



Northumberland Terrace- Phase 3,
Nos. 798-808 High Road and land to
rear

BREEAM Pre-Assessment

For Tottenham Hotspur Football Club / THFC.

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Issued by	Hydrock Consultants Limited Merchants House North Wapping Road Bristol BS1 4RW United Kingdom T +44 (0)117 9459225 E bristolcentral@hydrock.com www.hydrock.com	Client	Tottenham Hotspur Football Club / THFC.
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Issue Number	P03	Name
Prepared by	Jack Gorman BEng	
Checked by	Josh Eckett IEng BEng MCIBSE MASHRAE	
Approved by	Josh Eckett IEng BEng MCIBSE MASHRAE	

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Introduction

Purpose of Report

Hydrock Consultants Ltd. has been appointed by Tottenham Hotspur Football Club / THFC. to provide planning stage consultancy services for the Northumberland Terrace scheme.

This document details the BREEAM Pre-Assessment undertaken for the new build elements, the Linear Building and 804/806 extension, in order to inform the Borough of Haringey Planning Department.

The following tracker outlines the strategy to achieve the proposed BREEAM target. The project team are currently targeting a minimum score of 65% which gives a rating of BREEAM 'Very Good', with the aspiration to achieve 'Excellent'.

This is fully aligned with planning policy requirements, specifically Policy SP4 of the London Borough of Haringey's Strategic Policies document.



Figure 1. View from Linear building (Courtesy of F3 Architects)

BREEAM New Construction 2018

1.1 Introduction

The BREEAM Pre-Assessment has been undertaken for the new Linear Building and 804/806 extension in a combined assessment. A large extension is proposed under this planning application to 804/806, due to the size it will be assessed under Part L2A and hence be classed as a separate building to the existing terrace. Due to this, the BREEAM assessment provides commentary on what is applicable to each building or not.

1.2 Planning Requirements

Policy SP4 within the Haringey Local Plan Strategic Policies (adopted March 2013) state that:

‘All new non-residential development shall be built to at least BREEAM "Very Good" standard and should aim to achieve BREEAM "Excellent" or the current nationally agreed standard.'

1.3 BREEAM Overview

BREEAM is an assessment method which evaluates how sustainable buildings are by comparing proposed designs with a standardised set of criteria.

Each BREEAM assessment covers nine different categories:

- Management;
- Health & Wellbeing;
- Energy;
- Transport;
- Water;
- Materials;
- Waste;
- Land Use & Ecology; and

- Pollution.

The predicted credits achieved are scored and totalled with the results for each category weighted to give the final score for the development. Each BREEAM section has a different number of credits and a different weighting meaning that credits in different categories have a different ‘value’ in terms of an overall percentage of the final score. This is worth bearing in mind when selecting additional credits and can help with value engineering the final BREEAM score.

The following total scores are required to achieve each BREEAM rating level.

Rating Level	Score Required
Unclassified	< 30
Pass	≥ 30
Good	≥ 45
Very Good	≥ 55
Excellent	≥ 70
Outstanding	≥ 85

Table 1: The BREEAM rating system.

1.4 Building Performance

Following an initial BREEAM Pre-Assessment in which credits were targeted based on the commitments from the design team, the following scores are predicted:

- Likely score – 66.9% (Very Good)
- Possible score – 92.3% (Outstanding)

In this initial assessment credits have been classed as follows:

- Targeted credits – credits have been or will be included into designs of Contractor Requirements, or achieved by default owing to site specifics such as being previously built upon or having good public transport links;
- Possible – credits that require additional verification or commitment to enable their inclusion; and

- Unlikely – credits that cannot be achieved due to existing site conditions, or are not targeted due to cost, difficulty of incorporation or other design team reasons.

The current scores for each BREEAM Category are shown in Figure 3. Please see Appendix A for the full BREEAM pre-assessment tracker.

1.5 Conclusions

The design team are currently targeting a minimum BREEAM score of 66.9% ‘Very Good’, with an aspirational ‘Excellent’ target.

It is vitally important that the design team now, and in the future, consider these recommendations to ensure that adequate resources are put in place to achieve the BREEAM target.

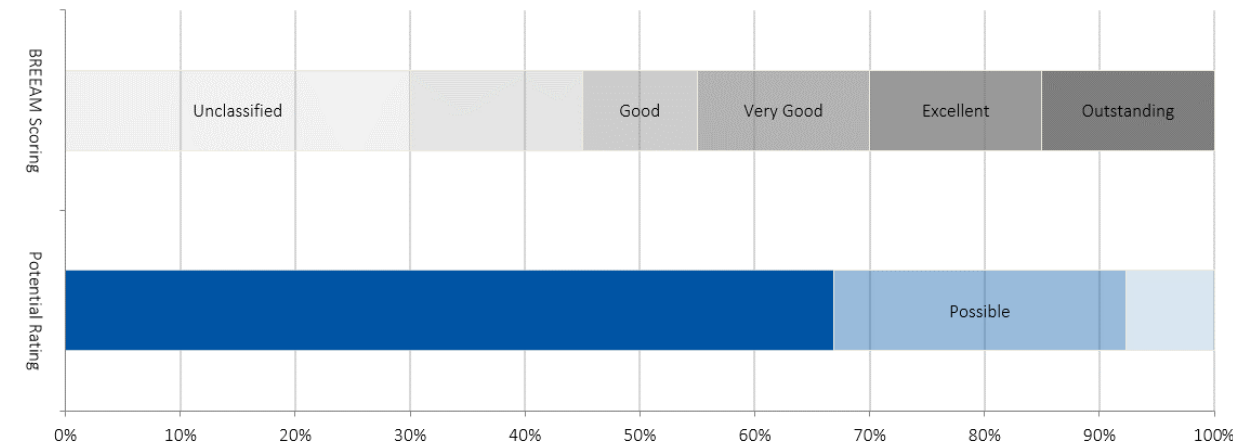


Figure 2: Overall BREEAM targeted score.

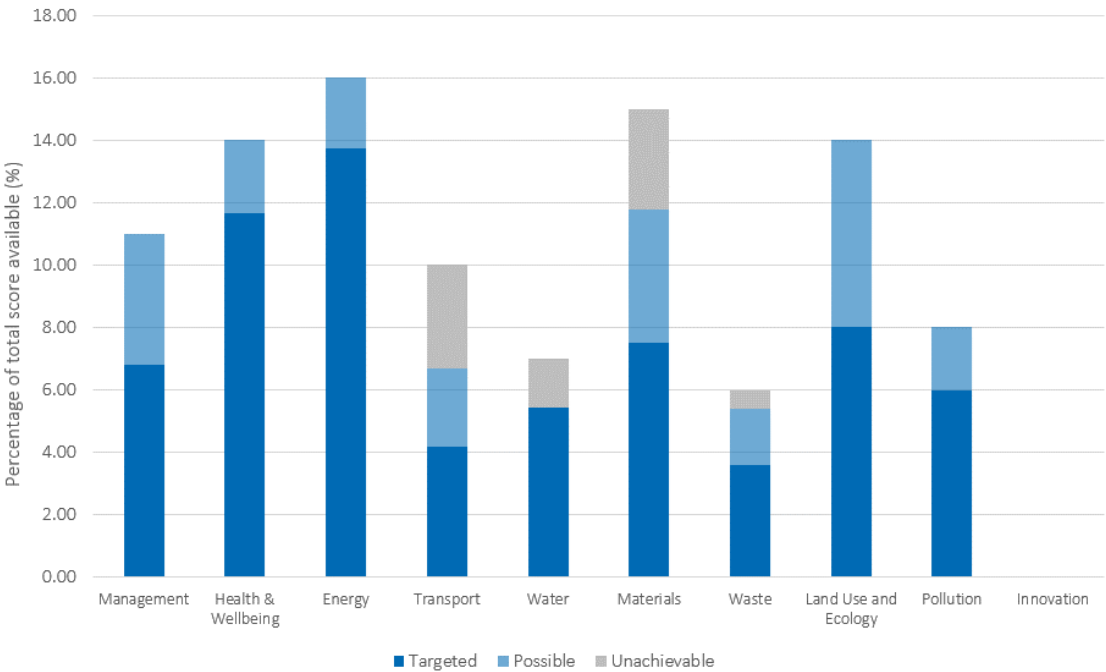


Figure 3: Current BREEAM category scoring.

Northumberland Terrace - Linear Building and
804/806
BREEAM New Constructions 2018 Tracker

Revision: P02 Date: 26/02/20



Reference	Title	Credits	Credit Value %	Status A/T/P/U	Summary Requirements (see credit details in all instances)	Comments	Owner
Management							
Man 01 Project Brief and Design	Project Delivery Planning	1	0.52	T	1. Prior to completion of RIBA Stage 2, the project delivery stakeholders have met to identify and define their roles, responsibilities and contributions. 2. Roles and responsibilities that are identified consider the following, end user requirements, aims of design, construction requirements, legislative requirements etc. 3. Project team can demonstrate how the project delivery stakeholder contributions have influenced or changed the initial design brief.	Meeting minutes can be used as evidence.	Client
	Stakeholder Consultation	1	0.52	T	4. Prior to completion of concept design all relevant third party stakeholders have been consulted. 5. Project demonstrates how stakeholder contributions and outcomes have influence the project brief. 6. Prior to completion of RIBA Stage 4, consultation feedback has been given to all parties.	Meeting minutes can be used as evidence.	Client
	Pre-requisite	0	0.00	T	Pre-requisite for BREEAM AP credits: 8. The project team formally agree strategic performance targets early in the design process.		
	BREEAM AP (Concept Design)	1	0.52	T	9a. BREEAM AP has been appointed and will work with the project team to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM. 9b. Monitor progress against the performance targets set throughout all stages. 9c. Proactively identify risks and opportunities related to the achievement of targets agreed under criterion 8. 9d. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 9e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.		Client / Hydrock
	BREEAM AP (Developed Design)	1	0.52	T	10. Criteria 8 and 9 are achieved. 11. Involve the BREEAM AP in the project at an appropriate team and level to: 11a. Work with the project team to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM. 11b. Monitor progress against the performance targets set throughout all stages. 11c. Proactively identify risks and opportunities related to the achievement of targets agreed under criterion 8. 11d. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 11e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.		Client / Hydrock
Man 02: Life Cycle Cost and Service Life Planning	Elemental Life Cycle Cost	1	0.52	P	1. An elemental life cycle cost (LCC) analysis has been carried out at RIBA Stage 2.	Could be targeted if 'Excellent' accreditation is required.	Client
		1	0.52	P	2. The LCC plan: 2a. Provides an indication of future replacement costs over a period of analysis as required (e.g. 20, 30, 50 or 60 years). 2b. Includes services life, maintenance and operation cost estimates. 3. Demonstrate how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	Could be targeted if 'Excellent' accreditation is required.	
	Component Level Life Options Appraisal	1	0.52	P	3. A component level LCC plan has been developed by the end of Process Stage 4 (Technical Design) and includes the Envelope, Services, Finished and External Spaces 4. Demonstrate using appropriate examples provided by the design team, how the component level LCC plan has influenced building and systems design.	Could be targeted if 'Excellent' accreditation is required.	
	Capital Cost Reporting	1	0.52	T	5. Report the capital cost for the building in £ per m2 of the gross internal floor area.		Client

Man 03: Responsible Construction Practices	Pre-requisite	0	0.00	T	1. All timber based products are "Legally harvested and traded timber"		
	Environmental Management	1	0.52	P	3. All parties who manage the construction site operate an EMS system covering their main operations and must be either third party certified to ISO 14001:2015 or have structure compliant with BS 8555:2016 and has reached phase four of the implementation stage. 4. All parties who manage the construction site implement best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6, Pollution Prevention Guidelines.	This credit will rely on discussions with tendering contractors. If 'Excellent' accreditation is required, policy to be written in tender specification to achieve credit.	Contractor
	Pre-requisite	0	0.00	T	5. The client and the contractor formally agree performance targets.		Client / Contractor
	BREEAM AP (Site)	1	0.52	T	6. Involve a BREEAM AP in the project at an appropriate time to: 6a. Work with the project team to consider the links between BREEAM issues and assist them in achieving the design intent, to maximise the project's performance against the agreed performance targets throughout Construction, Handover and Close Out stages. 6b. Monitor construction progress against the performance targets set throughout all stages. 6c. Proactively identify risks and opportunities related to the procurement and construction process agreed under criterion 5. 6d. Provide feedback to the constructors and project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 6e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.		Hydrock
	Responsible Construction Management	1	0.52	T	7. For one credit , achieve the nine key requirements as listed in Table 4.1 8. For two credits , achieve six extra items as listed in Table 4.1.	One credit mandatory requirement for Excellent.	Contractor
		1	0.52	P	Table 4.1 includes items such as vehicle movement, pollution management, tidiness, health and wellbeing etc. and is found on page 47 of the BREEAM NC 2018 manual.		Contractor
	Monitoring of Construction Site Impacts	1	0.52	P	1 credit - Utility Consumption 10. Responsibility has been assigned to an individual for monitoring, recording and reporting energy use, water consumption and transport data. 12. The above is achieved. Set targets for site energy consumption in kWh for the use of construction plant, equipment and site accommodation. 13. Monitor and record data for the energy consumption (in kWh). 14. Report total CO ₂ emissions from the construction process via the BREEAM Projects. 16. Set targets for potable water consumption (m ³) arising from the use of construction plant, equipment and site accommodation. 17. Monitor and record data for the potable water consumption (in m ³). 18. Report total net water consumption (m ³) used in the construction process via BREEAM Projects.		Contractor
		1	0.52	P	1 credit - Transport of Construction Materials and Waste 19. Criterion 10 is achieved above. 20. Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover transportation of materials from supply to site; materials used in major building elements; ground works and landscaping materials. 21. Monitor and record data on transport movement and impacts from delivery. 22. Report separately for materials and waste, total transport-related carbon dioxide emissions (kgCO ₂ eq) plus total distance travelled (km) via BREEAM Projects.		Contractor
Man 04: Commissioning and Handover	Commissioning - Testing Schedule and Responsibilities	1	0.52	T	1. Schedule of commissioning that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex services, control systems and for testing and inspecting building fabric. 2. All commissioning activities are carried out in accordance with current Building Regulations and, where applicable, current BSRIA, CIBSE or other appropriate standards or guidelines. 3. Where a BMS is specified the following should be carried out: commissioning of air and water systems; physical measurements of temperatures and other key parameters; BMS to be running in auto prior to handover; schematics and graphics fully installed and function to the user prior to handover. 4. A project team member is appointed to monitor and programme pre-commissioning, commissioning, testing and re-commissioning activities. 5. The principal contractor accounts for the commissioning and testing programme.	One credit mandatory requirement for Very Good, Excellent or Outstanding buildings.	Client/Arch
	Commissioning - Design and Preparation	1	0.52	T	6. Criteria 1-5 are achieved. 7. At design stage, the client appoints an appropriate project member, provided they are not involved in the general installation works for the building services systems, to: undertake design reviews and give advice on suitability for ease of construction; provide commissioning management input to construction programming and during installation stages; management of commissioning and performance testing at handover or post-handover stages.	Possible if D&B contract.	MEP

	Testing and Inspecting Building Fabric	1	0.52	T	8. Criteria 1 to 5 are achieved. 9. Complete post-construction testing and inspection to quality-assure the integrity of the building fabric including: continuity of insulation; avoidance of thermal bridging and air leakage paths (through airtightness testing and thermographic survey). 10. Rectify any defects identified during post-construction testing and inspection prior to building handover.	Possible if D&B contract.	Client
	Handover	1	0.52	T	11. Two Building User Guides (BUGs) are produced prior to handover: a non-technical user guide for building users and a technical guide for the premises facilities managers. 12. Two training schedules are prepared for occupiers timed around handover: a non-technical training schedule for the building occupiers and a technical training schedule for the premises facilities managers.	Criterion 11 mandatory for Very Good, Excellent or Outstanding buildings.	Contractor
Man 05: Aftercare	Aftercare Support	1	0.52	T	1. There is (or will be) operational infrastructure in place to provide aftercare support to the buildings occupants. 2. Establish operational infrastructure and resources in place to co-ordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months after occupation. Discrepancies between actual and predicted performance should be identified with a commitment to identify actions required to address any discrepancies.		Contractor
	Commissioning - implementation	1	0.52	T	3. Seasonal commissioning activities are completed over a 12 month period once the building becomes substantially occupied. This includes complex and simple systems.	One credit mandatory for Excellent or Outstanding buildings.	MEP
	Post Occupancy Evaluation	1	0.52	P	4. The client or building occupier commits to carry out post-occupancy evaluation (POE) exercise one year after initial occupation. 5. An independent party carries out the POE. 6. The independent party provides a report with lessons learned to the client and building occupiers. 7. The client or building occupier commits funds to pay for the POE in advance.	Could be targeted if 'Excellent' accreditation is required.	Client
	Total credits for section -	21	11.00		0.52		
Health & Wellbeing							
Hea 01: Visual Comfort	Glare Control	1	0.78	T	1. Identify areas at risk of glare using a glare control assessment. 2. A glare control strategy designs out potential glare in all relevant building areas where risk has been identified. 3. The glare control strategy does not increase energy consumption used for lighting.	2 credits available for office buildings.	MEP/Arch
	Daylighting	1	0.78	T	4. Certain daylight criteria for each building type must be met. See table 5.1 on page 69 in the BREEAM NC 2018 manual.		MEP
		1	0.78	T			MEP
	View Out	1	0.78	T	4. 95% of the floor area in 95% of spaces for each relevant building is within 8m of an external wall. The external wall has a window or permanant opening that provides an adequate view out. 5. The window or opening must be ≥ 20% of the surrounding wall area.	BREEAM defines an adequate view out as a view of landscape or buildings; a view into an internal courtyard or atrium; the view cannot be an internal view across the room.	Arch
	Internal and External Lighting, Zoning and Control	1	0.78	T	8. Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colour rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. 9. For areas where computers are regularly used the lighting design complies with CIBSE Lighting Guide 7. 10.External Lighting - All lighting is designed to provide illuminance, specifically at night and should be in accordance with BS 5489-1:2013 and BS EN 12464-2:2014. 11. Where no external light fittings are specified, the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance. 12. Zoning and Occupant Control - Internal lighting in zoned to allow for occupant control (See BREEAM Guidance for criteria - page 73 of BREEAM NC 2018 manual). 13. Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5. 14. In addition, for educational buildings, manual lighting controls are easily accessible for the teacher while teaching and on entering and leaving the teaching space.		MEP
	Pre-requisite	0	0.00	T	1. A site specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. The plan must be produced no later than the end of Concept Design.	Local MVHR units have suitable filtration.	MEP
	Ventilation	1	0.78	T	2. Building designed to minimise the concentration of recirculation of pollutants in the building (See BREEAM criteria). HVAC systems must include suitable filtration to minimise external air pollution and areas of the building subject to variable occupancy profiles have CO ₂ or air quality sensors.		MEP
	Emissions from Construction Products	1	0.78	T	3. For one credit - Three out of five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11 on page 85 of the BREEAM NC 2018 manual.		Arch
		1	0.78	T	4. For two credits - All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.		Arch

Hea 02: Indoor Air Quality	Post Construction Indoor Air Quality Measurement	1	0.78	P	5. The formaldehyde concertation in indoor air is measured post construction (but pre-occupancy) and does not exceed 100 µg/m ³ averaged over 30 minutes. 6. The formaldehyde sampling and analysis is performed in accordance with ISO 16000-2 and ISO 16000-3. 7. The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500 µg/m ³ over 8 hours. 8. The TVOC sampling and analysis is performed in accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1. 9. Where levels are found to exceed the limits, the project team confirms the measure that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits. 10. The measured concentration levels of formaldehyde (µg/m ³) and TVOC (µg/m ³) are reported, via the BREEAM Scoring and Reporting Tool.	Could be targeted if 'Excellent' accreditation is required.	Client
	Thermal Modelling	1	0.78	T	1. Thermal modelling has been carried out using software in accordance with CIBSE AM11. 2. This is carried out at the detailed design stage provides full dynamic thermal analysis. 3. Modelling demonstrates that for air conditioned buildings operative temperatures are within the range set out in CIBSE Guide A. For naturally ventilated buildings temperatures are in accordance with CIBSE Guide A Table 1.5. The building is designed to limit the risk of overheating using the methodology outline in CIBSE TM52. 4. For air conditioned buildings the PMV and PPD are reported via the BREEAM scoring and reporting tool.		MEP
Hea 04: Thermal Comfort	Design for Future Thermal Comfort	1	0.78	P	5. Criteria 1-4 are achieved. 6. The thermal model represents that the requirements in criteria 3 are achievable for projected climate change environment. 7. If thermal comfort criteria not met for project climate change environment it is demonstrated how the building has been adapted or designed to be adapted in the future. 8. For air conditioned buildings the PMV and PPD are reported via the BREEAM scoring and reporting tool.	Hydrock MEP to advise once initial thermal models are complete.	MEP
	Thermal Zoning and Controls	1	0.78	T	9. Criteria 1-4 are achieved. 10. Thermal model has informed the temperature control strategy for the building. 11. The strategy for the heating/cooling system demonstrates it has addressed a. Zoning within the buildings; b. The degree of occupant control required; c. How the systems will interact with each other and how this affects the thermal comfort of the building occupants; and d. The need for an accessible building user actuated manual override for automated systems.		MEP
Hea 05: Acoustic Performance	Acoustic Performance	1	0.78	T	1. The building meets the appropriate acoustic performance standards and testing requirements defined in Table 5.14 on page 102 of the BREEAM NC 2018 manual. These tables define criteria for the acoustic principles of: sound insulation; indoor ambient noise level; and room acoustics.		Acoustics
		1	0.78	T			Acoustics
		1	0.78	T			Acoustics
Hea 06: Security	Security of Site and Building	1	0.78	P	1. A qualified security specialist conducts evidence based Security Needs Assessment (SNA) during or prior to concept design stage. 2. The SQSS develops a set of security controls and recommendations for incorporation into the proposals. 3. Controls and recommendations proposed by the security specialist are implemented in the as-built development.	Could be targeted if 'Excellent' accreditation is required.	Client / Arch
Hea 07: Safe and Healthy Surroundings	Safe Access	1	0.78	T	Where external site areas form part of the assessed development the following apply: 1. Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to off-site cycle paths where applicable. 2. Dedicated and safe footpaths are provided on and around the site providing suitable links for: site entrance to building entrances; car parks to building entrances; building to outdoor space and connecting to off-site paths where applicable. 3. Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths. 4. Delivery areas are not accessed through general parking area and do not cross or share pedestrian and cyclist paths, outside amenity area accessible to building users and general public. 5. There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. 6. Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site.		Arch
	Outside Space	1	0.78	T	7. There is an outside space providing building users with an external amenity area.		Arch
	Total credits for section -	18	14.00		0.78		

Energy							
Ene 01: Reduction of Energy Use and Carbon Emissions	Energy Performance (up to 9 credits)	6	4.57	T	1. Calculate an Energy Performance Ratio for New Construction (EPR _{NC}). Compare the EPR _{NC} achieved with the benchmarks in Table 6.1 for corresponding number of BREEAM credits.	Four credits mandatory requirement for an 'Excellent' building. note: Venue Building will have separate Part L assessment for new build elements - assessment will not include existing.	MEP
		2	1.52	P			
		1	0.76	P			
	Pre-requisite	0	0.00	T	2. Prior to completion of the Concept Design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance.		MEP
	Prediction of Operational Energy Consumption	4	3.05	T	Four credits available: 3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures. 4. Report predicted energy consumption targets by end use, design assumptions and input data. 5. Carry out a risk assessment to highlight any significant design, technical and process risks that should be monitored and managed throughout the construction and commissioning process.	Targeted cost.	MEP
Ene 02: Energy Monitoring	Sub-metering of End-Use Categories	1	0.76	T	1. Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories. 2. Energy consuming systems in buildings with a total floor area over 1,000sqm are metered by end use category using energy monitoring management system. 3. End energy consuming uses are identifiable to the building users through labelling or data outputs.	One credit mandatory for Very Good, Excellent or Outstanding buildings.	MEP
	Sub-metering of High Energy Load and Tenancy Areas	1	0.76	T	4. Monitor a significant majority of the energy supply with an accessible energy monitoring and management system; Or separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system. 5. Sub meter per floor plate in large single occupancy or single-tenancy buildings with one homogeneous function.		MEP
Ene 03: External Lighting	External lighting	1	0.76	T	1. No external lighting (which includes lighting on the building, at entrances and signs); OR 2. External light fittings within the construction zone with: 2a. Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt; 2b. Automatic control to prevent operation during daylight hours; 2c. Presence detection in areas of intermittent pedestrian traffic.		MEP
Ene 04: Low Carbon Design	Passive Design	1	0.76	T	1 credit - Passive Design Analysis 1. The first credit within issue Hea 04 has been achieved. 2. The project team carries out an analysis of the proposed building to influence decisions made during Concept Design stage to identify opportunities for passive design solutions. 3. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings. 4. Quantify the reduced total energy demand and carbon dioxide emissions resulting from the passive design measures.	Passive design used where possible on venue building in existing areas.	MEP
		1	0.76	T	1 credit - Free Cooling 5. The passive design analysis credit is achieved. 6. Passive design analysis carried out under criterion 2 includes an analysis of free cooling. 7. Identify opportunities for the implementation of free cooling. 8. The building is naturally ventilated or uses any of the Free Cooling strategies listed in on page 143 in the BREEAM NC 2018 manual to reduce cooling energy demand.		
	Low or Zero Carbon Technologies	1	0.76	T	9. A feasibility study has been carried out by the completion of Concept Design (RIBA Stage 2). 10. Establish the most appropriate recognised local low or zero carbon (LZC) energy sources for the building or development based on the feasibility study. 11. Local LZC technology has been specified for the building in line with the recommendations of this feasibility study. 12. Quantify the reduced regulated carbon dioxide emissions resulting from the feasibility study.	Potential for Linear Building to provide energy network to venue building. Heat pumps proposed for both buildings if no network installed.	
Ene 08: Energy Efficient Equipment	Reducing the Unregulated Energy Loads of the Building	2	1.52	T	2 credits 1. Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification. 2. Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation. 3. Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building.		MEP

	Total credits for section -	21	16.00		0.76		
Transport							
Tra 01: Transport Assessment and Travel Plan	Travel Plan	1	0.83	T	1. During feasibility and design stages, develop a travel plan based on a site-specific travel assessment or statement. 2. The travel assessment covers: existing travel patterns and opinions of existing building or site users towards cycling and walking; travel patterns and transport impact of future building users; current local environment for walkers and cyclists; reporting of the number and type of existing accessible amenities within 500m of the site; disabled access; calculation of the existing public transport Accessibility Index; and current facilities for cyclists. 3. The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation and use. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation. Credits awarded based on the number of sustainable transport measures included at the site. Measures include provided electric car charging points, a dedicated bus service and providing additional cycle spaces above what is required for Tra 03. For further information and measures allowed see BREEAM guidance document. A combination of the above can achieve a maximum of 5 credits.		Transport
		1	0.83	T			
Tra 02: Proximity to Amenities	Pre-requisite	0	0.00	T	1. Achieve the Tra 01 transport assessment and travel plan credits.		Transport
	Sustainable Transport Measures	3	2.50	T	2. Identify the sustainable transport measures in Table 7.4 on page 174 in the BREEAM NC 2018 manual. 3. Award credits according to the Accessible Index of the project, and the total number of points achieved for the options implemented (see Table 7.3).		Transport
		3	2.50	P			
		4	3.33	U			
	Total credits for section -	12	10.00		0.83		
Water							
Wat 01: Water Consumption	Percentage Improvements over Baseline Water Use	2	1.55556	T	1. Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components. 2. Use the standard Wat 01 method to compare the water consumption for the assessed building against a baseline performance. Credits are awarded based on percentage improvement over baseline building water consumption: 1 credit = 12.5%, 2 credits = 25%, 3 credits = 40%, 4 credits = 50%, 5 credits = 55%, exemplary performance = 65%. 3. If a greywater or rainwater system is specified, use its yield to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed, they are in compliance with BS 8525-1:2-1- and BS 8515:2009.	One credit mandatory for Good, Very Good, or Excellent buildings. Two credits mandatory for Outstanding buildings. GLA Sustainable Deisgn & Construction SPG states maximum credits should be targeted.	MEP
		1	0.77778	T			
		2	1.55556	U			
Wat 02: Water Monitoring	Water Monitoring	1	0.77778	T	1. Specify a water meter on the mains water supply to each building. 2. Water-consuming plant or building areas, consuming 10% or more of the building’s total water demand, are either fitted with sub meters or have water monitoring equipment integral to the plant or area (see notes on page 199). 3. Each meter (main and sub) has a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption. 4. In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities. 5. In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed in' laboratory process equipment, irrespective of their water consumption levels. 6. For those pursuing post occupancy stage certification: the water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01.	Criterion 1 mandatory for Good, Very Good, Excellent and Outstanding buildings. GLA Sustainable Deisgn & Construction SPG states maximum credits should be targeted..	MEP
Wat 03: Water Leak Detection	Leak Detection System	1	0.77778	T	1. Install a leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter. The system must be: a. Audible when activated; b. Pre-set flow min/max or timer; c. Able to identify different flow and therefore leakage rates; d. Programmable to suit the owner/occupiers’ water consumption criteria; e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.	GLA Sustainable Deisgn & Construction SPG states maximum credits should be targeted.	MEP

	Flow Control Devices	1	0.77778	T	3. Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed.	GLA Sustainable Deisgn & Construction SPG states maximum credits should be targeted.	MEP
Wat 04: Water Efficient Equipment	Water Efficient Equipment	1	0.77778	T	1. The design team has identified all unregulated water demand that could be realistically mitigated or reduced. 2. System(s) or processes have been identified to reduce the unregulated water demand and establish through either good practice design, or specification, a demonstrable reduction in the total water demand of the building.	GLA Sustainable Deisgn & Construction SPG states maximum credits should be targeted.	MEP / Arch
	Total credits for section -	9	7.00		0.78		
Materials							
Mat 01: Life Cycle Impacts	Superstructure (up to six credits)	2	2.14	T	4. During Concept Design stage, identify opportunities for reducing environmental impacts as follows: 4a. Carrying out building LCA options appraisal of 2 to 4 significantly different superstructure design options; 4b. Using a building LCA tool that is recognised by BREEAM according to the methodology (see page 209); 4c. For each design option, fulfilling the same functional requirements specified by the client and all statutory requirements; 4d. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. 4e. Record the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. 4f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for. 5. During Technical Design identify opportunities for reducing environmental impacts by carrying out building LCA options appraisal of 2 to 3 significantly different superstructure design options; using a building LCA tool that is recognised by BREEAM; as criteria 4.c to 4.e; submitting the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design.	Could be targeted if 'Excellent' accreditation is required. Level of detail, and credits achieved, will be cost driven. Applical to new build elements	Arch / Contractor
		1	1.07	P			
		3	3.21	U			
	Substructure and Hard Landscaping Options Appraisal	1	1.07	T	6. Criteria 3 and 4 are achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: 7a. Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping). 7b. Using a building LCA tool that is recognised by BREEAM according to the methodology (see Methodology). 7c. As criteria 4c to 4f.		Arch
	Separation of Products with a Recognised Environmental Product Declaration	1	1.07	T	1. Specify construction products with EPD that achieve a total EPD points score of at least 20, according to the methodology on page 221. 2. Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and credit award.		Arch
Mat 03: Responsible Sourcing of Construction Products	Pre-requisite	0	0.00	T	1. All timber based products used on the project are 'Legally harvested and traded timber'		Arch / Contractor
	Enabling Sustainable Procurement	1	1.07	T	2. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: 2a. Be in place before Concept Design. 2b. Include sustainability aims, objectives and strategic targets to guide procurement activities. 2c. Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. 2d. Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan.		
	Measuring Responsible Sourcing	1	1.07	T	3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, as set out in Table 9.10 on page 224.		
		1	1.07	P			
		1	1.07	P			

Mat 05: Designing for Durability and Resilience	Designing for robustness	1	1.07	T	1. Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. 2. Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors.		Arch
Mat 06: Material Efficiency	Material Efficiency	1	1.07	P	1. At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages: Preparation and Brief, Concept Design, Developed Design, Technical Design, Construction. 2. Develop and record the implementation of material efficiency during: Developed Design, technical Design, Construction. 3. Report the targets and actual material efficiencies achieved.		All
	Total credits for section -	14	15.00		1.07		
Waste							
Wst 01: Construction Site Waste Management	Pre-demolition Audit	1	0.60	T	1. Complete a pre-demolition audit at Concept Design stage of any existing buildings, structure or hard surfaces being considered for demolition.		Client
	Construction Resource Efficiency	1	0.60	T	3. Prepare a compliant Resource Management Plan (RMP) covering non-hazardous waste materials and accurate data records on waste arisings and waste management routes. 4. Meet or improve upon the benchmarks in Table 10.1 (page 243) for non-hazardous construction waste, excluding demolition and excavation waste.		Contractor
		1	0.60	P			
		1	0.60	U			
	Diversion of Resources from Landfill	1	0.60	T	5. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 (page 243) for non-hazardous construction and excavation waste generated. 6. Sort waste materials into separate key waste group as per Table 10.3 (page 247) either on-site or through a licensed contractor for recovery.		Contractor
Wst 02: Recycled Aggregates	Project Sustainable Aggregate Points	1	0.60	P	1. Pre-requisite: If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Assessment Scope - Criterion 1 on page 243 and Assessment scope - Criterion 2 on page 243. 2. Identify all aggregate uses and types on the project Table 10.5 and Table 10.6 (page 251). 3. Determine the quantity in tonnes for each identified use and aggregate type. 4. Identify the region in which the aggregate source is located. 5. Calculate the distance in kilometers travelled by all aggregates by transport type. 6. Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points.		Contractor
Wst 03: Operational Waste	Operational Waste	1	0.60	T	1. Provide a dedicated space for the segregation and storage of operational recyclable waste generated. 2. For consistent and large amounts of operational waste generated, provide: Static waste compactors or balers; Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility; and a water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.	One credit mandatory for Excellent or Outstanding buildings.	Arch
Wst 05: Adaptation to Climate Change	Resilience of Structure, Fabric, Building Services and Renewables Installation	1	0.60	T	1. Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with BREEAM guidance. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	Applicable to new build elements only. Must take into account listed building status and restirctions associated.	Arch / MEP
Wst 06: Design for	Recommendations	1	0.60	T	1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design. 2. Develop recommendations or solutions based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	new build elements only.	

Disassembly and Functional Adaptability	Implementation	1	0.60	P	3. Achieve criteria 1 and 2. 4. Provide an update, during Technical Design, on: 4a. How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective and any changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.			Arch/ Structural
	Total credits for section -	10	6.00		0.60			
Land Use & Ecology								
LE 01: Site Selection	Previously Occupied Land	1	0.93	T	1. At least 75% of the proposed development’s footprint is on an area of land which has previously been occupied.			Arch
	Contaminated Land	1	0.93	T	2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified: the degree of contamination; the contaminant sources or types; the options for remediating sources of contamination which present an unacceptable risk. 3. The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional.			Ground Investigation TBC.
	Pre-requisite	0	0.00	T	1. An assessment route for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist. 2. The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.			Ecology
LE 02: Identifying and Understanding the Risks and Opportunities for the Project.	Survey and Evaluation	1	0.93	T	There are two separate routes to earn this credit: Route 1 (one credit): 3. Completion of the BREEAM Ecological Risk Evaluation Checklist indicates Assessment route 1 can be used as the assessment. Route 2 (two credits): 4. An appropriate individual is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions. 5. Prior to the completion of the preparation and brief, an appropriate level of survey and evaluation has been carried out to determine the ecological baseline of the site. 6. Data are collated and shared with project team to inform the site preparation, design or construction works.	Undetaken Phase 1 habitat survey.		Ecology
		1	0.93	P				
LE 03: Managing Negative Impacts on Ecology	Pre-requisite	0	0.00	T	1. LE 02 has been achieved. 2. The client or contractor has confirmed that compliance is monitored against all relevant UK, and EU or International legislation relating to the ecology of the site.			Client / Contractor
	Planning, Liaison, Implementation and Data	1	0.93	T	3. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief. 4. Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs. 5. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected during site preparation and construction works.	Meeting minutes to be sent through to Hydrock.		Client / Contractor
	Managing Negative Impacts of the Project	2	1.86	T	Route 1 (one credit): 6. Negative impacts from site preparation and construction works have been managed according to the hierarchy (see page 290) and no net impact has resulted. Route 2 (up to two credits) 7. Negative impacts from site preparation and construction works have been managed according to the hierarchy and either: no overall loss of ecological value has occurred (2 credits); OR the loss of ecological value has been limited as far as possible (1 credit)			Ecology
	Pre-requisite	0	0.00	P	1. LE 03 has been achieved. 2. The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.			
	Enhancement of Ecology	1	0.93	T	Route One: One credit. 3. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions and measures based on recommendations from recognised 'local' ecological expertise, specialist input and guidance to inform the adoption of locally relevant ecological solutions and measures which enhance the site. 4. Data collated is provided to the local environmental records centres nearest to, or relevant for, the site.			Ecology
LE 04: Change and Enhancement of								

Ecological Value	Liaison, Implementation and Data Collection	1	0.93	T	Route Two: One credit. 5. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value.	Meetings with Council's biodiversity assessor. Local arboriculturalist.	Ecology
	Enhancement of Ecology	3	2.79	P	Route Two: Up to three credits Credits are awarded on a scale of 1 to 3, based on the calculation of the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in either GN 35 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 1 or GN 36 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 2		Ecology
	Pre-requisite	0	0.00	P	1. The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. 2. Where pursued, LE 04 has been achieved.		
	Planning, Liaison, Data Monitoring and Review Management and Maintenance	1	0.93	P	3. The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: monitor and review implementation and the effectiveness; and develop and review management and maintenance solutions, actions or measures. 4. In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: 4a. Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage; 4b. Monitoring and reporting of outcomes and successes from the project; 4c. Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site); 4d. Maintaining the ecological value of the site and its relationship or connection to its zone of influence; 4e. Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02); 4f. Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04. 5. As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site.		Ecology
	Landscape and Ecology Management Plan	1	0.93	P	6. Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:20131 covering as a minimum the first five years after project completion. 7. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	Could be targeted if 'Excellent' accreditation is required. Not completed as standard.	Ecology
Total credits for section -		14	13.00		0.93		
Pollution							
Pol 01: Impact of Refrigerants	Up to three credits depending on refrigerant use and type used	1	0.67	T	3 credits - No refrigerant used. Pre Requisite - All systems with electronic compressors must comply with the requirements of BS EN 378:2008 and where refrigeration systems containing ammonia are used, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. 2 credits - Where systems using refrigerants have direct life cycle CO ₂ emissions of < 100 kgCO ₂ /kW OR where air-conditioning or refrigeration systems are installed the refrigerants have a GWP <10. 1 credit - Where the systems using refrigerants have direct life cycle CO ₂ emissions of <1000 kgCO ₂ /kW. Additional credit to achieve 3 credits - All systems are hermetically sealed or only use environmentally benign refrigerants OR where the systems are not hermetically sealed: they have either a permanent automated refrigerant leak detection system OR an inbuilt automated diagnostic procedure for detecting leakage.	Refrigerants could be used in server room for IT. Dependant on size of room, passive design solutions could be developed. The potential to connect to the Cooling system from the stadium would mean that 3 credits could be achieved.	MEP
		1	0.67	T			
		1	0.67	P			
		1	0.67	T			

Pol 02: Local Air Quality	NO _x emissions	1	0.67	P	1. All heating and hot water is supplied by non-combustion systems. OR; 2. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5 (page 306). The measurements must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC. 3. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 1.21 and Table 1.22.	Design Team do not have control over the District Heating system so does not need to be assessed if we chose that option. - or - Site-wide energy network is installed for this site only.	MEP
	Pre-requisite	0	0.00	T	1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.		Civils
Pol 03: Surface Water Run-off	Flood Resilience	1	0.67	T	2 credits 1. Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone defined as having low annual probability of flooding. 1 credit 2. Where site specific FRA confirms the development is situated in a flood zone defines as having medium or high annual probability of flooding and is not in a functional floodplain. 3. One of the following must be achieved a) Ground level of the building is 600mm above the design flood level, or b) The final design reflects recommendations made by an appropriate consultants in accordance with the hierarchy approach outside in BS 8533:2017.		Civils
		1	0.67	T			
	Surface Water Run-off	1	0.67	T	Pre-requisite - Surface water run-off design solutions must be bespoke 1 credit 6. Drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events. 7. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place. 8. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance. 2 credits 9. Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); And either 10. Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change. 11. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR 12. Justification from the appropriate consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. 13. Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. 15. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.		
		1	0.67	T			
	Minimising Water Course Pollution	1	0.67	P	16. There is no discharge from the developed site for rainfall up to 5 mm. 17. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 18. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems. 19. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shut-off valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure. 20. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site. 21. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 22. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. 23. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	Little scope for SuDS on the site.	

Pol 04: Night Time Light Pollution	Reduction in Night Time Light Pollution	1	0.67	T	1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 20111. 3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. 4. If safety or security lighting is provided and will be used between 23:00 and 07:00. 5. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.		MEP
Pol 05: Reduction in Noise Pollution	Reduction in Noise Pollution	1	0.67	T	1. There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR; 2. Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:20141 is commissioned. 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise-sensitive development, must be at least 5dB lower than the background noise throughout the day and night. 5. If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.		Acoustics
	Total credits for section -	12	8.00		0.67		