BURO HAPPOLD

All Saints Library

Environmental Standards Statement

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P065290

19 November 2025

Revision P02

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date **19.11.2025**

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1 Executive summary

This Environmental Standards Statement (ESS) have been prepared in support of the Application for Full Planning Permission for Development of a nine-storey library building (Use Class F1), public realm, access and servicing arrangements and other associated works. by Manchester Metropolitan University.

This Statement seeks to demonstrate how Manchester City Council's (MCC) circular economy policies within the Manchester's Core Strategy Development Plan Document (2012), Places for Everyone (2024); and the Addendum to the Manchester Core Strategy (2024), have informed the Proposed Development in embedding sustainability in the design. This Statement should be read along with the BREEAM assessment accompanying to this report, and other relevant technical reports submitted as part of the planning application.

The topics covered in this report include transport & connectivity; carbon and energy; biodiversity and nature; water and flood risk; air quality; waste and resource efficiency; and sustainable development.

In summary, the Development is actively targeting and achieving the required environmental standards in line with the planning policy and will align with the carbon reduction requirements of the Part L Building Regulations.

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2 Introduction

2.1 Scope of the document

This Statement have been prepared in support of the Application for Full Planning Permission for Development of a nine-storey library building (Use Class F1), public realm, access and servicing arrangements and other associated works. by Manchester Metropolitan University.

This Statement seeks to demonstrate how Manchester City Council's (MCC) environmental sustainability policies will inform the proposed development.

The Statement comprises the following sections:

- **Planning Policy Review** to set the context for the development and identify current planning-related environmental sustainability targets
- **Environmental Standards Review** to outline how the development will respond to the Environmental Standards set out in Manchester's Core Strategy Development Plan Document (2012), Places for Everyone (adopted March 2024), and the MCC Core Strategy (2024 addendum). These each form part of the Manchester Local Plan

It is recognised that sustainable development cuts across several issues and disciplines. Reference should be made to the accompanying planning documents for further technical details, namely:

- Buro Happold - Air Quality Statement
- Buro Happold - Flood Risk Assessment
- Buro Happold - Drainage Strategy
- Buro Happold - Transport Statement
- Buro Happold - Energy and Carbon Statement
- Hawkins Brown – Whole Life Cycle Assessment
- Buro Happold – Daylight, Sunlight and Overshadowing (DSO)
- Buro Happold – Ground Conditions Planning Documentation
- Appendix A – BREEAM Assessment

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2.2 Description of the development

Development of a nine-storey library building (Use Class F1), public realm, access and servicing arrangements and other associated works.

2.3 Site description

This 0.6 hectare Site in Manchester City Centre is bound by Oxford Road to the east, by the Mancunian Way to the north, Manchester Metropolitan University's Faculty of Business and Law to the west, and All Saints Park to the south. The Site currently comprises the vacant All Saints Library Building - a seven-storey brick building. The building on site is considered no longer fit for purpose and has been vacant since summer 2024. The Site is subject to a planning application (submitted August 2025) for demolition – due to be determined early December 2025.

The figures below shows the proposed site boundary (red line).

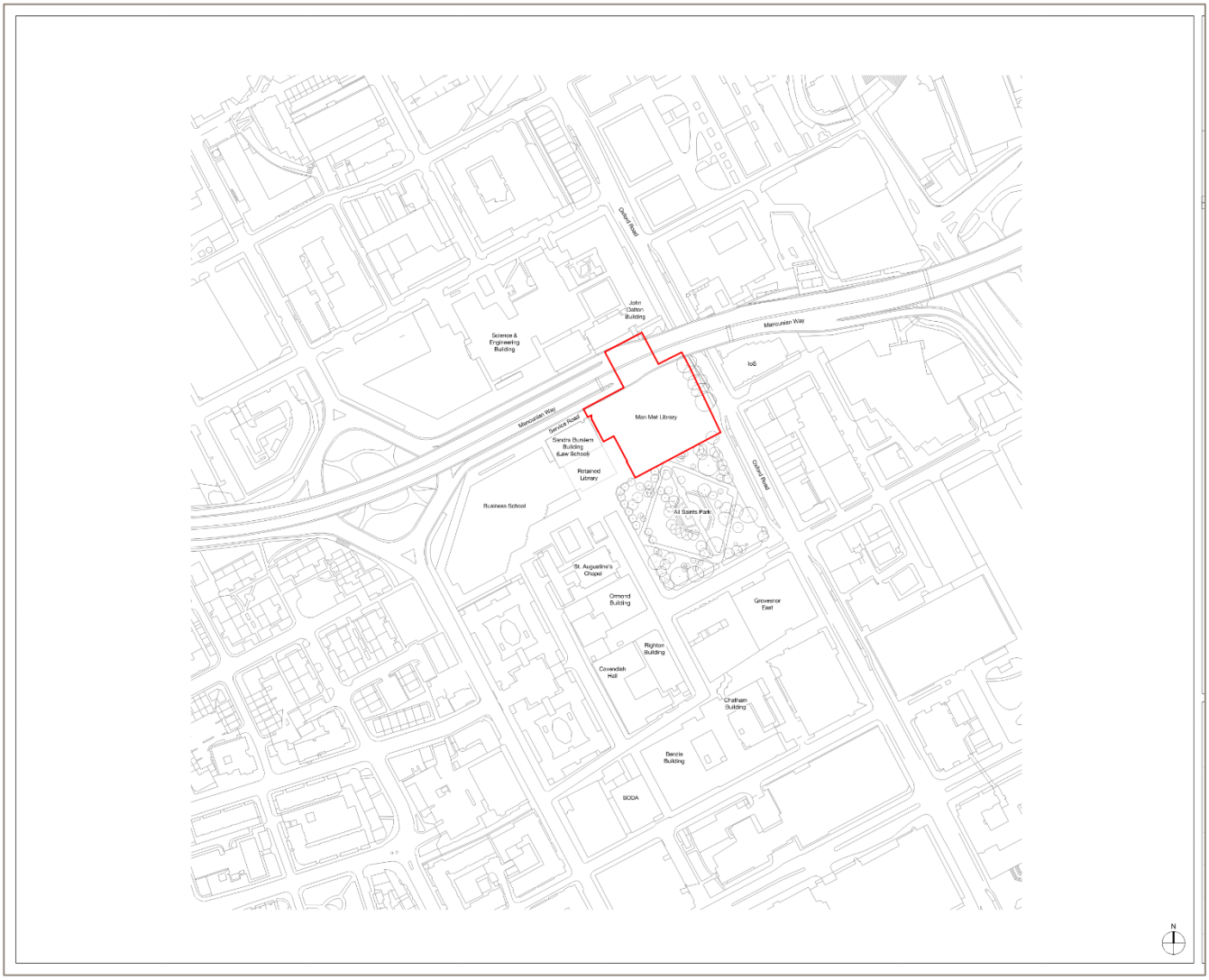


Figure 2—1 Site location plan

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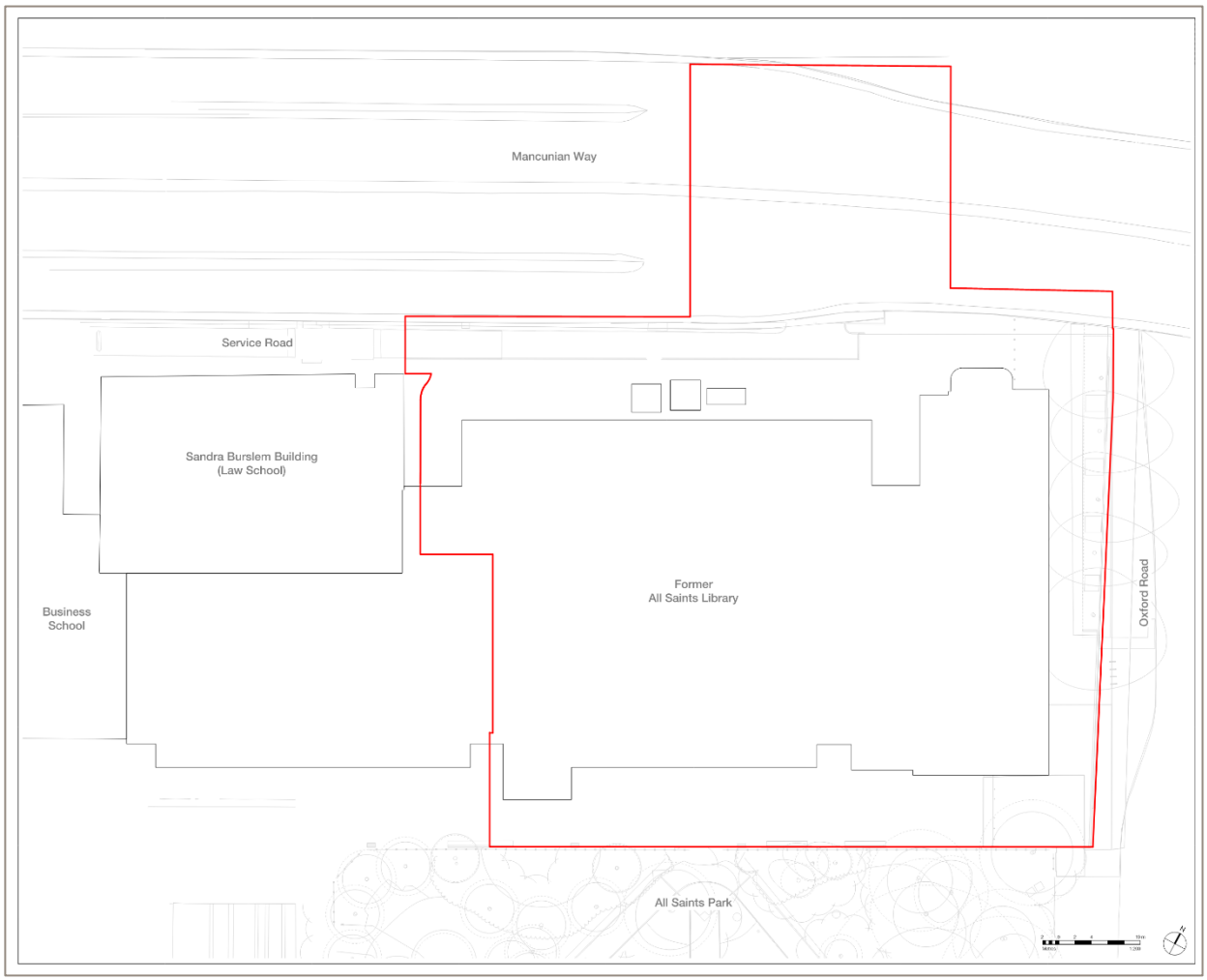


Figure 2—2 Existing site plan

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3 Planning Policy Context

3.1 Scope of the policy review

To better understand the sustainability drivers for this development and set the policy context, a summary of the key sustainable development policies, legislation and guidance at both the national and local level has been provided.

3.2 Legislation

3.2.1 Climate change Act 2008

The Climate Change Act Parliamentary Bill (2008) sets out the UK Government's pathway to reduce greenhouse gas emissions by at least 80%, relative to 1990 levels, by 2050. This includes the requirements to set legally binding carbon budgets over five-year periods to act as intermediate milestones.

On 27th June 2019, a more ambitious target of net zero carbon by 2050 was adopted by the UK Government in response to public sentiment and the release of the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5oC (October 2018).

3.2.2 Approved document: Part L (2021) Building Regulations (2023 amendment)

The Conservation of Fuel and Power: Approved Document Part L (2021) Building Regulations (2023 amendment) sets the energy and carbon targets that must be achieved in new buildings other than dwellings. These have been set to address the upcoming progressive energy improvement policies which strive towards achieving a net zero carbon standard in the future.

This development will be designed in accordance with these building regulations.

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3.3 Notional Policy & guidance

3.3.1 A Green Future: Our 25 Year Plan to Improve the Environment (2018)

The HM Government's 'A Green Future: Our 25 Year Plan to Improve the Environment' (2018) sets out the Government's ambition to '…champion sustainable development, lead in environmental science, innovate to achieve clean growth and increase resource efficiency to provide benefits to both our environment and economy'.

The plan provides fresh impetus for the principles of sustainable development to be at the heart of decision-making, setting out clear objectives and common language for policy and decision makers to adopt.

Policies and actions are structured around six key areas:

- Chapter 1: Using and managing land sustainability
- Chapter 2: Recovering nature and enhancing the beauty of landscapes
- Chapter 3: Connecting people with the environment to improve health & wellbeing
- Chapter 4: Increasing resource efficiency and reducing pollution and waste
- Chapter 5: Securing clean, healthy, productive and biologically diverse seas and oceans
- Chapter 6: Protecting and improving our global environment.

3.3.2 National Planning Policy Framework (December 2024)

The National Planning Policy Framework (December 2024) and relevant planning practice guidance sets out the Government's planning policies for England. The presumption in favour of sustainable development is at the heart of the framework, cascading through to local plans and the approval process for planning applications. Key issues addressed are summarised below:

- Building a strong, competitive economy
- Ensuring the vitality of town centres
- Promoting healthy and safe communities
- Promoting sustainable transport
- Supporting high quality communications
- Achieving well-designed place
- Making effective use of land and protecting green belt land
- Meeting the challenge of climate change, flooding and coastal change
- Conserving and enhancing the natural and historic environment
- Facilitating the sustainable use of minerals.

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3.4 Local policy and guidance

The table below provides a timeline of the relevant planning policy and guidance for MCC and how they interrelate.

Table 3—1 Planning Policy Timeline & Summary

Release	Policy Document	Status
1995	**Unitary Development Plan (UDP)** Served as the primary framework for making decisions about planning applications and future development	"Saved" policies only, not relevant to ESS
2007	**Guide to Development in Manchester - Supplementary Planning Document and Planning Guidance (SPD)** Provided updated guidance on design quality complementing the 1995 UDP	Live
2012	**Manchester's Core Strategy Development Plan Document** Replaces significant elements of the 1995 UDP setting out long term policies for Manchester's development	Live
2024	**Places for Everyone (PfE) Joint Development Plan** Introduces new policies over and above the 2012 Core Strategy document, superseding some aspects of the Core Strategy	Live
2024	**Addendum to Manchester Core Strategy 2024** Lists sections of the 2012 Manchester Core Strategy policies that were replaced by the PfE and must be read alongside the Core Strategy	Live

3.4.1 Guide to Development in Manchester – Supplementary Planning Document (SPD) and Planning Guidance

The Supplementary Planning Document (SPD) for the Guide to Development in Manchester does not create new policy but expands on and provides further detail on existing policies. Although the SPD refers to the former Unitary Development Plan (UDP) policies, the guidance is to be applied instead to the new policies described in the 2012 Core Strategy Development Plan and the 2024 Places for Everyone (PfE). The principles and guidance on the Environmental Standards Statement remain current and complimentary to the Local Plan.

'Section 4 Environmental Standards' sets out the Council's commitment to making Manchester "the Greenest City in Britain". An Environmental Standards Statement is required to accompany all planning applications, demonstrating the required environmental standards are met:

- Energy Strategy
- Renewable Energy
- Environmental design
- Water management and weather resilience
- Waste management
- Construction management
- Biodiversity

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- Waterways.

These will be addressed in responses to the Core Strategy and Places for Everyone policies.

3.4.2 Core Strategy Development Plan Document (Adopted 11th July 2012)

The Manchester Local Plan guides development within Manchester. The Core Strategy is the key document in Manchester's Local Plan, covering a period of 15 years from 2012 to 2027. It sets out the long-term strategic policies for Manchester's future development, forming the framework for planning applications.

The key policies relevant to the Environmental Standards and Energy and Carbon Statement are as below. The 'Addendum to Manchester Core Strategy' (2024) describes where elements of these policies have been superseded by the Places for Everyone (PfE) 2024 plan.

- CC 5 Transport
- T 1 Sustainable Transport
- EN 4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
- EN 5 Strategic Areas for low and zero carbon decentralised energy infrastructure
- EN 6 Target Framework for CO2 reductions from low or zero carbon energy supplies
- EN 8 Adaptation to Climate Change
- EN 9 Green Infrastructure
- EN 14 Flood Risk
- EN 16 Air Quality
- EN 17 Water Quality
- EN 19 Waste
- DM 1 Development Management.

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3.4.3 Places for everyone (2024)

The Places for Everyone (PfE) Joint Development Plan (2024) sets out how the regions should be developed between 2022 and 2039 and provides a strategic framework for local plans. It also sets out policies relevant to planning applications, which are listed below.

- JP-Strat2: City Centre
- JP-S1: Sustainable Development
- JP-S2: Carbon and Energy
- JP-S3: Heat and Energy Networks
- JP-S4: Flood Risk and the Water Environment
- JP-S5: Air Quality
- JP-S6: Resource Efficiency
- JP-G1: Landscape Character
- JP-G6: Urban Green Space
- JP-G7: Trees and Woodland
- JP-G8: A Net Enhancement of Biodiversity and Geodiversity
- JP-P1: Sustainable Places
- JP-C1: An Integrated Network
- JP-C8: Transport Requirements of New Development.

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3.4.4 Policy response strategy

Due to the crossover between the many sustainability related policies in both the Core Strategy and the Places for Everyone documents, the response to the above policies will be grouped into topics as categorised below.

Table 3—2 Policy Consolidation

Transport & Connectivity	
Core Strategy	CC5 Transport
	T1 Sustainable Transport
Places for Everyone	JP-C1: An Integrated Network
	JP-C8: Transport Requirements of New Development
Carbon & Energy Strategy	
Core Strategy	EN4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
	EN5 Strategic Areas for low and zero carbon decentralised energy infrastructure
	EN6 Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies
Places for Everyone	JP-S2: Carbon and Energy
	JP-S3: Heat and Energy Networks
Biodiversity & Nature	
Core Strategy	EN8 Adaptation to Climate Change
	EN9 Green Infrastructure
	EN15 Biodiversity and Geological Conservation
Places for Everyone	JP-G1: Landscape Character
	JP-G6: Urban Green Space
	JP-G7: Trees and Woodland
	JP-G8: A Net Enhancement of Biodiversity and Geodiversity
Water Management, Weather Resilience, & Flood Risk	
Core Strategy	EN14 Flood Risk
	EN17 Water Quality
Places for Everyone	JP-S4: Flood Risk and the Water Environment
Air Quality	
Core Strategy	EN16 Air Quality
Places for Everyone	JP-S5: Air Quality
Waste & Resource Efficiency	
Core Strategy	EN19 Waste
Places for Everyone	JP-S6: Resource Efficiency
Sustainable Development	
Core Strategy	DM1 Development Management
Places for Everyone	JP-Strat2: City Centre
	JP-S1: Sustainable Development
	JP-P1 Sustainable Places

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4 Environmental Standards Review

4.1 Policy response

This section summarises how the proposed development has, as a minimum, responded to the environmental sustainability policies set out in the 'Manchester Core Strategy (2012)' and 'Places for Everyone 2024 Joint Development Plan' taking cognisance of the 'Addendum to the Manchester Core Strategy 2024'.

As environmental sustainability encompasses a wide range of issues and is addressed to some degree by all key disciplines, references have been made to accompanying planning submission documents for technical details.

4.2 Transport & Connectivity

Policy Summary

Core Strategy: CC5 Transport
Core Strategy: T1 Sustainable Transport
Places for Everyone: JP-C1: An Integrated Network
Places for Everyone: JP-C8: Transport Requirements of New Development

Site Location & Public Transport Provision

The site has a GMAL score of 8 which is the best possible score, indicating a very good level of public transport accessibility across the Site.

The site is well served by public transport, located in All Saints Park (on Oxford Road) immediately to the south/east of the site. These stops are served by service numbers 15, 18, 41, 42, 42A, 42B, 42C, 43, 85, 85A, 86, 87, 111, 142, 143, 250, 263 and 751. These services provide connection to destination such as Manchester city center, Stockport, east Didsbury, Altrincham and Burnage. Additional services are available at another All Saints Park stop, approximately 90m south-east of the site. In total, there are 96 different bus services per hour within 650m of the site.

Manchester Oxford road station is the nearest mainline rail station, located approximately 500m north of the site (6 minutes' walk/ 2 minutes cycle), offering frequent services to Manchester Airport, Liverpool Lime Street, Llandudno, Nottingham and Barrow in Furness. And connections to Manchester Piccadilly for nationwide travel.

Pedestrians & Cyclist Environment

The proposed development strongly supports active travel, aligning with core strategy T1 and Places for Everyone JP-C8. The site benefits from excellent pedestrian and cyclist infrastructure, including segregated cycle lanes along Oxford Road and multiple cycle hire stations within a 500m distance of the library entrance. Over 400 cycle parking spaces are available within 200m of the site, with additional short-stay spaces to be reinstated following construction.

A north-south proposed pedestrian link will improve site permeability and access to the wider campus. Signal-controlled crossings with tactile paving and cropped-kerbs further support safe pedestrian movement. These measures collectively promote walking and cycling as primary modes of travel and contribute to the delivery of a sustainable transport network.

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Car Parking

No new parking is proposed as part of the development proposals. Minor adjustments to the layout of the existing car park beneath the Mancunian Way are proposed to improve safety and operational efficiency, including the relocation of accessible bays away from service areas. The revised layout results in a net reduction of four standard bays, equating to 3% decrease in total provision, while maintaining the number of accessible bays. This approach supports the strategic objective to reduce reliance on private vehicles and encourages the use of sustainable transport modes.

Transport Hierarchy

The design prioritises pedestrians and cyclists. Service providers including delivery and waste collection vehicles are accommodated through designated access routes, while private motor vehicles users are considered last. This hierarchy is reflected in the site layout, public realm enhancement, and servicing strategy, ensuring that the development supports inclusive efficient and sustainable movement.

Transport Assessment & Travel Plan

The proposed development will not result in an increase in trip generation, as the student and staff population remains unchanged. Please refer to Buro Happold Engineers' Transport Statement' submitted with this planning application.

Construction Traffic

The Construction management plan (CMP) will ensure that construction vehicle routing is primarily via strategic roads, minimising disruption to the local network.

References

- Buro Happold - Transport Statement

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4.3 Carbon and Energy

Policy Summary

Core Strategy: EN4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
Core Strategy: EN5 Strategic Areas for low and zero carbon decentralised energy infrastructure
Core Strategy: EN6 Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies
Places for Everyone: JP-S2: Carbon and Energy
Places for Everyone: JP-S3: Heat and Energy Networks

Please read this section along with Energy and Carbon Statement

Low And Zero Carbon Energy Source and Solar PV

A low and zero carbon (LZC) feasibility study was undertaken to assess the viability of various technologies for the proposed development. The study concluded that photovoltaic (PV) systems were the most suitable option. In addition, in line with Policy JP-S2, 500 m^2 roof mounted PV panels will be installed, the system is expected to generate 98,638 kWh/year, equating to 8% of the buildings total energy demand. The PV footprint covers 32% of the ground floor area.

District Heat Networks and Decentralized Energy

The proposed development is located in proximity to the Civic Quarter Heat Network, which serves several civic buildings via a combined heat and power engine and gas boilers. A feasibility study was carried out to assess the potential for connection. It was concluded that a heat network approach is not economically or practically viable. Furthermore, the University's sustainable construction tracker precludes the use of fossil fuels. As a result, the building has been designed to be all electric, aligning with EN5 which identifies strategic areas for decentralised energy infrastructure, and PfE JP-S3 which supports the development of heat and energy networks where feasible.

Building Regulations and Part L Reduction

The development will comply with current Building Regulations Part L 2021 (2023 amendments) and achieves EPC rating of A.

Operational Net Zero Approach and Offsetting

Please refer to the Energy and Carbon Statement which details how the energy hierarchy has been followed for the development. The proposed energy reduction measures have been maximised through passive and active means, supporting Manchester's ambition to become a zero-carbon city and aligning with the University's broader sustainability goals. As MCC has not yet set standards for carbon offsetting payments, they are not required with this planning application.

BREEAM Energy 01

The requirements to achieve the 'Excellent' standard against BREEAM Energy 01 will be achieved. Please refer to Energy and Carbon Statement and Appendix A – BREEAM Assessment

Energy and Carbon Statement

The Energy and Carbon Statement has been prepared in response to relevant local and regional planning policies. The building has been subject to dynamic thermal modelling to assess energy performance and quantify CO2emissions.

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Predicted energy use intensity ranges from 107 to 134 kWh/m2/year, reducing to 99 to 126 kWh/m2/year with PV contribution.

Embodied and Whole Life Carbon of Materials

The New Library Project will consider the application of materials with recycled content and potential of specifying recycled aggregates during the procurement process. The project aims to use resources responsibly, minimise pollution, enhance structural longevity, and reduce waste during construction and operation. It will also incorporate 'design for disassembly' (DfD) principles into its end-of-life strategy, while striving for regenerative systems, wherever practical and feasible.

The embodied carbon strategy complements decentralised infrastructure goals by minimizing emissions from structural and façade systems and enabling future integration of low-carbon technologies.

A whole life-cycle carbon assessment has been prepared by Hawkins\Brown and provides an updated estimate of the carbon impact at Stage 3 of the Library Redesign project.

The report displays the results of the whole life-cycle analysis (WLCA), based on Stage 3 design information. The study estimates the embodied and operational carbon emissions of the proposed development and offers reduction strategies. The primary aim is to inform the design team about the project's carbon at practical completion and over the building's reference study period of 60-year life cycle.

The total upfront carbon is estimated at 7,246 tCO_2e. which equates to 603 $kgCO_2e/m^{2.}$ The report also includes recommendations for further reductions to be considered at stage 4.

The project supports carbon-informed decision-making by quantifying and reducing embodied carbon through verified EPDs, targeting low-carbon procurement, and benchmarking against national standards. The WLCA provides a clear roadmap for further reductions, identifying superstructure, façade systems and MEP components as priority areas for intervention.

The project aims to minimize emissions from HVAC systems and promote circular economy principles. Recommendations include supplier take-back schemes, modular equipment with replaceable parts and verified manufacturer commitments to repair and material recovery. These strategies ensure the buildings heat and energy systems are not only efficient but also aligned with long-term sustainability and carbon reduction goals.

Please refer to the 'Whole Life Cycle Assessment' produced by Hawkins Brown which describes how the development will make use of building materials with low embodied carbon

EV Charging

No new parking is proposed as part of the development proposal, please refer to the 'Transport and Connectivity' section of this report.

Nature Based Solutions to Reducing Carbon

Please refer to the 'Biodiversity & Nature' section of this report.

References

- Buro Happold – Energy and Carbon Statement
- Buro Happold – BREEAM Assessment

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- Hawkins Brown - Whole Life Cycle Assessment

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4.4 Biodiversity and Nature

Policy Summary

Core Strategy: EN8 Adaptation to Climate Change
Core Strategy: EN9 Green Infrastructure
Core Strategy: EN15 Biodiversity and Geological Conservation
Places for Everyone: JP-G6: Urban Green Space
Places for Everyone: JP-G7: Trees and Woodland
Places for Everyone: JP-G8: A Net Enhancement of Biodiversity and Geodiversity

Adaptation To Climate Change

The proposed development incorporates climate resilience through ecological enhancement, passive design and flood mitigation. A series of mitigation measures are described to protect the site against anticipated effect. These include:

- Tree planting
- Green infrastructure
- Sensitive lighting strategies

The surface water drainage strategy has been designed to accommodate the 1 in 100-year storm event with a 45% climate change allowance, demonstrating the site is well protected against more extreme weather events. Please refer to the 'Water and Flood Risk' section of this report. These measures align with core strategy Policy EN8 which promotes adaptation to climate change through sustainable design and landscape integration.

Minimise Flood Risk

Please refer to the 'Water and Flood Risk' section of this report.

Green Infrastructure

The landscape strategy enhances green infrastructure by integrating All Saints Park with the new development, integrating tree planting, wildflower meadows and permeable surfaces. These features contribute to ecological connectivity and urban cooling supporting Core strategy EN9 and PfT Policy JP-G6, which promote the protection of and enhancement of green infrastructure in urban areas.

Passive Design & Overheating

A Passive Design Analysis will be produced in accordance with the BREEAM Ene 04 'Low Carbon Design' criteria which shall calculate the carbon emissions reductions as a result of passive measures to include:

- Site location and microclimate
- Building form, orientation, fabric and thermal mass
- Daylight, ventilation and climate change adaptation measures.

The landscaping strategy has also been designed to alleviate overheating, by providing planting and vegetation, supporting passive cooling in public real areas. The scheme will comply with the BREEAM Health & Wellbeing criteria

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for thermal comfort, tested against relevant CIBSE criteria. Occupied spaces will be analysed using both current and future climate scenarios to demonstrate long term compliance. The building fabric performance will also ensure that heating and cooling demands are minimised.

Preserving Biodiversity

An Ecological Impact Assessment has been conducted in which the existing ecological features of the site were identified. The assessment confirms that while the site has negligible ecological importance it supports nesting birds and low bat roosting potential. Mitigation measured includes pre-commencement checks, soft felling techniques and sensitive lighting strategies. These actions ensure compliance with core strategy EN15 and PfE JP-G8, which require protection of biodiversity during development.

Biodiversity Net Gain and Management

The planting strategy aims to exceed 10% biodiversity net gain, with extensive planting, evergreen structure and habitat supporting species. Management includes arboriculture care, crown lifting and seasonal maintenance. This alights with PfE Policy JP-G8 which mandates measurable biodiversity enhancement and long-term stewardship.

BREEAM LE 05 is integrated into the project's sustainability strategy to secure long-term landscape and ecological management. Measures developed with stakeholder input and ecological data (LE 02) will be monitored and reviewed to ensure the effectiveness of mitigation and enhancement actions (LE 03 & LE 04).

A dedicated ecology and biodiversity section is provided to tenants and building owners, outlining local ecological value and management requirements. This includes clear maintenance plans for landscape and asset managers, alongside accessible handover information for occupiers to encourage awareness and positive stewardship behaviours.

High Quality Green Space

All Saints Park is retained and enhanced with improved landscaping, seating and planting. The ecological value and public accessibility of the park are maintained. In addition, the public realm is designed to be welcoming, inclusive and multifunctional, with zones for arrival, learning and relaxation. Features include WiFi-enabled outdoor study areas, accessible seating and wayfinding elements. These improvements support PfE Policy JP-G6 which promotes high-quality urban green spaces that serve diverse community needs.

Tree Protection and Planting

The proposed development is designed with a strong focus on enhancing biodiversity and adapting to climate change. By retaining existing trees, creating linked habitats, and implementing sustainable building practices, the project aims to achieve a net gain in biodiversity and increase climate resilience. These efforts align with Manchester's policies on biodiversity and climate adaptation, ensuring a greener and more sustainable future for the community.

References

- Buro Happold – Drainage Strategy Report
- Buro Happold – Flood Risk Assessment
- Buro Happold – BREEAM Assessment
- Tyler Grange Group – Ecology Report
- Tyler Grange Group – Ecological Impact Assessment

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- PLANIT – Landscaping Strategy

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4.5 Water Management, Weather Resilience and Flood Risk

Policy Summary

Core Strategy: EN14 Flood Risk
Core Strategy: EN17 Water Quality
Places for Everyone: JP-S4: Flood Risk and the Water Environment

Flood Risk Assessment

A Flood Risk Assessment has been prepared by Buro Happold. The site is in Flood Zone 1 indicating a low risk of flooding site and therefore passes the Sequential Test as per the guidance in the Department for Levelling Up, Housing and Communities.

The flood risk from each of the sources is summarised below:

- Fluvial & Tidal - Low risk
- Surface Water - Low risk
- Public Sewers - Very low risk
- Groundwater - Low risk
- Artificial Sources - Very low risk

Please refer to the Flood Risk Assessment submitted with this planning application for further details.

Surface Water Strategy

The proposed drainage strategy includes:

- Permeable paving, tree pits and channel drains to intercept runoff
- Below-ground attenuation tank sized for the 1 in 100-year storm event plus 45% climate change allowance
- Discharge to the existing combined sewer at a restricted rate of 11 l/s achieving a 75% betterment over existing brownfield runoff rates.

This strategy ensures sustainable surface water management and protecting water quality in alignment with Policies EN14, JP-S4 and EN17. Please refer to the Drainage Strategy Report for further details.

Construction Impact on Watercourses

The nearest watercourse, the River Medlock lies approximately 100-250m from the site. Due to urban constraints no direct discharge to the river is proposed. The drainage hierarchy was followed and discharge to the combined sewers was agreed as the most feasible option. This approach avoids adverse impacts on nearby watercourses.

Remediate Contaminated Land

Preliminary ground investigations undertaken identified Made Ground and Glacial Till, with groundwater strike between 1.2m and 2.9m below ground level. Although not directly contaminated, the site's drainage design includes pollution control measures such as propriety treatment devices to mitigate risks from urban runoff. The ground investigation and results are discussed in the Ground Conditions Planning Documentation undertaken by Buro Happold. Please see section 4.8 of this report for a summary.

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Water Consumption

The development will be assessed against the BREEAM Non-Domestic New Construction V6.1 standard, targeting an 'Excellent' rating. This level has a minimum requirement that the water consumption of the scheme is reduced compared to a target set by the BRE. This requires wash-hand basin taps and showers to be fitted with flow restrictors or be water-efficient, and WCs to be low volume or dual-flush. Other water-consuming white goods that are to be installed must also be specified to low water consuming standards.

References

- Buro Happold – Drainage Strategy Report
- Buro Happold – Flood Risk Assessment
- Buro Happold - Ground Conditions Planning Documentation

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4.6 Air Quality

Policy Summary

Core Strategy: EN16 Air Quality
Places for Everyone: JP-S5: Air Quality

Air Quality

The proposed development is located within the Greater Manchester Combined Authority Air Quality Management Area. Baseline monitoring data indicates that there have been exceedance of national air quality objectives (AQOs) for nitrogen dioxide (NO_2) at the Site, whilst Particulate matter (PM_{10} and $PM_{2.5}$) concentrations have been in compliance national AQOs. A site suitability assessment there is potential for the Proposed Development to introduce receptors into an area of exceedance of the annual mean NO_2 concentrations, however the Proposed Development is to locate air intakes at roof level (~37m), to minimise the ingress of pollutants. As such, the location is considered appropriate for library use. The development aligns with core strategy EN16 and PfE JP-S5 which require air quality improvements.

Construction Management Plan

The Air Quality Assessment confirms that the effect of pollution arising from traffic generated by the construction of the Proposed Development on surrounding human receptors will be negligible. Construction traffic is expected to be short term and temporary and not considered to have any significant impact on air quality.

Clean Air Plan

The development will support Greater Manchester's Clean Air Plan through the following measures:

- The building will be powered by an all-electric strategy with no direct emissions on site
- Vehicles will be restricted from accessing the site, other than for deliveries, emergencies and for those with disabilities. This minimises the emissions generated on site as far as reasonable
- Sustainable transport is encouraged through provision of cyclist amenities, and proximity to well-served bus stops
- The planting strategy will include trees, bushes and shrubs which can absorb CO2 emissions from the air
- Overall the residual effects on air quality are anticipated to be negligible during both the construction and operation of the development. Please refer to the Air Quality Assessment report for further details.

Sustainable Travel Modes

Please refer to the 'Transport and Connectivity' section of this report.

References

- Buro Happold - Air Quality Assessment

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4.7 Waste and resource efficiency

Policy Summary

Core Strategy: EN19 Waste
Places for Everyone: JP-S6: Resource Efficiency

Construction Waste Management Plan

The project team has committed to implementing a site waste management plan (SWMP) during the design and construction phases, this includes:

- Pre-demolition audit to identify materials suitable for reuse or recycling, to be completed in line with BREEAM Wst 01
- Coordination with contractors and suppliers to reduce packaging waste and eliminate single use plastic
- Take back schemes for delivery pallets and leased components
- Reuse of formwork and existing steelwork where feasible

Operational Waste Strategy

In line with BREEAM Wst 03 requirements a dedicated space will be provided for the segregation and storage of operational recyclable waste generated on site. This facility will be clearly labelled to support effective segregation, storage, and collection of recyclable waste streams, and will be accessible to both building occupants and facilities operators for the deposit of materials, as well as to waste management contractors for collection. Its capacity will be appropriate to the library and the predicted volumes of waste arising from operational activities and occupancy rates.

Material Efficiency

The adopted a whole life material efficiency strategy, including

- Use of standardised components and modular layouts to reduce bespoke material use
- 3d modelling to minimise construction errors and waste
- Design simplification to reduce envelope material quantities
- Specification of materials with recycled content and low embodied carbon

Reduce and Recycle Construction Waste

The waste hierarchy has been followed in the design proposals to include:

- **Prevention** – durable strategies, regular design reviews, off-site pre-fabricated elements, designing for disassembly
- **Reuse** – reuse of materials to reduce the need for new materials, and minimising the demolition waste through reusing excavation waste
- **Recycling** – segregation of waste generated on site
- **Recovery** – non-recyclable materials to be sent to incineration plant with energy recovery dedicated to district heating

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- **Disposal** – remaining materials sent to landfill only when all other options are exhausted.

Minimise Water Use During Construction

The waste management strategies aim to ensure that the proposed development will be able to operate efficiently and sustainably. Good waste management will be essential to ensure safe operational practice throughout the proposed development. In addition, construction waste management strategies aim to ensure that waste from this stage is minimised, reused where possible, and handled in an environmentally sustainable manner to minimise the impact of the revised proposals.

Waste Performance

- Pre-demolition audit to be completed in line with BREEAM Wst 01
- Construction waste targets set in line with BREEAM Wst 01
    - Less than or equal to 7.5 m^3 per 100m^2 GIA or...
    - Less than or equal to 6.5 t per 100m^2 GIA
    - Diversion from landfill credit targeted
- Waste sorting and collection area to be incorporated into the design in line with BREEAM Wst 03 criteria

References

- Appendix A - BREEAM Assessment

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4.8 Sustainable development

Policy Summary

Core Strategy: DM1 Development Management
Places for Everyone: JP-Strat2: City Centre
Places for Everyone: JP-S1: Sustainable Development
Places for Everyone: JP-P1 Sustainable Places

Site Selection

As part of our commitment to sustainable development, the options for site selection were limited by the decision to redevelop an existing site rather than pursue new land. This approach minimises the environmental impact associated with greenfield development, reduces the need for additional infrastructure, and makes efficient use of land.

Passive Design

The proposed energy reduction measures have been maximised through passive and active means, supporting Manchester's ambition to become a zero-carbon city and aligning with the university's broader sustainability goals.

Daylight, Sunlight & Overshadowing

The impacts on daylight and sunlight access at existing surrounding dwellings from the proposed development was assessed according to the methods defined in BR209, "Site Layout Planning for Daylight and Sunlight", 2022. The daylight and sunlight impact of the proposed development in the context of the existing surroundings has been assessed. The sunlight access of surrounding amenity spaces has also been included.

The proposed development has no significant impact on the surrounding residential buildings. The ratio of impact of the proposed development on VSC and APSH values of adjacent residential buildings is 1, meaning the impact is negligible. With regard to the open spaces, the results of the study identify that there is no significant impact from the proposed building on the transient overshadowing of All Saints Park to the South. Hence, no mitigation strategies are needed for the surrounding existing buildings and open spaces.

Solar Glare

Solar glare has been considered given the current consideration of reflective, glossy materiality across façades. At the point at which materiality is finalised, technical consultants will work alongside the designers to ensure acceptable levels of glare are not exceeded.

Remediation

Following the recommendations set out in the desk study (1044B-BHE-XX-XX-RP-CG-000001, revision P04. submitted as part of planning application 138424/FO/2023 approved on 16 February 2024), ground investigation was conducted in three phases to identify the site-specific ground conditions as well as contamination testing. As a result based on the contamination assessment, the report recommends no formal Remediation Strategy is required. Please refer to the Ground Conditions Planning Documentation submitted with this application.

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Adaptable, Durable & Resilient

The project is designed to be resilient to a changing climate through material selection, site design, and protection against hotter and cooler climates. Please refer to the 'Carbon and Energy', 'Biodiversity & Nature' and 'Waste & Resource Efficiency' sections of this report.

Transport Accessibility & Vehicular Access

Please refer to the 'Transport & Connectivity' section of this report.

Safety

The development shall comply with the security credits within the Health & Wellbeing section of the BREEAM Assessment. This will involve a Security Needs Assessment which will identify the risks specific to the building and measures to protect against these. Please refer to Appendix A – BREEAM Assessment.

Healthy Design

The development shall comply with the thermal comfort, acoustic and healthy surroundings credits within the Health & Wellbeing section of the BREEAM assessment. This shall ensure that the scheme is a comfortable and enjoyable environment for occupants. Please refer to Appendix A – BREEAM Assessment.

Operational Waste

Please refer to the 'Waste & Resource Efficiency' section of this report.

Biodiversity & Green Infrastructure

Please refer to the 'Biodiversity & Nature' section of this report.

Flood Risk & Drainage

Please refer to the 'Water & Flood Risk' section of this report.

BREEAM

The project will target a BREEAM score of 'Excellent' under the V6.1 New Construction scheme. This demonstrates a holistic approach to sustainability, as a broad range of measures will be implemented throughout the design and construction process. The certification of the scheme shall demonstrate that sustainability measures are maintained. Please refer to Appendix A – BREEAM Assessment for further details.

References

- Buro Happold – Daylight, Sunlight and Overshadowing (DSO)
- Buro Happold – Ground Conditions Planning Documentation
- Appendix A - BREEAM Assessment

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Appendix A BREEAM Assessment

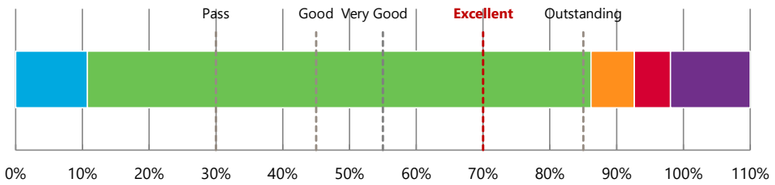
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BREEAM UK New Construction V6

BURO HAPPOLD

Project Name	MMU Library Redesign
Project Type	Education - Fully fitted
BRE Registration Reference	BREEAM-0130-5655
Assessment Stage	Design Stage (Interim)
Date	05/08/2025
Tracker Revision	04

BREEAM SCORE SUMMARY		
MINIMUM REQUIRED	70.0%	Excellent
TARGETED - BASELINE	86.2%	Excellent
TARGETED - AT RISK	92.7%	Outstanding
POTENTIAL	98.0%	Outstanding
ACHIEVED	10.7%	Unclassified



BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
MANAGEMENT											
Man 01 Project Brief and Design	**Credit Aim:** Encouraging an integrated design process and considering BREEAM performance targets early to influence decision-making and optimise building performance, while avoiding unnecessary costs.										
Project delivery planning	Stage 2	1	0.52%		1					Turner & Townsend	Collate information from project delivery stakeholder consultations (e.g. minutes, responsibility matrix) and demonstrate the impact on the design brief.
Stakeholder consultation (interested parties)	Stage 2 Stage 4	1	0.52%		1					Turner & Townsend	Collate information from third party stakeholder consultations with compliant content and demonstrating the impact on the design brief.
Prerequisite - BREEAM AP (Concept and Developed Design)	Stage 1/2	Achieved ?							Yes	Turner & Townsend	Project team, including the client, formally agree strategic performance targets
BREEAM AP (Concept Design)	Stage 2	1	0.52%						1	BH S&P	Stage 2 BREEAM AP appointment.
BREEAM AP (Developed Design)	Stage 2 Stage 3 Stage 4	1	0.52%						1	BH S&P	Monitor progress against the performance targets Provide feedback to the project team as appropriate during the design stages
Man 02 Life Cycle Cost and Service Life Planning	**Credit Aim:** Promoting the business case for sustainable buildings through the enhanced understanding of capital cost and improving design, specification, maintenance and operation, by encouraging the use of life cycle costing.										
Elemental LCC	Stage 2	2	1.05%						2	Turner & Townsend CC	Elemental life cycle cost assessment carried out in stage 2, in line with PD 156865: 2008 Environmental Standard P-01
Component level LCC options appraisal	Stage 4	1	0.52%		1					Turner & Townsend CC	Component life cycle cost assessment in line with PD 156865: 2008
Capital cost reporting		1	0.52%		1					Turner & Townsend	Report predicted capital cost for the building in pounds per square metre of gross internal floor area (£k/ m^2)
Man 03 Responsible Construction Practices	**Credit Aim:** Encouraging construction sites to be managed in an environmentally and socially considerate and responsible manner and monitoring to encourage continuous improvements and utility consumption reduction.										
Prerequisite - Legally harvested and traded timber		Achieved ?			Yes					Principal Contractor	All timber and timber based products used on the project is "Legally harvested and traded timber"

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Environmental management		1	0.52%		1					Principal Contractor	Contractor's ISO 14001 PPG6 - Best Practice Policies
Prerequisite - BREEAM AP (site)		Achieved ?			Yes					Principal Contractor	Client and contractor formally agree performance target
BREEAM AP (site)	Stage 5 Stage 6	1	0.52%		1					Principal Contractor	Sustainability Champion appointed to monitor progress against the agreed BREEAM performance targets at Stages 5-6
Responsible construction management		2	1.05%		2					Principal Contractor	Achieve and implement all responsible construction management measures.
Prerequisite - Monitoring of construction site impacts		Achieved ?			Yes					Principal Contractor	Appointment of the responsible person for on-site monitoring
Utility consumption (energy and water)		1	0.52%		1					Principal Contractor	Energy and water monitoring data will be collected throughout development
Transport of construction materials and waste		1	0.52%		1					Principal Contractor	Transport fuel consumption of construction materials and waste data will be collected throughout the development.
Exemplary - Responsible construction management		1	1.00%		1					Principal Contractor	Achieve and implement all responsible construction management measures. Environmental Standard B-01 - CCS score 40
Man 04 Commissioning and Handover	**Credit Aim:** Encouraging a well-managed handover and commissioning process, which will ensure building services and fabric defects are identified and rectified and ensuring that the building responds to the needs of the occupants.										
Commissioning - testing schedule and responsibilities		1	0.52%		1					Principal Contractor	Schedule is in place for commissioning and recommissioning to appropriate standards, a team member is appointed responsible for monitoring this, contractor responsible for allowing budget and time in their program to complete this
Commissioning - design and preparation	Stage 3 Stage 4	1	0.52%		1					Turner & Townsend	Specialist commissioning manager appointed (Likely to be confirmed at Stage 4) to contribute to design reviews, giving advice on commission ability of services.
Testing and inspecting building fabric		1	0.52%		1					Principal Contractor	Air tightness testing and thermographic survey with subsequent remediation works.
Handover		1	0.52%		1					Principal Contractor	Development of technical and non-technical Building User Guides (BUG) and training schedule for users or facilities managers.
Man 05 Aftercare	**Credit Aim:** Encouraging aftercare support during the first year of the building operation, to ensure the building operates in accordance with the design intent and in response to the building occupants' needs.										
Aftercare Support		1	0.52%		1					Principal Contractor	Aftercare Support to the occupiers for the first 12 months
Commissioning - implementation		1	0.52%		1					Principal Contractor	seasonal commissioning to be completed over a minimum 12-month period
Post-Occupancy Evaluation (POE)		1	0.52%		1					MMU	commitment to carry out a POE exercise one year after the building is occupied.
HEALTH & WELLBEING											
Hea 01 Visual comfort	**Credit Aim:** Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out and designing internal and external lighting systems to provide appropriate illuminance (lux) levels, thereby giving a more comfortable environment for occupants Internal lighting is zoned to allow for occupant control.										
Control of glare from sunlight		1	0.78%		1					Hawkins Brown	Glare control strategies (internal or external)
Daylighting		2	1.56%					2		n/a	Daylighting analysis to confirm compliance

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
View Out		1	0.78%				1			Hawkins Brown	If facade glazing is >35% depth of internal space can be >14m
Internal and external lighting levels, zoning and control		1	0.78%		1					Lighting Designer / BH MEP	Internal and external lighting illuminance levels to be designed in accordance with referenced CIBSE and BS standards, Zoning in office areas
Exemplary - Daylighting		1	1.00%					1		n/a	Daylighting analysis to confirm compliance with exemplary criteria
Exemplary - Internal and external lighting levels, zoning and control		1	1.00%					1		n/a / n/a	Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output
Hea 02 Indoor air quality	**Credit Aim:** Facilitating good indoor air quality by considering indoor air pollution early in the design process so that a mitigation strategy can be put in place, managing harmful emissions from construction products by specifying finishes and products that have been tested in accordance with the appropriate standards and specifying an appropriate ventilation strategy that maintains good indoor air quality.										
Prerequisite - Indoor air quality plan		Achieved ?			Yes					BH MEP	Site-specific indoor air quality plan
Ventilation		1	0.78%			1				BH MEP	Air intakes and exhausts at least 10m of horizontal distance apart Carbon dioxide (CO_2) or air quality sensors specified HVAC systems incorporate suitable filtration in line with BS EN 16798-3:2017 Environmental Standard A-03 - Suitable filtration
Emissions from construction products		2	1.56%		1		1			Hawkins Brown	Products with certain VOC certificates
Post-construction indoor air quality measurement		1	0.78%		1					Principal Contractor	Post construction VOC testing
Exemplary - Emissions from construction products		1	1.00%					1		n/a	Products with certain VOC certificates
Hea 04 Thermal Comfort	**Credit Aim**: Thermal modelling informs the building design to provide a comfortable thermal environment that considers current climatic conditions, and projected climate change scenario conditions and giving occupants control over their environment through appropriate temperature control strategies and thermal zoning.										
Thermal modelling		1	0.78%		1					BH S&P	Thermal comfort modelling (compliance to CIBSE Guide A for mechanical, TM52 for natural).
Design for future thermal comfort		1	0.78%		1					BH S&P	As above using future weather data (medium emissions scenario 2030 for mechanical, 2050 for natural) Environmental Standard R-01 - future weather
Thermal zoning and controls		1	0.78%					1		n/a	temperature control strategy with a degree of occupant control required for zones
Hea 05 Acoustic performance	**Credit Aim:** Enabling occupants to experience best practice acoustic performance levels appropriate to the functional activities in occupied spaces.										
Acoustic performance - Sound insulation		1	0.78%		1					Acoustician / Principal Contractor	to be completed based on building type
Acoustic performance - Indoor ambient noise level		1	0.78%		1					Acoustician / Principal Contractor	to be completed based on building type
Acoustic performance - Room acoustics		1	0.78%		1					Acoustician / Principal Contractor	to be completed based on building type
Hea 06 Security	**Credit Aim:** Designing the building to consider and take into account security needs to ensure occupants safety and wellbeing.										
Security of site and building	Stage 2	1	0.78%		1					Security Specialist / Hawkins Brown	Confirm appointment of security specialist. Security Needs Assessment required at Stage 2. Can be achieved through Secured by Design compliance.
Exemplary - Security of site and building		1	1.00%					1		n/a / n/a	SABRE security assessment and certification scheme is followed on site
Hea 07 Safe and healthy surroundings	**Credit Aim:** Providing external site areas that are safe for occupant use and enhancing the wellbeing of building users by giving access to an outdoor space.										

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Safe access		1	0.78%			1				Hawkins Brown / Landscape Architect	Dedicated pedestrian and cyclist paths and delivery access routes.
Outside space		1	0.78%		1					Hawkins Brown / Landscape Architect	Provision of outside amenity area (landscape, seating etc.)
ENERGY											
Ene 01 Reduction of energy and CO_2 emissions	**Credit Aim:** Encouraging the design of energy efficient buildings with energy performance above national building regulations and encouraging the accurate modelling of operational energy consumption										
Energy performance		9	6.26%		4	2	1	2		BH S&P	Part L compliance energy modelling Minimum to achieve 6 credits for outstanding, 4 for Excellent, with an Energy Performance Ratio of at least 0.6/0.4 (combined improvement over notional for: Heating and cooling demand, Primary energy and Total emissions)
Pre-Requisite - Criterion 2 of Ene 04 Passive design measure		Achieved ?			Yes					BH S&P	
Prediction of operational energy consumption		4	2.78%		4					BH S&P	Operational energy modelling required
Exemplary - Beyond zero net regulated carbon & Carbon Negative		3	3.00%					3		n/a	building achieves an EPR NC ≥ 0.9 and zero net regulated CO_2-eq emissions
Exemplary - Post-occupancy stage		2	2.00%					2		n/a	Post-occupancy stage report on the actual energy consumption
Ene 02 Energy monitoring	**Credit Aim:** Helping to identify and reduce high energy demands where possible by accurate measurement of the energy consumption of the building by end use.										
Sub-metering of end-use categories		1	0.70%		1					BH MEP	Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel
Sub-metering of high energy load and tenancy areas		1	0.70%		1					BH MEP	Monitor a significant majority of the energy supply
Ene 03 External lighting	**Credit Aim:** Reducing the building's energy consumption through the specification of energy efficient external lighting.										
External lighting specification		1	0.70%		1					BH MEP	Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt and Automatic controls
Ene 04 Low Carbon Design	**Credit Aim:** Reducing the building's energy consumption through the adoption of passive design solutions, free cooling and low or zero carbon (LZC) energy sources.										
Passive design analysis	Stage 2	1	0.70%						1	BH S&P	Passive design analysis at Stage 2. Environmental Standard E-09 - optimsed orientation and massing
Free cooling		1	0.70%					1		n/a	Free cooling analysis, Buildings naturally ventilated or used any combination of the free cooling strategies
Low and zero carbon technologies	Stage 2	1	0.70%		1					BH S&P	LZC feasibility study at Stage 2.
Ene 06 Energy efficient transportation systems	**Credit Aim:** Reducing the building's energy consumption by specifying the optimum number and size of energy efficient transportation systems.										
Energy consumption		1	0.70%		1					Vertical Transportation Consultant	Transportation analysis and lift/escalator energy consumption analysis.
Energy efficient features - Lifts		1	0.70%		1					Vertical Transportation Consultant	Lift energy efficient features.
Ene 08 Energy efficient equipment	**Credit Aim:** Demonstrating a meaningful reduction in the total unregulated energy demand of the building by using energy efficient equipment.										
Energy efficient equipment		2	1.39%			2				MMU / BH MEP	Estimating annual unregulated energy consumption and achieving a meaningful reduction by following a proposed standards

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
TRANSPORT											
Tra 01 Transport assessment and travel plan	**Credit Aim:** Recognising developments in proximity to good public transport networks, thereby helping to reduce transport-related pollution and congestion.										
Transport assessment and Travel plan	**Stage 2**	**2**	**1.67%**		**2**					**BH Transport**	Travel plan and site-specific travel assessment/statement required during the feasibility and design stages.
Tra 02 Sustainable transport measures	**Credit Aim:** Recognising developments in close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants.										
Prerequisite - Achieve Tra 01		Achieved ?			**Yes**					**BH Transport**	See above
Transport options implementation		**10**	**8.33%**		**9**			**1**		**BH Transport / Hawkins Brown / MMU**	1. AI>8, 1 point 2. AI increase, 3 points 3. PT information, 1 point 4. EV charging, 1 point 5. Car sharing measures, 1 point 6. Consultation, 2 points 7. Cycle storage, 1 point 8. Cycle facilities, 1 point 9. Existing amenities, 1 point 10. Enhanced Amenities, 2 points 11. Site-specific measure, 3 points There may be scope to score the additional points and get the maximum credits using Assessment option 9-11 but we won't be able to confirm this until we get closer to a scheme. Environmental Standard T-01 - cycle storage Environmental Standard T-02 - cycle facilities
WATER											
Wat 01 Water Consumption	**Credit Aim:** Reducing the demand for potable water through the provision of efficient sanitary fittings, rainwater collection and water recycling systems.										
Water consumption		**5**	**3.89%**		**4**		**1**			**Hawkins Brown / BH MEP**	Use of water efficient components and Greywater/Rainwater systems - WC - 4/3 Litre Flush - Hand Basins - 3 Litre per min - Shower - 6 Litre per min - Kitchen / tea point taps - 5 Litre per min Environmental Standard W-03 - flow rates Environmental Standard W-02 - investigate potential rainwater harvesting
Exemplary - Water consumption		**1**	**1.00%**					**1**		**n/a / n/a**	Greywater/Rainwater meeting 100% of WC or urinal flushing demand required to achieve maximum credits
Wat 02 Water Monitoring	**Credit Aim:** Specification of water meters to allow for management and monitoring of water use in the building. This encourages reductions in water use by identifying areas of high usage and investigating potential causes.										
Water monitoring		**1**	**0.78%**		**1**					**BH MEP**	Metering of mains water supply plus sub-metering of areas consuming more than 10% of the total (sub metering by floorplate) Environmental Standard W-04
Wat 03 Water Leak Detection	**Credit Aim:** Reducing the unintended water consumption due to leaks by installing leak detection systems and flow control devices.										
Leak detection system		**1**	**0.78%**		**1**					**BH MEP**	Leak detection system to be specified.
Flow control devices		**1**	**0.78%**		**1**					**BH MEP**	Flow control devices to be specified to the water supply to the WCs (even if sanitary fittings are not specified).
Wat 04 Water Efficient Equipment	**Credit Aim:** Reducing water consumption for non-domestic scale, non-sanitary water uses by specifying efficient systems and improving the design efficiency of any water-using processes.										
Water efficient equipment		**1**	**0.78%**		**1**					**Landscape Architect / BH MEP**	Unregulated water demands to be identified and reduced.
MATERIALS											

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Mat 01 Building Life Cycle Assessment (LCA)	**Credit Aim:** Reducing buildings' environmental life cycle impacts through conducting Life Cycle Assessment and integrating its outcomes in the design decision-making process.										
Superstructure	**Stage 2 Stage 4**	**6**	**6.43%**		**2**				**4**	**Carbon Consultant**	LCA analysis for the environmental impact of superstructure materials required
Substructure and hard landscaping options appraisal	**Stage 2**	**1**	**1.07%**						**1**	**Carbon Consultant**	LCA analysis for the environmental impact of substructure and landscaping materials required
Exemplary - Core building services	**Stage 2**	**1**	**1.00%**						**1**	**Carbon Consultant**	LCA analysis for the environmental impact of MEP equipment required
Exemplary - LCA and LCC alignment	**Stage 2 Stage 4**	**1**	**1.00%**		**1**					**Carbon Consultant / Cost Consultant**	Alignment of the design options within the LCA analyses with LCC analyses in Man02
Exemplary - Third party verification	**Stage 2 Stage 4**	**1**	**1.00%**		**1**					**Carbon Consultant**	LCA analyses to be completed by a recognised third party.
Mat 02 Environment Product Declarations (EPD)	**Credit Aim:** To encourage availability of robust and comparable data on the impacts of construction products by rewarding the specification of products with environmental products declarations.										
Specification of products with a recognised environmental product declaration (EPD)		**1**	**1.07%**		**1**					**Hawkins Brown / BH MEP / Principal Contractor**	Materials with EPDs to be specified, achieving at least 20 EPD points using the BREEAM tool.
Mat 03 Responsible sourcing of materials	**Credit Aim:** Recognising and encouraging responsible sourcing of construction products. This includes the source of products and the intermediary companies processing and transporting the product to site.										
Prerequisite - Legally harvested and traded timber		Achieved ?			**Yes**					**Principal Contractor**	To be included in contractor requirements.
Enabling sustainable procurement	**Stage 2**	**1**	**1.07%**		**1**					**Turner & Townsend / Principal Contractor**	Sustainable procurement plan required at Stage 2 and required to be used by the design team in specifying materials Environmental Standard X-03
Measuring responsible sourcing		**3**	**3.21%**		**3**					**Hawkins Brown / BH MEP / Principal Contractor**	Design team/contractor to specify and source materials with responsible sourcing certification (i.e. BES 6001, FSC) for the Superstructure, Internal finishes, Substructure and hard landscaping
Exemplary - Measuring responsible sourcing		**1**	**1.00%**					**1**		**n/a / n/a / n/a**	Requires all core building services to be BES 6001 or equivalent
Mat 05 Designing for durability and resilience	**Credit Aim:** Increasing the lifespan of the building through designing for durability and protection from degradation and specifying appropriate construction products.										
Protecting vulnerable parts of the building from damage										**Hawkins Brown**	Protection measures within the design to reduce damage to the building's fabric or materials

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Protecting exposed parts of the building from material degradation		1	1.07%		1					Hawkins Brown	Elements designed to limit degradation due to environmental factors.
Mat 06 Material Efficiency	**Credit Aim:** Encouraging the reduction of environmental impacts through optimising the use of materials during all stages of the project.										
Material Efficiency	Stages 1-6	1	1.07%		1					Hawkins Brown / BH MEP / BH Structures	Report on opportunities and methods to optimise the use of materials Environmental Standard X-02 - Recycled materials Environmental Standard Z-01 - Offsite construction Environmental Standard Z-02 - End of stage waste report
WASTE											
Wst 01 Construction waste management	**Credit Aim:** Improving resource efficiency through developing a pre-demolition audit and a Resource Management Plan, maximising the recovery of material during demolition and diverting non-hazardous waste from landfill.										
Pre-demolition audit	Stage 2	1	0.60%		1					Turner & Townsend	Pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition Environmental Standard X-01
Construction resource efficiency		3	1.80%		1	1	1			Principal Contractor	Waste reduction to be included in contractor requirements. ≤ 11.1 (6.5,3.2) Tonnes of waste or ≤ 13.3 (7.5,3.4) m3 of waste generated per 100m² GIA excluding demolition and excavation waste
Diversion of resources from landfill		1	0.60%		1					Principal Contractor	Diversion from landfill to be included in contractor requirements.
Exemplary - Construction resource efficiency and diversion from landfill		1	1.00%					1		n/a	Credit not targeted. ≤ 1.9 Tonnes of waste generated per 100m² GIA excluding demolition and excavation waste
Wst 02 Recycled and sustainably sourced aggregates	**Credit Aim:** Encouraging the use of recycled or secondary aggregate or aggregate types with lower environmental impact to reduce waste and optimise material efficiency.										
Prerequisite - Pre-demolition audit		Achieved ?			Yes					Turner & Townsend	as above for Wst 01
Project sustainable aggregate points		1	0.60%				1			Hawkins Brown / BH Structures / Principal Contractor	Evaluation of aggregate types/suppliers to determine travel distances and number of points achievable

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Exemplary - Project sustainable aggregate points		**1**	**1.00%**					**1**		**n/a / n/a**	Sourcing aggregates from recycled/secondary and local sources, to achieve Project Sustainable Aggregate Points score meets or exceeds the exemplary level Performa (6)
Wst 03 Operational waste	**Credit Aim:** Encouraging the diversion of operational waste form landfill through the provision of space and facilities allowing the segregation and storage of recyclable waste.										
Operational Waste		**1**	**0.60%**		**1**					**Hawkins Brown / BH MEP**	Operational recyclable and general waste requirements of building to be provided by waste consultant and included in design by Architect.
Wst 05 Adaptation to climate change	**Credit Aim:** To encourage the specification and fitting of floor and ceiling finishes selected by the building occupant and therefore avoid unnecessary waste of materials.										
Resilience of structure, fabric, building services and renewables installation	**Stage 2 Stage 4**	**1**	**0.60%**		**1**					**Hawkins Brown / BH MEP / BH Structures**	Conduct a climate change adaptation strategy appraisal, develop recommendations (Stage 2) and implement into the design (Stage 4)
Exemplary - Responding to climate change		**1**	**1.00%**			**1**				**BH S&P**	Dependant of Hea04, Ene01 (6 credits), Ene04, Wat01 (3 credits), Mat05, Pol03 (3 credits).
Wst 06 Design for disassembly and adaptability	**Credit Aim:** To encourage the specification and fitting of floor and ceiling finishes selected by the building occupant and therefore avoid unnecessary waste of materials.										
Design for disassembly and functional adaptability - recommendations	**Stage 2**	**1**	**0.60%**						**1**	**Hawkins Brown / BH MEP / BH Structures**	Functional adaptability strategy required at Stage 2 looking at feasibility, accessibility, versatility, adaptability, convertibility, expandability, refurbishment potential
Design for disassembly and functional adaptability - implementation	**Stage 4**	**1**	**0.60%**		**1**					**Hawkins Brown / BH MEP / BH Structures**	Adaptability and disassembly guide communicating the implementation of the strategy required at Stage 4
LAND USE AND ECOLOGY											
LE 01 Site selection	**Credit Aim:** Recognising the reuse of previously developed and contaminated land where appropriate remediation has taken place.										
Previously occupied land		**1**	**1.00%**		**1**					**Hawkins Brown**	Evidence (drawings and reports) showing at least 75% of the proposed development is on previously occupied land.
Contaminated land		**1**	**1.00%**					**1**		**n/a**	Site investigation report for land contamination required along with remediation measures for the principal contractor.
LE 02 Ecological risks and opportunities	**Credit Aim:** Identifying and understanding the ecological risks and opportunities associated with the site to inform the determination of the strategic outcome for the site.										
Prerequisite - Statutory Obligations		Achieved ?			**Yes**					**MMU / Principal Contractor**	Assuming route 2 for assessment (more detailed) as assumed that there will be some statutory requirements and regulations for the site ecology
Survey and evaluation	**Stage 1**	**1**	**1.00%**						**1**	**Tyler Grange**	Survey and evaluation by ecologist required at Stage 1 but could happen later if credit aim is met.
Determining the ecological outcomes for the site	**Stage 2**	**1**	**1.00%**		**1**					**Tyler Grange / Turner & Townsend**	Project team liaison with stakeholders (local government, local community groups at Stage 2 to identify and consider the ecological outcome of the site
Exemplary - Wider site sustainability		**1**	**1.00%**					**1**		**n/a / n/a**	Achieve Hea 07, Pol 03, Pol 05, look at wider sustainability related activities and potential ecosystem service benefits

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
LE 03 Managing impacts on ecology	**Credit Aim:** Recognition of steps taken to avoid impacts on existing site ecology as far as possible.										
Prerequisite – Identification and understanding the risks and opportunities for the site		Achieved ?			Yes					**Tyler Grange**	Survey and evaluation by ecologist required at Stage 1 but could happen later if credit aim is met. (LE02)
Planning and measures on-site	**Stage 2**	**1**	**1.00%**		1					**Tyler Grange / Principal Contractor**	Define and allocate roles and responsibilities at Stage 2 to support and implement measures - Managing negative impact
Managing negative impacts		**2**	**2.00%**		2					**Tyler Grange / Principal Contractor**	Impacts from site preparation and construction: 2 credits if no ecological loss 1 credit if loss has been limited as far as possible
LE 04 Ecological change and enhancement	**Credit Aim**: Recognition of steps taken to enhance site ecology.										
Prerequisite - Managing negative impacts on ecology		Achieved ?			Yes					**MMU / Principal Contractor**	Contractor confirms compliance is monitoring against relevant UK and EU legislation and achieve LE 03 credit 1
Ecological enhancement - Route 2		**1**	**1.00%**		1					**Tyler Grange / Landscape Architect**	Implementation of measures for ecological enhancement, first on site and then if not possible, off site.
Change and enhancement of ecology - Route 2		**3**	**3.00%**		3					**Tyler Grange / Landscape Architect**	Credits awarded based on the calculation of the change in ecological value (1 credit 75-94%, 2 credits 95-104%, 3 credits 105-109%)
Exemplary - Change in ecological value		**1**	**1.00%**		1					**Tyler Grange / Landscape Architect**	Significant net gain of ecological value (110% or above) Environmental Standard B-01 - 10% BNG minimum
LE 05 Long term ecology management and maintenance	**Credit Aim:** Encouraging the long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive.										
Prerequisite - Statutory obligations, planning and site implementation		Achieved ?			Yes					**MMU / Principal Contractor**	Contractor confirms compliance is monitoring against relevant UK and EU legislation and achieve LE 04 credit 1
Management and maintenance throughout the project		**1**	**1.00%**		1					**Tyler Grange / Principal Contractor**	Project team liaison with stakeholder for monitoring. Reviewing and maintenance of measures and inclusion of Ecology and Biodiversity in the building owner information supplied
Landscape and ecology management plan		**1**	**1.00%**		1					**Tyler Grange / MMU**	Provision of a compliant landscape and ecology management plan.
POLLUTION											
Pol 01 Impact of refrigerants	**Credit Aim:** Rewarding buildings that reduce the impact of refrigerant gas emissions.										
Prerequisite - Ammonia refrigerants		Achieved ?			No					**BH MEP**	Prerequisite electric compressors meet BS EN 378:2016 and if ammonia refrigerants are present they comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice
Impact of refrigerant		**2**	**1.14%**		1		1			**BH MEP**	Feasibility of direct effect life cycle CO2 emissions from refrigerants to be assessed by MEP
Leak detection		**1**	**0.57%**			1				**BH MEP**	Compliant refrigerant leak detection system to be specified.
Pol 02 Local air quality	**Credit Aim:** Recognising buildings which limit their impact on local air quality, by consideration of the combustion plant and fuel used on site.										

BREEAM Credits	RIBA Stage	Available Credits	% Score Value	Not Applicable	Targeted - Baseline	Targeted - At Risk	Potential	Not Targeted	Achieved	Ownership	Comments
Local air quality		2	1.14%		2					BH MEP	MEP to assess feasibility based on local systems NOX and PM emission rates (based on the worst performing system).
Pol 03 Flood and surface water management	**Credit Aim:** Rewarding buildings and their sites that limit on-site and off-site local flooding and hence the damage this can cause.										
Prerequisite - Appropriate consultant		Achieved ?			Yes					Civil Engineer	Appointment of a suitably qualified professional to carry out a flood risk assessment
Flood Resilience		2	1.14%		2					Civil Engineer	Flood risk assumed to be low (Flood Zone 1 on flood maps) Environmental Standard R-03 - FRA
Prerequisite - Surface water run-off		Achieved ?			Yes					Civil Engineer	Appointment of a suitably qualified professional to carry out drainage and surface water runoff calculations
Surface water run-off - Rate		1	0.57%		1					Civil Engineer	30% improvement in peak rate runoff post-development
Surface water run-off - Volume		1	0.57%				1			Civil Engineer	No increase in volume runoff post-development or limiting peak rate runoff to 1-year rate, Qbar or 2l/s/ha
Minimising watercourse pollution		1	0.57%					1		n/a	No discharge for rainfall up to 5mm and design of SuDS for watercourse pollution prevention
Pol 04 Reduction of night time light pollution	**Credit Aim:** Avoiding or reducing the impact of night time light pollution, through careful design and specification of light sources.										
Reduction of night time light pollution		1	0.57%		1					BH MEP	External lighting automatically switch off 23:00-7:00 and meets ILP guidance requirements.
Pol 05 Reduction of noise pollution	**Credit Aim:** Avoiding or reducing the impact of external noise from the building.										
Reduction of noise pollution		1	0.57%		1					Acoustician / BH MEP	Testing pre development. Noise levels at sensitive receptors within 800m to be at least 5dB lower than background noise through day and night.
INNOVATION											
Inn 01 Innovation		**Credit Aim:** To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.									
Exemplary level of performance in existing BREEAM issues		10	10.00%		4	1		4	1	See Relevant Issues Above	For information on the methodology for exemplary level credits refer to the Methodology section of the relevant BREEAM issues above.
Approved Innovations										n/a	Innovation applications can be submitted to BRE Global by a licensed BREEAM Assessor using the formal Approved Innovation Application Form

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