluorescent lamps are fitted with high frequency ballasts	M&E	1	0.88		1			High frequency ballasts will be installed throughout
	Internal lighting is designed in accordance with SLL Code for Lighting 2012								
	Where computer screens are regularly used lighting complies with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7 ,4.8 and 4.9								Internal and external lighting will be designed in accordance with the relevant standards
	External lighting is designed in accordance with BS5489-1: 2013 Lighting of Roads and Public Amenity Areas and BS EN 12464-2: 2014: Light and Lighting - Lighting of Workplaces - Part 2: Outdoor Work Places								
	Internal lighting is appropriately zoned to allow for occupant control								Offices will be zoned to no more than four workspaces; workstations adjacent to windows will be separately zoned and controlled

Hea 02	Indoor Air Quality	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Indoor Air Quality Plan (IAQP)	A compliant Indoor Air Quality Plan (IAQP) has been produced	Legacy (if appointed)	1	0.88		1			An IAQP will be prepared for the development to ensure indoor air quality is acceptable during design, construction, commissioning and handover - see additional services section in our fee proposal for quotation
Credit 2 - Ventilation	Fresh air is provided in accordance with the criteria of the relevant standard for ventilation	M&E	1	0.88			1		All intakes and exhaust must be at least 10m apart, and intakes must be at least 20m from external sources of pollution. All openable windows must also be at least 10m from external sources of pollution - to be reviewed
	- Mixed-mode/ air conditioned buildings: Intakes and Exhausts are >10m apart and >20m from external sources of air pollution **OR** intakes/ exhausts are designed in accordance with BS EN 13779: 2007, Annex A2; **- Naturally ventilated buildings:** Openable windows/ ventilators are >10m from external sources of air pollution								
	HVAC systems incorporate suitable filtration compliant with BS EN 13779: 2007 Annex A3								
	CO_2/Air quality sensors provided in areas subject to large and unpredictable or variable occupancy patterns								
Credit 3 - Volatile Organic Compound (VOC) Emissions - Products	All decorative paints and varnishes meet the requirements given in Table 18 within the manual	Architect	1	0.88		1			All fittings and finishes will meet the relevant VOC European Standards
	At least 5 of the 7 remaining product categories in Table 18 (where present), the VOC emission requirements are met								
Credit 4 - Volatile Organic Compound (VOC) Emissions - Post Construction	Formaldehyde levels measured post construction (but pre occupancy) and are ≤100 micrograms/m^3 averaged over 30 minutes	Contractor	1	0.88			1		Every effort will be made to ensure that formaldehyde levels meet the relevant standards; however an allowance for testing will be reviewed
	TVOC levels measured post construction (but pre occupancy) and are less than 300 micrograms/m^3 over 8 hours								
	Where exceedance found measures taken to reduce levels within the above limits								
	Testing of Formaldehyde and TVOC in line with required standards								
Credit 5 - Potential for Natural Ventilation	Occupied spaces are designed to provide fresh air through a natural ventilation strategy	-	1	0.88				1	Ventilation will be provided via a mechanically ventilated system; therefore this credit is unavailable
	Natural ventilation strategy provides two levels of user control								

Hea 04	Thermal Comfort	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Thermal Modelling	Thermal Model uses CIBSE AM11 compliant software and provides fully dynamic thermal analysis	M&E	1	0.88		1			A thermal comfort report will be prepared in accordance with CIBSE AM11 and CIBSE Guide A. A full dynamic thermal analysis must be carried out, and thermal comfort levels set out in Table A1 of Annex A in ISO 7730: 2005 will be met
	Modelling shows that thermal comfort levels meet CIBSE Guide A 'Environmental Design' or other appropriate standard and CIBSE TM52 Avoiding Overheating in European Buildings for free-running buildings								
	Thermal comfort levels (in occupied spaces) meet the requirements for both PMV (Predicted Mean Vote) and PPD (Predicted Percentage of Dissatisfied) indices set out in Table A1 of Annex A in ISO 7730: 2005 (see CIBSE TM32 for the hours of exceedance, daily weighted exceedance and upper limit temps for free running buildings)								
	Air Conditioned Buildings: The Predicted Mean Votes (PMV) and Predicted Percentage of Dissatisfied (PPD) indices are reported								
Credit 2 - Climate Change Adaptability	Credit 1 is achieved	As above	1	0.88		1			As above
	Thermal model demonstrates the above can be achieved under a projected climate change environment	M&E							The full dynamic thermal analysis will also demonstrate that the development meets the criteria for climatic conditions
	If the building cannot meet the above, it must be demonstrated that the building has been adapted (or will be adaptable in future) using passive design solutions in order to meet the above requirement								
	Air Conditioned Buildings: The Predicted Mean Votes (PMV) and Predicted Percentage of Dissatisfied (PPD) indices are reported								
Credit 3 - Thermal Zoning and Controls	Credit 1 is achieved	As per credit 1	1	0.88		1			As per credit 1
	The thermal analysis informs the temperature control strategy	M&E							Occupant control will be provided in all relevant areas, and a strategy for the proposed heating/ cooling system will be undertaken to demonstrate compliance
	Strategy for heating/ cooling addresses efficient zoning, occupant control provision, interaction between proposed systems and need for manual overrides								

Hea 05	Acoustic Performance	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 3 - Sound Insulation, Indoor Ambient Noise and Reverberations	**Credit 1:** The sound between acoustically sensitive rooms and other areas complies with the performance criteria given in BS 8233: 2014	Acoustician	3	2.65		3			Sound insulation, internal indoor ambient noise levels and reverberation times will comply with the requirements set out in BS 8233: 2014
	Credit 2: Achieve the requirements relating to sound absorption and reverberation times set out in BS 8233: 2014								
	Credit 3: Indoor ambient noise levels comply with the design ranges given in BS 8233: 2014								

Hea 06	Safety and Security	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Safe Access	Cycle lanes are provided and are designed to Department of Transport/ National Cycle Network requirements and connect to off-site routes (where applicable)	Architect	1	0.88			1		Provision of cycle lanes and pedestrian pathways will be reviewed
	Cycle lanes provide direct access to cycle storage facilities								
	Footpaths provide direct access to site and connect to off site pedestrian footpaths								
	Where provided, drop off areas designed next to access road and give direct access to pedestrian footpaths								Drop off areas have been designed to give direct access to pedestrian footpaths, which are provided at pavement level where required
	Pedestrian crossings of vehicle roads are provided at pavement level								
	For large developments, signposting provided								
	Lighting of access roads, pathways and cycleways meets levels set out in BS5489-1: 2013	M&E							The existing lighting complies with the requirements of BS 5489-1
	Delivery areas are not accessed through parking	Architect							Separate parking is provided and turning areas have been designed for simple manoeuvring
	Separate parking/ waiting area provided for goods vehicles away from delivery area								
	Parking/ turning areas designed for simple manoeuvring								
	Dedicated space for refuse skips/ pallets is away from delivery area								
Credit 2 - Security of Site and Building	Suitably Qualified Security Consultant (SQSC) conducts an evidence based Security Needs Assessment (SNA) (during/ prior to RIBA Stage 2)	Client/ SQSC/ M&E	1	0.88		1			Although the advice of a SQSC will be sought and the recommendations will be implemented to assist with Secure by Design certification
	SQSC provides recommendations/ solutions to ensure the design minimises crime/ fear of crime; threats/ issues identified in the SNA; the relevant security standards/ schemes are met (during/ prior to RIBA Stage 2)								
	SQSC completes a post construction site visit to confirm the implementation of their recommendations (any deviations need to be justified, agreed in advance)								

TOTAL CREDITS	17	-	0	12	4	1
SCORE EQUIVALENT (%)	15.00	-	0.00	10.59	3.53	0.88

ENERGY

Ene 01	Reduction of Energy Use and Carbon Emissions	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 to 12 - Energy Performance	Confirm likely carbon reduction of the building above Building Regulation Part L requirements using the Energy Performance Ratio for New Construction (EPR_{NC})	M&E	12	9.00		5		7	Preliminary calculations need to be undertaken ASAP to determine how many credits can be targeted. An improvement of at least 10% as a result of renewable energy is required by planning; therefore 5 credits have been assumed achievable

Minimum Standard Check - Five credits required for 'EXCELLENT' rating		
Minimum Standard Check - Eight credits required for 'OUTSTANDING' rating		**Note:** Scheme currently targeting 'Excellent'

Ene 02	Energy Monitoring	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Sub-metering (Major Energy Consuming Systems)	Energy consuming systems accounting for >90% of estimated annual energy consumption are metered (using energy management and monitoring system(s) or separate accessible energy sub meters with pulsed output) - **Buildings >1000m²**: Energy consuming systems are metered using an appropriate energy monitoring and management systems; - **Buildings <1000m²**: Energy consuming systems are metered with an energy monitoring and management system or with separate accessible sub-meters End energy consumption is identifiable to building user through labelling or data output	M&E	1	0.75		1			All major energy consuming systems (heating, DHW, cooling, major fans, lighting, small power, and renewable energy (if applicable) will be sub-metered and the end energy consuming uses will be identified to the building users
Credit 2 - Sub-metering (High Energy Load/ Tenancy Areas)	Accessible energy monitoring and management system or separate accessible energy sub-meter with pulsed outputs covering a significant majority of energy supply to tenanted or relevant function areas/ departments	M&E	1	0.75		1			The HBS Building and Baggage Reclaim area will be sub-metered

Minimum Standard Check - Credit 1 required for 'VERY GOOD' and 'ABOVE'

Ene 03	External Lighting	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Energy Efficient Light Fittings	No external lighting (building mounted, signs or at entrances) **OR**	n/a							n/a
	Average initial luminous efficacy is no less than 60 luminaire lumens per circuit Watt External light fittings controlled via time switch or daylight sensor AND presence detection in areas of intermittent pedestrian traffic	M&E	1	0.75		1			External lighting will be lit in accordance with the credit requirements, which will be controlled by means of time clock set to appropriate hours (2300hrs - 0700hrs)

Ene 04	Low Carbon Design	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Passive Design Analysis	First credit under Hea 04: Thermal Comfort has been achieved A building analysis has been undertaken to identify opportunities for the implementation of passive design solutions (before the end of RIBA Stage 2) Passive design measures are used to reduce total heating, cooling, mechanical ventilation and lighting demand	Architect/ M&E	1	0.75		1			A passive design analysis may be produced to identify solutions that reduce demands for energy consuming building services (heating, cooling, mechanical ventilation and lighting) - to be reviewed
Credit 2 - Free Cooling	Credit 1 has been achieved The above analysis includes an analysis of free cooling and identify opportunities for the implementation of a free cooling strategy Building utilises a free cooling strategy	-	1	0.75				1	Cooling will be installed throughout
Credit 3 - Low and Zero Carbon Technologies	Feasibility study (undertaken by an energy specialist) to identify most appropriate LZC technology (on/ near site) for the development (by close of RIBA Stage 2) LZC technology (in accordance with the above) has been specified	M&E	1	0.75		1			Renewable energy may be installed - to be reviewed

Ene 08	Energy Efficient Equipment	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 2 - Operational Energy Savings	Major unregulated energy consuming area identified and equipment procured in line with credit requirements Major unregulated energy consuming area procured in line with credit requirements	Client	2	1.50		2			Although small power, plug-in equipment will be responsible for the majority of unregulated energy, it is unknown at this stage whether the equipment will have been awarded an Energy Star rating - to be reviewed

TOTAL CREDITS	20	-	0	12	0	8
SCORE EQUIVALENT (%)	15.00	-	0.00	9.00	0.00	6.00

TRANSPORT

Tra 01	Public Transport Accessibility	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 4 - Proximity to Public Transport	Awarded on the basis of the schemes Accessibility Index (AI) as follows: **- 1 Credit:** ≥ 2 **- 2 Credits:** ≥ 4 **- 3 Credits:** ≥ 8 **- 4 Credits:** ≥ 18	Legacy	4	5.14		2		2	A preliminary review of the surrounding area shows that the site is in close proximity to Southend Airport Station and a number of bus stops. As a result, 2 credits have been assumed
	Dedicated bus service provided at the start/ end of each shift/ day (only available when the AI is too low to score as per the above)	n/a							n/a

Tra 02	Proximity to Amenities	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 and 2 - Access to Local Facilities	Building is in close proximity (500m) of 2 of the following amenities: - Food outlet; - Access to cash; - Outdoor space; - Access to recreation/ leisure facility; - Postal facility; - Community facility; - Pharmacy; - GP surgery; - Child care facility or school	Legacy	1	1.29		1			The site is in close proximity (500m) of a number of required amenities

Tra 03	Cycle Facilities	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 2 - Cycle Storage and Facilities	Compliant facilities will be provided as follows: **- 1-200 staff:** 1 for every 10; **- 201-300 staff:** 1 for every 15; **- 301-400 staff:** 1 for every 20; **- 400+ staff:** 1 for every 25	Architect/ M&E	1	1.29			1		The number of existing racks is said to be around 20. Additional racks will be required if this credit is to be targeted **Note:** A sliding scale must be applied to a maximum of 5,000 daily public users; therefore at least 55 double racks are required for the overall development

Tra 05	Travel Plan	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Provision of Suitable Transport Options	Travel plan developed as part of the feasibility and design stage	Client	1	1.29		1			A site specific Travel Plan will be prepared, which will be implemented post occupation
	Travel plan structured to meeting the needs to the site and addresses BREEAM requirements (through the use of a site specific travel assessment/ statement)								
	Range of measures implemented in the building aimed at reducing car based travel								
	Occupant confirms they will implement the travel plan (where the occupier is known)								The end user will implement the findings of the travel plan

TOTAL CREDITS	7	-	0	4	1	2
SCORE EQUIVALENT (%)	9.00	-	0.00	5.14	1.29	2.57

WATER

Wat 01	Water Consumption	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 5 - Water Efficient Sanitaryware	Determined by provision of low consumption sanitary ware (includes the assessment of WC's, urinals, taps, showers and dishwashers. **Note:** Where greywater/ rainwater system is specified, its yield can be used to offset non-potable demand	Architect/ M&E	5	3.89		2		3	A 25% improvement will be targeted; therefore as a minimum, all WC's will have an effective flush of 4.5 litres, urinals will have a capacity of 3 litres per bowl per hour, and all taps and showers will have a maximum flow rate of 6 litres per minute and 8 litres per minute respectively

Minimum Standard Check - One credit required for 'GOOD', 'VERY GOOD' and 'EXCELLENT' ratings		
Minimum Standard Check - Two credits required for 'OUTSTANDING' rating		**Note:** Scheme currently targeting 'Excellent'

Wat 02	Water Monitoring	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Potable Water Consumption Monitoring	Specification of a water metering on incoming mains	M&E	1	0.78		1			A water meter will be installed on the incoming mains
	Where areas consume >10% sub-meters must be fitted (or have integral metering)								The HBS Building and Baggage Reclaim area will be separately sub-metered
	Meters must be able to connect to a BMS or to a site wide existing BMS								All water meters will have a pulsed output to enable connection to the existing BMS

Minimum Standard Check - Water meter must be fitted to achieve a 'GOOD' and 'ABOVE'	

Wat 03	Water Leak Detection and Prevention	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Leak Detection	Leak detection system fitted to mains water supply	-	1	0.78				1	A major leak detection system will not be installed
	Leak detection system meets specific credit requirements								
Credit 2 - Flow Control	Measures fitted to each WC/ facility to ensure water is supplied only when needed (e.g. sanitary supply cut off controlled by a PIR, time controllers, volume controllers etc.)	M&E	1	0.78		1			Flow control will be installed to all WC areas/ facilities

Wat 04	Water Efficient Equipment	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Unregulated Water Consumption	Identify the unregulated water demands and estimate its contribution to the total non-domestic water consumption	Architect/ M&E	1	0.78		1			No mains fed irrigation will be installed - planting and landscaping will rely solely on precipitation during all seasons of the year
	Identify the major impacts on total unregulated water demand and demonstrate a meaningful reduction in water demand (e.g. though planting which requires rainfall only)								

TOTAL CREDITS	9	-	0	5	0	4
SCORE EQUIVALENT (%)	7.00	-	0.00	3.89	0.00	3.11

MATERIALS

Mat 01	Life Cycle Impacts	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 to 6 - Construction Material Impact	Credits awarded on green guide rating of the applicable major building elements (external walls, windows, roof, upper floor slab, internal walls and floor finishes)	Architect	6	5.79		5	1		The majority of elements will be 'A+' and/ or 'A' rated in accordance with the Green Guide to Specification; therefore five credits have been targeted - to be reviewed

Mat 02	Hard Landscaping and Boundary Protection	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Construction Material Impact	Where at least 80% of all external hard landscaping and boundary protection is 'A+' and/ or 'A' rated	Architect	1	0.96		1			All hard landscaping and boundary protection will be 'A+' and/ or 'A' rated in accordance with the Green Guide to Specification

Mat 03	Responsible Sourcing of Materials	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
MANDATORY	Confirmation that all timber used on the project is legally harvested and traded timber	Contractor	Mandatory						All timber will be sourced in accordance with the UK Government's Timber Procurement Policy
Credit 1 - Sustainable Procurement Plan	Principal contractor sources materials in accordance with a sustainable procurement plan	Contractor	1	0.96		1			It was confirmed that a sustainable procurement plan, setting out a clear framework for the responsible sourcing of materials to guide procurement throughout the project will be undertaken
Credits 2 to 4 - Responsible Sourcing	Credits are awarded dependent upon how they have been sourced	Architect/ Contractor	3	2.89		1		2	Although every effort will be made to responsibly source all materials, a commitment to achieve one credit will be made during the design stage

Minimum Standard Check - Timber requirement must be met for 'ANY' rating	

Mat 04	Insulation	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Pre-requisite	Any new insulation specified for use within the external walls, ground floor, roof or building services must be assessed	Architect/ M&E	Pre-requisite						All insulants will be assessed
Credit 1 - Embodied Impact	Embodied impact of the insulation is assessed and the Insulation Index for the building is ≥2.5		1	0.96		1			All building fabric and services insulation will be 'A+' and/ or 'A' rated in accordance with the Green Guide to Specification

Mat 05	Designing for Durability and Resilience	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Ensuring Material Longevity	Areas of building identified where vehicular, trolley and pedestrian movement occurs and the design incorporates suitable durability and protection measures.	Architect	1	0.96		1			All vulnerable parts of the building will be protected from damage. In addition to this, exposed parts of the building will also be protected from material degradation
	Relevant building elements incorporate appropriate design specification measures to limit material degradation due to environmental factors								

Mat 06	Material Efficiency	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Minimise Material Use and Waste	Opportunities have been identified and appropriate measures investigated and implemented to minimise the use of materials in building design, procurement, construction, maintenance and end of life for the end of RIBA Stages 1, 2, 3, 4 and 6	-	1	0.96				1	A strategy outlining the activity relating to material efficiency was not undertaken at RIBA Stage 1; therefore this credit is unavailable

TOTAL CREDITS	14	-	0	10	1	3
SCORE EQUIVALENT (%)	13.50	-	0.00	**9.64**	0.96	2.89

WASTE

Wst 01	Construction Waste Management	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 3 - Construction Resource Efficiency	Where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction	Contractor	3	3.19		2		1	Between 3.5m^3 and 7.4m^3 or 3.3 tonnes and 6.4 tonnes of waste per 100m^2 will be targeted
	Where construction waste related to on-site construction and dedicated off-site manufacture/ fabrication meets the required benchmarks								
	A pre-demolition audit should be undertaken to identify key refurbishment/ demolition materials and any potential applications for reuse and recycling (where applicable)								A pre-demolition audit of the existing buildings will be undertaken to maximise the recovery of materials
Credit 4 - Diversion of Resources from Landfill	Buildings construction meets or exceeds the diversion from landfill targets set out of demolition and non-demolition waste	Contractor	1	1.06		1			At least 70% by volume or 80% by weight of non-demolition waste will be diverted from landfill
	Waste materials are sorted into separate waste groups either on or off site								

Minimum Standard Check - One credit required for 'OUTSTANDING' rating		Note: Scheme currently targeting 'Excellent'

Wst 02	Recycled Aggregates	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Reducing Demand for Virgin Material	Total amount of recycled/ secondary aggregate is greater that 25% of the total high-grade aggregate specified for the building.	Contractor	1	1.06		1			It is believed the exisitng hard standing can be crushed and reused in at least 25% of the rrelevant applications
	Individual aggregated uses (e.g. structural frame, floor slabs, pipe bedding etc.) meets an established recycled content								
	Aggregates are obtained on site or from a non-construction post-consumer industrial by-product source								

Wst 03	Operational Waste	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Diversion of Operational Waste from Landfill	Dedicated, adequately sized space provided to cater for recyclable wastes	Architect	1	1.06		1			A dedicated space for recyclable waste will be provided, which will be at least 2m^2 for every 1,000m^2 of floor area
	Dedicated space is labelled, accessible to occupants and collections and is of an appropriate capacity								
	Where consistent generation of waste is likely to be produced appropriate facilities are provided for (e.g. compactor, baler, composting vessels, composting storage)	n/a							n/a

Minimum Standard Check - One credit required for 'EXCELLENT' and 'ABOVE'	

Wst 05	Adaptation to Climate Change	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Withstanding Extreme Weather	A climate change adaptation strategy appraisal for structural and fabric resilience is completed (by the end of RIBA Stage 2) in accordance with BREEAM requirements	Legacy (if appointed)	1	1.06			1		A climate change adaptation strategy may be produced to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions - see additional services section in our fee proposal for quotation

Wst 06	Functional Adaptability	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Accommodation of Future Changes	A building specific functional adaptation strategy appraisal should be undertaken (by the end of RIBA Stage 2) in accordance with BREEAM requirements	-	1	1.06				1	A building specific functional adaptation strategy may will not undertaken to encourage measures to accommodate future change of use over the lifespan of the building
	Functional adaptation measures have been implemented in accordance with the above (where practical and cost-effective) by RIBA Stage 4 (omissions must be justified in writing)								

TOTAL CREDITS	8	-	0	5	1	2
SCORE EQUIVALENT (%)	8.50	-	0.00	**5.31**	1.06	2.13

LAND USE AND ECOLOGY

LE 01	Site Selection	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Previously Occupied Land	At least 75% of development footprint is on previously developed land	Architect	1	1.00			1		Calculations will be undertaken to determine whether 75% of the proposed development is on previous developed land **Note:** The airport infrastructure can be deemed as previous developed land
Credit 2 - Contaminated Land	Site is deemed to be significantly contaminated and appropriate investigation has been undertaken Client/ contractor confirms remediation has been undertaken in line with remediation strategy	-	1	1.00				1	The land is not significantly contaminated; therefore this credit is not available

LE 02	Ecological Value of the Site and Protection of Ecological Features	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Ecological Value of Site	Land in the construction zone is of low ecological value	Ecologist	1	1.00		1			The land is likely to be of low ecological value
Credit 2 - Protection of Ecological Features	Existing features of ecological value surrounding the construction zone and site boundary are adequately protected in line with BS42020: 2013 Ecological protection measures are provided prior to construction starting	Ecologist/ Contractor	1	1.00		1			As above

LE 03	Minimising Impact on Existing Site Ecology	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 2 - Protection of Existing Ecology	Credits awarded based on change in ecological value of site: **1 Credit:** -9 to <0 plant species; **2 Credits:** ≥0 plant species	Ecologist/ Architect	2	2.00		2			A neutral change in ecological value will occur as a result of development (no ecology before or after)

Minimum Standard Check - One credit required for 'VERY GOOD' and 'ABOVE'	

LE 04	Enhancing Site Ecology	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Ecologist's Report and Recommendation	Suitably Qualified Ecologist appointed by the end of RIBA Stage 1 General recommendations of Ecologist are implemented	Ecologist/ Contractor	1	1.00		1			All ecologist recommendations for enhancement will be implemented
Credit 2 - Increase in Ecological Value	Credit 1 has been achieved The recommendations of ecological enhancement are implemented and the SQE confirms this will lead to an increase of ≥6 plant species	-	1	1.00				1	A neutral change in ecological value will occur as a result of development (no ecology before or after)

LE 05	Long Term Impact on Biodiversity	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 2 - Long Term Landscape and Habitat Management	SQE has been appointed prior to commencement of site activities	Ecologist	2	2.00		2			An ecologist will be appointed prior to commencement of site activities
	SQE confirms that all relevant legislation has been complied with during design and construction								All relevant legislation will be complied with during design and construction stages
	Where relevant, a Landscape and Habitat Management Plan has been produced (in accordance with BS 42020: 2013 Section 11.1)								A five year landscape and habitat management plan will be undertaken
	Principal contractor nominates a biodiversity champion	Contractor							A biodiversity champion will be appointed to ensure that training on protection of ecology is undertaken and measures used to protect ecology are recorded
	Training on protection of ecology provided to site staff								
	Measures taken to protect ecology are recorded								
	New, ecological valuable, habitat created	n/a							n/a
	The contractor programmes site works to minimise disturbance to wildlife	Contractor							Site preparation, ground works and soft landscaping works will be scheduled at an appropriate time of year to minimise disturbance to wildlife

TOTAL CREDITS	10	-	0	7	1	2
SCORE EQUIVALENT (%)	10.00	-	0.00	7.00	1.00	2.00

POLLUTION

Pol 01	Impact of Refrigerants	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 3 - Reduction of Greenhouse Gas Emissions	3 credits: Where no refrigerants used OR	n/a	3	2.31		1		2	n/a
	Pre-Requisite: All systems (with electric compressors) to comply with BS EN 378: 2008-2: Design, Construction, Testing, Marking and Documentation/ 3: Installation Site and Personal Protection, and the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice (where ammonia is used)	M&E							All air conditioning systems will comply with BS EN 378: 2008
	2 Credits: Where Direct Effect Life Cycle (DELC) CO_2 equivalent emissions of ≤100kgCO_2e/kW cooling/ heating capacity used OR where air-conditioning or refrigeration systems have refrigerants with GWP ≤10;	n/a							n/a
	1 Credit: Where DELC CO_2 equivalent emissions of ≤1,000kgCO_2e/kW cooling/ heating capacity used AND	M&E							The DELC CO_2 emissions will be less than 1,000kgCO_2e/kW cooling/ heating capacity
	1 Additional credit: Where leak detection and pump down facilities provided	-							Leak detection and pump down facilities will not be installed

Pol 02	NOx Emissions	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credits 1 to 3 - NOx Emissions of Heating & Hot Water	NOx emission levels for heating, hot water and cooling are <100mg/kWh	-	1	0.77				1	Heating will be provided from the grid, which has NOx emissions in excess of 617mg/kWh; therefore these credits are unavailable
	NOx emission levels for heating, hot water and cooling are <70mg/kWh	-	1	0.77				1	
	NOx emission levels for heating, hot water and cooling are <40mg/kWh OR	-							
	Development falls under a 'highly insulated building' (heating load is less than 7% of the heat load for a Building Regulations compliant building of the same size and type)	n/a	1	0.77				1	n/a

Pol 03	Surface Water Run-off	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 and 2 - Flood Risk	2 Credits if low flood risk OR	Structural Engineer	2	1.54		2			The site is located within an area of low risk of flooding
	1 Credit if medium/ high flood risk (and not in a functional flood plain; ground level and site access at least 600mm above design flood level OR appropriate consultant informs the design in accordance with BS8533: 2011, Section 5)	n/a							n/a
Pre-requisite	Appropriate Consultant appointed to assess following three credits	Structural Engineer	Pre-requisite						A Suitably Qualified Consultant will be appointed
Credit 3 - SW Runoff (Peak Rate Reduction)	Where peak rate of run off from site to watercourses is no greater for the developed site that the pre-developed site. This should be for 1 year and 100 year return periods (allowance for climate change must be included)	Structural Engineer	1	0.77		1			Drainage measures will be specified to ensure that the peak rate run-off from the site to the watercourse is no greater for the developed site than it is for the pre-developed site
	Relevant maintenance agreements for the ownership, long term operation and maintenance of all SUDS in place								
Credit 4 - SW Runoff (Discharge Limitation)	Flooding of property will not occur in the event of a local drainage system failure **AND EITHER**	Structural Engineer	1	0.77		1			Flooding will not occur in the event of local drainage system failure and any predicted volume of run-off for the 100 year, 6 hour event will be prevented by using infiltration
	- Post development run-off volume over development lifetime is no greater than it would have been prior to the assessed site's development for the 100 year 6 hour event; - And additional run-off for the 100 year, 6 hour return event must be prevented from leaving the site by infiltration or other SUDS techniques **OR**								
	- Justification provided by consultant stating why above criteria cannot be met; - Post development run-off is reduced to a limited discharge (refer to the manual)								
	Relevant maintenance agreements for the ownership, long term operation and maintenance of all SUDS in place								
	All calculations required to include an allowance for climate change								
Credit 5 - Minimising Watercourse Pollution	Appropriate Consultant confirms that there is no discharge from site for rainfall up to 5mm	Structural Engineer	1	0.77			1		Unlikely that the first 5mm of rainfall will be prevented from leaving the site completely - to be reviewed
	SUDS has been specified for relatively low risk areas								SUDS will be installed in areas with a relatively low risk of watercourse pollution
	Oil/ petrol interceptors specified for areas where high risk of contamination/ spillage of hydrocarbons								An oil/ petrol interceptor will be installed under the car park
	Water pollution prevention systems designed in line with PPG3 and the SUDS manual								All pollution prevention systems will be designed in line with PPG3 and the SUDS manual
	Drainage plan will be provided to occupants upon completion								An up-to-date drainage plan will be provided to the occupant upon completion
	Shut off valves provided where chemical/ liquid gas storage areas provided	n/a							No chemical/ liquid gas storage is being provided
	Relevant maintenance agreements for the ownership, long term operation and maintenance of all SUDS in place	Structural Engineer							The delivery area will be designed in accordance with current best practice planning guidance
	External storage and delivery areas to be designed in accordance with current best practice planning guidance								There are no external storage areas

Pol 04	Reduction of Night Time Pollution	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Reducing Energy Consumption and Nuisance	Where external lighting has been designed out without adversely affecting safety and security of the site and its users OR	n/a	1	0.77		1			n/a
	External lighting complies with Table 2 of the ILP Guidance Notes for the Reduction Obtrusive Light, 2011	M&E							All external lighting will be lit in accordance with the credit requirements, which will be controlled by means of time clock set to appropriate hours (2300hrs - 0700hrs)
	External lighting can be switched off between 2300hrs and 0700hrs via a timer								
	Safety and Security lighting used between 2300 and 0700 hrs meets with lower levels of lighting set out in the ILE guidance note - e.g. by use of automatic switch to reduce lighting levels								
	Illuminated advertisements must comply with ILE technical report 5								

Pol 05	Noise Attenuation	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
Credit 1 - Reducing Nuisance	Credit awarded by default if no noise sensitive development within 800m	n/a	1	0.77		1			n/a
	Where present or development itself classed as noise sensitive, noise assessment should be undertaken in line with BS 7445	Acoustician							An acoustician will be appointed to undertake a background noise assessment
	Assessment must be undertaken by a suitable qualified acoustician								
	Noise level from the building (as measured in the locality of the most exposed noise-sensitive building) is no greater than +5db during the day and +3db during the night than background levels								
	Attenuation must be provided if noise level is greater								

TOTAL CREDITS	13	-	0	7	1	5
SCORE EQUIVALENT (%)	10.00	-	0.00	5.38	0.77	3.85

INNOVATION

Man 03	Responsible Construction Practices	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	CCS Score ≥40 with at least 7 points awarded in each section	-	1	1.00				1	A commitment to achieve a score of 35 will be made

Man 05	Aftercare	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	For at least three years after occupation appropriate surveys, data collection, target setting and feedback will be undertaken on a quarterly basis. Results are to be fed back to the BRE	Client	1	1.00		1			Aftercare support will be provided for the first 3 years after occupation

Hea 01	Visual Comfort	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	The applicable daylighting criteria has been met (average daylight factor of 3% for at least 80% of the floor area) in all occupied areas	Architect/ M&E	1	1.00			1		As per Hea01 above
	A uniformity ratio of at least 0.3 or a minimum point factor of at least 1.2% **OR** at least 80% of the room has a view of sky from desk height (0.7m) **AND** the room depth criterion is satisfied								
	Alternatively: The applicable good practice average and minimum point daylight illuminance criteria have been met (an average illuminance of 300 lux for 2,650 hours per annum with a minimum illuminance of at least 90 lux for 2,650 hours per annum) for at least 80% of the floor area								

Hea 02	Indoor Air Quality	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	Of the 7 remaining product categories in Table 18, the VOC emission requirements are met	Contractor	1	1.00			1		All fittings and finishes will meet the relevant VOC European Standards
	Measured formaldehyde emissions are ≤0.06mg/m^3								As per Hea02 above
EXEMPLARY	Of the 7 remaining product categories in Table 18 (where present), the VOC emission requirements are met	Contractor	1	1.00			1		As above
	Measured formaldehyde emissions are ≤0.01mg/m^3								

Ene 01	Reduction of CO_2 emissions	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	5 Credits: Building is Carbon Negative	-	5	5.00				5	The development will not be zero carbon/ carbon neutral
EXEMPLARY	Up to 4 credits: EPR_{NC}≥0.9 and zero net regulated CO_2 emissions achieved AND								
	Regulated operations energy consumption provided by carbon neutral on/ near site sources and used to meet demand from unregulated systems/ processes								

Wat 01	Water Consumption	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	65% plus improvement in consumption	-	1	1.00				1	A 65% improvement is not achievable without installing rainwater/ greywater harvesting

Mat 01	Life Cycle Impacts	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	Where a high proportion of materials are 'A+' and/ or 'A' rated (elemental approach)	Architect	1	1.00			1		As per Mat01 above
EXEMPLARY	Where the environmental impact of the building is measured using an IMPACT compliant software tool	Legacy (if appointed)	2	2.00			2		IMPACT compliant software may be used **Note:** Legacy will retrieve a quotation for this service if required

Mat 03	Responsible Sourcing of Materials	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	Where 70% of the available responsible sourcing points have been achieved	-	1	1.00				1	Although every effort will be made to responsibly source all materials, it is unlikely that the challenging criteria of the innovation credit will be met

Wst 01	Construction Waste Management	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	Scheme achieves highest level of performance for resource efficiency and diversion from landfill	-	1	1.00				1	As per Wst01 above

Wst 02	Recycled Aggregates	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	Total amount of recycled/ secondary aggregate is greater that 35% of the total high-grade aggregate specified for the building Individual aggregated uses meets all the exemplary recycled content	Contractor	1	1.00			1		As per Wst02 above **Note:** All recycled or secondary aggregates must be sourced from suppliers/ manufacturer's within 30km of the site

Wst 05	Adaptation to Climate Change	Responsibility	Credits	Value (%)	Awarded	Targeted	Possible	Not Sought	Comments
EXEMPLARY	In addition to the structural and resilience criterion, the following must be met: - **Hea 04:** Thermal model demonstrates that the required thermal comfort levels can be achieved under a projected climate change environment; - **Ene 01:** At least 8 credits have been achieved; - **Ene 04:** Credit 1 (Passive Design Analysis) has been achieved; - **Wat 01:** Minimum of 3 credits have been achieved; - **Mat 05:** Material degradation element has been achieved; - **Pol 03:** At least 1 credit achieved under Flood Risk; at least 3 credits achieved under Surface Water Runoff	-	1	1.00				1	Dependant on several factors (see Hea04, Ene01, Ene04, Wat01, Mat05 and Pol03 above)

TOTAL CREDITS	10	-	0	1	7	10
SCORE EQUIVALENT (%)	10.00	-	0.00	1.00	7.00	10.00

OVERALL SCORE (%)	110.00	-	0.00	64.96	18.47	34.57

PREDICTED SCORE (%)	64.96	'Very Good'

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