

July 2024

The Aylesham Centre, Peckham

Sustainability Statement

Document reference: AC08

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Berkeley
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1 Executive Summary

This report sets out the Sustainability Statement of the planning application (the ‘Proposed Development’) at Aylesham Centre located within the Peckham town centre in the London Borough of Southwark (LBS) (the Local Planning Authority (‘LPA’)). The applicant is Berkeley Homes (Capital) Plc (the ‘Applicant’) and the proposed description of the development is:

Demolition of existing buildings and phased redevelopment to provide a replacement supermarket and associated basement car parking (Use Class E(a)); flexible retail, leisure (including drinking establishment), and commercial accommodation (Use Class E/Sui Generis); dwellings (Use Class C3); landscaping; and associated works

ME Engineers has been commissioned by the Applicant to develop the Sustainability Statement for the Proposed Development, which will be submitted as part of the planning application including the BREEAM Pre-assessment. The Sustainability Statement has been produced to summarise how the design and construction of the development addresses the various issues that contribute to a sustainable development by following the policy and guidance documents identified below:

- National Planning Policy Framework (2023).
- The London Plan (2021).
- The London Borough of Southwark Local Plan (2022).

Sustainable development in Southwark is governed by the policies set out in the London Plan and Southwark Local Plan.

This Sustainability Statement supports the planning application for the Aylesham Centre and confirms the requirements of sustainability defined for the redevelopment of the Proposed Development and proposed scoping mechanisms to verify the effective implementation of these requirements are in line with relevant planning policy and guidance as defined in the policy context section of this report.

A BREEAM pre-assessment has been prepared for the retail, leisure and commercial elements of the site which confirms the feasibility of the targeted BREEAM ‘Excellent’ Rating. The proposed strategy of assessment is detailed in the BREEAM pre-assessment based on the latest project information. The registration of the assessments is to be confirmed with the BRE. Please refer to Appendix A and B of this document for full details.

The design approaches to meet these requirements are summarised as follows:

	Aylesham Centre Redevelopment Approach
ENVIRONMENTAL RATING METHODS	BREEAM Excellent Targeted for all Retail, Leisure (including Drinking Establishment), and Commercial (Use Class E/Sui Generis) which are within the scope of assessment. The Proposed Development is to be assessed against relevant scoping mechanisms in accordance with LP2021 SI5 and LBS 2022 P69.
ENERGY and CO ₂ EMISSIONS	The Proposed Development has been designed with consideration for the features of a site (e.g. orientation and landscape) to minimise energy use; The building fabric will be improved to meet or exceed the requirements within the applicable sections of the latest building regulations Part L. Proposals include glazing design to optimise daylight and prevent excessive solar gains. Building services will be designed to meet or exceed the CIBSE, BSRIA & BCO guidelines and any other relevant building services compliance guides. The potential for incorporating renewable technologies has been investigated in line with the - ‘be green’ - renewable energy approach. The following reductions are achieved after following the Energy Hierarchy of LEAN, CLEAN, GREEN approach: <ul style="list-style-type: none">• Residential – 63.03%• Retail, Commercial and Leisure areas – 36.96%• Morrison’s Supermarket– 35.02%• Communal Corridors – 36.75% All elements of the Proposed Development will exceed the minimum GLA carbon reduction target of 35%. The proposed measures to minimise energy demand and incorporate low and zero carbon technology of the Proposed Development are in compliance with LP2021 SI2, SI3 and LBS 2022 P70.
CLIMATE CHANGE ADAPTATION AND FLOOD RISK	An Overheating Assessment has been undertaken in accordance with Part O and CIBSE TM59. The cooling hierarchy is followed and the design has been optimised, maintaining a comfortable environment. Flood risk assessment confirms that the site has a low annual risk of flooding from all sources. The Proposed Development will incorporate Sustainable Urban Drainage Systems (SUDS), as presented in the Drainage Strategy prepared by Walsh as part of this planning application. The proposed measures to adapt to the risk of climate change of the Proposed Development are in compliance with LP2021 SI4, SI12, SI13 and, LBS 2022 P68 and P69.
WATER SAVING FEATURES	The Proposed Development will reduce indoor water consumption in line with London Plan SI5 Policy 2021 for residential elements of the Proposed Development. This policy requirement for to a maximum of 105 litres per person per day is to be achieved. The indoor water consumption targets for the non-residential elements of the Proposed Development are defined as part of the BREEAM certification process. Water efficient fittings are proposed for the commercial uses, including the installation of dual flush WCs, spray taps and low flow showers.

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	<p>Water meters will be installed in line with targeted BREEAM credits and the GLA Be Seen Monitoring Guidance to facilitate monitoring and optimisation of operational water use.</p> <p>Outdoor water consumption is addressed through the proposed sustainable urban drainage systems proposed for the site. Water is conserved, and flood risks are minimised in the development as demonstrated in the Flood Risk Assessment prepared by RMA Consultants and Drainage Strategy prepared by Walsh.</p> <p>The proposed measures to minimise water consumption of the Proposed Development are in compliance with LP2021 SI5 and LBS 2022 P67.</p>		<p>The Drainage Strategy has been prepared to ensure watercourse pollution of the site does not occur in line with targeted BREEAM requirements for the Proposed Development.</p> <p>Compliance with the Considerate Constructors Scheme will help to ensure environmentally and socially responsible behaviour on site.</p> <p>The proposed measures to manage pollution impacts of the Proposed Development are in compliance with LP2021 SI1, LBS 2022 and LBS2022 P66.</p>
BUILDING MATERIALS	<p>The procurement of materials which promote sustainability, including low impact, sustainably sourced, reused, and recycled materials has been defined through the preparation of the Whole Life Cycle Carbon and Circular Economy Statements by Hodkinson Consultancy.</p> <p>The proposed WLC reduction carbon measures and the circular economy design approaches for the Proposed Development is in compliance with the LP2021 SI7, LBS 2022 P62 and P70.</p>		<p>HEALTH AND WELLBEING</p> <p>The flexibility and adaptability of the development to future occupiers' requirements.</p> <p>Occupier comfort and well-being has been assessed through the completion of a Daylight Assessment by Point 2.</p> <p>Risks of glare control and acoustic performance have been assessed through the completion of an Internal Daylighting Assessment by Point 2 and an Acoustic Study prepared by Hann Tucker.</p> <p>The proposed measures to optimize health and wellbeing of the Proposed Development are in compliance with LP2021 P56, LBS 2022 P16 and P56.</p>
WASTE MANAGEMENT	<p>The demolition of the site will be undertaken to maximise the retention and reuse of existing building materials on site where feasible. Opportunities to retain demolition materials has been assessed through the preparation of the pre-demolition audit by KaNect.</p> <p>A Designing Out Waste Workshop has been undertaken with all relevant project team members to identify appropriate materials which could be retained from the demolition of the existing structure and reused/recycled within the proposed design. The workshop facilitated the project team to design to the principles of circular economy and move waste up the waste hierarchy.</p> <p>The following principles were explored in the Designing Out Waste Workshop:</p> <ul style="list-style-type: none"> • Design for reuse and recovery • Design for off-site construction • Design for materials optimisation • Design for waste efficient procurement • Design for deconstruction and flexibility <p>The minimisation of waste and the maximisation of recycling during the construction and operation of the development is to be monitored through the targets defined for the Proposed Development. These targets are based on the GLA Circular Economy Waste Targets and the targeted BREEAM rating.</p> <p>Construction site waste shall be reduced through the formulation and implementation of the Site Waste Management Plan. This will include procedures and targets for reducing the overall amount of waste generated and recycling a high proportion of the waste that is generated.</p> <p>Recycling of waste generated during occupation shall be encouraged through the provision of dedicated on-site waste storage and recycling facilities.</p> <p>The procedures which have been undertaken to minimise waste generation on site and maximise diversion from landfill in the delivery of the Proposed Development, as well as the proposed operational waste management strategy, are in compliance with the LP2021 SI7 and LBS2022 P62.</p>	ECOLOGY	<p>All existing site features of ecological value will be protected during construction.</p> <p>Any planting on the new terraces and roofs will be designed to improve the site's biodiversity.</p> <p>A Biodiversity Net Gain has been undertaken and has concluded that the BNG for the Proposed Development is 111.02%.</p> <p>The Urban Greening Factor has been assessed and achieves a value of 0.38.</p> <p>The proposed measures to enhance the biodiversity and ecology of the Proposed Development are in compliance with LP2021 G1, G5, G6 and G7 as well as, LBS 2022 P60, P61 and P64.</p>
		TRANSPORT	<p>PTAL 6a/6b is demonstrated for the site.</p> <p>The travel plan and transport assessment has been prepared for the site to assess.</p> <p>Efforts to improve the walkability of the site and the existing infrastructure of the bus routes has been investigated.</p> <p>The site is supported by good transport links including bus stops and a rail station that are within walking distance of the site.</p> <p>Cycle storage facilities have been included in the scheme's design to encourage sustainable forms of transport.</p> <p>The measures incorporated in the design are in compliance with LP2021 Policy T5, T6 and LBS 2022.</p>
POLLUTION	<p>Measures shall be implemented on site during demolition and construction to prevent air and water pollution. Such measures include regular damping-down and the use of dustsheets.</p>		

2 Introduction

This report sets out the Sustainability Statement which has been prepared in support of the planning application for the redevelopment of the Aylesham Centre within the London Borough of Southwark (LBS) (the Local Planning Authority ('LPA')). The applicant is Berkeley Homes (Capital) Ltd (the 'Applicant') are submitting an application for full planning permission.

The proposed description of the development is as follows:

Demolition of existing buildings and phased redevelopment to provide a replacement supermarket and associated service yard and car parking (Use Class E(a)); flexible retail, leisure (including drinking establishment), and commercial accommodation (Use Class E/Sui Generis); dwellings (Use Class C3); landscaping; and associated works

ME Engineers has been commissioned by the Applicant to develop the Sustainability Statement for the Aylesham Centre Redevelopment ('Proposed Development') as part of the full planning permission. This report concludes that the sustainability strategy and key performance indicators are in line with the latest planning policy and guidance relevant to the Proposed Development.

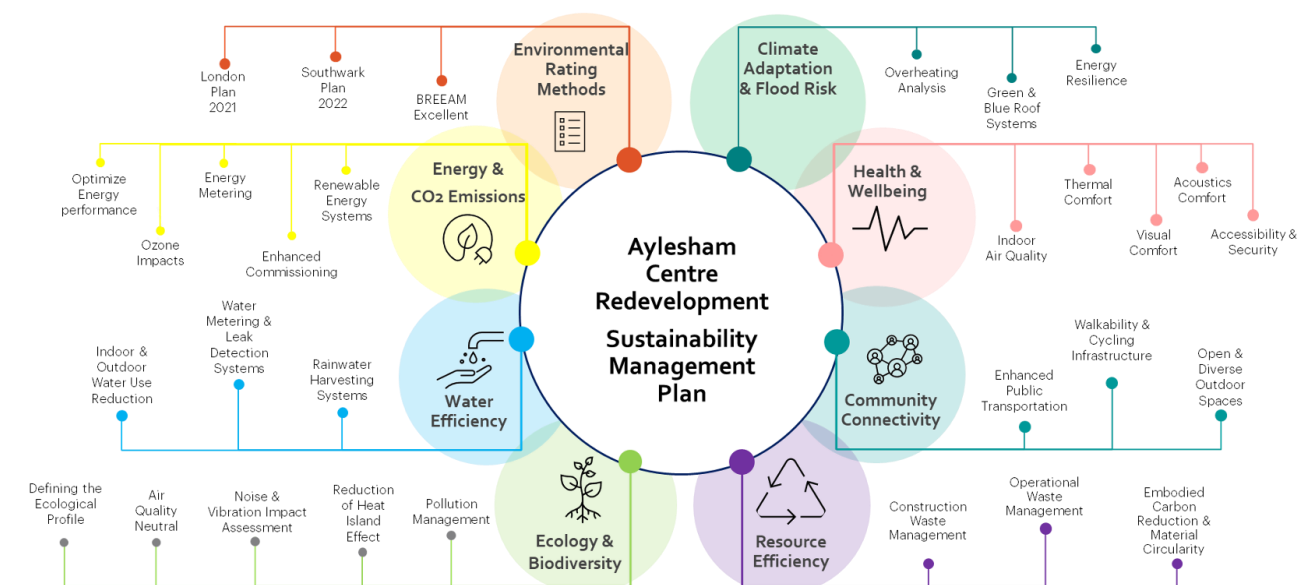
The Sustainability Statement has been developed to summarise the relevant local policy requirements and building regulations, planning requirements and the sustainability aspirations of the Proposed Development. These regulations and guidelines are considered as a benchmark for defining the context of the Proposed Development to establish the project specific sustainability KPIs. The Sustainability Statement demonstrates how the design and construction of the development addresses the various issues that contribute to a sustainable development by following the policy and guidance documents identified below:

- National Planning Policy Framework (2023).
- The London Plan (2021).
- The London Borough of Southwark Local Plan (2021).

The delivery of the scheme which demonstrates engineering design excellence through sustainable practices is anticipated. The sustainability KPIs define specific actions which contribute to the delivery of best-in-practice, fit-for-purpose, and future-ready infrastructure which meets or exceeds sustainability aspirations of Berkeley Homes and is prepared for the imminent advancements in building regulation, design and technology. This section outlines the Aylesham Centre Redevelopment Sustainability Management Plan (SMP). The SMP is intended to guide decision making, management and operation of the Proposed Development to support the delivery of the regeneration scheme with minimum environmental impact and maximum economic revenue potential.

The key principles of project delivery which have formed the framework for the SMP development process are as follows:

1. ENVIRONMENTAL RATING METHODS
2. ENERGY & CO₂ EMISSIONS
3. CLIMATE CHANGE ADAPTATION AND FLOOD RISK
4. WATER EFFICIENCY
5. MATERIALS
6. WASTE MANAGEMENT
7. POLLUTION MANAGEMENT
8. HEALTH & WELLBEING
9. ECOLOGY AND BIODIVERSITY
10. SUSTAINABLE TRANSPORT & ACCESS



The SMP sets measurable goals which can be used demonstrate alignment of the sustainability aspirations of the Proposed Development with the wider Environmental Social and Governance (ESG) strategy of the Applicant. Ensuring investor and stakeholder expectations are met and positioning the development to benefit from future investment opportunities and ensuring the building infrastructure is equipped to meet future regulatory requirements is a key objective of the SMP.

The Aylesham Centre is anticipated to demonstrate best practice in environmental sustainability and will meet or improve upon the environmental targets set out in local and international guidelines and standards.

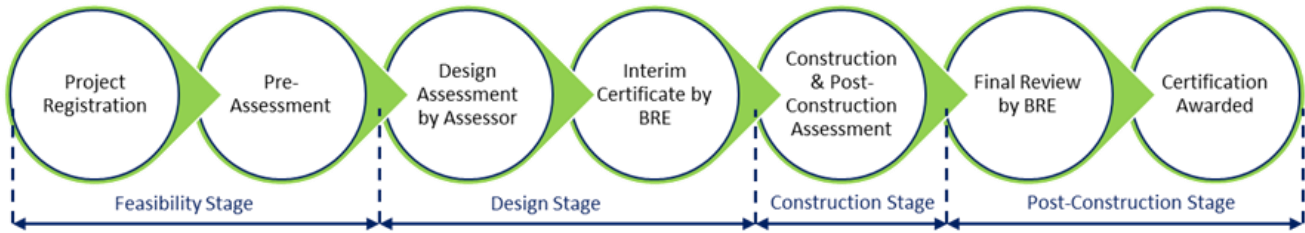
This SMP demonstrates the design team’s approach to incorporate the following environmental sustainability targets and rating system compliance criteria into the project’s sustainability design goals and objectives:

- BREEAM Excellent
- London Plan 2021
- London Borough of Southwark Local Plan 2022

The environmental sustainability of the Proposed Development will be regulated through incorporation of the SMP principles into the design process. Measurable targets and management systems are proposed to ensure ease of the building performance evaluation.

Efforts to exceed stakeholder expectations, whether they are engaged to construct, supply goods/services or visit the arena, will contribute to maintaining a positive position amongst investors. Integrating infrastructure which engages the future building users and wider community in sustainability and ethics practices is a key objective of the SMP.

The consideration of compliance with sustainability rating tools provides a target for sustainable building performance. The monitoring and recording of the environmental impact of buildings is recognised and encouraged in these sustainability rating systems from the initial design stages, where performance targets are set, through to project handover. Monitoring of construction site impacts and operational performance provides stakeholders with accurate, transparent data of the actual project delivery process and building performance. These monitoring activities directly translate to the intent of Governance in business practices.



3 Design Integrative Approach

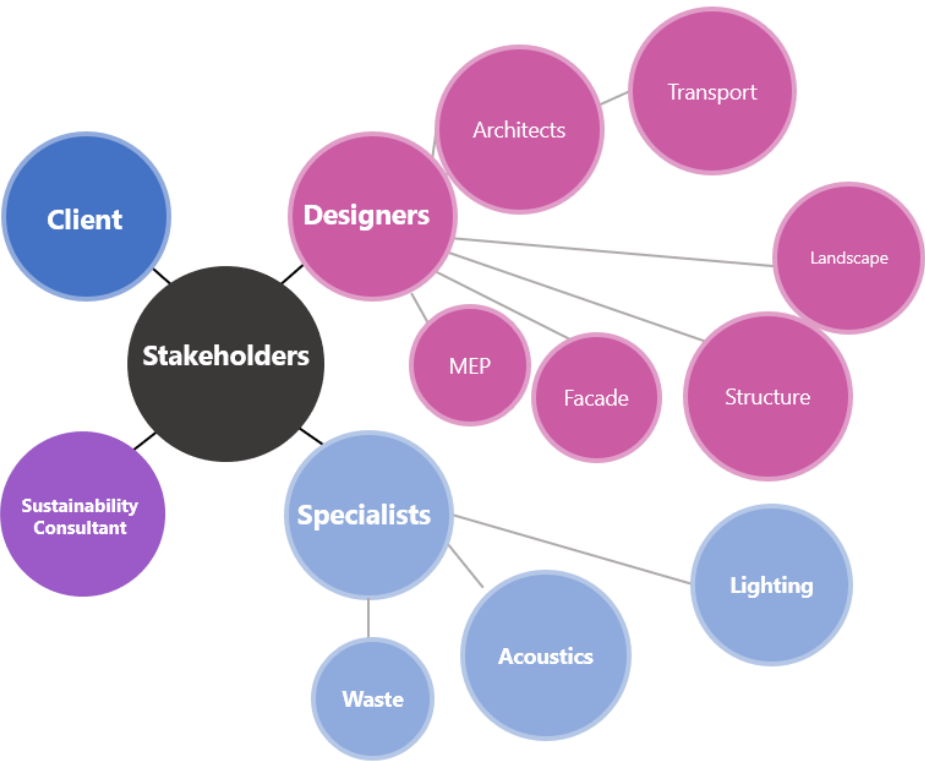
An integrative design process is a comprehensive approach to building design. Starting from project early stages when project team members look for synergies among systems and components, the mutual advantages that can help achieve high levels of building performance, human comfort, and environmental benefits in line with the project sustainability aspirations.

The process involves early coordination meetings between the design disciplines to discuss the sustainability potentials and challenge typical project assumptions. All team members collaborate to enhance the efficiency and effectiveness of every system based on each teams field of expertise.

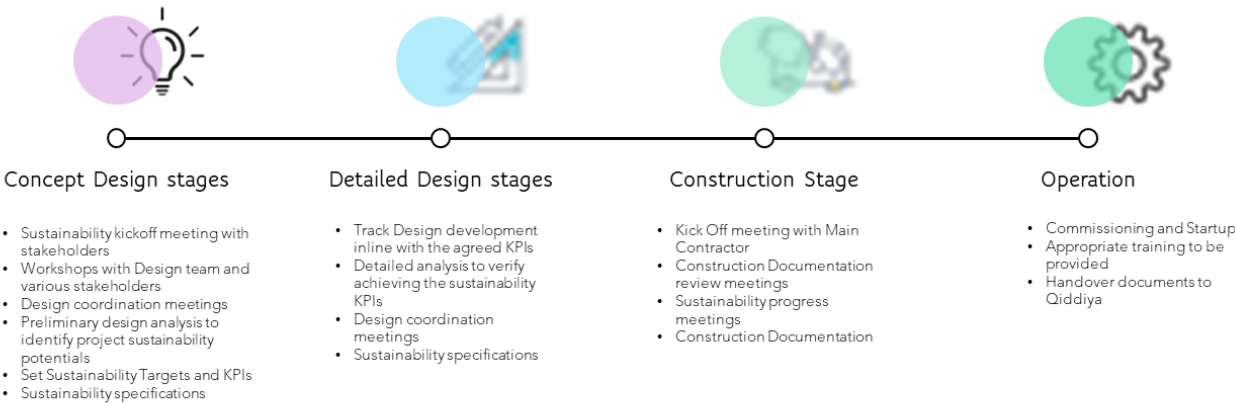
The development of an SMP ensures that the owner’s aspirations, performance goals, and project needs are incorporated and developed in a collaborative process between the local authority, design team and project delivery team.

An integrative delivery is achieved through consistent communication and teamwork within the design team and wider community.

The integrative approach ensures that the skills and expertise within the project team are capitalised to optimise the delivery of the Proposed Development which aligns with its sustainability aspirations. The aim of the SMP is to ensure the relationships and dependencies between building-level systems as well as, the masterplan-level infrastructure is established during the early stages of design. With this approach, a cohesive design is delivered and opportunities for innovation are bound to be identified. Building design – for example, the placement of balconies.



SUSTAINABILITY ROADMAP



4 Policy Context

4.1 Overview

The Proposed Development is designed in line with current national, regional and local planning policy and guidance.

The key policies are set out in London Borough of Southwark Local Plan (2022), the London Plan (March 2021) and the National Planning Policy Framework (2023).

4.2 National Planning Policy Framework (2023)

The NPPF sets out the government’s approach to planning policies for England and provides guidance on how these policies should be applied. It covers a wide range of topics, including sustainable development, plan-making, decision-making, housing, economy, transport, environment, and heritage. The latest version of the NPPF was published in December 2023. It serves as a framework for producing Local Plans for housing and other development, which in turn inform decisions on planning permission applications.

The NPPF addresses various aspects of planning and development, including:

- Achieving sustainable development.
- Ensuring a sufficient supply of homes.
- Building a strong, competitive economy.
- Promoting healthy and safe communities.
- Supporting sustainable transport.
- Conserving and enhancing the natural environment and the historic environment.
- Meeting the challenge of climate change, flooding, and coastal change.

In summary, the NPPF provides essential guidance for shaping land use and development across England, emphasizing sustainability, community well-being, and effective decision-making.

4.3 London Plan 2021

The current London Plan was adopted in March 2021 (LP2021). The following table provides a summary of the policies which govern the environmental sustainability principles of the Proposed Development which should be addressed by the Proposed Development.

Policy Title	Summary of Regional Policy
Policy SI1: Improving Air Quality	<p>The Proposed Development should identify opportunities to deliver further improvements to air quality and should not reduce air quality benefits. As a minimum, the Proposed Development is to demonstrate the following requirements:</p> <ul style="list-style-type: none">• Air Quality Neutral or to make the impact of the development on local air quality acceptable, this is done on-site.• Design solutions to prevent or minimise increase exposure to existing air pollution.• Minimise increased exposure to existing air pollution.• Make provisions to address local problems of air quality in preference to post-design or retro-fitted mitigation measures• Proposed Air Quality Strategy and Measures presented in an Air Quality Assessment• Minimise exposure of air pollution to vulnerable groups, such as children or older people, as applicable to the pro-posed development.• In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.
Policy SI 2 Minimising greenhouse gas emissions	<p>Major development should be net zero-carbon. Reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the energy hierarchy:</p> <ul style="list-style-type: none">• Be Lean• Be Clean• Be Green• Be Seen. <p>Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met and achieve a minimum onsite reduction of at least 35% beyond Building Regulations.</p> <p>Residential development should achieve 10% and non-residential should achieve 15% through energy efficiency measures.</p> <p>Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided, in agreement with the borough, either:</p> <p>1) through a cash in lieu contribution to the borough’s carbon offset fund, or 2) off-site provided that an alternative proposal is identified and delivery is certain.</p> <p>Major development should calculate and minimise carbon emissions from any other part of the development, including plant or equipment, not covered by the Building Regulations (i.e. Unregulated emissions).</p> <p>Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.</p>

Policy SI3 Energy Infrastructure	<p>Boroughs and developers should engage at an early stage with relevant energy companies and bodies to establish the future energy and infrastructure requirements arising from large-scale development proposals such as Opportunity Areas, Town Centres, other growth areas or clusters of significant new development.</p> <p>Energy masterplans should be developed for large-scale development locations which establish the most effective energy supply options.</p>
Policy SI4 Managing Heat Risk	<p>The development should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure.</p> <p>The Proposed Development should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems in accordance with the following cooling hierarchy:</p> <ol style="list-style-type: none"> 1. Reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure 2. Minimise internal heat generation through energy efficient design 3. Manage the heat within the building through exposed internal thermal mass and high ceilings 4. Provide passive ventilation 5. Provide mechanical ventilation 6. Provide active cooling systems.
Policy SI5 Water Infrastructure	<p>Residential developments should minimise the use of mains water and achieving mains water consumption of 105 litres or less per person per day.</p> <p>Commercial development should achieve at least the BREEAM excellent standard for the Wat 01 or equivalent (12.5% improvement over defined baseline performance standard).</p> <p>Development proposals should seek to address the following water infrastructure:</p> <ul style="list-style-type: none"> • Incorporate measures such as smart metering, water saving and recycling measures, including retrofitting, to help to achieve lower water consumption rates and to maximise future-proofing. • Water Quality Infrastructure which promotes the protection and improvement of the water environment in line with the Thames River Basin Management Plan, and should take account of Catchment Plans. • Additionally, water quality infrastructure should support wastewater treatment infrastructure investment to accommodate London's growth and climate change impacts. • Wastewater Infrastructure which improves the water environment and ensures that adequate capacity is provided. <p>Development Plans and proposals for strategically or locally defined growth locations with particular flood risk constraints or where there is insufficient water infrastructure capacity should be informed by Integrated Water Management Strategies at an early stage.</p>
Policy SI 7 Reducing waste and supporting the circular economy	<p>Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:</p> <ul style="list-style-type: none"> • Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible. • Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products ensure that there is zero biodegradable or recyclable waste to landfill by 2026.

	<ul style="list-style-type: none"> • Meet or exceed the targets for each of the following waste and material streams: <ul style="list-style-type: none"> I. construction and demolition – 95 percent reuse/recycling/recovery II. excavation – 95 percent beneficial use • design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food. <p>Development proposals referable to the Mayor shall prepare a Circular Economy Statement to demonstrate:</p> <ul style="list-style-type: none"> • how all materials arising from demolition and remediation works will be re-used and/or recycled • how the proposal's design and construction will reduce material demands and enable building materials, components and products to be disassembled and re-used at the end of their useful life • opportunities for managing as much waste as possible on site • adequate and easily accessible storage space and collection systems to support recycling and re-use • how much waste the proposal is expected to generate, and how and where the waste will be managed in accordance with the waste hierarchy • how performance will be monitored and reported.
Policy SI12 Flood Risk Management	<p>Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.</p> <p>Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.</p> <p>Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.</p>
SI13 Sustainable Drainage	<p>Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:</p> <ul style="list-style-type: none"> • Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation). • Rainwater infiltration to ground at or close to source. • Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens). • Rainwater discharge direct to a watercourse (unless not appropriate). • Controlled rainwater discharge to a surface water sewer or drain. • Controlled rainwater discharge to a combined sewer. <p>Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.</p> <p>Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.</p>

T5 Cycling	All new development in the city must provide fit-for-purpose, secure and well-located cycle parking in line with minimum standards.
T6 Car Parking	<p>Parking should be restricted in line with existing and future public transport accessibility and connectivity.</p> <p>Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but, should still provide disabled persons parking in line with Part E of this policy.</p> <p>The maximum car parking standards set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking should be applied to development proposals and used to set local standards within Development Plans.</p> <p>Appropriate disabled persons parking for Blue Badge holders should be provided as set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking.</p> <p>Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles in line with Policy T6 .1 Residential parking, Policy T6 .2 Office Parking, Policy T6 .3 Retail parking, and Policy T6 .4 Hotel and leisure uses parking. All operational parking should make this provision, including offering rapid charging. New or re-provided petrol filling stations should provide rapid charging hubs and/or hydrogen refuelling facilities.</p>

4.4 London Borough of Southwark Local Plan 2022

The current London Borough of Southwark Local Plan 2022 (LBS 2022) is now adopted and is a material consideration in planning decisions. The following table provides a summary of the policy which govern the sustainable delivery of the Proposed Development which should be addressed by the Proposed Development.

Policy Title	Summary of Southwark Local Policy
Policy P16: Designing out Crime.	<p>Development must be designed with:</p> <ol style="list-style-type: none">1. Windows that overlook places such as parks and streets, courtyards, parking areas and civic spaces to provide natural surveillance; and2. Streets, pedestrian routes, footpaths and cycle paths that are easy to navigate with permeable, direct routes that provide good visibility and avoid sharp or blind corners, tunnels, and hidden alcoves; and3. Clear and uniform signage that helps people move around, making the public realm and public transport safer and more attractive for people to use; and4. Effective street lighting that illuminates the public realm, enabling natural surveillance and avoiding the creation of dark, shadowed areas; and5. Clearly defined boundaries between public and private spaces that reduce the likelihood of anti-social behaviour by establishing ownership and responsibility; and6. Security measures for buildings and places are proportionate to their use and function, considering the need to avoid creating places that are hostile or unwelcoming; and7. Secured by Design principles.
P56 Protection of amenity	<p>For the Proposed Development, amenity considerations that will be taken into account include:</p> <ol style="list-style-type: none">1. The privacy and outlook of occupiers of both existing and proposed homes2. Actual or sense of overlooking or enclosure3. Impacts of smell, noise, vibration, lighting or other nuisances4. Daylight, sunlight, and impacts from wind and on microclimate5. Residential layout, context and design
P59 Green Infrastructure	<p>Major development must provide green infrastructure with arrangements in place for long term stewardship and maintenance funding.</p> <p>Major development that is referable to the Mayor of London are required to provide new publicly accessible open space and green links.</p> <p>For development proposals, green infrastructure should be designed to:</p> <ul style="list-style-type: none">• Provide multiple benefits for the health of people and wildlife; and;• Integrate with the wider green infrastructure network and townscape / landscape, increasing access for people and habitat connectivity; and• Be adaptable to climate change and allow species migration while supporting native and priority species; and

	<ul style="list-style-type: none">Extend and upgrade the walking and cycling networks between spaces to promote a sense of place and ownership for all.
P60 Biodiversity	<p>Development proposals should contribute to net gains in biodiversity through:</p> <ul style="list-style-type: none">Enhancing the nature conservation value of Sites of Importance for Nature Conservation (SINCs), Local Nature Reserves (LNRs), designated ancient woodland, populations of protected species and priority habitats/species identified in the United Kingdom, London or identified and monitored in the latest adopted Southwark Nature Action Plan; andProtecting and avoiding damage to SINCs, LNRs, populations of protected species and priority habitats/species; andIncluding features such as green and brown roofs, green walls, soft landscaping, nest boxes, habitat restoration and expansion, improved green links and buffering of existing habitats. <p>Any shortfall in net gains in biodiversity must be secured off site through planning obligations or as a financial contribution.</p>
P61 Trees	<p>Development proposals will be permitted if trees are planted as part of landscaping and public realm schemes, commensurate to the scale and type of development, and the character of the neighborhood.</p> <p>Development proposals must retain and protect significant existing trees including:</p> <ol style="list-style-type: none">Trees designated with Tree Protection Orders (TPOs); andTrees that have a high amenity value; andTrees within Conservation Areas or the setting or curtilage of listed buildings; andVeteran, ancient and notable trees; and <p>Development must retain and enhance the borough’s trees and canopy cover; and</p> <p>Where trees are removed to facilitate development, they should be replaced by new trees which result in no net loss of amenity, taking into account canopy cover as measured by stem girth; either within the development whereby valuation may be calculated using the Capital Asset Value for Amenity Trees (CAVAT) methodology or other assessment; or If this is not possible, outside the development.</p> <p>In this case a financial contribution must be provided to improve borough tree planting located according to ‘right tree right place’ principles. The financial contribution will include ongoing maintenance costs where trees are planted in the public realm.</p> <p>Tree planting should be adaptable to climate change while supporting native species. The selection and position of trees should improve air quality and they should have a long life with and high biodiversity and amenity value.</p> <p>Retained trees must be protected during the construction process in line with British Standard BS5837.</p> <p>In exceptional circumstances removal of trees protected by TPO or conservation area status will be permitted where sufficient evidence has been provided to justify their loss. Replacement planting will be expected where removal is agreed.</p> <p>The replacement of TPO trees must take into account the loss of canopy cover as measured by stem girth and biodiversity value.</p>

P62 Reducing waste	<p>Development must demonstrate how the following waste management hierarchy will be applied during construction:</p> <ol style="list-style-type: none">Avoid creating waste; thenReduce the amount of waste produced; thenPrepare waste materials for re-use; thenRecycle and compost waste materials; thenRecover energy from waste materials; thenDispose waste materials in landfill <p>Provide adequate recycling, composting and waste disposal, collection and storage facilities on site; or provide a suitable off site waste management strategy that does not adversely impact amenity, access or the environment where on site waste management provision is not possible.</p> <p>Major referable development should submit a Circular Economy Statement.</p>
P64 Contaminated land and hazardous substances	<p>Development will be permitted when it:</p> <ol style="list-style-type: none">Provides for safe storage, transportation or usage of hazardous substances on a site; andMitigates any contaminated land within the development site and land outside of, but related to, the development site.
P65 Improving air quality	<p>Development must:</p> <ol style="list-style-type: none">Achieve or exceed air quality neutral standards; andAddress the impacts of poor air quality on building occupiers and public realm users by reducing exposure to and mitigating the effects of poor air quality. This must be achieved through design solutions that include: <ol style="list-style-type: none">Orientation and layout of buildings, taking into account vulnerable building occupiers, and public realm and amenity space users; andVentilation systems; andUrban greening appropriate for providing air quality benefits proportionate to the scale of the development; and <p>2. Any shortfall in air quality standards on site must be secured off site through planning obligations or as a financial contribution.</p>
P66 Reducing noise pollution and enhancing soundscapes	<p>Development must:</p> <ol style="list-style-type: none">Avoid significant adverse impacts on health and quality of life;Mitigate any adverse impacts caused by noise on health and quality of life;Mitigate and manage noise by separating noise sensitive developments from major noise sources by distance, screening or internal layout, in preference to sound insulation. <p>Major development adjacent to, or within:</p>

	<p>1. Designated open space; and</p> <p>2. Designated open water space; and</p> <p>3. Hard landscaped civic spaces with public amenity value; and</p> <p>4. Street markets,</p> <p>should be designed to protect and enhance positive aspects of the acoustic environment. New spaces proposed as part of development should also assess the potential to enhance a place's character and identity through the acoustic environment and positive public soundscape.</p> <p>Major development will be required to demonstrate how the noise pollution impacts created during the construction process will be reduced, mitigated and managed appropriately to minimise harm to present occupiers of the site and adjoining neighbours.</p>
P67 Reducing water use	<p>Development should reduce water use by ensuring that residential development has a 'safe to drink' water use of no more than 105 litres per person per day, excluding an allowance of 5 litres or less per person per day for external water use; and incorporating measures to reduce the demand for mains water treated to drinking standard and enable the use of grey water and/or rainwater for non-drinking uses.</p> <p>Major development should assess the need for improvements to water supply infrastructure in discussion with water utility companies.</p>
P68 Reducing flood risk	<p>Development must not increase flood risk on or off site, by ensuring that it is designed to be safe and resilient to flooding.</p> <p>Finished floor levels are set no lower than 300mm above the predicted maximum water level where they are located within an area at risk of flooding.</p> <p>Major development reduces surface water run-off to greenfield run-off rates.</p> <p>This must be through the application of water sensitive urban design and Sustainable Urban Drainage Systems (SUDS), in 205 Southwark Plan 2022 accordance with the following drainage hierarchy:</p> <ol style="list-style-type: none"> 1. Store rainwater for later use; 2. Use infiltration techniques; 3. Attenuate rainwater in ponds or open water features for gradual release; 4. Discharge rainwater direct to a watercourse; 5. Discharge rainwater to a surface water sewer/drain; 6. Discharge rainwater to the combined sewer; 7. Hard surfacing of any gardens is permeable. <p>Development located on sites on or adjacent to the River Thames frontage should be set back from the River defence wall by 10m. This space should be designed and delivered for dual purposes by incorporating the required flood defence measures and providing an enhanced public amenity and environmental benefit.</p>
P69 Sustainability standards	<p>Development must achieve a BREEAM rating of 'Excellent' for non-residential development; and reduce the risk of overheating, taking into account climate change predictions over the life time of the building, in accordance with prioritised measures set out in the following cooling hierarchy:</p>

	<p>1. Reduce the amount of heat entering a building through the orientation, shading, albedo, fenestration, insulation and green roofs and walls;</p> <p>2. Minimise internal heat generation through energy efficient design;</p> <p>3. Manage the heat within the building through exposed internal thermal mass and high ceilings;</p> <p>4. Passive ventilation;</p> <p>5. Mechanical ventilation;</p> <p>6. Active cooling systems (ensuring they are the lowest carbon options)</p>
P70 Energy	<p>Development must reduce operational greenhouse gas emissions and minimise both annual and peak energy demand. This must be in accordance with the following energy hierarchy:</p> <ol style="list-style-type: none"> 1) Be lean (energy efficient design and construction); then 2) Be clean (low carbon energy supply); then 3) Be green (on site renewable energy generation and storage); then 4) Be seen (monitor, verify and report on energy performance); then 5) Offset residual carbon emissions to reach zero carbon target. <p>Major development must be net zero-carbon.</p> <p>Major residential development must reduce carbon emissions on site (100% on 2013 Building Regulations).</p> <p>In exceptional circumstances, any shortfall must be secured off site through planning obligations or as a financial contribution.</p> <p>Major non-residential development must reduce carbon emissions on site by a minimum of 40% on 2013 Buildings Regulations*. Any shortfall must be secured off site through planning obligations or as a financial contribution.</p> <p>Development proposals referable to the Mayor must calculate whole life cycle carbon emissions through a nationally recognised assessment and demonstrate actions taken to reduce life cycle carbon emissions.</p> <p>Major development must be designed to incorporate decentralised energy in accordance with the following hierarchy:</p> <ol style="list-style-type: none"> 1. Connect to an existing or planned decentralised energy network; then 2. Be future-proofed to connect to a planned decentralised energy network; or 3. Implement a site-wide low carbon communal heating system; and 4. Explore and evaluate the potential to oversize the communal heating system for connection and supply to adjacent sites and, where feasible be implemented.

5 Environmental Rating Methods

5.1 Requirements and Targets

The following sustainability guidance and rating tools are presented as potential benchmarks to assist the project team in defining the strategy for meeting the intent of this SMP principle:

5.1.1 London Plan (2021) Policy SI5 Water Infrastructure

Development proposals must achieve at least BREEAM Excellent Standard for the Wat 01 - Water Category or equivalent. This requires a minimum of 12.5% reduction over the baseline defined.

5.1.2 Southwark Plan Policy (2022) P69 Sustainability Standards

Development must achieve a BREEAM rating of ‘Excellent’ for non-residential development.

5.2 Design Appraisal

ME Engineers have been appointed as Licensed BREEAM Assessors and Accredited Professional (AP) to complete a BREEAM pre-assessment for the Proposed Development.

BREEAM (Building Research Establishment Environmental Assessment Method) is a sustainability rating system that was first published by the Building Research Establishment (BRE) in 1990. It’s the world’s longest-established method for assessing, rating, and certifying the sustainability of buildings. BREEAM helps specify and measure the sustainability performance of buildings, ensuring that projects meet sustainability goals and continue to perform optimally over time.

The BREEAM pre-assessment report produced (presented in Appendix A and B of this report) confirms the feasibility of an Excellent Rating for the retail, leisure and commercial spaces throughout the masterplan of the Proposed Development. The targeted credits to achieve the desired BREEAM rating have been established from the outset of the project to ensure the effective implementation of the sustainability principles.

The BREEAM pre-assessment report provides a summary of the indicative performance of the Proposed Development against BREEAM NC V6 and the credit/performance requirements which the team could target and implement to achieve this. Each discipline has been engaged in the compilation of BREEAM evidence and the integration of the targeted credits has been confirmed. The pre-assessment presents the intent of the BREEAM issues targeted, the credit requirements for each BREEAM issue targeted and the current status or anticipation of the targeted credits. The masterplan elements under assessment are as follows:

With the exception of the replacement supermarket and workspace within Building D, flexibility is sought for the remaining proposed non-residential uses. For the purpose of the BREEAM Assessment assumptions have been made in relation to anticipated uses within each building in order to undertake the BREEAM Assessment and are set out within Table 1. The assessment has been undertaken with a conservative view on the feasibility of credits to be targeted. It is anticipated that the buffer of compliance will increase through to detailed design stages, particularly for the Ecology Category, where there is scope for additional credits to be targeted. Feasibility has been confirmed with the project and design team for each of the targeted credits. The results indicate that Excellent Rating is achievable for the proposed development as well as a buffer of compliance.

Scope of Works	BREEAM Building Type	BREEAM Assessment Type	Details
Retail Space	Retail / F&B Restaurant	NC Shell Only - Similiar Building Assessment	<ul style="list-style-type: none"> Ground Floor Retail / F&B Restaurant Units in Blocks A/B/C/E/F/G/H/J1/K/N No dependency on the core areas within the building that they are located in.
Office Space	Office	NC Shell & Core Cat A- Similiar Building Assessment	<ul style="list-style-type: none"> Commercial Space Block E,G & K - Ground Floor
Office Building	Office	NC Shell and Core - Cat A	<ul style="list-style-type: none"> Commercial Block D - Six Storeys.
Supermarket including ancillary retail space and basement carpark	Retail	NC Shell and Core	<ul style="list-style-type: none"> Morrison’s Supermarket including Cafe, Market Kitchen, Service Yard, Basement Carpark.

Table 1: Aylesham Centre BREEAM Scope of Assessment

Based on confirmation of feasibility with the Design team and the client, the following scoring scenarios are calculated as follows to achieve the 'Excellent' Rating target:

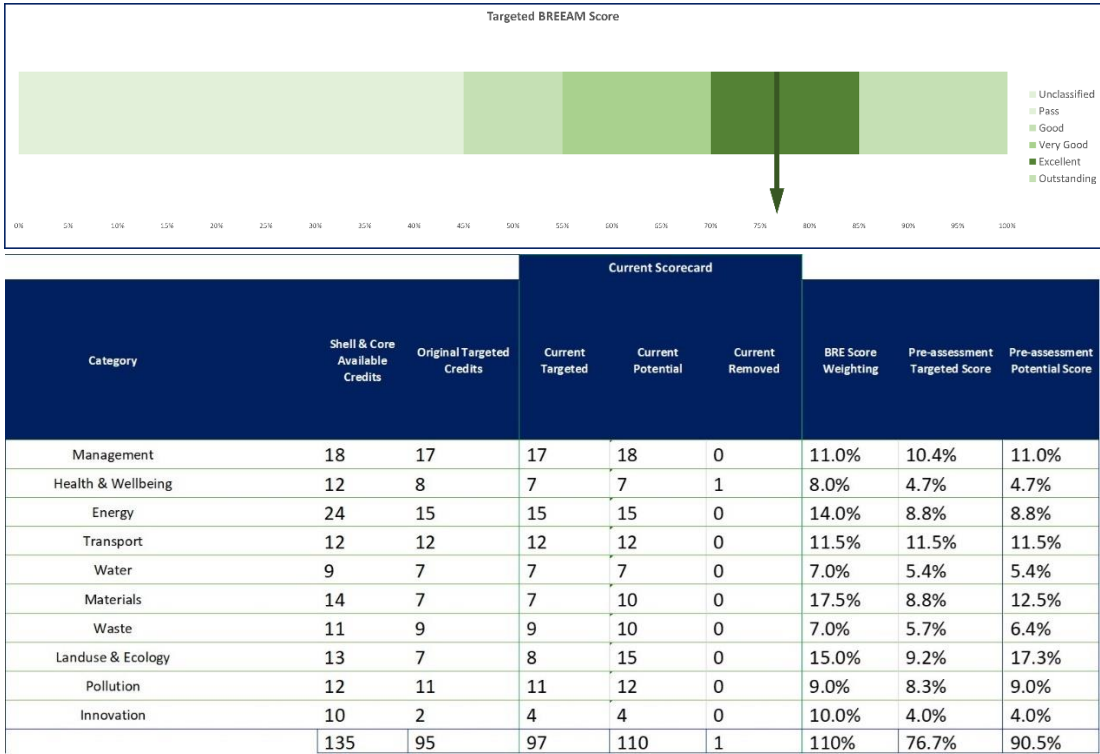


Figure 1: Shell & Core Pre-Assessment

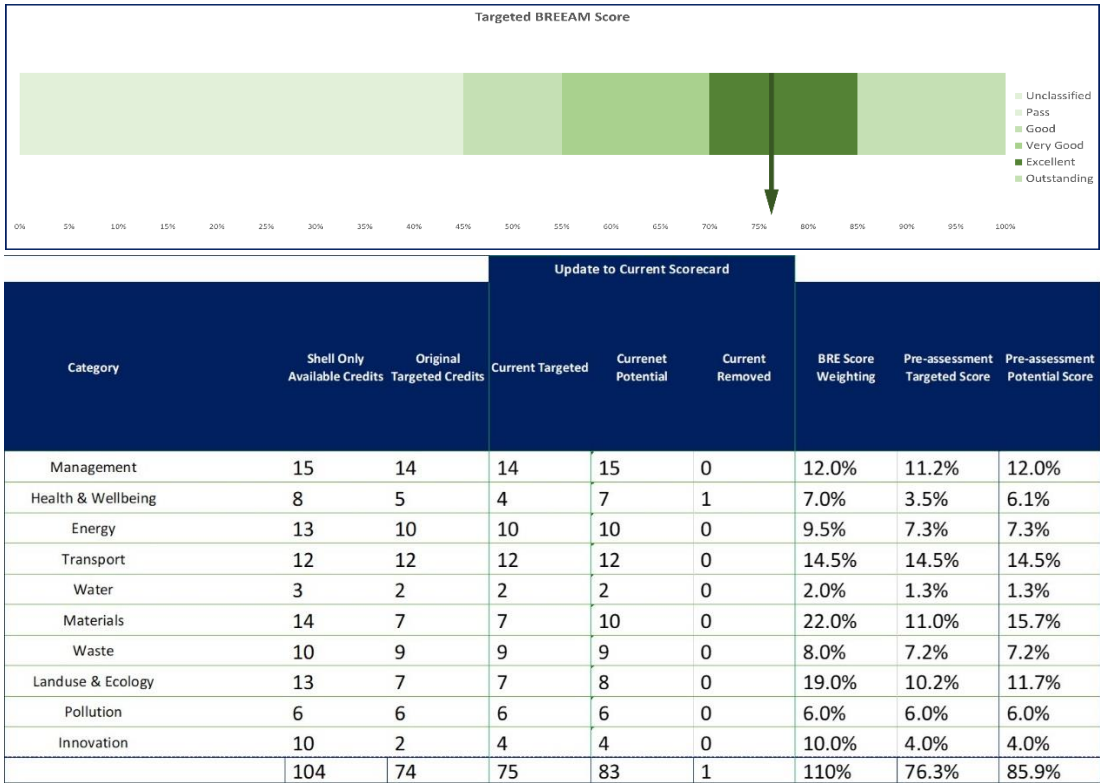


Figure 2: Shell Only Pre-Assessment

5.2.1 Key Performance Indicators

A BREEAM Pre-assessment has been carried out by an accredited BREEAM Assessor/ AP during Aylesham Centre Stage 2. As required by LBS Local Plan policy, the non-residential elements of the Proposed Development are expected to achieve as a minimum a BREEAM 'Excellent' rating. The BREEAM Pre-assessment included as an appendix to this report demonstrates how this target is proposed to be achieved.

An 'Excellent' level in Wat 01 criteria, which is equivalent to 1 BREEAM Wat 01 credit is predicted to be achieved meeting the requirements of the LP2021 Policy SI5.

The initial targeted score for the assessments is presented in the following table:

BREEAM Scope of Assessment	Targeted Score	BREEAM Status
Flexible Retail/Leisure/Commercial Shell Only (incl. Retail, F&B, undefined Block B Commercial Space) (Similar Buildings)	76.3%	Excellent
Block E,G&K Office Shell & Core Cat A (Similar Buildings)	76.7%	Excellent
Morrison's Retail Shell and Core (Morrison's)	76.6%	Excellent
Block D Office Shell & Core Cat A	76.7%	Excellent



6 Energy and CO₂ Emissions

6.1 Requirements and Targets

6.1.1 London Plan (2021) Policy SI 2 Minimising greenhouse gas emissions

Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met and achieve a minimum onsite reduction of at least 35% beyond Building Regulations. Residential development should achieve 10% and non-residential should achieve 15% through energy efficiency measures.

Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided, in agreement with the borough, either:

- 1) through a cash in lieu contribution to the borough's carbon offset fund, or
- 2) off-site provided that an alternative proposal is identified and delivery is certain.

Major development should calculate and minimise carbon emissions from any other part of the development, including plant or equipment, not covered by the Building Regulations (i.e. Unregulated emissions).

Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

6.1.2 London Plan (2021) Policy SI 3 Energy Infrastructure

Boroughs and developers should engage at an early stage with relevant energy companies and bodies to establish the future energy and infrastructure requirements arising from large-scale development proposals such as Opportunity Areas, Town Centres, other growth areas or clusters of significant new development.

LBS Local Plan (2022) P70 Energy Development must reduce operational greenhouse gas emissions and minimise both annual and peak energy demand. This must be in accordance with the following energy hierarchy:

- 1) Be Lean - Minimise Energy Demand
- 2) Be Clean - Efficient Energy Supply
- 3) Be Green - Renewable Energy Systems
- 4) Be Seen - Commitment made to report on the Be Seen Approach.
- 5) Offset residual carbon emissions to reach net zero carbon.

Southwark requires major developments to achieve net zero carbon. For Residential Developments Southwark Plan 2022 requires a 100% reduction in emissions compared to the 2013 regulations.

In exceptional circumstances, any shortfall must be secured off site through planning obligations or as a financial contribution.

6.1.3 Southwark Plan Policy (2022) P70 Energy

Development must reduce operational greenhouse gas emissions and minimise both annual and peak energy demand. This must be in accordance with the following energy hierarchy:

- 1) Be lean (energy efficient design and construction); then
- 2) Be clean (low carbon energy supply); then
- 3) Be green (on site renewable energy generation and storage); then
- 4) Be seen (monitor, verify and report on energy performance); then
- 5) Offset residual carbon emissions to reach zero carbon target.

Major development must demonstrate net zero-carbon. Major residential development must reduce carbon emissions on site (100% on 2013 Building Regulations). In exceptional circumstances, any shortfall must be secured off site through planning obligations or as a financial contribution.

Major non-residential development must reduce carbon emissions on site by a minimum of 40% on 2013 Buildings Regulations. Any shortfall must be secured off site through planning obligations or as a financial contribution.

Development proposals referable to the Mayor must calculate whole life cycle carbon emissions through a nationally recognised assessment and demonstrate actions taken to reduce life cycle carbon emissions. Major development must be designed to incorporate decentralised energy in accordance with the following hierarchy:

- 1) Connect to an existing or planned decentralised energy network; then
- 2) Be future-proofed to connect to a planned decentralised energy network; or
- 3) Implement a site-wide low carbon communal heating system; and
- 4) Explore and evaluate the potential to oversize the communal heating system for connection and supply to adjacent sites and, where feasible be implemented.

6.2 Design Appraisal

The Energy Strategy has been defined in accordance with Southwark's and the GLA's Hierarchy. The principal approaches taken are as follows:

- **Building Design and Fabric:** High insulation levels and double glazing with low-emissivity coatings reduce heating and cooling requirements.
- **Servicing Strategy:** High-efficiency mechanical ventilation with heat recovery systems (MVHR) and VRF systems for cooling, incorporating low-energy lighting fixtures and efficient controls.
- **Renewable Energy:** Installing photovoltaic panels (PV) on roofs to reduce electricity demand.
- **Heat Networks:** A study of the London Heat Networks database identified two potential heat networks near the project: Southwark-Peckham Heat Network (nearest to the project site), and SELCHP Heat Network (relatively near to the project site). The strategy includes centralized heating generation with

provisions for future connection to these heat networks. The Be Clean will be considered as the local heat network for each block presented in the Be Green stage where the heating is provided via Air Source Heat Pump.

- **Sub Metering:** The sub metering will be essential for effective measurement and monitoring of the project energy performance which can be used to identify the potentials of carbon reduction opportunities related to incorporating rising technologies.

This energy hierarchy aligns with the Applicant’s own sustainability objectives and infrastructure guidelines which as a priority strives to reduce emissions as opposed to compensation of emissions through offsetting. Energy efficiency in the Proposed Development is addressed from a holistic approach through energy use reduction, energy efficiency, commissioning procedures, renewable energy sources, refrigerants management, and tracking energy consumption.

Energy conservation measures to be integrated into the design as a priority include passive design measures where possible and the specification of energy efficient heating and cooling systems which maintain thermal comfort. The Proposed Development intends to demonstrate energy efficiency through the implementation of the following measures:

6.2.1 Optimize Energy performance

The Energy Strategy for the Proposed Development is established based on the Energy hierarchy methodology (Be Lean, Be Clean, Be Green, Be Seen) in accordance with London Energy planning guidance 2021 and the targeted credits in BREEAM Ene 01.

6.2.2 Energy Metering

The integration of monitoring systems to ensure optimal operation of HVAC systems and appliances is an important constituent identified to optimise energy consumption of the project. Energy metering allows for the collection of energy consumption information, as well as the cost and carbon attribution of the systems throughout the whole life cycle of the project. This will inform the Be Seen stage of the Energy Hierarchy approach. The value of the availability of energy consumption data lies in the ability of building end users to identify opportunities to improve the system’s operation and reduce wastage of energy.

6.2.3 Ozone Impact

The project team will establish management of refrigerants including an awareness of their ozone impacts and the proper handling throughout their supply chain including transport, storage and servicing, recovery and recycling, and proper end-of-life disposal.

6.2.4 Renewable Energy

The project team shall maximise the use of clean renewable energy to reduce reliance on fossil fuel energy and minimise the impact associated carbon emissions on the environment. The design shall implement Low and Zero Carbon technologies into the proposed scheme to achieve a minimum of 35% on-site-carbon reduction.

6.2.5 Energy Use & Monitoring during Construction

Energy consumption targets will be set by the principal contractor for the construction site and usage will be monitored as required by the BREEAM Man 03 Responsible Construction Practices credit.

The following evaluation methods are anticipated to inform the most appropriate strategy to align with the intent of this SMP category and the aspirations of the Proposed Development are as follows:

- Energy Strategy & Statement Report
- GLA Carbon Reporting Spreadsheet
- BREEAM Man 03 Responsible Construction Practices
- BREEAM Ene 01 Optimise Energy Performance
- BREEAM Ene 02 Energy Metering
- BREEAM Ene 04 Low Carbon Design
- BREEAM Pol 01 Impact of Refrigerants

7 CLIMATE CHANGE ADAPTATION AND FLOOD RISK

7.1 Requirements and targets

7.1.1 London Plan (2021) Policy SI 4 Managing Heat Risk

The Proposed Development should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems in accordance with the following cooling hierarchy:

- 1) Reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure
- 2) Minimise internal heat generation through energy efficient design
- 3) Manage the heat within the building through exposed internal thermal mass and high ceilings
- 4) Provide passive ventilation
- 5) Provide mechanical ventilation
- 6) Provide active cooling systems.

7.1.2 London Plan (2021) Policy SI 12 Flood Risk

Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

7.1.3 London Plan (2021) SI 13 Sustainable Drainage

Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

- 1) Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation).
- 2) Rainwater infiltration to ground at or close to source.
- 3) Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens).
- 4) Rainwater discharge direct to a watercourse (unless not appropriate).
- 5) Controlled rainwater discharge to a surface water sewer or drain.
- 6) Controlled rainwater discharge to a combined sewer.

Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.

Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

7.1.4 Southwark Plan Policy (2022) P68 Reducing flood risk

Development must not increase flood risk on or off site, by ensuring that it is designed to be safe and resilient to flooding and finished floor levels are set no lower than 300mm above the predicted maximum water level where they are located within an area at risk of flooding.

Major development shall reduce surface water run-off to greenfield run-off rates. This must be through the application of water sensitive urban design and Sustainable Urban Drainage Systems (SUDS), in 205 Southwark Plan 2022 accordance with the following drainage hierarchy:

- 1) Store rainwater for later use;
- 2) Use infiltration techniques; then
- 3) Attenuate rainwater in ponds or open water features for gradual release; then
- 4) Discharge rainwater direct to a watercourse
- 5) Discharge rainwater to a surface water sewer/drain;
- 6) Discharge rainwater to the combined sewer;
- 7) Hard surfacing of any gardens is permeable.

7.1.5 Southwark Plan Policy (2022) P69 Sustainability Standards

Development must reduce the risk of overheating, taking into account climate change predictions over the life time of the building, in accordance with prioritised measures set out in the following cooling hierarchy:

- 1) Reduce the amount of heat entering a building through the orientation, shading, albedo, fenestration, insulation and green roofs and walls; then
- 2) Minimise internal heat generation through energy efficient design;
- 3) Manage the heat within the building through exposed internal thermal mass and high ceilings;

- 4) Passive ventilation;
- 5) Mechanical ventilation;
- 6) Active cooling systems (ensuring they are the lowest carbon options)

7.2 Design Appraisal

7.2.1 Adaptation to Climate Change

Efforts to integrate strategies into the Proposed Development which mitigate the impact of extreme weather conditions, minimise the future risk of material damage, replacement or adaptation costs and avoids over specification and resource use have been assessed through development of a Concept Design Stage Systematic Risk Assessment. This is to be compiled as part of the BREEAM evidence for the Wst 05 Adaptation to Climate Change targeted credit.

This systematic assessment has been completed during the early stages of design to identify the likely hazards which may arise to the Proposed Development as a result of Climate Change and the proposed design measures to minimise the risk of these hazards and adapt to potential future weather scenarios.

This has been carried out according to the following risk assessment structure:

1. Hazard Identification
2. Hazard Assessment
3. Risk Estimation and Effort
4. Risk Evaluation
5. Risk Management

The following design measures are proposed based on the latest design information. These are to be continuously reviewed and updated through to detailed design stages:

Category	Stage 2 Climate Change Risk Mitigation Measure
Structural Stability and Robustness	<ul style="list-style-type: none"> Structural systems designed with robustness and high thermal performance to reduce the risk of damage from overheating. Facades designed with high thermal performance to reduce the risk of heatwaves effect on the building envelope. Facades designed to withstand wind loading of urban location of site. Use of robust structural systems to withstand large increased loads. Robust drainage system designed. Roofs to be designed as blue roof or sloping to mitigate the risk of pooling water. Reinforced concrete structure designed to be robust and appropriate for fluctuating weather and ground conditions Rainwater drainage system/Sustainable Drainage systems (SuDs) in place to handle increased flood risks and protect structure. (tbc by landscape architect and civil engineer)
Weather Proofing and Detailing	<ul style="list-style-type: none"> Design rain water and drainage for extreme events. Including drainage attenuation and specifying building to withstand water damage. Blue and green roofs will be utilised for water attenuation. Building designed to accommodate snow loads. High performance building envelope insulation proposed. All services prone to damage to be routed within the thermal envelope of the building. Damage prone plant rooms will also be located within the buildings thermal line.
Material Durability	<ul style="list-style-type: none"> Material selection to withstand water ingress or damage. High performance building fabric insulation. Route all services prone to damage within the thermal envelope. Use of robust envelope products with appropriate fixings. Roof detailing will be designed to withstand extreme snow events Facades and roof designed for extreme events. Building materials to be specified to withstand water damage
Impacts on Building contents and business continuity	<ul style="list-style-type: none"> The building fabric performance targets robust thermal performance and air tightness. Blue and green roof systems will be utilised to limit reliance on mains water. Occupants to be educated with regards to risk.
Health and Safety of Building Occupants	<ul style="list-style-type: none"> A thermal comfort analysis using future weather files has been undertaken to confirm proposed building design does not pose unacceptable risk to future building occupant health and wellbeing. Design rain water and drainage for extreme events have been proposed. The building shall be specified to withstand water damage.
Systems and Controls	<ul style="list-style-type: none"> Building design and specification to consider security of the building for heatwave conditions. Lightning protection design and risk assessment to be carried out by design team. Lightning/electricity insulation materials to be implemented from roof to floor.

7.2.2 Overheating Risk Assessment

A comprehensive overheating analysis to evaluate the optimum measures to overcome the potential of overheating throughout the lifetime of the project. The analysis followed the guidelines of Building regulations Part O and CIBSE TM59. The Dynamic simulation shows that all spaces for all blocks fails CIBSE TM 59 Criteria for naturally ventilated spaces for the current weather file based on the restriction of window opening as noted in the acoustic consideration section.

The Overheating results demonstrate MVHR 1.5 ACH (Overheating Mode) + 0.46 m² openable window for all floors where windows are allowed to open, will comply with TM 59 Criteria.

For spaces where windows are not suitable to be opened for acoustic considerations, the Overheating results demonstrate that all MVHR with 2.5 ACH (Overheating mode) is adequate to comply with TM 59 Criteria. Based on the current stage level of details the corridors have low risk of overheating complying with TM 59 criteria. This is to be further verified as more details regarding heating pipes routing and insulation become available.

For future weather files and potential heatwaves based on London CIBSE Intense Summer Heat Event (DSY2), Heat Event Scenario less intense than DSY2 (DSY3) and DSY2050 high weather files (25 Years), the results shows that the current strategy results in compliance for Current Weather File (DSY1) and DSY2, with limited instances of marginal non-compliance in DSY3 and marginal non-compliance for some of the apartments in the future weather file scenario. Noting that it is not mandatory to comply with future weather files cases, however, it is worth to study as part of potential future proofing option of the development.

Please refer to the Overheating Analysis included in the Energy Statement Report prepared by ME Engineers for details of the future weather scenarios applied.

7.2.3 Flood Risk Management

A Flood Risk Assessment has been undertaken for the Proposed Development. The site is in Flood Zone 1 and it is not affected by fluvial or tidal flooding. The FRA has identified a small area of ponding with up to high flood risk associated with surface water flooding in the centre of the site, but concludes that this area of ponding is where Aylesham Garden is located and will be mitigated through the drainage strategy and is not considered to have an adverse impact on the site.

A drainage strategy has been prepared by Walsh. The drainage strategy sets out the proposed drainage measures to retain water on-site and replicate the natural hydrology as much as possible. The drainage strategy has been informed by the findings of the FRA and is anticipated to reduce runoff volume and improve water quality by replicating the natural hydrology and water balance of the site. The Proposed Development is on brownfield land. SuDs techniques have been assessed for the proposed site.

The drainage strategy demonstrates that the Proposed Development achieves the principles of sustainable drainage design set out in the NPPF, and the principles set out in the London Plan and London Borough of

Southwark. Appropriate sustainable urban drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy SI 13) & Southwark Plan Policy P69. The proposed surface water drainage system will be designed to convey surface water only, with foul water being discharged separately.

7.2.4 Energy Resilience

Energy conservation measures that are integrated into the design as a priority include passive design measures where possible and the specification of energy efficient heating and cooling systems which maintain satisfactory thermal comfort with consideration for future climate scenarios. Embedding resilience in the energy infrastructure to ensure business continuity is enhanced through high thermal performance.

A heating strategy based on the utilisation of Air Source Heat Pumps has been developed. This incorporates resilience in the energy infrastructure of the Proposed Development as it is a fully electric solution which assists to increase energy reliability, prevent electric grid disturbances and enable fast recovery post-disturbance.

7.2.5 Building Resilience

The design will consider durability, adaptability, flexibility throughout the project service life. During Stage 2, the design team have been conducting an assessment of the feasibility of incorporating design strategies which allow for the incorporation of building design resilience measures. The aim of this study is to integrate strategies within the buildings which avoid unnecessary material use, cost and disruption arising from future adaptation works. The study is completed during the early stages of design investigate the ease of disassembly and the functional adaptation potential of different design scenarios. This study should then inform recommendations or solutions which enable and facilitate disassembly and functional adaptation. These combined efforts demonstrate a comprehensive Disassembly and Functional Adaptation Strategy Study. The potential design measures have been identified and these are to be implemented where feasible throughout the design, as confirmed during the detailed design stages:

Category	Building Resilience Potential Design Measure
Feasibility	<ul style="list-style-type: none">• The structural systems will be designed with modular systems that can be easily reconfigured where feasible.• Standardized beam and column sizes will be used to allow easier replacement or upgrading to individual components without requiring extensive modification to the entire structure.• Slab are robustly designed to allow for alternative future uses should the building change.• Structures should be designed to use bolted connections instead of welds for easier disassembly.• The possibility of using higher quality, durable materials for long-term value for the facades has been extensively investigated by the design team.
Accessibility	<ul style="list-style-type: none">• Access panels and removable floor tiles will be incorporated into design for easy access to utilities for easy modification without affecting structure.• Flat soffits will be used to allow for simple services distribution and to avoid excess pipe/duct runs.• Standardized interface points for building systems to be used.• The technical design stage should incorporate comprehensive building information modelling (BIM) systems.
Versatility	<ul style="list-style-type: none">• Retail, leisure, commercial units are designed as shell and core only allowing flexible floor plans. Flexible/movable partitions to be used.• Walls and fixtures to be of a robust specification to avoid damage during use and when moved with building use changes.• Plug-and-play infrastructure should be used for easy changes.
Convertibility	<ul style="list-style-type: none">• Internal partitions will not be loadbearing to allow for easy conversion, allow for change in uses between retail, leisure and commercial.• The storey height glazing at ground floor can be easily accessed and replaced from ground level.• Spaces will be designed as shell and core only with future partitioning options in mind when locating doors and windows.
Adaptability	<ul style="list-style-type: none">• Structural systems will be designed with a regular grid in line with the residential units above for easy adaptation of internal partitions.• All spaces designed as shell and core fitout only to allow for future use change.• Supermarket designed to larger grid size to allow further flexibility in layout and use.• The design should integrate smart building systems that can adapt to usage patterns.
Expandability	<ul style="list-style-type: none">• There should be pre-designed points for expansion or contraction of building spaces.• Foundations should be designed for potential increases in load, for additional stories or wings (tbc with structural engineer).• Consideration of reserve spaces (ancillary or spare areas) that can be converted into new functional areas will be understood.
Refurbishment Potential	<ul style="list-style-type: none">• The Specification will ensure the use of durable and easily maintained surfaces.• Modular and easily upgradeable mechanical and electrical systems will be specified.• The glazing systems used at ground floor will be easily removeable in order to be upgraded or refurbished with new designs.• Construction method of brick facades should be considered in order to allow replacement and reparations throughout the buildings lifetime.
Building Element Disassembly / Reuse Potential	<ul style="list-style-type: none">• Design for deconstruction strategies by creating a construction plan.• Use of recycled materials identified in the pre-demolition audit. Other non-site based recycled materials to be considered in the specification.• Segregation facilities should be integrated into building design.

Standardisation	<ul style="list-style-type: none">Prefabricated units and other Modern Methods of Construction (MMC) that can be easily replaced or upgraded will be considered to reduce onsite waste.Use of interchangeable parts and systems across the buildings will be considered to simplify parts replacement and to stream-line the maintenance strategy .A compatibility assessment for all upgrades and modifications could be completed in the technical design work stage.
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The following evaluation methods are anticipated to inform the most appropriate strategy to align with the intent of this SMP category and the aspirations of the Proposed Development are as follows:

- Energy Strategy & Statement Report
- Overheating Risk Assessment (Dynamic Thermal Modelling)
- Flood Risk Assessment & Drainage Strategy
- BREEAM Hea 04 Thermal Comfort
- BREEAM Wst 05 Adaptation to Climate Change
- BREEAM Wst 06 Design for Disassembly and Adaptation

8 Water Efficiency

8.1 Requirements and Targets

8.1.1 London Plan (2021) Policy SI 5 Water Infrastructure

Residential developments should minimise the use of mains water and achieving mains water consumption of 105 litres or less per head per day.

Commercial development should achieve at least the BREEAM excellent standard for the Wat 01 or equivalent (12.5% improvement over defined baseline performance standard).

Development proposals should seek to address the following water infrastructure:

- 1) Incorporate measures such as smart metering, water saving and recycling measures, including retrofitting, to help to achieve lower water consumption rates and to maximise future-proofing.
- 2) Water Quality Infrastructure which promotes the protection and improvement of the water environment in line with the Thames River Basin Management Plan, and should take account of Catchment Plans.
- 3) Additionally, water quality infrastructure should support wastewater treatment infrastructure investment to accommodate London’s growth and climate change impacts.
- 4) Wastewater Infrastructure which improves the water environment and ensures that adequate capacity is provided.

Development Plans and proposals for strategically or locally defined growth locations with particular flood risk constraints or where there is insufficient water infrastructure capacity should be informed by Integrated Water Management Strategies at an early stage.

8.1.2 Southwark Plan Policy (2022) P67 Reducing Water Use

Development should reduce water use by:

- 1) Ensuring that residential development has a ‘safe to drink’ water use of no more than 105 litres per person per day, excluding an allowance of 5 litres or less per person per day for external water use; and
- 2) Incorporating measures to reduce the demand for mains water treated to drinking standard and enable the use of grey water and/or rainwater for non-drinking uses;
- 3) Major development should assess the need for improvements to water supply infrastructure in discussion with water utility companies

8.2 Design Appraisal

8.2.1 Indoor Water Use reduction

The Proposed Development will ensure the installation of efficient fixtures, fittings and appliances to assist in the reduction of indoor water consumption minimising the load on waste water systems of the project. This is

demonstrated through appropriate specification of sanitary fixtures to achieve the targeted reduction in water consumption over the baseline water fittings specifications as defined in BREEAM V6.1 guidance (SD5079). The minimum requirement in Wat 01 for an ‘Excellent’ Rating is to be met, in line with London Plan SI5 Water infrastructure.

8.2.2 Outdoor Water Use reduction

The installation of efficient irrigation water systems along with using native plants for landscape will be coordinated. This will assist in the reduction of outdoor water consumption to minimise the load on waste water systems.

8.2.3 Water Metering & Leak Detection

The effective management of water infrastructure will be addressed through considering the water metering systems to enable monitoring of these systems throughout the whole life cycle of the development and provide opportunity of further optimisation of water systems.

Systems will be specified to detect major leaks on the mains water supply within each block and, between the main water supply and each block within the proposed masterplan.

8.2.4 Sustainable Urban Drainage Systems (SuDs)

The drainage strategy has been prepared to identify appropriate SuDs that could be incorporated throughout the Proposed Development to ensure management of surface water run-off rate and volume in line with the targeted BREEAM requirements and the relevant planning policy and guidance, including at this stage in design:

1. Permeable hard landscape
2. Blue and green roofs to retain rainwater

These are presented in detail in the drainage strategy which has been prepared by Walsh.

8.2.5 Water Use & Monitoring during Construction

Water consumption targets will be set by the principal contractor for the construction site and usage will be monitored as required by the BREEAM Man 03 Responsible Construction Practices credit.

The Proposed Development intends to demonstrate water efficiency through the implementation of the following measures:

- All homes to achieve a water use of less than 105 litres per person per day (internal water use).
- BREEAM Man 03 Responsible Construction Practices
- BREEAM Wat 01 Water Consumption - 50% Water Consumption over the baseline
- BREEAM Wat 02 Water Metering
- BREEAM Wat 03 Leak Detection
- BREEAM Wat 04 Water Efficient Equipment

9 Materials

9.1 Requirements and Targets

9.1.1 London Plan Policy (2021) SI 7 Reducing Waste and Supporting the Circular Economy

Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:

- 1) Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible.

9.1.2 Southwark Plan Policy (2022) P62 Reducing Waste

Major referable development should submit a Circular Economy Statement.

9.1.3 Southwark Plan Policy (2022) P70 Energy

Development proposals referable to the Mayor must calculate whole life cycle carbon emissions through a nationally recognised assessment and demonstrate actions taken to reduce life cycle carbon emissions.

9.2 Design Appraisal

9.2.1 Reuse and Recycling Content of Materials

A pre-demolition audit has been prepared by KaNect to reuse of materials from the demolition of the existing structures on site. The Proposed Development has identified opportunities to reuse demolition /renovation based on the condition and structural integrity of the buildings reported in the pre-demolition audit report, planning policy requirements, viability, carbon reduction, standards relating to fire, noise, energy, heating, and other sustainability requirements.

9.2.2 Whole Life Cycle Carbon and Circular Economy

The Whole Life Cycle Carbon Assessment and Circular Economy Statements are being undertaken by Hodkinson’s Consultancy. The design shall consider modular construction opportunities and the sourcing of construction products which maintain their structural integrity throughout the whole life cycle of the building. The project team have considered the end-of-life scenarios of the building elements, ensuring opportunities to redistribute building elements to the secondary materials market are maintained.

The design approaches to align with the WLCA guidance are summarised as follows:

- Design for Disassembly and Reuse
- Designing for durability, adaptability and flexibility
- Optimisation of the relationship between operational and embodied carbon
- Local Material Sourcing
- Maximise opportunities to incorporate Modern Methods of Construction
- Design for Longevity

The Proposed Development incorporates the following Circular Economy design approaches as defined in the GLA guidance:

- Minimise the quantities of materials used
- Minimise the quantities of other resources used
- Specify and source materials and other resources sustainably
- Design for longevity, adaptability or flexibility and reusability or recoverability
- Design out construction, demolition, excavation and municipal waste arising
- Manage demolition waste
- Manage excavation waste
- Manage construction waste
- Manage municipal waste

The resource efficiency targets are as follows:

- Minimum of 95% demolition waste materials (non-hazardous)diverted from landfill for reuse, recycling or recovery.
- Minimum of 95% of excavation waste materials diverted from landfill for beneficial reuse.
- Minimum of 95% construction waste materials diverted from landfill for reuse, recycling or recovery.
- Minimum 65% recycling rate of municipal waste by 2030.
- Minimum 20% of the building material elements to be comprised of recycled or reused content.

The following design measures and evaluation methods are anticipated to inform the most appropriate material targets and align with the intent of this SMP category and the aspirations of the Proposed Development:

- Demolition Construction Environmental Management Plan (CEMP)
- Construction Waste Management Plan (CWMP)
- Operational Waste Management Strategy
- GLA Whole Life Cycle (WLC) Assessment
- GLA Circular Economy Statement
- Pre-demolition audit
- Sustainable Procurement Plan
- BREEAM Mat 01 Building Life Cycle Impact
- BREEAM Mat 02 Environmental Product Declarations
- BREEAM Mat 03 Responsible Sourcing of Materials
- BREEAM Mat 05 Design for Durability

10 Waste Management

10.1Requirements and Targets

10.1.1 London Plan Policy (2021) PI 7 Reducing Waste and Supporting the Circular Economy

Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:

- 1) Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products
- 2) Ensure that there is zero biodegradable or recyclable waste to landfill by 2026.
- 3) Meet or exceed the targets for each of the following waste and material streams:
 - a) construction and demolition – 95 per cent reuse/recycling/recovery
 - b) excavation – 95 per cent beneficial use

Design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

10.1.2 Southwark Plan Policy (2022) P62 Reducing Waste

Development must demonstrate how the following waste management hierarchy will be applied during construction:

- 1) Avoid creating waste
- 2) Reduce the amount of waste produced;
- 3) Prepare waste materials for re-use;
- 4) Recycle and compost waste materials;
- 5) Recover energy from waste materials;
- 6) Dispose waste materials in landfill;

Additionally, development must provide adequate recycling, composting and waste disposal, collection and storage facilities on site or provide a suitable off site waste management strategy that does not adversely impact amenity, access or the environment where on site waste management provision is not possible.

Major referable development should submit a Circular Economy Statement.

10.2 Design Appraisal

10.2.1 Designing Out Waste Workshop

A designing out waste workshop was undertaken with the project team to confirm the materials that could be re-used and or recycled on-site as part of the Proposed Development. A summary of the quantity of each material found was prepared in a pre-demolition audit report. The design team have provided estimated quantities of material which can be reused and recycled on-site for each use.

The Proposed Development has identified opportunities to reuse demolition /renovation based on the condition and structural integrity of the buildings reported in the pre-demolition audit report, planning policy

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requirements, viability, carbon reduction, standards relating to fire, noise, energy, heating, and other sustainability requirements.

Any materials that are not suitable for on-site re-use / recycling have been considered for re-used / recycled off-site before final disposal.

The workshop facilitated the project team to design to the principles of circular economy and move waste up the waste hierarchy.

The following principles were explored in the Designing Out Waste Workshop:

- Design for reuse and recovery
- Design for off-site construction
- Design for materials optimisation
- Design for waste efficient procurement
- Design for deconstruction and flexibility

10.2.2 Demolition and Construction Waste Management

The Applicant has prepared the Demolition and Construction Environmental Management Plan (DCEMP) to accompany the Construction Phase Plan and Traffic Management Plan for the Proposed Development at The Aylesham ('the Site').

The overall aim of the DCEMP is to outline measures to minimise and mitigate the demolition and construction effects of the Proposed Development. More specifically, the DCEMP aims to:

- Outline a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation, regulation, and Berkeley Group Standards.
- Ensure that construction industry best practice standards are adopted throughout the construction process.
- Ensure compliance with the conditions of the site specific; planning conditions, S106 requirements, and environmental permits.

The DCEMP demonstrates the Applicants' commitment to undertaking construction activities in such a way as to avoid or minimise environmental effects and provides a mechanism for the implementation of recommended mitigation and monitoring measures throughout construction.

Throughout construction, this plan will remain a live document and will be reviewed periodically during the duration of the project.

A pre-demolition audit has been prepared by KaNect to identify opportunities minimise the waste materials from demolition of the existing structures on site. Construction waste generation targets are defined as part of the GLA Circular Economy Statement. Construction, demolition and excavation targets will be based on existing policy set out in the London Plan (SI 7) and targeted BREEAM credits.

Reducing the long-term environmental impacts associated with disposal of construction and demolition waste by recovering, reusing and recycling materials is a key constituent to the project sustainability strategy. Berkeley Group will prepare a Site Waste Management Plan which details how all construction waste will be managed. Further details can be found in the Berkeley Demolition and Construction Environmental Management Plan.

10.2.3 Operational Waste Management

An operational waste management strategy has been prepared by KaNect. The operational waste strategy identifies opportunities relating to the design of on-site operational waste management regimes that can support an occupier's commitment to reducing the environmental impacts of operational waste and associated disposal costs.

This will also have the added benefit of communicating performance to staff, as well as wider stakeholders. Operational, including municipal, waste generation targets are expected to be defined as part of the GLA Circular Economy Statement.

These targets will be based on existing policy set out in the London Plan (SI 7) and the aspirations of the Berkeley Homes, as defined in Our Vision 2030 Sustainability Strategy.

The following design measures and evaluation methods are anticipated to inform the most appropriate material targets and align with the intent of this SMP category and the aspirations of the Proposed Development:

- Demolition Construction Waste Management Plan (DCEMP)
- Operational Waste Management Strategy
- Pre-demolition Audit
- GLA Whole Life Cycle (WLC) Assessment
- GLA Circular Economy Statement
- BREEAM Wst 01 Construction Waste Management
- BREEAM Wst 03 Operational Waste Management

11 POLLUTION MANAGEMENT

11.1 Requirements and Targets

11.1.1 London Plan (2021) SI 1 Improving Air Quality

The Proposed Development should identify opportunities to deliver further improvements to air quality and should not reduce air quality benefits. As a minimum, the Proposed Development is to demonstrate the following requirements:

- Air Quality Neutral or to make the impact of the development on local air quality acceptable, this is done on-site Design solutions to prevent or minimise increase exposure to existing air pollution.
- Minimise increase exposure to existing air pollution.
- Make provisions to address local problems of air quality in preference to post-design or retro-fitted mitigation measures
- Proposed Air Quality Strategy and Measures presented in an Air Quality Assessment
- Minimise exposure of air pollution to vulnerable groups, such as children or older people, as applicable to the Proposed Development.
- In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

11.1.2 Southwark Plan Policy (2022) Improving Air Quality

Developments must avoid significant adverse impacts on health an reducing exposure to and mitigating the effects of poor air quality. This must be achieved through design solutions that include:

- 1) Orientation and layout of buildings, taking into account vulnerable building occupiers, and public realm and amenity space users;
- 2) Ventilation systems;
- 3) Urban greening appropriate for providing air quality benefits proportionate to the scale of the development;
- 4) Any shortfall in air quality standards on site must be secured off site through planning obligations or as a financial contribution.

11.1.3 Southwark Plan Policy (2022) P66 Reducing Noise Pollution and Enhancing Soundscapes

Developments must avoid significant adverse impacts on health and quality of life, mitigate any adverse impacts caused by noise on health and quality of life; and mitigate and manage noise by separating noise sensitive developments from major noise sources by distance, screening or internal layout, in preference to sound insulation.

Major development adjacent to, or within designated open space should be designed to protect and enhance positive aspects of the acoustic environment. New spaces proposed as part of development should also assess the potential to enhance a place's character and identity through the acoustic environment and positive public soundscape.

Major development will be required to demonstrate how the noise pollution impacts created during the construction process will be reduced, mitigated and managed appropriately to minimise harm to present occupiers of the site and adjoining neighbours.

11.2 Design Appraisal

11.2.1 Pollution Reduction

This requires the careful design of building systems and appropriate specification of materials to minimise the effects of the development on the existing microclimate and wildlife habitats. The preparation of the following project deliverables aligns with the intent of the Nature First SMP principle:

- Construction Environmental Management Plan (CEMP) to be implemented by the contractor and developers.
- Air Quality Assessment
- Drainage Strategy and Sustainable Urban Drainage Systems (SuDs) Report
- Surface Water Drainage Strategy
- Maximise heating and hot water supplied by non-combustion systems.

The design approach aims maximise the benefits to local air quality in and around a development site or masterplan area and minimises exposure to existing sources of poor air quality. ASHPs are incorporated into the energy infrastructure.

The project team will coordinate the specification of the external lighting which is appropriately directed and non-obtrusive to minimise the impact of the site on the surrounding area in accordance with BREEAM Pol 04 Night time Light Pollution Reduction.

The following design measures and evaluation methods are anticipated to inform the most appropriate pollution management strategies and align with the intent of this SMP category and the aspirations of the Proposed Development:

- Air Quality Neutral Assessment
- Fully Electric Solution
- Acoustic Assessment and Report
- BREEAM Pol 02 Local Air Quality
- BREEAM Pol 04 Reduction of Night Time Light Pollution
- BREEAM Pol 05 Reduction of Noise Pollution

12 HEALTH & WELLBEING

12.1 Requirements and Targets

12.1.1 London Plan (2021) P56 Protection of Amenity

For the Proposed Development, amenity considerations that will be taken into account include:

- 1) The privacy and outlook of occupiers of both existing and proposed homes
- 2) Actual or sense of overlooking or enclosure
- 3) Impacts of smell, noise, vibration, lighting or other nuisances
- 4) Daylight, sunlight, and impacts from wind and on microclimate.
- 5) Residential layout, context and design

12.1.2 London Plan Policy (2022) P16 Designing out Crime

Development must be designed with:

- 1. Windows that overlook places such as parks and streets, courtyards, parking areas and civic spaces to provide natural surveillance; and
- 2. Streets, pedestrian routes, footpaths and cycle paths that are easy to navigate with permeable, direct routes that provide good visibility and avoid sharp or blind corners, tunnels, and hidden alcoves; and
- 3. Clear and uniform signage that helps people move around, making the public realm and public transport safer and more attractive for people to use; and
- 4. Effective street lighting that illuminates the public realm, enabling natural surveillance and avoiding the creation of dark, shadowed areas; and
- 5. Clearly defined boundaries between public and private spaces that reduce the likelihood of anti-social behaviour by establishing ownership and responsibility; and
- 6. Security measures for buildings and places are proportionate to their use and function, considering the need to avoid creating places that are hostile or unwelcoming; and
- 7. Secured by Design principles.

12.1.3 London Plan Policy (2022) P56 Protection of amenity

For the Proposed Development, amenity considerations that will be taken into account include:

- 1. The privacy and outlook of occupiers of both existing and proposed homes
- 2. Actual or sense of overlooking or enclosure
- 3. Impacts of smell, noise, vibration, lighting or other nuisances
- 4. Daylight, sunlight, and impacts from wind and on microclimate
- 5. Residential layout, context and design

12.2 Design Appraisal

12.2.1 Safety and Security

The public realm and ground floor plane have been designed to Secured by Design principles and incorporate feedback from the extensive consultation process, such as the introduction of additional greenery and seating throughout all paths, to ensure the safety, inclusivity, accessibility and legibility of proposed routes through the site.

12.2.2 Indoor Air Quality

The project will ensure the design of spaces for optimum indoor air quality through relying on a mixed-mode ventilation systems which make the best use of passive natural ventilation and supported with heat recovery units that will ensure sustained optimum indoor air quality within the residential units and complying with overheating mitigation strategies as required by standards and building regulations. The design will consider low-emitting material finishes within the building design to minimise the concentration of formaldehyde and volatile organic compounds (VOCs) in the indoor environment to enhance the indoor air quality and increase occupant welfare.

12.2.3 Visual Comfort

An Internal Daylighting and Sunlight Assessment has been prepared by Point 2 for all residential units. The Proposed Development maximises the use of natural light whilst achieving best practice standards for glare control. Design elements such as the building orientation, optimisation of the façade design will be key considerations in achieving visual comfort for building end users.

12.2.4 Thermal Comfort

Overheating and thermal comfort assessment has been prepared by ME Engineers in accordance with Part O requirements. Thermal comfort of building end users has been carefully considered while developing the heating and cooling system strategy. This will be achieved through a combination of passive and active measures. The residential units will be designed to comply with overheating mitigation strategies as required by standards and building regulations.

12.2.5 Acoustics Performance

An Acoustic Study has been prepared by Hann Tucker to ensure optimum acoustically comfortable indoor environment for building end users. The design will also minimise the development noise impacts on its surroundings in accordance with the standards and regulations.

The intent of this SMP principle is to implement design measures that contribute towards indoor environmental quality, visual, thermal and acoustic comfort to promote occupant’s health and wellness. The following design measures and evaluation methods are anticipated to inform the most appropriate strategy to align with the intent of this SMP and the aspirations of the Proposed Development:

The following design measures and evaluation methods are anticipated to align with the intent of this SMP category and the aspirations of the Proposed Development:

- Internal Daylighting and Sunlight Assessment

- BREEAM Hea 01 Visual Comfort
- BREEAM Hea 92 Indoor Air Quality
- BREEAM Hea 04 Thermal Comfort
- BREEAM Hea 05 Acoustic Performance
- BREEAM Hea 07 Outside Space

13 ECOLOGY AND BIODIVERSITY

13.1 Requirements and Targets

13.1.1 London Plan Policy 2021 G1 Green Infrastructure

Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

13.1.2 London Plan Policy (2021) G5 Urban Greening

Development proposals should contribute to net gains in biodiversity through contribution to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments.

In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development.

Enhancing the nature conservation value of Sites of Importance for Nature Conservation (SINCs), Local Nature Reserves (LNRs), designated ancient woodland, populations of protected species and priority habitats/species identified in the United Kingdom, London or identified and monitored in the latest adopted Southwark Nature Action Plan; and protecting and avoiding damage to SINCs, LNRs, populations of protected species and priority habitats/species; and including features such as green and brown roofs, green walls, soft landscaping, nest boxes, habitat restoration and expansion, improved green links and buffering of existing habitats.

Any shortfall in net gains in biodiversity must be secured off site through planning obligations or as a financial contribution.

13.1.3 London Plan Policy (2021) G6 Biodiversity and Access to Nature

Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain.

This should be informed by the best available ecological information and addressed from the start of the development process.

13.1.4 London Plan Policy (2021) G7 Trees and Woodland

London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

Development proposals should ensure that, wherever possible, existing trees of value are retained

The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

13.1.5 Southwark Plan Policy (2022) P59 Green Infrastructure

Major development must provide green infrastructure with arrangements in place for long term stewardship and maintenance funding.

Major development that is referable to the Mayor of London are required to provide new publicly accessible open space and green links.

For development proposals, green infrastructure should be designed to:

- Provide multiple benefits for the health of people and wildlife; and
- Integrate with the wider green infrastructure network and townscape / landscape, increasing access for people and habitat connectivity; and
- Be adaptable to climate change and allow species migration while supporting native and priority species; and
- Extend and upgrade the walking and cycling networks between spaces to promote a sense of place and ownership for all.

13.1.6 Southwark Plan Policy (2022) P60 Biodiversity

Development proposals will be permitted if trees are planted as part of landscaping and public realm schemes, commensurate to the scale and type of development, and the character of the neighbourhood.

Development proposals must retain and protect significant existing trees including:

- 1) Trees designated with Tree Protection Orders (TPOs)
- 2) Trees that have a high amenity value
- 3) Trees within Conservation Areas or the setting or curtilage of listed buildings
- 4) Veteran, ancient and notable trees

Development must retain and enhance the borough's trees and canopy cover; and where trees are removed to facilitate development, they should be replaced by new trees which result in no net loss of amenity, taking into account canopy cover as measured by stem girth; either

Within the development whereby valuation may be calculated using the Capital Asset Value for Amenity Trees (CAVAT) methodology or other assessment; or If this is not possible, outside the development. Tree planting should be adaptable to climate change while supporting native species. The selection and position of trees should improve air quality and they should have a long life with and high biodiversity and amenity value.

Retained trees must be protected during the construction process in line with British Standard BS5837. In exceptional circumstances removal of trees protected by TPO or conservation area status will be permitted where sufficient evidence has been provided to justify their loss. Replacement planting will be expected where removal is agreed. The replacement of TPO trees must take into account the loss of canopy cover as measured by stem girth and biodiversity value.

13.1.7 Southwark Plan Policy (2022) P61 Trees

Development proposals will be permitted if trees are planted as part of landscaping and public realm schemes, commensurate to the scale and type of development, and the character of the neighbourhood.

Development proposals must retain and protect significant existing trees including:

1. Trees designated with Tree Protection Orders (TPOs); and
2. Trees that have a high amenity value; and
3. Trees within Conservation Areas or the setting or curtilage of listed buildings; and
4. Veteran, ancient and notable trees; and

Development must retain and enhance the borough's trees and canopy cover; and

Where trees are removed to facilitate development, they should be replaced by new trees which result in no net loss of amenity, taking into account canopy cover as measured by stem girth; either within the development whereby valuation may be calculated using the Capital Asset Value for Amenity Trees (CAVAT) methodology or other assessment; or If this is not possible, outside the development.

In this case a financial contribution must be provided to improve borough tree planting located according to 'right tree right place' principles. The financial contribution will include ongoing maintenance costs where trees are planted in the public realm.

Tree planting should be adaptable to climate change while supporting native species. The selection and position of trees should improve air quality and they should have a long life with and high biodiversity and amenity value. Retained trees must be protected during the construction process in line with British Standard BS5837.

In exceptional circumstances removal of trees protected by TPO or conservation area status will be permitted where sufficient evidence has been provided to justify their loss. Replacement planting will be expected where removal is agreed.

The replacement of TPO trees must take into account the loss of canopy cover as measured by stem girth and biodiversity value.

13.1.8 Southwark Plan Policy (2022) P64 Contaminated

Development will be permitted when it:

1. Provides for safe storage, transportation or usage of hazardous substances on a site; and
2. Mitigates any contaminated land within the development site and land outside of, but related to, the development site.

13.2 Design Appraisal

This SMP principle is intended to encourage and recognise efforts to reduce the building's impact on the surrounding communities and environments arising from heat island reduction, light pollution, and emissions to air, land and water. This principle also focuses on how the Proposed Development interacts with eco-systems, surrounding built environment, and site elements.

13.2.1 Defining the Ecological Profile

During the early stages of design, the Proposed Development has considered the site-distinctive environmental features including topography hydrology, climate, vegetation, species, soils and existing human uses.

A Preliminary Ecology Appraisal consisting of a field survey and desk study was undertaken in February 2022. Based on the findings of the PEA, the site has low ecological value. Proposed ecological enhancements for the Proposed Development include the installation of green roofs and enhancement the local environment by increasing tree and scrub habitats. Planting of native flowering species to increase the ecological value and pollination quality of the site are also proposed.

The measures proposed to be incorporated into the design are in compliance with London Plan 2021 Policies G1, G6 and G7 and have strived to maximise green infrastructure to achieve a UGF as high as possible to comply with Policy G5. Additional the measures proposed to be incorporated in the design are in compliance with Southwark Plan Policy (2022) P59, P60, P61 and P64.

13.2.2 Urban Greening Factor

The Urban Greening Factor (UGF) is a tool used to evaluate and quantify the urban greening proposed in new developments. It assigns a factor score to each surface cover type proposed in a planning application. The UGF helps assess the quality and quantity of urban greening in major developments. London Plan Policy G5 requires all major developments to incorporate urban greening as a fundamental element of site and building design.

The urban greening factor calculated for the Proposed Development is 0.38. The scheme has sought to maximise urban greening across all levels. Across the ground floor permeable paving covers the majority of the street scape with flower rich perennial planting throughout the public realm, helping to soften the interface between the site and its surroundings. The residential podium courtyard and roof gardens contain intensive vegetation as well as small to medium sized trees. Across the roof scape of the new buildings, an intensive green and brown roof system will help boost the local ecology, providing habitat which complements the neighbouring woodland.

13.2.3 Biodiversity Net Gain

Biodiversity Net Gain (BNG) calculations have been undertaken by Assystem (May, 2024). The BNG Assessment concludes that the scheme will achieve a 111.02% biodiversity net gain.

Green roof habitat including biodiverse, intensive and brown roof habitat are proposed. The public realm includes shrub and perennial planting, amenity grassland, green walls, and trees, with species enhancements such as nest boxes for birds, roost boxes for bats and nesting aids for invertebrates.

For full information please refer to the Biodiversity Net Gain Assessment prepared by Assystem.

13.2.4 Contaminated Land and Remediation

During each phase, the relevant work areas will be cleared and remediated if required during the demolition stage of construction works.

The Aylesham site team will monitor the project to check for unexpected or unusual materials with a contaminative potential. Monitoring will be carried out through visual and olfactory assessment by site operatives

and supervisors. This material may consist of, but not be limited to soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination. If contamination is suspected, work will be halted, and the affected area made safe. The local Sustainability Team is to be made aware and can further advise on any mitigation measures.

Please refer to the Demolition and Construction Environmental Management Plan (DCEMP) which has been prepared the Applicant for further details.

13.2.5 Sewage and Rainwater management

A key quality of the sustainability agenda for this project is the implementation of appropriate sustainable sewage, flooding and rainwater strategies (e.g. SuDs) to attenuate surface water run-off during peak water discharge and mitigate the risk of localized flooding, water course pollution.

The intent of this SMP principle is met through the minimisation of disturbance to existing habitats and identification of opportunities to restore previously disturbed portion of the site.

The following sustainability guidance and rating tools are presented as the targeted benchmarks to assist the project team in meeting the intent of this SMP principle:

- Biodiversity Net Gain
- Preliminary Ecological Appraisal
- BREEAM LE 01 Site Selection
- BREEAM LE 02 Ecological Risks and Opportunities
- BREEAM LE 03 Managing Impacts on Ecology
- BREEAM LE 04 Ecological Enhancements
- BREEAM LE 05 Long Term Ecological Management and Maintenance
- BREEAM Pol 03 Flood and Surface Water Management

14 SUSTAINABLE TRANSPORT & ACCESS

14.1 Requirements and Targets

14.1.1 London Plan 2021 T5 Cycling

All new development in the city must provide fit-for-purpose, secure and well-located cycle parking in line with minimum standards.

14.1.2 London Plan Policy 2021 T6 Car Parking

Parking should be restricted in line with existing and future public transport accessibility and connectivity.

Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide disabled persons parking in line with Part E of this policy.

The maximum car parking standards set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking should be applied to development proposals and used to set local standards within Development Plans.

Appropriate disabled persons parking for Blue Badge holders should be provided as set out in Policy T6 .1 Residential parking to Policy T6.5 Non-residential disabled persons parking.

Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles in line with Policy T6 .1 Residential parking, Policy T6 .2 Office Parking, Policy T6 .3 Retail parking, and Policy T6 .4 Hotel and leisure uses parking. All operational parking should make this provision, including offering rapid charging. New or re-provided petrol filling stations should provide rapid charging hubs and/or hydrogen refuelling facilities.

14.1.3 Southwark Planning Policy 2022 Car Parking

Parking should be restricted in line with existing and future public transport accessibility and connectivity.

Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide disabled persons parking in line with Part E of this policy.

The maximum car parking standards set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking should be applied to development proposals and used to set local standards within Development Plans. Appropriate disabled persons parking for Blue Badge holders should be provided as set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking.

Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles in line with Policy T6 .1 Residential parking, Policy T6 .2 Office Parking, Policy T6 .3 Retail parking, and Policy T6 .4 Hotel and leisure uses parking. All operational parking should make this provision, including offering rapid charging. New or re-provided petrol filling stations should provide rapid charging hubs and/or hydrogen refueling facilities.

14.2 Design Appraisal

This principle of the SMP sets out measures to minimise private car use through provisions for public transport and active travel modes. The Proposed Development will provide locations for the parking of bikes and electric car vehicle charging infrastructure as part of the sustainable transport design measures.

A Transport assessment has been prepared by Arup in supporting of the full planning application. The assessment of transport is being undertaken by Arup and will be described in two key documents:

- Transport Assessment
- Environmental Statement Transport Chapter

The Proposed Development is confirmed to be within PTAL 6b classification. The Applicant and Arup transport consultants have been engaged to establish the sustainable transport measures. The Proposed Development will address the following sustainable transport design measures:

Sustainable Design Measures	Targeted
AI ≥ 8 for all other building	Yes
During preparation of the brief, the design team consults with the local authority (LA) on the state of the local accessible pedestrian routes. Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.	Yes
Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 (BREEAM SD5079)	Yes
Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development.	Yes
At least three existing accessible amenities are present, see Table 7.6 on page 191, where relevant for a Building Group.	Yes
Provide at least two compliant cyclists' facilities for the building users	Yes
Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 191 for the relevant Building Group, is provided.	Yes

14.2.1 Walkability

The Proposed Development has been integrated within the existing transport networks and wider community. This will ensure that the development is connected to the surrounding amenities or due to be developed in the near future which are accessible for the building users through safe walking pathways. This will promote a vibrant community with active lifestyles and efficient transportation. The project will incorporate innovative wayfinding strategies to link the Proposed Development to the masterplan and wider community.

The public realm and ground floor plane have been designed to Secured by Design principles and incorporate feedback from the extensive consultation process, such as the introduction of additional greenery and seating throughout all paths, to ensure the safety, inclusivity, accessibility and legibility of proposed routes through the site.

The existing condition of Rye Lane has been identified as being congested and difficult to navigate, especially for people with disabilities. In response, care has been taken to ensure the permeability of the Rye Lane frontage by the introduction of two cut-throughs to the north and south of the Rye Lane buildings. Through the provision of additional cycling and pedestrian routes through the site, the proposal will ease the congestion on Rye Lane.

Please refer to the Aylesham Centre Design and Access Statement for further details and the proposed measures to improve the walkability of the site.

14.2.2 Enhanced Public Transportation Connectivity

There are good existing public transportation connections to the site. The entire site benefits from a PTAL of 6a/6b. As concluded in the Transport Assessment. The proposed development does not affect bus stopping or standing capacity at the bus station, or indeed elsewhere. The proposed development is therefore aligned with the SP2022 policy expectation to retain bus station capacity. In being compliant with SP2022 by retaining bus station capacity, the proposed development is also compliant with London Plan 2021 Policy T3.

14.2.3 Provisions for Active Travel

Going beyond incorporating the development into existing transport infrastructure and community, the Proposed Development promotes active travel and minimise private car use within the development. The project will strive to enhance provisions for public transportation and active travel modes including quality public transit stations, designated bike storage and changing facilities.

Cycling provisions are to be provided in line with the London Plan 2021 as set out in the Policy T5.

14.2.4 Parking Provisions

The regeneration of the Aylesham Centre is contingent upon meeting certain contractual requirements with the current occupiers, including the supermarket. In particular, providing 140 spaces for the supermarket for customers is a pre-requisite to enable development and is a contractual requirement. The spaces proposed to be provided within a basement car park as part of Phase 1 of the development proposals are a significant reduction compared with the existing car parking on the site, and will not be available to residents and employees.

The Proposed Development will be car free for residents and employees in line with London Plan policy with a limited provision of blue badge parking. Accessible car parking spaces will be provided in line with the relevant policies. Please refer to the Transport Assessment and Travel Plan prepared by Arup for full details.

The following design measures and evaluation methods are anticipated to inform the most appropriate strategy to align with the intent of this SMP and the aspirations of the Proposed Development:

- Transport Assessment & Travel Plan
- PTAL Calculation
- Landscaping & Public Realm Design
- Design and Access Statement
- BREEAM Tra 01 Travel Plan
- BREEAM Tra 02 Transport Assessment

15 Conclusion

This Sustainability Statement supports the planning application for the Aylesham Centre Redevelopment and confirms the requirements of sustainability defined for the Proposed Development and proposed scoping mechanisms to verify the effective implementation of these requirements are in line with relevant planning policy and guidance as defined in the policy context section of this report.

A BREEAM pre-assessment has been prepared for the retail, leisure and commercial elements of the site which confirms the feasibility of the targeted BREEAM 'Excellent' Rating. The proposed strategy of assessment is detailed in the BREEAM pre-assessment based on latest project information. The registration of the assessments is to be confirmed with the BRE. Please refer to Appendix A and B of this document for full details.

The design approaches to meet these requirements are summarized as follows:

- Environmental Rating Methods
 - BREEAM Excellent Targeted for all Retail, Leisure (including Drinking Establishment), and Commercial (Use Class E/Sui Generis) which are within the scope of assessment.
- Energy and CO₂ Emissions
 - The Aylesham Centre Redevelopment has been designed with consideration for the features of a site (e.g. orientation and landscape) to minimise energy use;
 - The building fabric will be improved to meet or exceed the requirements within the applicable sections of the latest building regulations Part L.
 - Proposals include glazing design to optimise daylight and prevent excessive solar gains.
 - Building services will be designed to meet or exceed the CIBSE, BSRIA & BCO guidelines and any other relevant building services compliance guides.
 - The potential for incorporating renewable technologies has been investigated in line with the - 'be green' - renewable energy approach.
- CLIMATE CHANGE ADAPTATION AND FLOOD RISK
 - Following CIBSE TM52, it is considered that the design has been optimised with respect to achieving the CO₂ emissions targets set within the London Plan, whilst maintaining a comfortable environment.
 - Flood risk assessment confirms that the site has a low annual risk of flooding from all sources.
 - The Proposed Development will incorporate Sustainable Urban Drainage Systems (SUDS), as presented in the Drainage Strategy prepared by Walsh as part of this planning application;
- WATER SAVING FEATURES
 - Water meters will be installed in line with targeted BREEAM credits and the GLA Be Seen Monitoring Guidance to facilitate monitoring and optimisation of operational water use.
 - Water efficient fittings are proposed for the commercial uses, including the installation of dual flush WCs, spray taps and low flow showers.
 - Water is conserved, and flood risks are minimised in the development as demonstrated in the Flood Risk Assessment.
 - 105 litres/person/day to be achieved in line with London Plan S15 Policy 2021.
- BUILDING MATERIALS
 - The demolition of the site will be undertaken to maximise the retention and reuse of existing building materials on site where feasible.
 - The procurement of materials which promote sustainability, including low impact, sustainably sourced, reused, and recycled materials;
 - Responsible sourcing of materials shall be encouraged throughout the development; in particular all timber shall be certified sustainable in line with the UK government's timber procurement policy.
 - Consideration will be given to locally sourcing materials where possible, to reduce site related transport emissions. This will be implemented through procurement routes with contractors.
- WASTE MANAGEMENT
 - The minimisation of waste and the maximisation of recycling during the construction and operation of the development.
 - Construction site waste shall be reduced through the formulation and implementation of a construction site waste management plan. This will include procedures and targets for reducing the overall amount of waste generated and recycling a high proportion of the waste that is generated.
 - Recycling of waste generated during occupation shall be encouraged through the provision of dedicated on-site waste storage and recycling facilities.
- HEALTH AND WELLBEING
 - The flexibility and adaptability of the development to future occupiers' requirements.
 - Occupier comfort and well-being through glare control measures and acoustic performance.
- POLLUTION
 - Measures shall be implemented on site during demolition and construction to prevent air and water pollution. Such measures include regular damping-down and the use of dustsheets.
 - The Drainage Strategy has been prepared to ensure watercourse pollution of the site does not occur in line with targeted BREEAM requirements for the Proposed Development.
- ECOLOGY
 - All existing site features of ecological value will be protected during construction.
 - Any planting on the new terraces and roofs will be designed to improve the site's biodiversity.
- TRANSPORT
 - PTAL 6a/6b achieved for the site.
 - The site is supported by good transport links including bus stops and a rail station that are within walking distance of the site.
 - Cycle storage facilities have been included in the scheme's design to encourage sustainable forms of transport.

APPENDIX A BREEAM Pre-Assessment

APPENDIX A BREEAM Pre-Assessment



Aylesham Centre BREEAM Pre-assessment

Revision: P03

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1 Executive Summary

In line with London Plan and Southwark Local planning requirements, the BREEAM Pre-assessment has been prepared to meet the targeted 'Excellent' Rating with a sufficient buffer to mitigate the risk of credits reliant on construction stage actions and the certification post-construction achieved.

This report presents all relevant credits and prerequisites that the Proposed Development has targeted and the evidence of compliance with each of these issues. The targeted certification rating is BREEAM 'Excellent' which aligns with the requirements of the Environmental Standards Statement which was submitted as part of planning including :

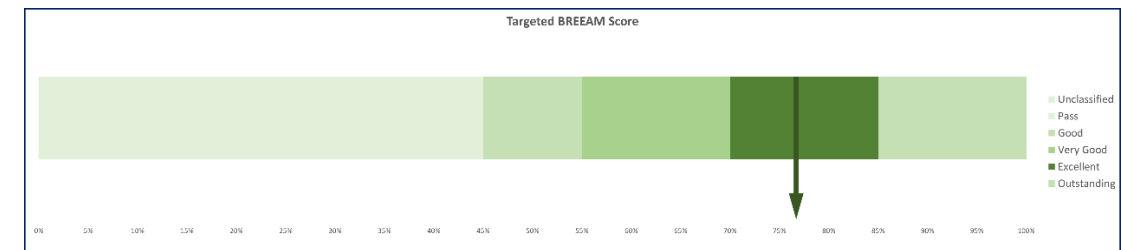
- **London Plan (2021) Policy SI5 Water Infrastructure** - Development proposals must achieve at least BREEAM Excellent Standard for the Wat 01 - Water Category or equivalent. This requires a minimum of 12.5% reduction over the baseline defined.
- **LBS Local Plan (2022) P69 Sustainability Standards** - Development must achieve a BREEAM rating of 'Excellent' for non-residential development.

ME Engineers have been appointed as Licensed BREEAM Assessors and Accredited Professional (AP) to complete a BREEAM pre-assessment for the proposed development. The BREEAM pre-assessment report produced confirms the feasibility of an Excellent Rating for the retail, office, leisure and commercial units throughout the masterplan of the proposed development. The targeted credits to achieve the desired BREEAM rating have been established from the outset of the project to ensure the effective implementation of the sustainability principles.

The BREEAM pre-assessment report provides a summary of the indicative performance of the proposed development against BREEAM NC V6 and the credit/performance requirements which the team could target and implement to achieve this. Each discipline has been engaged in the compilation of BREEAM evidence and the integration of the targeted credits has been confirmed. The pre-assessment presents the intent of the BREEAM issues targeted, the credit requirements for each BREEAM issue targeted and the current status or anticipation of the targeted credits. The masterplan elements under assessment are as follows:

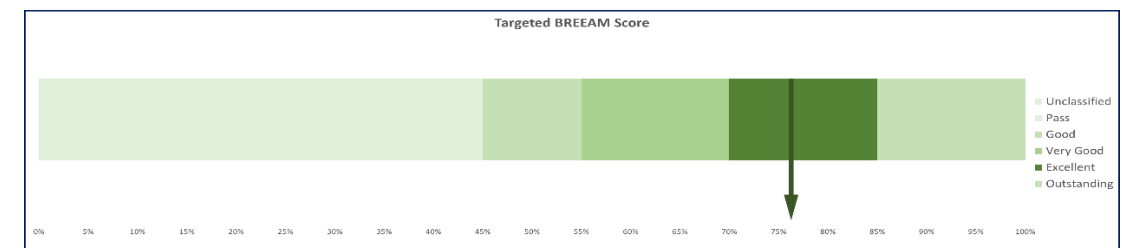
Scope of Works	BREEAM Building Type	BREEAM Assessment Type	Details
Retail Space	Retail / F&B Restaurant	NC Shell Only - Similiar Building Assessment	<ul style="list-style-type: none">• Ground Floor Retail / F&B Restaurant Units in Blocks A/B/C/E/F/G/H/J1/K/N• No dependency on the core areas within the building that they are located in.
Office Space	Office	NC Shell & Core Cat A- Similiar Building Assessment	<ul style="list-style-type: none">• Commercial Space Block E,G & K - Ground Floor
Office Building	Office	NC Shell and Core - Cat A	<ul style="list-style-type: none">• Commercial Block D - Six Storeys.
Supermarket including ancillary retail space and basement carpark	Retail	NC Shell and Core	<ul style="list-style-type: none">• Morrison's Supermarket including Cafe, Market Kitchen, Service Yard, Basement Carpark.

Based on confirmation of feasibility with the Design team and the client, the following scoring scenarios are calculated as follows to achieve the 'Excellent' Rating target:



Category	Shell & Core Available Credits	Original Targeted Credits	Current Scorecard			BRE Score Weighting	Pre-assessment Targeted Score	Pre-assessment Potential Score
			Current Targeted	Current Potential	Current Removed			
Management	18	17	17	18	0	11.0%	10.4%	11.0%
Health & Wellbeing	12	8	7	7	1	8.0%	4.7%	4.7%
Energy	24	15	15	15	0	14.0%	8.8%	8.8%
Transport	12	12	12	12	0	11.5%	11.5%	11.5%
Water	9	7	7	7	0	7.0%	5.4%	5.4%
Materials	14	7	7	10	0	17.5%	8.8%	12.5%
Waste	11	9	9	10	0	7.0%	5.7%	6.4%
Landuse & Ecology	13	7	8	15	0	15.0%	9.2%	17.3%
Pollution	12	11	11	12	0	9.0%	8.3%	9.0%
Innovation	10	2	4	4	0	10.0%	4.0%	4.0%
	135	95	97	110	1	110%	76.7%	90.5%

Figure 1: Shell & Core Pre-Assessment



Category	Shell Only Available Credits	Original Targeted Credits	Update to Current Scorecard			BRE Score Weighting	Pre-assessment Targeted Score	Pre-assessment Potential Score
			Current Targeted	Current Potential	Current Removed			
Management	15	14	14	15	0	12.0%	11.2%	12.0%
Health & Wellbeing	8	5	4	7	1	7.0%	3.5%	6.1%
Energy	13	10	10	10	0	9.5%	7.3%	7.3%
Transport	12	12	12	12	0	14.5%	14.5%	14.5%
Water	3	2	2	2	0	2.0%	1.3%	1.3%
Materials	14	7	7	10	0	22.0%	11.0%	15.7%
Waste	10	9	9	9	0	8.0%	7.2%	7.2%
Landuse & Ecology	13	7	7	8	0	19.0%	10.2%	11.7%
Pollution	6	6	6	6	0	6.0%	6.0%	6.0%
Innovation	10	2	4	4	0	10.0%	4.0%	4.0%
	104	74	75	83	1	110%	76.3%	85.9%

Figure 2: Shell Only Pre-Assessment

2 Introduction

In line with London Plan and Southwark Local planning requirements, the BREEAM Interim Design Rating has been prepared to meet the targeted ‘Excellent’ Rating with a sufficient buffer to mitigate the risk of credits reliant on construction stage actions and the certification post-construction is achieved. This report presents all relevant credits and prerequisites that the Aylesham Centre has targeted and the evidence of compliance with each of these issues. The targeted certification rating is BREEAM Excellent which aligns with the requirements of the Environmental Standards Statement which was submitted as part of planning.

Each discipline has been engaged in the compilation of BREEAM evidence and the integration of the targeted credits has been confirmed. The pre-assessment presents the intent of the BREEAM issues targeted, the credit requirements for each BREEAM issue targeted and the current status or anticipation of the targeted credits.

Coordination of the registration for the BREEAM assessment has been completed and the Interim Design Rating has been submitted for review. As per the BRE advice the BREEAM assessment for the Aylesham Centre has been completed according to the following assessments:

- 1) Flexible Retail, Commercial, Leisure Shell Only (incl. Retail, F&B, undefined Block B Commercial Space) (Similar Buildings)
- 2) Block E,G&K Office Shell & Core Cat A (Similar Buildings)
- 3) Morrison’s Retail Shell and Core (Morrison’s)
- 4) Block D Office Shell and Core Cat A

The BREEAM pre-assessment defines the targeted credits of each of these assessments to achieve a ‘Excellent’ Rating for all aspects of the Aylesham Centre. The scorecards have been prepared to target sufficient credits which are deemed feasible with an appropriate buffer to safeguard the Excellent Rating achievement.

The current status of the BREEAM scorecards are presented in the BREEAM appendix. These scorecards demonstrate the targeted Excellent Rating and provide an issue-by-issue breakdown of the credits being targeted and the evidence compiled for credit achievement. The distribution of each category within the targeted score proportional to the BREEAM category weightings is presented.

The initial targeted score for the assessments is presented in the following table:

BREEAM Pre-Assessment	Targeted Score	BREEAM Status
Retail Shell Only (incl. Retail, F&B, Leisure, undefined Block B Commercial Space) (Similar Buildings)	76.3%	Excellent
Block E,G&K Office Shell & Core Cat A (Similar Buildings)	76.7%	Excellent
Morrison’s Retail Shell and Core (Morrison’s)	76.7%	Excellent
Block D Office Shell and Core Cat A	76.7%	Excellent

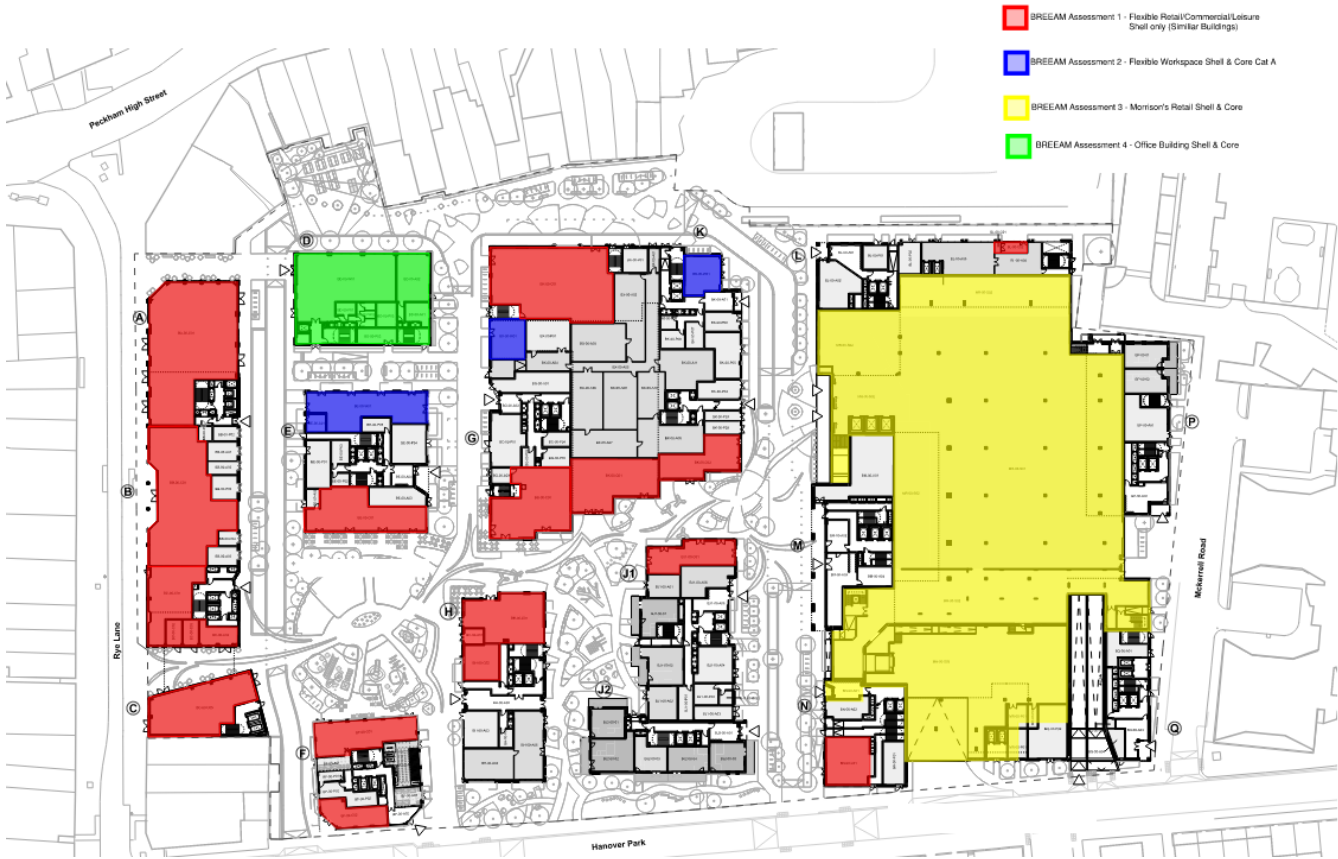


Figure 3: BREEAM Basis of Assessment

3 BREEAM Excellent Minimum Standards

To ensure performance against fundamental environmental issues is not overlooked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas, e.g. energy, water, waste etc. The majority of BREEAM credits can, however, be traded, so non-compliance in one area can be offset through compliance in another to achieve the target BREEAM rating. The minimum acceptable levels of performance for the Aylesham Centre BREEAM Assessments are summarized in the following table:

Minimum standards by BREEAM rating level		
BREEAM issue	Requirement	Score
Man 03 Responsible construction practices	Responsible construction management	One credit
Man 04 Commissioning and handover	Commissioning- test schedule and responsibilities	One credit
Man 04 Commissioning and handover	Prior to handover, develop two building user guides (see Methodology below) for the following users: <ul style="list-style-type: none">A non-technical user guide for distribution to the building occupiers.A technical user guide for the premises facilities managers.	One Credit
Man 05 Aftercare	Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: The specialist commissioning manager will: <ul style="list-style-type: none">Identify changes made by the owner or operator that might have caused impaired or improved performance.Test all building services under full load conditions, i.e. heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn).Where applicable, carry out testing during periods of extreme (high or low) occupancy.Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems.Produce monthly reports comparing sub-metered energy performance to the predicted one.Identify inefficiencies and areas in need of improvement.Re-commission systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals.	One credit

Ene 01 Reduction of energy use and carbon emissions	Energy performance or Prediction of operational energy consumption	Four credits
Ene 02 Energy monitoring	Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories. Meter the energy consumption in buildings according to the total useful floor area by end-use category with an appropriate energy monitoring and management system. Building users can identify the energy consuming end uses, for example through labelling or data outputs.	One credit
Wat 01 Water consumption	Achieve 12.5% reduction over BREEAM Water Performance Level Baseline as a minimum.	One credit
Wat 02 Water monitoring	Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.	Criterion 1 only
Mat 03 Responsible sourcing of construction products	100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP)	Criterion 1 only
Wst 03 Operational Waste Management	Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: <ul style="list-style-type: none">Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streamsAccessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractorsOf a capacity appropriate to the building type, size, number of units and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates. For consistent and large amounts of operational waste generated, provide: <ul style="list-style-type: none">Static waste compactors or balers; situated in a service area or dedicated waste management spaceVessels 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 facilityA 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

4 Management

This category encourages embedding sustainable design through sustainable management practices. Issues in this section focus on embedding robust sustainability objectives in the design and construction processes.

4.1 Man 01 Project Brief and Design

4.1.1 Intent

Man 01 issue recognises and encourages an integrated design process that optimises building performance.

4.1.2 Requirements

Project delivery planning including a sustainability brief is developed. The client requirements, target BREEAM rating, timescales, budget, consultees required and constraints (technical, legal, physical, environmental) are defined.

Stakeholder consultation covering project delivery and relevant third parties has been undertaken to highlight how the Concept stage was influenced by stakeholder contribution.

The BREEAM AP is appointed at Concept Stage and assists project team with maximizing the overall project's performance against the BREEAM rating system and monitors progress through to developed design stage.

4.1.3 Shell & Core Anticipation

There are 4 out of 4 credits targeted in this issue. Project delivery planning including a sustainability brief is developed. The client requirements, target BREEAM rating, timescales, budget, consultees required and constraints (technical, legal, physical, environmental) have been defined through collaborative workshops. The credit requirements have been communicated with Berkeley Homes and the feasibility of credit achievement has been confirmed. Compliance in this issue is demonstrated through the preparation of the BREEAM consultation plan.

The BREEAM performance targets for the development are defined with a 'Excellent' BREEAM rating targeted (P.63). The initial BREEAM tracker scorecard presents the initial KPIs to achieve BREEAM compliance.

Assessment Criteria	Targeted	Credit Score
Stakeholder consultation (interested parties)	Yes	1
Project delivery planning	Yes	1
Prerequisite: Have the client and the contractor formally agreed performance targets?	Yes	-
BREEAM Advisory Professional (Concept Design)	Yes	1
BREEAM Advisory Professional (Developed Design)	Yes	1

4.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation. There are 4 out of 4 credits targeted in this issue. The credit requirements have been communicated with Berkeley Homes and the feasibility of credit achievement has been confirmed. Compliance in this issue is demonstrated through the preparation of the BREEAM consultation plan.

4.2 Man 02 Life Cycle Cost and Service Life Planning

4.2.1 Intent

This issue recognises and encourages the use of life cycle costing and service life planning and the sharing of data to improve design, specification, through-life maintenance and operation and promote economic sustainability.

4.2.2 Requirements

An Elemental Life Cycle Costing Plan is prepared to provide an outline entire asset LCC plan at Stage 2 in line with 'Standardised Method of Life Cycle Costing for Construction Procurement' PD 156865:2008. This plan will also provide an indication of future replacement costs over a period of analysis as required by the client include service life, maintenance and operation cost estimates to demonstrate compliance. The report should then demonstrate how the LCC process benefited the design in terms of cost and value. The component level LCC shall include (where present):

- Envelope, e.g. cladding, windows, or roofing
- Services, e.g. heat source, cooling source, or controls
- Finishes, e.g. walls, floors or ceilings
- External spaces, e.g. alternative hard landscaping, boundary protection.

The credits targeted in this issue require the Capital cost to be reported via BREEAM Assessment Scoring and Reporting tool. The capital cost of the building is reported in pounds per square metre of gross internal floor area (£/m²). Predicted values for the construction including preparatory works, materials, equipment and labour is sufficient for the Interim Design rating.

The known or best estimate capital cost information is required for final assessment stage. Capital cost reporting is intended to inform future BREEAM performance benchmarking and will be anonymised. Costing information is collected to assist research into the cost and savings of developing BREEAM assessed buildings.

4.2.3 Shell & Core Anticipation

Refer to Shell & Core Anticipation. There is 4 out of 4 credits targeted for this issue. The credit requirements have been communicated with the Applicant and the feasibility of credit achievement has been confirmed. The Financial Viability Assessment is to be compiled as evidence for the Elemental Life Cycle Costing credit which is a time critical item of this issue.

Assessment Criteria	Targeted	Credit Score
Elemental LCC	Yes	2
Component Level LCC Options Appraisal	Yes	1
Capital Cost Reporting	Yes	1

4.2.4 Shell only Anticipation

There is 4 out of 4 credits targeted for this issue. The credit requirements have been communicated with Berkeley Homes and the feasibility of credit achievement has been confirmed. The Financial Viability Assessment is to be compiled as evidence for the Elemental Life Cycle Costing credit which is a time critical item of this issue.

4.3 Man 03 Responsible Construction Practices

4.3.1 Intent

Man 03 issue encourages construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

4.3.2 Requirements

Prerequisites for achieving the targeted credits for this issue include the sustainable sourcing of timber which is legally harvested and traded. The client and contractor must also formally agree performance targets.

The principal contractor demonstrates sound environmental management practices and consideration for neighbours throughout their activities on site.

A Sustainability champion is appointed to continue to ensure ongoing compliance of BREEAM performance targets throughout construction, handover and close out stages.

Considerate construction is demonstrated and verified through independent assessment and verification of the Checklist A1. Principal contractor must achieve 6 items in four sections of BREEAM Checklist A1.

Site related energy consumption (kWh), potable water consumption (m3) and transport related carbon emissions (kgCO2-eq) are monitored, recorded and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages and to improve awareness and understanding for future projects. The utility consumption arising from construction plant, equipment (mobile and fixed) and site accommodation is required to be submitted.

4.3.3 Shell & Core Anticipation

There are 6 out of 6 credits targeted for this issue. The credit requirements of this issue required confirmation of the feasibility of credit achievement with the contractor upon appointment. The requirements will be incorporated into relevant tender documents to ensure compliance of the targeted items is achieved for all assessments.

The principal contractor shall demonstrate sound environmental management practices and consideration for neighbours throughout their activities on site and confirm through return of signed Contractor Compliance letter which confirms all parties who at any stage manage the construction site operate an EMS covering their main operations.

A letter of commitment shall be submitted which confirms a BREEAM AP (Site) will be appointed to ensure ongoing compliance of BREEAM performance targets throughout construction, handover and close out stages.

Assessment Criteria	Targeted	Credit Score
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'?	Yes	-
Environmental management	Yes	1
Prerequisite: Have the client and the contractor formally agreed performance targets?	Yes	-
BREEAM Advisory Professional (site)	Yes	1
Responsible construction management	Yes	2
Monitoring of construction site impacts	Yes	-
Utility consumption	Yes	1
Transport of construction materials and waste	Yes	1

4.3.4 Shell Only Anticipation

Refer to Shell & Core Anticipation. There are 6 out of 6 credits targeted for this issue. The credit requirements of this issue required confirmation of the feasibility of credit achievement with the contractor upon appointment. The requirements will be incorporated into relevant tender documents to ensure compliance of the targeted items is achieved for all assessments.

4.4 Man 04 Commissioning and Handover

4.4.1 Intent

Man 04 issue encourages thoughtful planning of commissioning and handover process which reflects the needs of the building occupants.

4.4.2 Requirements

Credit achievement requires the appointment of a commissioning specialist manager at design stage.

Requirements for credit achievement in Man 04 include the schedule of commissioning which presents, optimal timescales and appropriate testing. For the Interim Design Rating, evidence can be provided in the form of the project budget, programme of works and commissioning manager specialist appointment. For the Final post-construction the commissioning report or the main contractor's programme is submitted.

The commissioning specialist shall be engaged during the design stages and manages the commissioning of all building services systems and building fabric in line with best practice. Defects are identified through inspection and testing. The defects are rectified via an appropriate method. Provision of a non-technical building user guide and user training or operator training are timed appropriately around handover and proposed occupation.

Shell and Core elements of the assessment of the commissioning testing schedule, responsibilities, design and preparation are applicable according to the scope of services being specified or installed.

Shell and Core elements of the assessment require the guides and training schedules to include as far as possible, the relevant sections regarding services and fabric installed. The output materials are handed over to the fit-out contractor, who completes the relevant sections based on the fit-out strategy.

4.4.3 Shell & Core Anticipation

There are 3 out of 4 credits targeted based on the assumption that a specialist commissioning manager is to be engaged during the Design Stage. Confirmation of the feasibility of credit achievement of this issue is to be demonstrated through return of Design Compliance letter and the preparation of commissioning plan and testing schedule. For the Final post-construction, the commissioning report or the main contractor's programme is submitted. This shall evidence the resolution of any defects are identified through inspection and testing. The defects are rectified via an appropriate method.

Provision of a non-technical building user guide and user training or operator training are to be timed appropriately around handover and proposed occupation.

The testing and inspecting of building fabric is identified as a potential credit to target for the Shell & Core elements of assessment. The feasibility of achieving these criteria will be assessed where an increase to the buffer of compliance is required.

Assessment Criteria	Targeted	Credit Score
Commissioning testing schedule and responsibilities	Yes	1
Commissioning - design and preparation	Yes	1
Testing and inspecting building fabric	No	-

Handover - have a technical and a non-technical building user guide been developed prior to handover	Yes	1
Handover - have a technical and a non-technical training schedule been prepared around handover	Yes	1

4.4.4 Shell Only Anticipation

The testing and inspecting of building fabric is the only criteria assessed for the Shell Only elements of the assessment and is identified as a potential credit in the scorecard. The feasibility of achieving these criteria will be assessed where an increase to the buffer of compliance is required.

Assessment Criteria	Targeted	Credit Score
Testing and inspecting building fabric	No	-

4.5 Man 05 Aftercare

4.5.1 Intent

Man 05 encourages a post-handover aftercare to building owner and occupants during first year of occupation to be provided. This issue recognises efforts to ensure the building operates and adapts in accordance with design intent and operational demands.

4.5.2 Requirements

Provisions are made for the necessary infrastructure and resources to provide aftercare support to the building occupiers. Seasonal commissioning activities will be completed over a minimum 12 month period, once the building becomes substantially occupied. The client or building occupier commits to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance.

4.5.3 Shell & Core Anticipation

This issue is not applicable to the Shell and Core elements of the BREEAM assessment.

4.5.4 Shell Only Anticipation

This issue is not applicable to the Shell Only elements of the BREEAM assessment.

5 Health & Wellbeing

The Health and Wellbeing category encourages the increased comfort and, health and safety of building occupants. The quality of life in buildings is enhanced when a healthy and safe internal/external environment for occupants is encouraged.

5.1 Hea 01 Visual Comfort

5.1.1 Intent

Hea 01 issue recognises efforts to ensure daylighting, artificial lighting and occupant controls are considered at design stage.

5.1.2 Requirements

There is a pre-requisite for this issue which requires all fluorescent and compact fluorescent lamps to be fitted with high frequency ballasts. The proposed development is designed to ensure the following:

- The potential for disabling glare has been designed out of all relevant building areas.
- Good practice daylighting levels have been met.
- Floor space in the relevant building areas has an adequate view out to reduce eye strain and provide a link to the outside.
- Internal and external lighting systems are designed to avoid flicker and provide appropriate illuminance (lux) levels. Internal lighting is zoned to allow for occupant control.

Shell and Core elements of the assessment do not include credits available for consideration of view out.

5.1.3 Shell & Core Anticipation

There are currently 1 out of 4 credits targeted for the Shell and Core elements of the assessment.

This credit is intended to be targeted with confirmation that external lighting meet the relevant illuminance level standards and the lighting controls will be appropriately zoned and occupant controlled.

Feasibility of credit achievement for this credit is to be confirmed with Gillespie's.

Additional credits in this issue (Glare Control, Daylight, View out) are to be considered for targeting as façade design develops. The credit requirements for these issues have been communicated with Assystem.

Commitment to targeting will be assessed based on the feasibility of credit achievement when façade design is sufficiently developed.

Assessment Criteria	Targeted	Credit Score
Control of glare from sunlight	N/A	-
Daylighting (building type dependent) implementation	No	-
View Out	No	-
External lighting levels, zoning and controls	Yes	1
Exemplary level criteria - Daylighting	No	-
Exemplary level criteria- Internal and external lighting levels, zoning and control	No	-

5.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

5.2 Hea 02 indoor Air Quality

5.2.1 Intent

Hea 02 issue encourages a healthy internal environment through specifications and installation of appropriate ventilation, equipment and finishes.

5.2.2 Requirements

A pre-requisite for credit achievement of this issue is the development of an Indoor Air Quality (IAQ) plan in accordance with GN06.

Credit achievement requires the building to be designed to minimise indoor concentration and recirculation of pollutants and provides fresh air in accordance with National Best Practice (NBP). Additionally, ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building. Filtration in HVAC to minimise external air pollution and is compliant with BS EN 16798-3:2017.

A ventilation strategy which provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM13.

Shell and Core elements of the assessment only recognizes the completion of a BREEAM compliant Indoor Air Quality Plan (IAQ) and efforts to provide fresh air into the building in accordance with the criteria of relevant standards for ventilation.

5.2.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted for the Shell & Core elements of the assessments.

A BREEAM Compliant Indoor Air Quality (IAQ) plan is prepared to demonstrate compliance with the pre-requisite for this issue. This is to be confirmed of the feasibility with the principal contractor
The ventilation requirements have been communicated with ME Engineers as a minimum distance of 10m between the AHUs exhaust and intake which will be attempted for all cases. For instances where the minimum distance is not achieved, an air quality study based on CFD simulation will be conducted to verify that the intent of the credit is satisfied.

This credit is ultimately to be delivered with the detailed ventilation control drawings. Implementing the ventilation control strategy for all spaces in accordance with the targeted credits is a contractor design element that will be completed in stage 4B. This requires specified filters to achieve supply air classification of at least SUP2 and occupied spaces to have CO2 sensors in accordance with Building Regulations ADF2.

Bespoke Assessment Criteria	Targeted	Credit Score
Pre-requisite: Indoor Air Quality (IAQ) Plan	Yes	-
Are you complying with the Ventilation criteria?	Yes	1

5.2.4 Shell Only Anticipation

The credit requirements of this issue are not applicable to this Scope of Assessment.

5.3 Hea 04 Thermal Comfort

5.3.1 Intent

Hea 04 encourages satisfactory thermal comforts are achieved through design, and controls are selected to maintain a thermally comfortable environment for occupants within the building.

5.3.2 Requirements

Thermal modelling carried out in accordance with CIBSE AM11 considering seasonal variations and local thermal comfort criteria. For air conditioned spaces the Predicted mean vote (PMV) and predicted percentage of dissatisfied (PPD) indices are calculated. PMV and PPD reported in BREEAM Assessment Scoring and Reporting tool.

Projected climate change scenarios considered as part of the thermal model and demonstrates compliance with CIBSE Guide A. The thermal modelling analysis has informed the thermal zoning and control strategy for the building and its users.

For Shell and Core elements of the assessment, the thermal modelling assumptions must be reasonable and represent typical use patterns and loads given the parameters and functions of the building. Thermal zoning and controls is omitted from the scope of the Shell and Core assessment. The PMV and PPD indices are not required to be reported on the BREEAM assessment scoring and reporting tool.

5.3.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for the Shell and Core elements. The feasibility of credit achievement has been confirmed by ME Engineers.

Assessment Criteria	Targeted	Credit Score
Thermal modelling	Yes	1
Design for future thermal comfort	Yes	1

5.3.4 Shell Only Anticipation

The credit requirements of this issue are not applicable to this Scope of Assessment.

5.4 Hea 05 Acoustic Performance

5.4.1 Intent

Hea 05 issue encourages designers to ensure the building's acoustic performance, including sound insulation meets appropriate standards for its purpose.

5.4.2 Requirements

A pre-requisite to achieve credits in this issue is to appoint a Suitably Qualified Acoustician (SQA). The qualifications, experience & membership of the Suitably Qualified Acoustician are provided as part of the evidence for this issue.

An acoustic report confirming the building will meet the appropriate acoustic performance standards (Section 7 of BS 8233:2014) for sound insulation, indoor ambient noise level and reverberation times is produced.

For the workspace, a programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures.

Any remediations works identified by the SQA in the acoustic report are addressed and implemented into the design.

5.4.3 Shell & Core Anticipation

For the Shell and Core elements of the assessment, 1 out of 1 credit is targeted for compliance with the Indoor Ambient Sound Levels criteria.

Assessment Criteria	Targeted	Credit Score
Sound insulation	N/A	1
Indoor ambient noise level	Yes	1
Room acoustics	N/A	1

5.5 Hea 06 Security

5.5.1 Intent

Hea 06 issue encourages the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

5.5.2 Requirements

The appointment of a suitably qualified security specialist (SQSS) to conduct an evidence-based Security Needs Assessment (SNA) during concept stage is required for credit achievement for this issue.

SQSS develops a set of security controls and recommendations for incorporation into the proposals, directly related to the threats and assets identified in the SNA. Controls and recommendations incorporated into as-built development. Deviations from these controls and recommendations shall be justified.

5.5.3 Shell & Core Anticipation

Where a security consultant is engaged to complete a Security Needs Assessment, the available credit is this issue will be assessment for compliance. The completion of the SNA is to be completed at the earliest stages of design to ensure a comprehensive assessment is undertaken with the relevant stakeholders and a set of security controls and recommendations are developed.

Assessment Criteria	Targeted	Credit Score
Security of site and building	No	1
Exemplary level criteria- SABRE	No	-

5.5.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

5.6 Hea 07 Safe and Healthy Surroundings

5.6.1 Intent

Hea 07 issue encourages the provision for safe access around the site and outdoor space that enhances the wellbeing of building users.

5.6.2 Requirements

Inclusive and accessible design is presented with security needs taken into account in the design and specification. The building designed is fit for purpose, appropriate and accessible by all potential users. An Access strategy is developed to address disable users, diverse age groups, ethnicity and fitness, and future building occupants. A site plan demonstrating outside amenity space accessible to all building occupants shall be produced to demonstrated compliance. The space shall:

- be an outdoor landscaped area (garden / terrace open to the sky)
- have appropriate seating
- be designated as non-smoking
- be away from areas that will be subject to noise disturbance (e.g. building services, car parks, busy roads, delivery areas, etc).

5.6.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for this issue. The credit requirements have been communicated with dRMM and Arup and the feasibility of credit achievement has been confirmed.

Assessment Criteria	Targeted	Credit Score
Safe Access	Yes	1
Outside Space	Yes	1

5.6.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

6 Energy

The Energy category encourages the specification and design of energy efficient building solutions, systems and equipment that support the sustainable use and management of energy during the building's operation. The aim of this category is to improve the inherent energy efficiency of the building, encourage the reduction of CO₂ emissions and support efficient management throughout the operational phase of the building's life.

6.1 Ene 01 Reduction of Energy use and Carbon Emissions

6.1.1 Intent

Ene 01 issue is intended to reduce and negate the impact of natural hazard on the building. The aim is to minimise operational energy demand, primary energy consumption and CO₂ emissions.

6.1.2 Requirements

The improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide emissions are presented through the Energy Performance Ratio for New Construction (EPR_{nc}).

The EPR metrics are compared against the national building regulations standard (Part L baselines) and expressed as a percentage improvement. The percentage improvements are then compared against modelled building stock and translated into a ratio of performance. The ratios are weighted for each metric and added together to determine overall EPR_{nc}. EPR_{nc} calculation requires building floor area as well as the predicted and actual values for each of the metrics. The predicted values of the metrics are acquired from performance data which is extracted from annual energy modelling of the building's specified or designed regulated fixed building services and fabric. The energy modelling data is sourced from the BREEAM compliant energy modelling software. Credits are achieved through comparison of the EPR_{nc} with the BREEAM benchmarks.

Required evidence for submission include a copy of the 2021 Part L Approved Document checks (BRUKL Output Document), confirmation of suitably qualified energy modeller's qualifications. Details of the outcomes and recommendations of the assessment are required to be provided.

6.1.3 Shell & Core Anticipation

All criteria for this issue are applied to the Shell and Core elements of the assessment. However, if building services efficiencies and performance specifications are not known, services complying with the minimum energy efficiency standards required by Part L is used. Where a green fit-out agreement is in place, the performance specifications confirmed within this agreement shall be applied to the energy modelling.

ME Engineers have been engaged as the suitably qualified energy modeler and will carry out an appropriate energy assessment to produce the BRUKL output document which is Part L approved.

6.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

6.2 Ene 02 Energy Monitoring

6.2.1 Intent

Ene 02 issue encourages the installation of energy sub-metering to facilitate the monitoring of operational energy consumption. The evidence submitted for this issue should demonstrate that managers and consultants post-handover are able to compare actual performance with the targets in order to inform ongoing management and help in reducing the performance gap.

6.2.2 Requirements

Energy metering systems are installed to enable 90% of the energy consumption and is assigned according to end use categories.

The end-use included in the Aylesham Centre metering strategy is in accordance with CIBSE TM39: Building energy metering. Given the area under assessment is greater than 1000m², metering is to be provided by end-use categories.

The proposed metering systems enable building users to identify energy consuming end-uses through labelling or data outputs. Sub-meters are provided for areas with high or variable energy load. For Shell and Core elements of the assessment, meters shall be installed to the energy supply to each tenanted unit or floor plate.

The end-use included in the BREEAM scope of assessment are presented as follows:

- Space heating
- Domestic hot water heating
- Humidification
- Cooling
- Ventilation, i.e. fans (major)
- Pumps
- Lighting
- Small power
- Renewable or low carbon systems (separately)
- Controls
- Other major energy consuming systems or plant, where appropriate. Depending on the building type, this might include: plant used for swimming or hydrotherapy pools; other sports and leisure facilities; kitchen plant or catering equipment; office equipment; cold storage plant; laboratory plant; sterile services equipment; transportation systems (e.g. lifts and escalators); drama studios and theatres with large lighting rigs; telecommunications; dedicated computer room or suite; server rooms; dealing rooms; covered car parks; ovens or furnaces; and floodlighting. See also CIBSE TM39: Building energy metering for further information.

6.2.3 Shell & Core Anticipation

This credit is ultimately to be demonstrated with the detailed metering drawings. Implementing the metering strategy for all assets in accordance with the targeted credits is a contractor design element that will be completed in stage 4B. This requires 90% of the energy consuming equipment to be metered according to end-use category with an accessible energy monitoring and management system for tenanted areas or relevant function areas in single occupancy buildings.

Assessment Criteria	Targeted	Credit Score
Sub-metering of end use categories	Yes	1
Sub-metering of high energy load and tenancy areas	Yes	1

6.2.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

6.3 Ene 03 External Lighting

6.3.1 Intent

Ene 03 issue recognises efforts to reduce consumption through the specification of energy efficient light fittings for external areas of development.

6.3.2 Requirements

External lighting within the construction zone will be specified to be within average initial luminous efficacy of >70 luminaire lumens per circuit Watt. Systems are designed to enable automatic control to prevent operation during daylight hours and presence of detection in areas of intermittent pedestrian traffic.

6.3.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted in this issue.

Assessment Criteria	Targeted	Credit Score
External lighting has been designed out?	No	-
Is external lighting specified in accordance with the relevant criteria?	Yes	1

6.3.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

6.4 Ene 04 Low Carbon Design

6.4.1 Intent

Ene 04 issue encourages the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building service systems.

6.4.2 Requirements

Credit achievement in this issue requires Hea 04 Thermal Comfort (Thermal Modelling) to demonstrate that the building meets satisfactory thermal comfort levels in occupied spaces to be produced. This will be confirmed through completion of a CIBSE AM11 Thermal Comfort Assessment for all Aylesham Centre BREEAM Assessments.

A Passive Design Analysis shall be undertaken. Opportunities to incorporate passive design into the development during concept design stages were identified and where feasible implemented into the design to reduce total heating, cooling, mechanical ventilation, lighting loads and energy consumption.

A feasibility study shall be completed by the end of Concept Design to establish the most appropriate recognised local (on-site or near site) Low-Zero Carbon energy sources for the building.

6.4.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted in this issue There are 2 out of 3 credits targeted in this issue. The credit requirements have been communicated with ME Engineers and confirmed for their feasibility. A BREEAM compliant passive design analysis and free cooling assessment have been completed and are ready for submission.

Assessment Criteria	Targeted	Credit Score
Has the first credit within Hea 04 been achieved?	Yes	-
Passive design analysis	Yes	1
Free cooling	No	-
LZC technologies	Yes	1

6.4.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

6.5 Ene 06 Energy Efficient Transportation systems

6.5.1 Intent

Ene 06 issue encourages the specification of energy efficient transportation systems within buildings.

6.5.2 Requirements

This issue requires the commissioning of a transport lift analysis to determine lift demand and usage patterns for the building. The analysis must determine the optimum number and size of lifts (including counter-balancing ratio), and the estimated energy consumption for one of the following:

- at least two type of systems
- an arrangement of systems
- a strategy which is fit for purpose

The lift analysis should consider the use of regenerative drive, and demonstrate that the lift with the lowest energy consumption has been specified.

The lift specification or manufacturer literature shall be compiled as evidence to confirm the energy-efficient features specified include:

- Standby condition for off-peak periods
- Car lighting and display lighting provided has an average luminous efficacy of > 70 luminaire lumens per circuit watt
- Drive controller capable of variable speed, variable-voltage and variable frequency (VVVF)

6.5.3 Shell & Core Anticipation

There are 3 out of 3 credits targeted for this issue. A BREEAM compliant transport lift analysis report will be required to be produced for the Shell & Core elements of the Aylesham Centre BREEAM Assessment.

6.5.4 Shell Only Anticipation

Credit requirements in this issue are not applicable to the Shell Only Assessment.

7 Transport

The Transport category encourages the provision of and improved access to local amenities and to sustainable means of transport. Measures that support a reduction of car journeys (CO2 emissions and congestion) over the life of the building.

7.1 Tra 01 Transport Assessment and Travel Plan

7.1.1 Intent

Tra 01 issue intends to reward awareness of existing local transport and identify improvements to make it more sustainable.

7.1.2 Requirements

A site-specific transport assessment is required to be undertaken at Concept Design stage. The transport assessment demonstrates influences of the proposed development to the site layout and built form. The transport assessment presents the existing and predicted travel patterns and attitudes of existing building or site users towards cycling, walking and public transport. The current local environment for public transportation, cyclists and pedestrians, including age related requirements, is investigated. The number and type of accessible amenities within 500m is reported. The accessible amenities included in the BREEAM scope for this issue are as follows:

- Appropriate food outlet
- Access to cash
- Access to an outdoor open space (public or private, suitably sized and accessible to building users)
- Access to a recreation or leisure facility for fitness or sports
- Publicly available postal facility
- Community facility
- Over the counter services associated with a pharmacy
- Public sector GP surgery or general medical centre
- Childcare facility or school

The assessment also considers disabled access accounting for the varying levels and types of disability, including visual impairment. The public transport Accessibility Index (AI) is calculated.

Following the site-specific travel assessment, a site-specific travel plan which details long term management strategies to increase or improve the sustainable modes of transport and movement of people and good’s during the operation of the development. The Applicant is engaged to involve them with the development of the travel plan. The intention to implement the travel plan into the proposed development’s operation is demonstrated.

7.1.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for this issue. The credit requirements have been communicated with Arup and credit achievement was confirmed for feasibility. The credit requirements have been communicated with Arup and credit achievement confirmed for feasibility. A site-specific travel assessment and travel plan have been developed as part of planning. The site and the surrounding area benefits from a PTAL of 6a/6b (on a scale of 1a to 6b, with 6b being excellent).

Assessment Criteria	Targeted	Credit Score
Travel Plan and Site-Specific Transport Assessment	Yes	2

7.2 Tra 02 Sustainable Transport Measures

7.2.1 Intent

Tra 02 intends to maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to site.

7.2.2 Requirements

A pre-requisite for this issue is the submission of a BREEAM compliant Site-specific travel plan developed with input from the Applicant and it has been proven that there is an intention to implement this plan and is supported by facilities management. Sustainable transport measures presented in Table 7.4, BREEAM UK NC V6 SD5079, are assessed for feasibility for the proposed scheme.

Credits are awarded based on the number of points achieved in Table 7.4. The points required to achieve credits in this issue is dependent on the calculated AI of the proposed development.

7.2.3 Shell & Core Anticipation

There are currently 10 out of 10 credits targeted for this issue. The proposed development is confirmed be within PTAL 6a/6b classification. The Applicant and Arup transport consultants have been engaged to identify easy win sustainable transport measures to be targeted for this issue as part of the BREEAM assessment. The proposed development is anticipated to address the following sustainable transport design measures:

Sustainable Design Measures	Targeted	Tra 02 Points Available
AI ≥ 8 for all other building	Yes	1
During preparation of the brief, the design team consults with the local authority (LA) on the state of the local accessible pedestrian routes. Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.	Yes	2
Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 (BREEAM SD5079)	TBC	-
Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development.	Yes	1
At least three existing accessible amenities are present, see Table 7.6 on page 191, where relevant for a Building Group.	Yes	1
Provide at least two compliant cyclists’ facilities for the building users	TBC	-
Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 191 for the relevant Building Group, is provided.	Yes	3
		8

Assessment Criteria	Targeted	Credit Score
Sustainable Design Measures Points (AI ≥ 40)	8	10

The proposed sustainable transport design measures are included within the transport assessment and travel plan. Confirmation of their implementation is required to confirmed feasibility of compliance with this issue.

7.2.4 Shell Only Anticipation
Refer to Shell & Core Anticipation

8 Water

The Water category encourages sustainable water use in the operation of building and its site. Identifying means of reducing potable water consumption (internal and external) over the lifetime of building and minimising losses through leakage.

8.1 Wat 01 Water Consumption

8.1.1 Intent

Wat 01 issue is intended to reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

8.1.2 Requirements

The credits allocated for this issue are calculated by the BREEAM Wat 01 calculator. This calculator intends to assess efficiency of domestic water-consuming comp. The water consumption (litres/person/day) for the assessed building against Is compared against a baseline. The specifications of the sanitary fittings and controls to be installed, including (where applicable) specification of: WCs, washbasin taps; urinals; kitchen taps; showers; bath; dishwasher; washing machine should be submitted as part of the evidence for this issue.

For Shell & Core elements of the assessment, the minimum scope of components should include WCs, wash-hand basin taps, showers, urinals and kitchen taps. If the developer is not installing these, the baseline values for any unknown components are used.

8.1.3 Shell & Core Anticipation

There are 4 out of 5 credits targeted for this issue in the BREEAM assessment which assumes the inclusion of rainwater harvesting. This is to be confirmed as the design develops. Where greywater or rainwater system are specified, the yield of these systems (litres/person/day) is calculated and used to offset potable water demand. The specification of sanitary fittings will be demonstrated through green lease agreements.

Assessment Criteria	Targeted	Credit Score
Are all the components specified and installed by the tenant not the developer?	Yes	1
Calculation procedure used	Alternative	1
BREEAM Water Performance Level	50% Reduction	4

8.1.4 Shell Only Anticipation

The credit requirements of this issue are not applicable to the Shell Only Assessment.

8.2 Wat 02 Water Monitoring

8.2.1 Intent

Wat 02 issue is intended to reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

8.2.2 Requirements

A pulsed water meter will be fitted on the mains supply to the building including instances where water is supplied via a borehole or other private source.

Shell & Core – assess water-consuming plant or building areas identifiable by the developer. Do not assess water-consuming plant or building areas to be added or installed by tenant.

For sites with multiple units or buildings, separate sub-meters should be fitted on the water supply to the following areas: each individual unit supplied with water, common areas (covering the supply to toilet blocks), service areas (covering the supply to outlets within storage, delivery, waste disposal areas), ancillary or separate buildings to the main development with water supply.

For water-consuming plant or building areas consuming 10% or more of the building's total water demand: fit easily accessible sub-meters OR install water monitoring equipment integral to plant or area. Each meter pulsed or other open protocol communication output. Connect it to an appropriate utility monitoring and management system e.g. BMS. If no BMS in operation post-construction award credits provided the system used enables connection when BMS becomes operational.

For post occupancy evaluation, the water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day).

8.2.3 Shell & Core Anticipation

There are currently 1 out of 1 credits being targeted for this issue. The credit requirements are to be confirmed with Berkeley Homes through green lease agreement.

BREEAM compliant water meters will be provided for all tenanted areas.

Assessment Criteria	Targeted	Credit Score
Water meter on the mains water supply to each building	Yes	-
Sub-metering/monitoring equipment on supply to plant/building areas	Yes	-
Pulsed output or other open protocol communication output and BMS connection	Yes	-
Total BREEAM Credits		1

8.2.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

8.3 Wat 03 Water Leak Detection

8.3.1 Intent

Wat 03 issue is intended to reduce consumption of potable water in new buildings through minimising wastage due to water leaks.

8.3.2 Requirements

Provisions are made for the leak detection system on the utilities water supply within buildings and between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment. Permanent automated water leak detection system that alerts the building occupants to the leak or an inbuilt automated diagnostic procedure for detecting leaks. The leak detection system shall be activated when flow rate passing through water meter is at a flow rate above a pre-set maximum for a pre-set period of time. The leak detection system is designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.

The other aspect of this issue is the specification of flow control devices which regulate water supply to each WC or sanitary facility (cold water supply to taps, WCs and urinals) according to demand, to minimize undetected wastage and leaks from sanitary fittings and supply pipework

8.3.3 Shell & Core Anticipation

There are 2 of out 2 credits targeted for this issue. A leak detection system shall be included in the metering strategy and is to be located at the point of connection between existing and proposed water infrastructure.

Flow control devices, specified as solenoid valves, are intended to be installed in each WC in the commercial and retail unit to regulate water supply.

Assessment Criteria	Achieved	Credit Score
Leak Detection Systems	Yes	1
Flow Control Device	Yes	1

8.3.4 Shell & Core Anticipation

Refer to Shell & Core Anticipation. Flow control devices are not within the scope of assessment for Shell Only elements.

Assessment Criteria	Achieved	Credit Score
Leak Detection Systems	Yes	1
Flow Control Device	N/A	1

8.4 Wat 04 Water Efficient Equipment

8.4.1 Intent

Wat 04 issue intends to reduce water consumption for uses not assessed under Wat 01 by encouraging the specification of water efficient equipment.

8.4.2 Requirements

The requirements for credit achievement of this issue include Identification of the building's water demand from uses other than domestic-scale drinking and sanitary components and mitigate or reduce their consumption and the identification systems or processes to reduce relevant water demand.

8.4.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted for this issue. The incorporation of rainwater harvesting into the proposed water infrastructure is intended to facilitate the achievement of this credit.

8.4.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

9 Materials

The Materials category encourages steps taken to reduce the impact of construction materials through design, construction, maintenance and repair. Sustainable procurement of materials and low embodied impact over their life including extraction, processing and manufacture, and recycling.

9.1 Mat 01 Environmental Impacts from Construction products – Building Life Cycle Assessment (LCA)

9.1.1 Intent

Mat 01 issue is intended to reduce the building's environmental life cycle impacts through conducting LCA and integrating its outcomes in the design decision-making process.

9.1.2 Requirements

Credit achievement in this issue is based on the submission of the LCA Options Appraisal Report for superstructure elements at Concept Design Stage. One Click LCA tool has been used to measure the life cycle impacts of the building elements. The LCA includes mandatory building elements indicated in the 'Materials Assessment scope' section in BREEAM International Mat 01 calculator. Mandatory requirements in the 'Materials Assessment tool, method and data' section are met. The credits are allocated based on BREEAM Mat 01 calculator score which is determined based on the robustness of LCA tool and scope of assessment.

The LCA Options Appraisal investigated the environmental impact of 3 significantly different structural design options for the commercial and retail units. The option with the lowest environmental impact shall be selected for detailed design stages.

9.1.3 Shell & Core Anticipation

The LCA Options Appraisal Concept Design Stage is being produced by Hodkinson's Consultancy which is anticipated to confirm feasibility of 3 credits within this issue. The achievement of exemplary performance in this credit is also anticipated through third party verification services offered by Hodkinson.

Assessment Criteria	Targeted	Credit Score
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool	Super Structure Concept Stage	3
Exemplary Performance - Third Party Verification	Yes	1

9.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

9.2 Mat 02 Environmental Product Declarations (EPDs) from construction products

9.2.1 Intent

Mat 02 encourages the specification of construction products with Environmental Product Declarations (EPDs).

9.2.2 Requirements

Construction products specified with EPDs have been collated and relevant data input into the Mat 02 Calculator to achieve >20 Mat 02 calculator points. Compliant EPDs are EPDs issued or registered by an ISO 14025 compliant programme operator or for products covered by the Construction Product Regulations, the EPD must have been generated using product category rules based on either BS EN 15804 or ISO 21930.

9.2.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted in this issue. This is ultimately to be delivered by the principal contractor who will confirm the number of products procured and installed with BREEAM compliant EPDs.

Assessment Criteria	Achieved	Credit Score
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool.	Yes	1

9.2.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

9.3 Mat 03 Responsible Sourcing of Construction Products

9.3.1 Intent

Mat 03 recognises and encourages the specification and procurement of responsibly sourced construction products.

9.3.2 Requirements

A pre-requisite of this issue, is the sourcing of sustainably harvested and traded timber as per the UK Government's Timber Procurement Policy. This is confirmed in Concrete tender specification which states "100% of timber to be certified sustainably sourced by CPET recognised schemes".

By end of Concept Design, a procurement plan has been developed to establish the sustainability aims, objectives and targets of the Aylesham Centre, encourage the procurement of products locally and establish the procedures in place to check and verify the implementation of the sustainable procurement plan. Suppliers and contractors are required to compile evidence of all the information requested from the main contractor into a company headed report which demonstrates how the pre-qualification key indicators and requirements will be met, prior to invitation to tender. The Procurement documentation is disseminated to all relevant internal and external personnel and included in the construction contract.

An additional credit is targeted in this issue for the procurement and installation of construction products with BREEAM recognised responsible sourcing schemes. Refer to BREEAM Guidance Note 18 (v3.6) for the list of BREEAM Recognised Sourcing Certification Schemes.

9.3.3 Shell & Core Anticipation

By end of Concept Design, a procurement plan has been developed to establish the sustainability aims, objectives and targets of the Aylesham Centre. The credit available for responsible sourcing is ultimately to be delivered through the installation of products with BES6001 certificates or BREEAM recognised responsible sourced scheme. These certificates will be required for the post-construction rating.

Assessment Criteria	Achieved	Credit Score
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber'	Yes	-
Has the enabling sustainable procurement credit been achieved?	Yes	1
Mat 03 minimum scope level	Superstructure	
Percentage of available for percentage of RSM points achieved	25%	1

9.3.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

9.4 Mat 05 Design for Durability

9.4.1 Intent

Mat 05 issue encourages the protection of exposed elements of the building and landscape, to minimise the frequency of replacement and maximise materials optimisation.

9.4.2 Requirements

The external works and building design of the Aylesham Centre assets shall incorporate durability and protection measures to prevent the damage of vulnerable parts of internal/external building/landscaping elements. Protection measures from high pedestrian traffic, internal vehicular/trolley movement within 1m of internal building fabric and potential vehicular collision with building facade is demonstrated in marked-up landscape drawings and crowd loading drawings.

Appropriate measures to improve the durability of the building and specific measures to limit material degradation due to environmental factors are incorporated into the design. Refer to the Architect Design Compliance Letters and.

9.4.3 Shell & Core Anticipation

There is 1 out of 1 credits targeted for this issue.

Assessment Criteria	Achieved	Credit Score
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation	Yes	1

9.4.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

10 Waste

The Waste category encourages the sustainable management (and reuse where possible) of construction and operational waste and waste through future maintenance and repairs associated with building structure. The aim is to divert waste arising from construction and operation from landfill. Measures which reduce future waste through incorporating design adaptability to future changes in climate.

10.1 Wst 01 Construction Waste Management

10.1.1 Intent

Wst 01 issue aims to promote resource efficiency through the effective and appropriate management of construction waste and minimise waste going to landfill.

10.1.2 Requirements

A pre-demolition audit of the existing buildings, structures or hard surfaces being considered for demolition has been undertaken. Opportunities for refurbishment or reuse are considered for feasibility, or in case of demolition, the approach which maximises recovery of material for subsequent high grade recycling is investigated. The pre-demolition audit is required to be carried out at Concept Design stage, and is intention of informing the design, consider materials for reuse and set targets for waste management. All contractors are engaged in the pre-demolition audit.

A compliant Resource management plan is produced covering non-hazardous waste materials (on-site/dedicated off-site/pre-fabrication) including demolition and excavation waste.

The waste targets set in the pre-demolition audit meet and improve upon BREEAM benchmarks for non-hazardous waste, excluding demolition and excavation waste. The targets set for diversion from landfill meet and improve upon the BREEAM benchmarks for non-hazardous construction waste and demolition and excavation waste generated. Waste should be sorted by material into separate key waste groups as per BREEAM guidelines, either on-site or through licenses contractor for recovery.

10.1.3 Shell & Core Anticipation

There are 5 out of 5 credits targeted for this issue. A pre-demolition audit has been prepared by KaNect. The construction waste generation targets are ≤3.4 m3 (actual, not bulk volume) / ≤3.2 tonnes of waste generated per 100m2. This has been applied to the Berkeley Project waste management plan.

10.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

10.2 Wst 02 Use of Sustainably Sourced Materials

10.2.1 Intent

Wst 02 issue encourages the use of sustainably sourced materials through the specification of products with BREEAM compliant EPDs.

10.2.2 Requirements

Evidence requirements for this issue include the completion of a pre-demolition audit for any existing buildings, structures or hard surfaces on site and the completion of the WST 02 table to present the the aggregate for each relevant building element will be specified in line with the BREEAM requirements.

10.2.3 Anticipation

There is 1 out of 1 credit included as potential for this issue.

10.3Wst 03 Operational Waste

10.3.1 Intent

Wst 03 issue encourages provisions to be made for suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the assessed building or unit, its occupants and activities.

10.3.2 Requirements

Evidence requirements for this issue included the submission of annotated drawings to show both general and recyclable waste storage areas and that the latter will be at least 2m² per 1000m² of net floor area and located within 20m of the development.

Additionally, written confirmation is required confirming the recycle storage will be BREEAM compliant - adequately sized and labelled 'recycling'.

10.3.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted for this issue. The credit requirements have been communicated with drMM. Confirmation of the feasibility of credit achievement is outstanding.

Assessment Criteria	Targeted	Credit Score
Compliant recycling and non-recyclable waste storage allocated	Yes	-
Static waste compactor(s) or baler(s)	Yes	-
Vessel(s) for composting suitable organic waste and water outlet	Yes	-
Total BREEAM Credits Achieved		1

10.3.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

10.4 Wst 05 Adaptation to Climate Change

10.4.1 Intent

Wst 05 issue encourages the implementation of measures taken to mitigate the impact of extreme weather conditions arising from climate change over the lifespan of the building.

10.4.2 Requirements

Evidence to be submitted for this issue is in the form of a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment must cover the following:

- Hazard identification
- Hazard assessment
- Risk estimation
- Risk evaluation
- Risk management.

Design drawings demonstrating the structure and fabric are adequately protected from the risks of a future climate should also be submitted.

10.4.3 Shell & Core Anticipation

There is 1 out of 1 credit targeted for this issue. The credit requirements have been communicated with drMM and the systematic risk assessment has been prepared for the Concept Design Submission of this issue.

Assessment Criteria	Targeted	Credit Score
Resilience of structure, fabric, building services and renewables installation	Yes	1

10.4.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

10.5 Wst 06 Design for Disassembly and Adaptability

10.5.1 Intent

Wst 06 issue recognises and encourages measures to accommodate future changes to the use of the building and its systems over its lifespan.

10.5.2 Requirements

Evidence to be submitted for this issue is in the form of a building-specific functional adaptation strategy study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.

Drawings or specification confirming potential for future adaptation of the building's function are also included in the evidence submission.

10.5.3 Anticipation

There are 2 out of 2 credits targeted for this issue. The credit requirements have been communicated with drMM and confirmed for their feasibility. A building-specific functional adaptation strategy study has been undertaken and submitted for review. This will form part of the Concept Design evidence submission for Wst 06.

Assessment Criteria	Targeted	Credit Score
Design for disassembly and functional adaptability - recommendations	Yes	1
Disassembly and functional adaptability - implementation	Yes	1

10.5.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

11 Land Use & Ecology

The Land Use and Ecology category encourages sustainable land use, habitat protection and creation, and improvement of long term biodiversity for the building's site and surrounding land. Reuse of brownfield sites or low ecological value, mitigation and enhancement of ecology, and long-term biodiversity management.

11.1 LE 01 Site Selection

11.1.1 Intent

LE 01 issue encourages the reuse of previously developed and contaminated land where appropriate remediation has been taken.

11.1.2 Requirements

This issue requires that at least 75% of the proposed development is on previously occupied land. This issue also requires a Contaminated land professional to undertake a site investigation, risk assessment and appraisal, which deems that land within the development footprint to be affected by contamination. The contaminated land professional submits a report which identifies degree of contamination, contaminant sources/types and options for remediating sources of contamination. Berkeley Homes to confirm the remediation strategy proposed by the contaminated land specialist will be implemented.

11.1.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for this issue.

Assessment Criteria	Targeted	Credit Score
Percentage of proposed development's footprint on previously occupied land:	100	1
Contaminated land	No	-

11.1.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

11.2 LE 02 Ecological Risks and Opportunities

11.2.1 Intent

LE 02 intends to determine the ecological value of the site, including surrounding areas, the risks and opportunities for ecological protection and enhancement.

11.2.2 Requirements

Given that there are planning requirements to the proposed development requires the comprehensive route outlined in BREEAM guidance to be followed for credit achievement. This requires a Suitably Qualified Ecologist (SQE) to carry out a survey and evaluation for the site early enough to influence preparation works, layout and strategic planning decisions. The SQE determines the site's ecological baseline based on the current and potential ecological value, the direct and indirect risks, the capacity and feasibility for enhancement of site's ecological value. The ecological outcomes of the site are determined and the recommendations of the survey and evaluation are communicated with project team. The evidence requirements for this issue include an ecological assessment report including identification of the optimal ecological outcomes for the site. Identification and appraisal of the ecological outcomes informs the selection of measures to meet the optimal ecological outcomes for the site. This methodology is carried out in line with the mitigation hierarchy of action, according to the BREEAM comprehensive route.

11.2.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for this issue. The credit requirements have been communicated with the SQE. A habitat survey has been undertaken detailing ecological features on site and a preliminary ecological appraisal has been prepared. Risks, mitigation and enhancements have all been detailed within the report.

The PEA is submitted as evidence of BREEAM compliance. Credit achievement is dependent on the implementation of the recommendations set out in the Ecology Report. The appointment of a suitably qualified ecologist to coordinate the implementation of these measures and complete a site-visit to confirm the measures have been implemented is anticipated to be completed.

Assessment Criteria	Targeted	Credit Score
Assessment route selection	Comprehensive	-
Prerequisite - Statutory obligations	Yes	-
Survey and Evaluation	Yes	1
Determining ecological outcomes	Yes	1
Exemplary level - Wider site sustainability	No	-

11.2.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

11.3 LE 03 Managing Impacts on Ecology

11.3.1 Intent

LE 03 intends to avoid the negative ecological impacts associated with the site and surrounding area resulting from the project.

11.3.2 Requirements

The Preliminary Ecology Report presents measures which are proposed to be implemented to avoid and manage negative ecological impacts on-site. Further planning shall be undertaken in collaboration with the project team and representative stakeholders through structured workshops to implement the PEA recommendations during site preparation and construction. The SQE has been appointed to monitor the implementation of these recommendations during the construction period.

The Biodiversity Net Gain Assessment is to be assessed to inform the status of BREEAM compliance with this issue.

Credit achievement is dependent on the implementation of the recommendations set out in the Ecology Report. The appointment of a suitably qualified ecologist to carry out a site-visit to confirm the measures have been implemented as recommended is outstanding.

Assessment Criteria	Targeted	Credit Score
Assessment route selection	Comprehensive	-
Prerequisite - Ecological risks and opportunities	Yes	-
Planning and measures on-site	Yes	1
Managing negative impacts – Overall Loss is minimised	Yes	1

11.3.3 Shell Only Anticipation

Refer to Shell & Core Anticipation

11.4 LE 04 Ecological Change and Enhancement

11.4.1 Intent

LE 04 encourages the enhancement of ecological value of the area associated with the site in support of local, regional and national priorities.

11.4.2 Requirements

The Preliminary Ecology Report presents measures which are proposed to be implemented to enhance ecological value of the proposed development. The SQE is anticipated to be appointed to monitor the implementation of the ecological enhancement measures.

The Biodiversity Net Gain Assessment is to be assessed to inform the status of BREEAM compliance with this issue. The BNG is to inform the available credits for the calculation of the Ecological Enhancement value in this credit.

Credit achievement is dependent on the implementation of the recommendations set out in the Ecology Report. The appointment of a suitably qualified ecologist to carry out a site-visit to confirm the measures have been implemented as recommended is outstanding.

Assessment Criteria	Targeted	Credit Score
Assessment route selection	Comprehensive	-
Prerequisite - Managing negative impacts on ecology	Yes	-
Ecological enhancement (Comprehensive route only)	Yes	1
Change and enhancement of ecology (Comprehensive route only)	Yes	1

11.5 LE 05 Ecological Change and Enhancement

11.5.1 Intent

LE 05 encourages ongoing monitoring, management and maintenance of the site and its habitats and ecological features.

11.5.2 Requirements

Compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. Credit achievement in this issue requires the development a BREEAM Compliant LEMP for the proposed development. LEMP which complies with BS 42020:2013 Section 11.1 and covering at least the first five years after project completion as a minimum is commissioned an additional 2 credits are demonstrated. The following items are required to be included in the plan:

- Actions and responsibilities of relevant individuals prior to handover.
- Ecological value and condition of the site at handover and how this is expected to develop and change over time.
- Identification of opportunities for ongoing alignment with activities beyond the development project.
- Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts.
- Clearly defined and allocated roles and responsibilities of delivering the plan.

11.5.3 Shell & Core Anticipation

The is 1 out of 2 credits targeted in this issue. The targeted credit anticipates management and Maintenance of ecology throughout the project with an Ecology and Biodiversity is included in the tenant / building owner manual. The development of a LEMP is to be confirmed and the available credit for this is included as potential.

Assessment Criteria	Targeted	Credit Score
Assessment route selection	Comprehensive	-
At least one credit achieved under LE 04 for 'Change and Enhancement of Ecology'	Yes	-
Prerequisite - Statutory obligations, planning and site implementation	Yes	-
Management and maintenance throughout the project	Yes	1
Landscape and ecology management plan	TBC	-

11.5.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

12 Pollution

The Pollution category the prevention and control of pollution and surface water run-off associated with the building’s location and use. Issues in this section aim to reduce the building’s impact on surrounding communities and environments arising from light pollution, noise, flooding and emissions to air, land and water.

12.1 Pol 01 Impact of Refrigerants

12.1.1 Intent

Pol 01 aims to reduce the level of GHG emissions arising from the leakage of refrigerants used in heat or cool the building through specification and leak prevention or detection.

12.1.2 Requirements

A pre-requisite of this issue is the responsible specification of refrigeration systems which complies with the requirements of BS EN 378:2016 (Parts 2 and 3).

Evidence requirements for this issue include written confirmation or specifications confirming the refrigeration type and system, including:

- Global Warming Potential (GWP) of the specified system refrigerant(s)
- Total refrigerant charge (kg)
- Heating / cooling capacity (kW)

Evidence submission should include design drawings confirming the type and location of systems using refrigerants within the development and a copy of the completed BREEAM Pol 01 Calculator.

The specification of a leak detection strategy will ensure the refrigeration system hermetically sealed or only use environmentally benign refrigerants, or a refrigerant leak detection shall be installed. The specified system shall be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant.

12.1.3 Shell & Core Anticipation

There are 2 out of 3 credits targeted for this issue. The credit requirements have been communicated with ME Engineers and confirmed for feasibility. A DELC of less than or equal to 1000kgCO₂-eq/kW cooling and heating capacity of the refrigeration systems specified is intended to be incorporated into the design with a BREEAM compliant Leak Detection System.

Assessment Criteria	Targeted	Credit Score
Assessment route selection	Comprehensive	-
Refrigerant containing systems installed in the assessed building?	Yes	-
Prerequisite: All systems (with electric compressors) comply with BS EN 378:2016 (parts 2 and 3) ?	Yes	-
Global Warming Potential (GWP) of the specified refrigerant(s) 10 or less?	No	-
Are all the systems hermetically sealed?	No	-
BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge	Yes	1

12.1.4 Shell Only Anticipation

The credit requirements in this issue are not applicable to the Shell Only elements of assessment.

12.2 Pol 02 Local Air quality

12.2.1 Intent

Pol 02 encourages the reduction in emissions of NOx arising from the building's space and water heating systems through the use of low or no combustion heat sources in the proposed development.

12.2.2 Requirements

Evidence submission for this issue is in the form of written confirmation or specification confirming that all space and water heating will be supplied by non-combustion systems (i.e. only powered by electricity) or confirmation of the make and model of the boiler or combined heat and power system.

12.2.3 Shell & Core Anticipation

There are 2 out of 2 credits targeted for this issue. The credit requirements have been communicated with ME Engineers and confirmed for feasibility.

Assessment Criteria	Targeted	Credit Score
How many credits have been achieved?	2	2
Is the project required to connect to a District Heating system, and it supplies all heating and hot water demands to the building?	No	-

12.3 Pol 03 Flood and surface water management

12.3.1 Intent

Pol 03 issue intends to avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising risk and impact of localised flooding on-site and off-site, watercourse pollution and other environmental damage.

12.3.2 Requirements

A Site-specific Flood Risk Assessment (FRA) report has been undertaken. All current and future sources of flooding are considered. The report confirms the development is in a flood zone defined as having a low annual probability of flooding.

Written confirmation that the findings of the drainage consultant’s report will be followed by the commissioning of relevant maintenance agreements for the ownership, long-term operation and maintenance of all specified Sustainable Drainage Systems (SuDS). The drainage report is anticipated to confirm that flooding of property will not occur in the event of the local drainage system failure AND EITHER:

The post-development runoff volume will be no greater than pre-development runoff volume (managed by SuDS);
OR

The consultant provides robust justification why the above criteria cannot be achieved (i.e. infiltration etc. are not technically viable) AND the post-development discharge rates can be limited to the highest of the following; pre-development 1 in 1 year peak runoff rate OR the mean annual runoff rate (Qbar) OR 2 litres/second/hectare.

12.3.3 Shell & Core Anticipation

There are 5 out of 5 credits targeted for this issue. The credit requirements have been communicated with Walsh and compliance with BREEAM is awaiting confirmation. Confirmation of the feasibility of achieving the credits for flood resilience and surface water run-off rate, surface water run off volume and minimising water pollution is outstanding.

Assessment Criteria	Targeted	Credit Score
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all criteria?	Yes	-
Has a site-specific flood risk assessment been conducted?	Yes	-
Annual probability of flooding	Low	-
Has the pre-requisite for the Surface Water Run-Off credits been achieved?	Yes	1
Flooding of property will not occur in the event of local drainage system failure	Yes	1
Has the Surface Water Run-Off - Rate credit been achieved?	Yes	1
Has the Surface Water Run-Off - Volume credit been achieved?	Yes	1
Minimising watercourse pollution	Yes	1

12.3.4 Shell Only Anticipation

Refer to Shell & Core Anticipation

12.4 Light Pollution Reduction

12.4.1 Intent

Pol 04 issue aims to ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

12.4.2 Requirements

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, 2011. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.

12.4.3 Shell & Core Anticipation

There are 1 out of 1 credits anticipated for this issue. The credit requirements have been communicated with Gillespie's and confirmation of their feasibility is outstanding.

12.4.4 Shell Only Anticipation

Refer to Shell & Core Anticipation.

12.5 Pol 05 Reduction of Noise Pollution

12.5.1 Intent

Pol 05 issue aims to reduce the likelihood of noise arising from fixed installations on the new development affecting noise-sensitive areas.

12.5.2 Requirements

This issue requires the commissioning of a Noise Impact Assessment carried out by a suitably qualified acoustic consultant, in compliance with BS 4142:2014.

Existing background noise levels (at nearest/most exposed noise sensitive area to the development and including existing plant on a building, where the development is an extension) and expected noise rating level from the assessed buildings proposed plant are reported. The noise levels reported at the nearest/most exposed noise sensitive area to the development are confirmed of whether they are higher or lower than 5dB lower than the background noise levels. In the case that the 5dB lower than background is not achieved, specification of attenuation measures to attenuate the noise at its source to a compliant level are developed.

12.5.3 Shell & Core Anticipation

There are 1 out of 1 credits anticipated for this issue. The confirmation of their feasibility is outstanding. This is to be confirmed by the Suitably Qualified Acoustician.

12.5.4 Shell Only Anticipation

The credit requirements in this issue are not applicable to the Shell Only elements of assessment.

13 Distinct Credits

13.1 Wst 04 Speculative Finishes

13.1.1 Intent

Wst 04 issue encourages the specification and fitting of finishes selected by the building occupant and therefore avoid unnecessary waste of materials. This issue is applicable to the workspace of the proposed development.

13.1.2 Requirements

This issue is only applicable to tenanted workspace areas. Speculative finishes are installed for show room purposes only. Floor and ceiling finishes are only specified where they have been selected. Evidence for this issue is submitted in the form of written commitment that the tenanted areas, where the future occupant is not known and carpets or other floor or ceiling finishes are installed, these are be limited to a show area only.

13.1.3 Shell & Core Anticipation

This issue is only applicable to the workspaces in the proposed development. For the Commercial assessments, it is recommended to target 1 out of 1 credit in this issue.

13.1.4 Shell Only Anticipation

The credit requirements in this issue are not applicable to the Shell Only elements of assessment.

Appendix A – Pre-assessment BREEAM Scorecards - Shell & Core

Health & Wellbeing								
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
Hea 01		Point 2 Katie Bone k.bone@point2.co.uk	View Out Assessment	-	-	1	-	
			Daylight Assessment & Calculations Report			2		
		Lighting Consultant	Lighting design, electrical drawings and specifications.	1	1			
Hea 02	Indoor air quality (IAQ) plan is needed at Stage 2 to be handled by MEP Consultant as relevant to shell only and shell and core scope. Confirmation needed regarding scope of BREEAM assessment if this will be considered at the current stage.	Contractor MEE Architect	Final IAQP Ventilation strategy - 1 Credit Available for this issue for compliance with the Ventilation criteria. Specs/Design Drawings demonstrating compliance.	1	1	-	-	
Hea 04		MEE	Evidence of CIBSE AM11 Thermal Modelling - 2 Credit Available for this issue for thermal modelling & design for future comfort criteria.	2	2	-	-	
Hea 05	Confirmation of appointment of Acoustician required. Acoustic Report which demonstrates compliance with BREEAM Indoor Ambient Noise Levels required no later than technical design stages. Appointment of acoustician facilitates BREEAM Pol 05. Opportunity to align acoustic design with BREEAM requirements to achieve associated credits.	Acoustician / Contractor - Hann Tucker Contact TBC	Acoustician appointment and Acoustic report - Indoor Ambient Noise Levels. Written commitment to remediation measures (Interim Design Rating) Specs/Drawings presenting credit achievement (Interim Design Rating)	1	1	-	-	
Hea 06	Security Consultant not engaged, Available credit removed from scorecard.	Security Consultant	Security Consultant Appointment & Security Needs Assessment submitted for review. A copy of the Security Needs Assessment report, provided by a Suitably Qualified Security Specialist outlining: 1. Scope of their advice/involvement 2. The stage of design in which their advice was sought (no later than RIBA stage 2) 3. Summary of their recommendation Stage 2 recommendations have been incorporated into design / agreed deviation	1	-	-	1	
Hea 07	Safe and Healthy surroundings identified as a low risk to target given accessibility design measures. Provisions for BREEAM compliant outdoor space to be reviewed and confirmed for feasibility.	Architect / David Bonnett	Site plan demonstrating outside amenity space accessible to all building occupants. The space must: -be an outdoor landscaped area (garden / terrace open to the sky) -have appropriate seating -be designated as non-smoking -be away from areas that will be subject to noise disturbance (e.g. building services, car parks, busy roads, delivery areas, etc Written statement confirming the amenity space has been sized appropriately for the number of expected building users		1			
			Site plan showing safe and separate access routes for: -cyclists (including cycle paths to cycle storage); -pedestrians (including mark-ups of any traffic calming measures, i.e. speed bumps, and raised pedestrian crossings); -small vehicles (including parking provision and pedestrian access from car to building); and -delivery vehicles / areas (including manoeuvring layouts and mark-up of any waste storage areas).	2	1	-	-	
				8	7	3	1	

Energy								
Issue	Scope	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
Ene 01		MEE	Energy Modeller appointment and BRUKL (Interim Design Rating). TMS4 Predictive Operational Energy Study (Interim Design Rating) Specs/Drawings presenting credit achievement (Interim Design Rating)	7	7	-	-	
Ene 02		MEE	Design Drawings demonstrating energy metering systems for at least 90% of the estimated annual energy consumption and all major energy consuming systems will be sub-metered with appropriate energy monitoring and management system.	2	2	-	-	
Ene 03		MEE / Lighting Consultant	Electrical drawings and schematics showing no external lighting OR light fittings with > 70 luminaire lumens per circuit watt, automatic control and presence detection sensors.	1	1	-	-	
Ene 04		MEE	BREEAM compliant Passive Design Analysis & L2C Feasibility Study (Interim Design rating)	2	2	-	-	
Ene 05		Catering Consultant	Refrigeration system design, contingent on relevant design changes/updates. Ensure that the refrigeration plant is captured in the commissioning process under Man 04 credit.	-	-	2	-	
Ene 06		Vertical Transporation Lift Consultant	Transport Life Analysis Report & Specs/Drawings presenting credit achievement (Interim Design Rating)	3	3	-	-	

Issue		Status	Transport																
			Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard													
						Targeted	Potential	Removed	Comments										
Tra 01		Travel plan identified as time critical item due by end of Concept Design (Stage 2). Draft Travel Plan and PTAL calculations to be submitted for BREEAM review and acceptance ahead of planning submission.	Arup Brendan Weaver brendan.weaver@arup.com Babak Samangouei Babak.Samangouei@arup.com	Transport Assessment & Site-Specific Travel Plan (Concept Design Stage). Tra 01 Calculator (Interim Design Stage) Letter demonstrating that the travel plan will be implemented and supported by the building's management in operation.	2	2	-	-											
Tra 02			Arup / Architect Brendan Weaver brendan.weaver@arup.com Babak Samangouei Babak.Samangouei@arup.com	Assessment of existing site Accessibility Index (AI), AND evidence of sustainable transport measures. Design drawings which demonstrate the proposed Sustainable Design Measures such as bus routes, electric recharging stations, additional amenities and cycle facilities.	10	10	-	-											
					12	12	0	0											
Issue		Status	Water																
			Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard													
						Targeted	Potential	Removed	Comments										
Wat 01		Green lease agreements will be required to ensure tenant is committed to low water consumption rates. Scope of BREEAM Assessments to be confirmed.	Architect / MEE	Wat 01 Calculator which demonstrates 50% reduction of indoor water consumption (Interim Design Rating). Specs/Drawings presenting credit achievement (Interim Design Rating). Written Confirmation / Technical specification of sanitary fittings and controls to be installed. Including (where applicable) specification of: WCs, washbasin taps; urinals; kitchen taps; showers; bath; dishwasher; washing machine.	4	4	-	-											
Wat 02			MEE	Specs/Drawings of pulsed water meter on mains supply to building Water services schematics presenting water metering infrastructure provided. Written commitment to installation of proposed metering strategy	1	1	-	-											
Wat 03			MEE	Design drawings demonstrating compliant leak detection system compiled and submitted for review. Design Drawings demonstrating flow control devices on required WC or sanitary facilities compiled and submitted for review. Specs/Drawings presenting credit achievement	2	2	-	-											
Wat 04			dRMM / Landscape	Water Efficient Measures for Irrigation equipment are specified	1	1	-	-											

Materials									
Issue		Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
						Targeted	Potential	Removed	
Mat 01	Hodkinson to complete LCA Options Appraisal for BREEAM superstructure scope and confirm timeline to receive Concept Design Stage submission. Please advise on feasibility of targeting exemplary performance credits for the alignment of LCA with the LCC and third party verification. These have been applied to current scorecard based on discussion in introductory meeting. 18.12.2023 LCA Options Appraisal Report (Superstructure) targeted required before Concept Design Stage (Stage 2). Please confirm date of draft submission for BREEAM review and acceptance ahead of planning submission.		Zeta Stebbings zeta@hodkinsonconsultancy.com	Mat 01 Calculator results & LCA Concept Design Options Appraisal - superstructure elements (Concept Design Stage) Updated Mat 01 Calculator results & LCA Options Appraisal - superstructure elements (Developed Design)	3	3	1	-	
Mat 02			Structural Engineer / Architect / Contractor	Mat 02 Calculator Results. (Interim Design Rating) Written commitment from contractor committing to EPD requirements (Interim Design Rating). Specs presenting requirements of BREEAM compliant EPDs and the contractor requirements for procurement. (Interim Design Rating). Specify at least 8 construction products with compliant EPDs for the following material categories: •Timber or timber based products •Concrete or cementitious •Metal •Stone or aggregate •Clay-based •Gypsum •Glass •Plastic, polymer, resin, paint, chemicals and bituminous •Mineral fibre or skin, cellulose fibre Compliant EPDs are EPDs issued or registered by an ISO 14025 compliant programme operator or for products covered by the Construction Product Regulations, the EPD must have been generated using product category rules based on either BS EN 15804 or ISO 22930. The EPDs must be unequipred at the point of specification and the products are required to be installed in the building by the end of construction.	1	1	-	-	
Mat 03	Sustainable Procurement Plan to be provided by Berkeley Homes Sustainability. This is required before the end of Concept Design Stage Contact for BH Sustainability Team to be provided.		Berkeley Homes / Architect / Structural Engineer / Contractor	Compliance letter / Contractor Requirements confirming all timber procured will be legally harvested and traded timber Sustainable Procurement Plan. (Concept Design Stage) Mat 03 Calculator Results - greater than 10% superstructure construction products will have BREEAM responsible sourcing certificates (e.g. BES 6001). Written commitment from contractor committing to responsible sourcing requirements Specs presenting requirements of BREEAM compliant EPDs and the contractor requirements for responsible sourcing.	2	2	2	-	
Mat 05	Design for Durability and Resilience measures BREEAM proforma to be provided to DRMM for consideration.		Architect	Demonstrating design measures for protecting: - Vulnerable building areas/parts in case of accidental or malicious damage (high user areas, vehicle or trolley movement, external damage from vehicles, public areas) - Exposed building parts from material degradation due to environmental factors. Demonstrate product quality or durability standard or design guide used. - Roof and façade from water damage, ingress, and detrimental ponding	1	1	-	-	
Mat 06	Material Efficiency		Architect / Contractor	Material Efficiency Opportunities and measures to optimise the use of materials in building design, procurement, construction, maintenance and end of life have been identified. Measures must be implemented and targets/actual material efficiencies achieved reported.	-	-	-	-	
					7	7	3	0	
Waste									
Issue		Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
						Targeted	Potential	Removed	
Wst 01	Berkeley Homes - Pre-demolition audit identified as time critical evidence requirement. This is required before the end of Stage 2.		KatNect Kat Lees Kat.Lees@kanectconsultancy.com / Berkeley Homes	Pre-demolition Audit (Concept Design Stage) The audit must cover the content of Pre-demolition audit scope and: a: Be carried out at Concept Design stage prior to strip-out or demolition works b: Guide the design, consider materials for reuse and set targets for waste management c: Engage all contractors in the process of maximising high grade reuse and recycling opportunities d: Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets. Resource Management Plan Written confirmation that the following waste generation benchmarks will be met; targeting <3.2 m3 (actual, not bulk volume) / <3.4 tonnes of waste generated per 100m2. Written Confirmation that the following diversion from landfill benchmarks will be met:- Non-demolition 70% by volume or 80% by tonnage, demolition waste 80% by volume or 90% by tonnage	5	5	-	-	
Wst 03	KaNect to be engaged for development of operational waste strategy for BREEAM assets. Operational Waste Strategy to be reviewed against the BREEAM requirements ahead of planning submission.		KatNect Kat Lees Kat.Lees@kanectconsultancy.com	Operational waste strategy Layouts and calculations showing adequately sized space for the segregation and storage of operational recyclable waste. Specs/Drawings presenting credit achievement (Interim Design Rating) Written commitment to installation of compliant waste facilities for commercial spaces.	1	1	-	-	
Wst 04			Berkeley Homes	Commitment to only install floor and ceiling finishes selected by the known occupant of a development to be received. (Commercial Space only).	-	-	1	-	
Wst 05	Wst 05/Wst06 Adaptation to Climate Change / Design for disassembly and adaptability. Both credits are time critical and multi-disciplinary. Disciplines to provide Concept Design Stage submission for BREEAM review and acceptance.		Design Team / Architect	Systematic (structural and fabric resilience specific) risk assessment including Recommendations / Solutions to identify the impact of expected extreme weather conditions arising from climate change on the building. (Preparation and Brief) Update Recommendations / Solutions - justify omissions (Technical Design) Design drawings demonstrating the structure and fabric are adequately protected from the risks of a future climate to be compiled and submitted for review. (Technical Design Stage)	1	1	-	-	
Wst 06	MEE to provide proforma which presents scope of assessment for Concept Design Stage submission for consideration of design team in producing Concept Design Stage Submission.		Design Team / Architect	Building-specific functional adaptation strategy study (Concept Design Stage) Drawings and Implementation plan report – an update reviewing the practicality and cost-effectiveness of the initial recommendations, and presenting new solutions/measures. (Technical Design Stage). Building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants. (Technical Design Stage)	2	2	-	-	

Landuse & Ecology																					
Issue		Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments												
						Targeted	Potential	Removed													
LE 01			Trium Jennifer Tester jennifer.test@triumenv.co.uk Assystem Laura Cobden lcobden@assystem.com Jessie Buller jbuller@assystem.com	Design Drawings demonstrating the brownfield site (Interim Design Rating). Contaminated Land Report (Implementation Plan & Strategy) Commitment to remediation works in line with Contaminated land report.	2	2	2	-													
LE 02			Trium Jennifer Tester jennifer.test@triumenv.co.uk Assystem Laura Cobden lcobden@assystem.com Jessie Buller jbuller@assystem.com	PEA presenting - Survey & Evaluation, Ecological outcomes determined. (Interim Design Rating) PEA report findings communicated with design team (Interim Design Rating).	1	2	-	-													
LE 03			Trium Jennifer Tester jennifer.test@triumenv.co.uk Assystem Laura Cobden lcobden@assystem.com Jessie Buller jbuller@assystem.com	Evidence of further Planning to avoid & manage negative ecological impacts on-site & site preparation planning (typically Concept Design Stage). Confirmation from SQE loss of ecological value has been minimised (Interim Design Rating). Potential credits dependent on engagement of Ecologist during construction to confirm implementation of Ecology Works set out in PEA. Site Visit confirming measures have been carried out in practice (Post-construction Rating).	2	2	1	-													
LE 04		Confirmation if an ecologist is already/will be appointed at this stage is required. Targeting the ecology credits is identified as an approach to achieving BREEAM Excellent rating. Early involvement of an ecologist to initiate ecology study is required.	Trium Jennifer Tester jennifer.test@triumenv.co.uk Assystem Laura Cobden lcobden@assystem.com Jessie Buller jbuller@assystem.com	Written commitment to the Ecological Enhancement measures implemented in the design in accordance with the PEA recommendations (Interim Design Rating). Site Visit confirming measures have been carried out in practice (Post-construction Rating). Potential credits dependent on engagement of Ecologist during construction to confirm implementation of Ecology Works set out in PEA. Credits associated with Ecological enhancement calculation not included in scorecard.	1	1	3	-													
LE 05			Trium Jennifer Tester jennifer.test@triumenv.co.uk Assystem Laura Cobden lcobden@assystem.com Jessie Buller jbuller@assystem.com	Written commitment to / Evidence of compliance with Statutory requirements, planning and site implementation, (Interim Design Rating) Evidence of the commissioning of Detailed management and maintenance plans, handover activities, LEMP. (Interim Design Rating) Handover information for occupiers relating to Ecology management & maintenance plans. This information should include details of the local ecological features, value and biodiversity on or near the site Commissioned of a LEMP which complies with BREEAM to be confirmed.	1	1	1	-													
					7	8	7	0													
Pollution																					
Issue		Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments												
						Targeted	Potential	Removed													
Pol 01			MEE	Pol 01 Calculator (Interim Design Rating). Refrigerant data: R-Number, System Capacity (kW), Total Refrigerant Charge (kg), Operational Life (yr) and Refrigerant GWP.	2	2	1	-													
Pol 02		MEP Services Strategies Workshop 15.01.2024	MEE	Specifications for heating and hot water systems, proving non-combustion OR data on appliance type and fuel: - Maximum NO _x emission levels - Maximum PM10 and VOC emissions for appliances using biomass, solid fuel and wood pellets - Low/high pollution location of the development."	2	2	-	-													
Pol 03		Noted that a flood risk assessment will be undertaken as part of planning, this will assist in achieving targeted credits in Pol 03. Draft flood risk assessment to be submitted for BREEAM review and acceptance ahead of planning submission.	Flood Risk Consultant / Drainage-Civil Engineer RMA Environmental Melissa Seymour – Melissa.seymour@rma-environmental.co.uk Gillespie's Neil Matthew Neil.Matthew@gillespies.co.uk Armel Mourgue armel.mourgue@gillespies.co.uk Daniella Favero daniella.favero@gillespies.co.uk	Drainage Calculations & FRA (Interim Design Rating) Calculation results for the pre-and post-development peak rate of run-off, capturing 1-year and 100-year return period events and an allowance for climate change. Surface water run-off design solutions must be bespoke.	5	5	-	-													
Pol 04			MEE / Landscape David Bonnet Associates Paloma Huesca palomahuesca@davidbonnett.co.uk Lighting Assessment (assume detailed lighting scheme secured via condition	No External Lighting Specified OR External Lighting Strategy in accordance with ILP Guidance. All External lighting switched off between 23:00 and 07:00. Safety lighting used between this time will comply with the lower levels of lighting recommended in Table 2 of the ILP Guidance notes. Illuminated adverts are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.	1	1	-	-													
Pol 05		COMMISSIONED / CONSULTANT APPOINTED?	Acoustician / Contractor - Hann Tucker Contact TBC	Noise Impact Assessment, in line with BS 4142:2014 & Specs/Drawings presenting credit achievement (Interim Design Rating) Detailed acousticians' calculations of noise rating level from the assessed building. In case of elevated noise sources from the proposed building: - Drawings and specifications of attenuation measures, and - A letter of commitment to appoint a suitably qualified acoustician to carry out the required measurements post-installation, and a further commitment to attenuate the noise source.	1	1	-	-													
					11	11	1	0													
Innovation																					
Issue		Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments												
						Targeted	Potential	Removed													
Hea 01			Point 2 Katie Bone k.bone@point2.co.uk	Daylight Assessment and Calculation Report to achieve Exemplary Performance			1														
Man 03		Written commitment to achieve all responsible construction measures is outstanding.	Contractor	Written commitment to meet credit requirements (Interim Design Rating)	1	1	-	-													
Mat 01		Third Party Verification	HOD	Written commitment to meet credit requirements	1	1	-	-													
Ene 01		The client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets. Written commitment of appointment required.	Berkeley Homes	Written commitment to meet credit requirements	-	2	-	-													

Appendix B – Pre-assessment BREEAM Scorecard - Shell Only

BREEAM NC 2018 v1.0 - Tracker

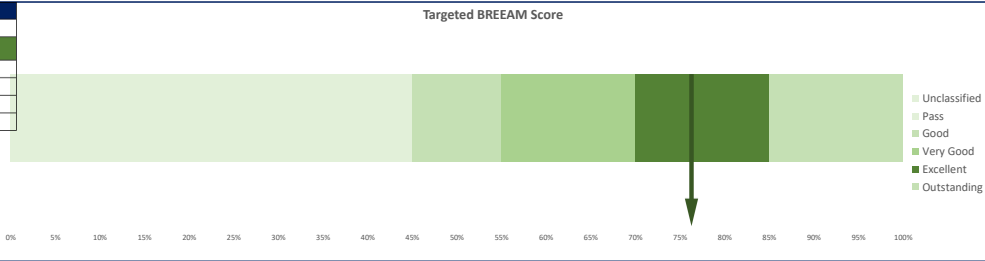
Date: 07/05/2024

Shell Only Criteria applied to scorecard. Targeted Very Good Rating.

Targeted credit requirements communicated with design team and to be confirmed for feasibility. Evidence to be compiled and submitted to BREEAM assessor ahead of Interim Design Rating.

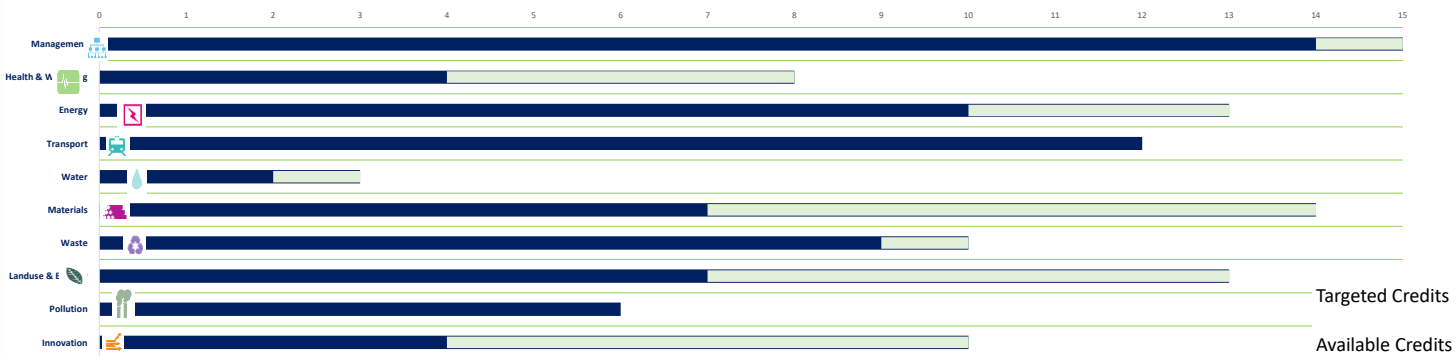


Targeted BREEAM Rating	≥
Outstanding	85%
Excellent	70%
Very Good	55%
Good	45%
Pass	30%
Unclassified	0%



Stage 2 Time Critical Elements

Shell Only Assessment



Category	Shell Only Available Credits	Original Targeted Credits	Update to Current Scorecard			BRE Score Weighting	Pre-assessment Targeted Score	Pre-assessment Potential Score
			Current Targeted	Current Potential	Current Removed			
Management	15	14	14	15	0	12.0%	11.2%	12.0%
Health & Wellbeing	8	5	4	7	1	7.0%	3.5%	6.1%
Energy	13	10	10	10	0	9.5%	7.3%	7.3%
Transport	12	12	12	12	0	14.5%	14.5%	14.5%
Water	3	2	2	2	0	2.0%	1.3%	1.3%
Materials	14	7	7	10	0	22.0%	11.0%	15.7%
Waste	10	9	9	9	0	8.0%	7.2%	7.2%
Landuse & Ecology	13	7	7	8	0	19.0%	10.2%	11.7%
Pollution	6	6	6	6	0	6.0%	6.0%	6.0%
Innovation	10	2	4	4	0	10.0%	4.0%	4.0%
	104	74	75	83	1	110%	76.3%	85.9%

Management					Current Scorecard			Comments
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Targeted	Potential	Removed	
Man 01	Kick Off Workshop 10/01/2024	MEE	Appointment of BREEAM AP (Concept and Developed Design) BREEAM Early Consultation, Stakeholder Consultation, BREEAM AP Documentation demonstrating that consultation feedback has been given to, and received by, all relevant parties, and subsequent actions.	4	4	-	-	
Man 02	Life Cycle Costing Plan – Financial Viability Assessment prepared by BH to be reviewed against Elemental Life Cycle Costing Criteria	Berkeley Homes Financial Viability Assessment	Elemental LCC Plan - Produce an Outline entire asset LCC plan at Stage 2. Provide an indication of future replacement costs over a period of analysis as required by the client include service life, maintenance and operation cost estimates. Report to demonstrate how the LCC process benefited the design in terms of cost and value.	4	2	-	-	
			Component LCC Plan - Select examples which draw most valued comparisons under envelope, services, finishes, external spaces components. Report to demonstrate how the LCC process benefited the design in terms of cost and value.		1	-	-	
			Predicted Capital Costs (including contingencies) (€k/m2) presented in Capital Costing Report with confirmation of the inclusion of the following items in the construction fees: -#repairatory works, materials, equipment, and labour. -#Site Management -#Construction financing -#Insurance and taxes during construction. -#Inspection and testing.		1	-	-	
Man 03	Written confirmation from contractor to comply with targeted measures to monitor construction site impacts, engaged BREEAM Site AP and commitment to achieve all BREEAM responsible construction measures. BREEAM Commitment Compliance Letter to be provided to confirm feasibility.	Contractor	Relevant section/clauses of the building specification stating that only legal and sustainable timbers is to be used during the project construction (Prerequisite). Relevant section/clauses of the building specification requiring the principal contractor to assign an individual to monitor, record and report energy and water use and transportation data. Commitment to all BREEAM Responsible Construction Measures. Targets Set for Construction Site Impacts (Energy, Water & Transport Details). Monitoring and Recording Construction Site Impacts (Energy, Water & Transport Details) Appointment	6	6	-	-	
Man 04	Shell Only Scope includes 1 Available Credit for Testing and Building Fabric. This is considered as a potential credit to increase the buffer of compliance in the pre-assessment scorecard.	Berkeley Homes	Post-construction testing and inspection of the building fabric. Rectify any defects identified during post-construction testing and inspection prior to building handover and close-out.	-	-	1	-	

Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
Hea 01		Point 2 Katie Bone k.bone@point2.co.uk	View Out Assessment	-	-	1	-	
	Daylight Assessment & Calculations Report				2			
		Lighting Consultant	Lighting design, electrical drawings and specifications.	1	1			
Hea 02	N/A Shell Only Assessment	Contractor MEE Architect		-	-	-	-	
Hea 04	N/A Shell Only Assessment	MEE		-	-	-	-	
Hea 05	Confirmation of appointment of Acoustician required. Acoustic Report which demonstrates compliance with BREEAM Indoor Ambient Noise Levels required no later than technical design stages. Appointment of acoustician facilitates BREEAM Pol 05. Opportunity to align acoustic design with BREEAM requirements to achieve associated credits.	Acoustician / Contractor - Hann Tucker Contact TBC	Acoustician appointment and Acoustic report - Indoor Ambient Noise Levels. Written commitment to remediation measures (Interim Design Rating) Specs/Drawings presenting credit achievement (Interim Design Rating)	1	1	-	-	
Hea 06	Security Consultant not engaged, Available credit removed from scorecard.	Security Consultant	Security Consultant Appointment & Security Needs Assessment submitted for review. A copy of the Security Needs Assessment report, provided by a Suitably Qualified Security Specialist outlining: 1. Scope of their advice/involvement 2. The stage of design in which their advice was sought (no later than RIBA stage 2) 3. Summary of their recommendation Stage 2 recommendations have been incorporated into design / agreed deviation	1	-	-	1	
Hea 07	Safe and Healthy surroundings identified as a low risk to target given accessibility design measures. Provisions for BREEAM compliant outdoor space to be reviewed and confirmed for feasibility.	Architect / David Bonnett	Site plan demonstrating outside amenity space accessible to all building occupants. The space must: -be an outdoor landscaped area (garden / terrace open to the sky) -have appropriate seating -be designated as non-smoking -be away from areas that will be subject to noise disturbance (e.g. building services, car parks, busy roads, delivery areas, etc Written statement confirming the amenity space has been sized appropriately for the number of expected building users	2	1			
			Site plan showing safe and separate access routes for: - cyclists (including cycle paths to cycle storage); - pedestrians (including mark-ups of any traffic calming measures, i.e. speed bumps, and raised pedestrian crossings); - small vehicles (including parking provision and pedestrian access from car to building); and - delivery vehicles / areas (including manoeuvring layouts and mark-up of any waste storage areas).		1	-	-	
							5	4
Energy								
Issue	Scope	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
Ene 01		MEE	Energy Modeller appointment and BRUKL. (Interim Design Rating). TMS4 Predictive Operational Energy Study. (Interim Design Rating) Specs/Drawings presenting credit achievement (Interim Design Rating)	7	7	-	-	
Ene 02	N/A Shell Only Assessment	MEE	Design Drawings demonstrating energy metering systems for at least 90% of the estimated annual energy consumption and all major energy consuming systems will be sub-metered with appropriate energy monitoring and management system.	-	-	-	-	
Ene 03		MEE / Lighting Consultant	Electrical drawings and schematics showing no external lighting OR light fittings with > 70 luminaire lumens per circuit watt, automatic control and presence detection sensors.	1	1	-	-	
Ene 04		MEE	BREEAM compliant Passive Design Analysis & LZC Feasibility Study (Interim Design rating)	2	2	-	-	
Ene 05	N/A Shell Only Assessment	Catering Consultant	Refrigeration system design, contingent on relevant design changes/updates. Ensure that the refrigeration plant is captured in the commissioning process under Man 04 credit.	-	-	-	-	
Ene 06	N/A Shell Only Assessment	Vertical Transportation Lift Consultant	Transport Life Analysis Report & Specs/Drawings presenting credit achievement (Interim Design Rating)	-	-	-	-	

Transport									
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments	
					Targeted	Potential	Removed		
Tra 01	Travel plan identified as time critical item due by end of Concept Design (Stage 2). Draft Travel Plan and PTAL calculations to be submitted for BREEAM review and acceptance ahead of planning submission.	Arup Brendan Weaver brendan.weaver@arup.com Babak Samangouei Babak.Samangouei@arup.com	Transport Assessment & Site-Specific Travel Plan (Concept Design Stage). Tra 01 Calculator (Interim Design Stage) Letter demonstrating that the travel plan will be implemented and supported by the building's management in operation.	2	2	-	-		
Tra 02		Arup / Architect Brendan Weaver brendan.weaver@arup.com Babak Samangouei Babak.Samangouei@arup.com	Assessment of existing site Accessibility Index (AI), AND evidence of sustainable transport measures. Design drawings which demonstrate the proposed Sustainable Design Measures such as bus routes, electric recharging stations, additional amenities and cycle facilities.	10	10	-	-		
				12	12	0	0		

Water									
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments	
					Targeted	Potential	Removed		
Wat 01	N/A Shell Only Assessment	Architect / MEE	Wat 01 Calculator which demonstrates 50% reduction of indoor water consumption (Interim Design Rating). Specs/Drawings presenting credit achievement (Interim Design Rating). Written Confirmation / Technical specification of sanitary fittings and controls to be installed. Including (where applicable) specification of: WCs, washbasin taps; urinals; kitchen taps; showers; bath; dishwasher; washing machine.	-	-	-	-		
Wat 02		MEE	Specs/Drawings of pulsed water meter on mains supply to building Water services schematics presenting water metering infrastructure provided. Written commitment to installation of proposed metering strategy	1	1	-	-		
Wat 03		MEE	Design drawings demonstrating compliant leak detection system compiled and submitted for review. Design Drawings demonstrating flow control devices on required WC or sanitary facilities compiled and submitted for review. Specs/Drawings presenting credit achievement	1	1	-	-		
Wat 04		dRMM / Landscape	Water Efficient Measures for Irrigation equipment are specified	1	1	-	-		

Materials																		
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments										
					Targeted	Potential	Removed											
Mat 01	Hodkinson to complete LCA Options Appraisal for BREEAM superstructure scope and confirm timeline to receive Concept Design Stage submission. Please advise on feasibility of targeting exemplary performance credits for the alignment of LCA with the LCC and third party verification. These have been applied to current scorecard based on discussion in introductory meeting, 18.12.2023 LCA Options Appraisal Report (Superstructure) targeted required before Concept Design Stage (Stage 2). Please confirm date of draft submission for BREEAM review and acceptance ahead of planning submission.	Zeta Stebbings zeta@hodkinsonconsultancy.com	Mat 01 Calculator results & LCA Concept Design Options Appraisal - superstructure elements (Concept Design Stage) Updated Mat 01 Calculator results & LCA Options Appraisal - superstructure elements (Developed Design)	3	3	-	-											
Mat 02		Structural Engineer / Architect / Contractor	Mat 02 Calculator Results. (Interim Design Rating) Written commitment from contractor committing to EPD requirements (Interim Design Rating). Specs presenting requirements of BREEAM compliant EPDs and the contractor requirements for procurement. (Interim Design Rating). Specify at least 8 construction products with compliant EPDs for the following material categories: •Timber or timber based products •Concrete or cementitious •Metal •Stone or aggregate •Clay-based •Gypsum •Glass •Plastic, polymer, resin, paint, chemicals and bituminous •Animal fibre or skin, cellulose fibre Compliant EPDs are EPDs issued or registered by an ISO 14025 compliant programme operator or for products covered by the Construction Product Regulations, the EPD must have been generated using product category rules based on either BS EN 15804 or ISO 21930. The EPDs must be unexpired at the point of specification and the products are required to be installed in the building by the end of construction.	1	1	-	-											
Mat 03	Sustainable Procurement Plan to be provided by Berkeley Homes Sustainability. This is required before the end of Concept Design Stage Contact for BH Sustainability Team to be provided.	Berkeley Homes / Architect / Structural Engineer / Contractor	Compliance letter / Contractor Requirements confirming all timber procured will be legally harvested and traded timber Sustainable Procurement Plan. (Concept Design Stage) Mat 03 Calculator Results - greater than 10% superstructure construction products will have BREEAM responsible sourcing certificates (e.g. BES 6001). Written commitment from contractor committing to responsible sourcing requirements Specs presenting requirements of BREEAM compliant EPDs and the contractor requirements for responsible sourcing.	2	2	2	-											
Mat 05	Design for Durability and Resilience measures BREEAM proforma to be provided to DRMM for consideration.	Architect	Demonstrating design measures for protecting: - Vulnerable building areas/parts in case of accidental or malicious damage (high user areas, vehicle or trolley movement, external damage from vehicles, public areas) - Exposed building parts from material degradation due to environmental factors. Demonstrate product quality or durability standard or design guide used. - Roof and façade from water damage, ingress, and detrimental ponding	1	1	-	-											
Mat 06	Material Efficiency	Architect / Contractor	Material Efficiency Opportunities and measures to optimise the use of materials in building design, procurement, construction, maintenance and end of life have been identified. Measures must be implemented and targets/actual material efficiencies achieved reported.	-	-	1	-											

Waste								
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
Wst 01	Berkeley Homes - Pre-demolition audit identified as time critical evidence requirement. This is required before the end of Stage 2.	KatNect Kat Lees Kat.Lees@kanectconsultancy.com / Berkeley Homes	Pre-demolition Audit (Concept Design Stage) The audit must cover the content of Pre-demolition audit scope and: a: Be carried out at Concept Design stage prior to strip-out or demolition works b: Guide the design, consider materials for reuse and set targets for waste management c: Engage all contractors in the process of maximising high grade reuse and recycling opportunities d: Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets. Resource Management Plan Written confirmaiton that the following waste generation benchmarks will be met; targeting <3.2 m3 (actual, not bulk volume) / <3.4 tonnes of waste generated per 100m2. Written Confirmation that the following diversion from landfill benchmarks will be met; Non-demolition 70% by volume or 80% by tonnage, demolition waste 80% by volume or 90% by tonnage	5	5	-	-	
Wst 03	KaNect to be engaged for development of operational waste strategy for BREEAM assets. Operational Waste Strategy to be reviewed against the BREEAM requirements ahead of planning submission.	KatNect Kat Lees Kat.Lees@kanectconsultancy.com	Operational waste strategy Layouts and calculations showing adequately sized space for the segregation and storage of operational recyclable waste. Specs/Drawings presenting credit achievement (Interim Design Rating) Written commitment to installation of compliant waste facilities for commercial spaces.	1	1	-	-	
Wst 04	N/A Shell Only Assessment	Berkeley Homes	Commitment to only install floor and ceiling finishes selected by the known occupant of a development to be received. (Commercial Space only).	-	-	-	-	
Wst 05	Wst 05/Wst06 Adaptation to Climate Change / Design for disassembly and adaptability. Both credits are time critical and multi-disciplinary. Disciplines to provide Concept Design Stage submission for BREEAM review and acceptance.	Design Team / Architect	Systematic (structural and fabric resilience specific) risk assessment including Recommendations / Solutions to identify the impact of expected extreme weather conditions arising from climate change on the building. (Preparation and Brief) Update Recommendations / Solutions - justify omissions (Technical Design) Design drawings demonstrating the structure and fabric are adequately protected from the risks of a future climate to be compiled and submitted for review. (Technical Design Stage)	1	1	-	-	
Wst 06	MEE to provide proforma which presents scope of assessment for Concept Design Stage submission for consideration of design team in producing Concept Design Stage Submission.	Design Team / Architect	Building-specific functional adaptation strategy study (Concept Design Stage) Drawings and Implementation plan report – an update reviewing the practicality and cost-effectiveness of the initial recommendations, and presenting new solutions/measures. (Technical Design Stage). Building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants. (Technical Design Stage)	2	2	-	-	
9					9	0	0	
Landuse & Ecology								
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard			Comments
					Targeted	Potential	Removed	
LE 01		Trium Jennifer Tester jennifer.teste@triumenv.co.uk Assystem Laura Cobden Icobden@assystem.com Jessie Buller jbuller@assystem.com	Design Drawings demonstrating the brownfield site (Interim Design Rating). Contaminated Land Report (Implementation Plan & Strategy) Commitment to remediation works in line with Contaminated land report.	2	2	-	-	
LE 02		Trium Jennifer Tester jennifer.teste@triumenv.co.uk Assystem Laura Cobden Icobden@assystem.com	PEA presenting - Survey & Evaluation, Ecological outcomes determined. (Interim Design Rating) PEA report findings communicated with design team (Interim Design rating).	1	1	1	-	
LE 03		Trium Jennifer Tester jennifer.teste@triumenv.co.uk Assystem Laura Cobden Icobden@assystem.com Jessie Buller jbuller@assystem.com	Evidence of further Planning to avoid & manage negative ecological impacts on-site & site preparation planning (typically Concept Design Stage). Confirmation from SQE loss of ecological value has been minimised (Interim Design Rating). Potential credits dependent on engagement of Ecologist during construction to confirm implementation of Ecology Works set out in PEA. Site Visit confirming measures have been carried out in practice (Post-construction Rating).	2	2	-	-	
LE 04	Confirmation if an ecologist is already/will be appointed at this stage is required. Targeting the ecology credits is identified as an approach to achieving BREEAM Excellent rating. Early involvement of an ecologist to initiate ecology study is required.	Trium Jennifer Tester jennifer.teste@triumenv.co.uk Assystem Laura Cobden Icobden@assystem.com Jessie Buller jbuller@assystem.com	Written commitment to the Ecological Enhancement measures implemented in the design in accordance with the PEA recommendations (Interim Design Rating). Site Visit confirming measures have been carried out in practice (Post-construction Rating). Potential credits dependent on engagement of Ecologist during construction to confirm implementation of Ecology Works set out in PEA. Credits associated with Ecological enhancement calculation not included in scorecard.	1	1	-	-	
LE 05		Trium Jennifer Tester jennifer.teste@triumenv.co.uk Assystem Laura Cobden Icobden@assystem.com Jessie Buller jbuller@assystem.com	Written commitment to / Evidence of compliance with Statutory requirements, planning and site implementation, (Interim Design Rating) Evidence of the commissioning of Detailed management and maintenance plans, handover activities, LEMP. (Interim Design Rating) Handover information for occupiers relating to Ecology management & maintenance plans. This information should include details of the local ecological features, value and biodiversity on or near the site Commissioned of a LEMP which complies with BREEAM to be confirmed.	1	1	-	-	

Pollution					7	7	1	0										
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard				Comments									
					Targeted	Potential	Removed											
Pol 01	N/A Shell Only Assessment	MEE	Pol 01 Calculator (Interim Design rating). Refrigerant data: R-Number, System Capacity (kW), Total Refrigerant Charge (kg), Operational Life (yr) and Refrigerant GWP.	-	-	-	-											
Pol 02	N/A Shell Only Assessment	MEE	Specifications for heating and hot water systems, proving non-combustion OR data on appliance type and fuel: - Maximum NO _x emission levels - Maximum PM10 and VOC emissions for appliances using biomass, solid fuel and wood pellets - Low/high pollution location of the development."	-	-	-	-											
Pol 03	Noted that a flood risk assessment will be undertaken as part of planning, this will assist in achieving targeted credits in Pol 03. Draft flood risk assessment to be submitted for BREEAM review and acceptance ahead of planning submission.	Flood Risk Consultant / Drainage-Civil Engineer RMA Environmental Melissa Seymour – Melissa.seymour@rma-environmental.co.uk Gillespie's Neil Matthew Neil.Matthew@gillespies.co.uk	Drainage Calculations & FRA (Interim Design Rating) Calculation results for the pre-and post-development peak rate of run-off, capturing 1-year and 100-year return period events and an allowance for climate change. Surface water run-off design solutions must be bespoke.	5	5	-	-											
Pol 04		MEE / Landscape David Bonnet Associates Paloma Huesca palomahuesca@davidbonnett.co.uk Lighting Assessment (assume detailed lighting scheme secured via condition	No External Lighting Specified OR External Lighting Strategy in accordance with ILP Guidance. All External lighting switched off between 23:00 and 07:00. Safety lighting used between this time will comply with the lower levels of lighting recommended in Table 2 of the ILP Guidance notes. Illuminated adverts are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.	1	1	-	-											
Pol 05	N/A Shell Only Assessment	Acoustician / Contractor - Hann Tucker Contact TBC	Noise Impact Assessment, in line with BS 4142:2014 & Specs/Drawings presenting credit achievement (Interim Design Rating) Detailed acousticians' calculations of noise rating level from the assessed building. In case of elevated noise sources from the proposed building: - Drawings and specifications of attenuation measures, and - A letter of commitment to appoint a suitably qualified acoustician to carry out the required measurements post-installation, and a further commitment to attenuate the noise source.	-	-	-	-											
Innovation					6	6	0	0										
Issue	Status	Consultant	Primary Evidence Requirements	Original Targeted	Update to Current Scorecard				Comments									
					Targeted	Potential	Removed											
Hea 01		Point 2 Katie Bone k.bone@point2.co.uk	Daylight Assessment and Calculation Report to achieve Exemplary Performance			1												
Man 03	Written commitment to achieve all responsible construction measures is outstanding.	Contractor	Written commitment to meet credit requirements (Interim Design Rating)	1	1	-	-											
Mat 01	Third Party Verification	HOD	Written commitment to meet credit requirements	1	1	-	-											