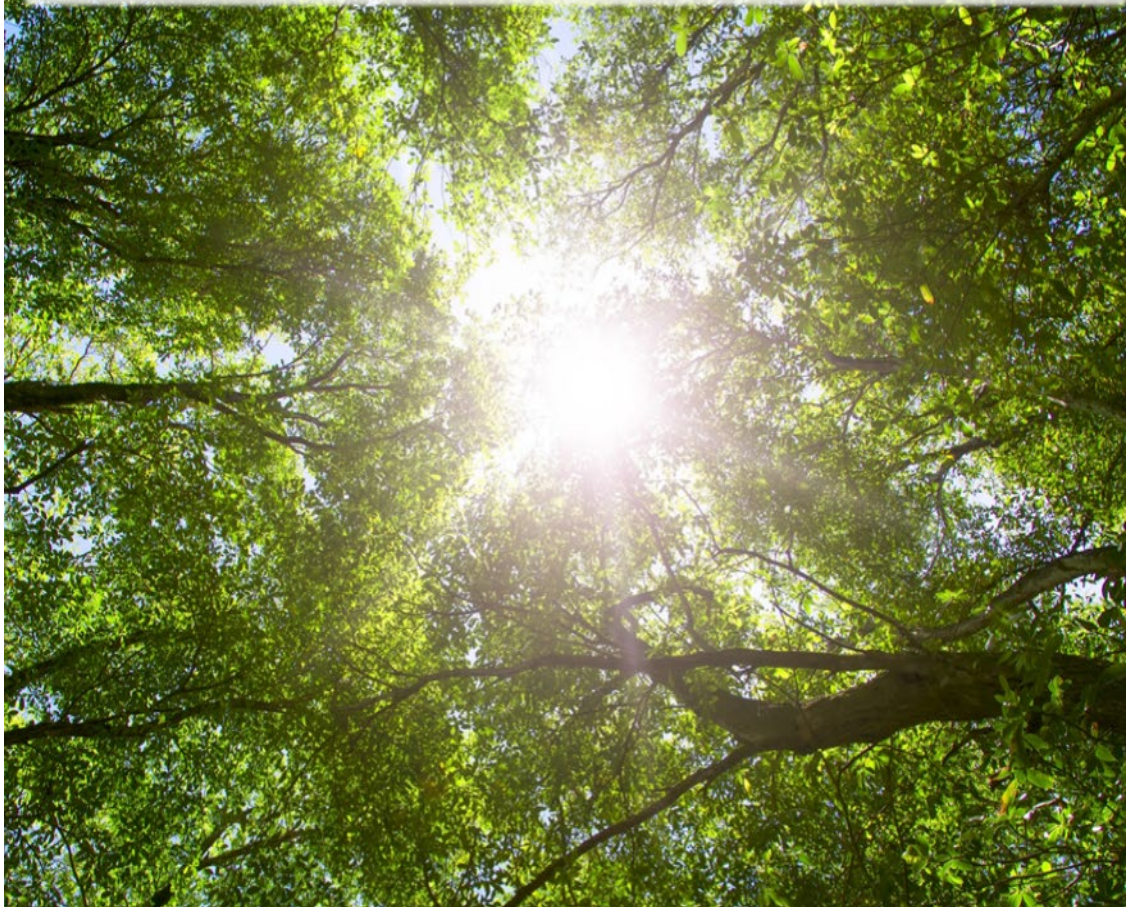
Uxbridge Road, Hayes

Sustainability Statement

Ensphere Group Ltd on behalf of
Shurgard UK Ltd



Ensphere Group Ltd
52 Grosvenor Gardens
London, SW1W 0AU
+44 (0) 20 7846 9040
www.enspheregroup.com

ensphere

Uxbridge Road, Hayes

Sustainability Statement

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Final	V2	Pete Jeavons	Pete Jeavons	July 2022

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Contents

1. Executive Summary

1.1 This Sustainability Statement presents the sustainability credentials for a proposed development at Uxbridge Road, Hayes, UB4 0HD.

1.2 Consideration has primarily been given to planning policy and other requirements prior to a review of sustainability in the context of the wider community, design and construction.

1.3 Proposals include the partial demolition and extension to existing building to provide additional self-storage floorspace (Use Class B8) with associated new car and cycle parking, refuse storage, landscaping and other associated works ancillary to the development.

1.4 At a strategic level, the creation of new and intensified industrial space will enhance employment for local people, improve the local economy, increase the wealth and lifestyle of employed individuals and contribute to local business rates. The development is considered to be beneficial to the local community and aligned with socio-economic requirements.

1.5 A range of sustainable design features are proposed, and construction will be responsibly managed to ensure minimal impact on the environment and local community. A BREEAM “Very Good” rating will be targeted as a minimum; with an aspiration to go beyond policy and achieve “Excellent”.

1.6 Overall, the proposals for the scheme are in line with the overarching principles of sustainable development as well as the policy requirements of the planning authority, London Plan and NPPF.

2. Introduction

2.1 Ensphere Group Ltd was commissioned by Shurgard UK Ltd to produce a Sustainability Statement for a proposed development at Uxbridge Road, Hayes, UB4 0HD.

Site and Surroundings

2.2 The application site (the 'Site') is located along Uxbridge Road/The Broadway, adjacent to the Grand Union Canal, and falling under the jurisdiction of London Borough of Hillingdon.

2.3 As existing, Site comprises an existing Shurgard self-storage facility with internal storage units within a 5-storey building and external direct-access storage units within a series of 1-storey structures. The ancillary shop is located at the front of the Site with a "lighthouse" attached.

2.4 Pedestrian and vehicular access is via Uxbridge Road/The Broadway. 15no. car parking spaces are provided beyond the secure gate.

2.5 Bounded by Uxbridge Road/The Broadway to the south, the Grand Union Canal to the east, residential dwellings to the west and Tollgate Drive to the north, the Site lies within an area of mixed townscape character. The immediate area is predominantly residential in character, with a mix of commercial and institutional uses on the opposite side of Uxbridge Road/The Broadway and the Grand Union Canal.

Proposed Development

2.6 Partial demolition and extension to existing building to provide additional self-storage floorspace (Use Class B8) with associated new car and cycle parking, refuse storage, landscaping and other associated works ancillary to the development.

Report Objective

2.7 The objective of the Sustainability Statement is to outline how sustainability and the principles of sustainable development have been incorporated into the development proposals.

3. Assessment Methodology

Sustainability & Sustainable Development

3.1 "Sustainability" is a broad concept generally used to describe the ability to perpetuate a particular state of being. It is widely used in the context of development and where there is potential for changing circumstances to cause an impediment to the perpetuation of a phenomenon.

3.2 The term is subjective and the understanding of the concept is influenced by perceptions and aspirations. "Sustainability" is therefore variably defined but normally encapsulates a wide range of issues, often characterised by their relationship with the economy, society and the environment (the "three pillars" of sustainability).

3.3 These issues are not necessarily mutually exclusive and whilst they are often presented as such, technically, the economy is a function of society; and society concerns the interrelationships and behaviours of one species within the wider environment. Nevertheless, the identification and characterisation of these issues enables a better understanding of the things that matter in decision making, which enable a balance to be struck when priorities compete.

3.4 The term "sustainable development" is often used interchangeably with "sustainability", but it is narrower in scope and seeks to promote the perpetuation of human advancement. The "Brundtland Report" (officially titled "Our Common Future" and written by the United Nations World Commission on Environment and Development, Chaired by Gro Harlem Brundtland in 1987), presents perhaps the most widely cited and understood interpretation of this concept:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".*

3.5 The definition introduces the concept of "needs" and the generational timeframe for evaluating whether an action is sustainable or otherwise.

Analysis Methodology

3.6 Given the broad definitions associated with the terminology of "sustainability" and "sustainable development", understanding how these concepts have been interpreted and incorporated into the local planning regime requires a review of the planning policy as well as the documents upon which the policy is based. The report therefore commences with an overview of the planning policy and other considerations.

3.7 An appraisal of the sustainability credentials of the scheme then follows. Structure is important when assessing sustainability due to the breadth of issues being considered; an approach has been created based upon the phases of the development cycle relevant to the planning decision making processes, with consideration given to the "three pillars" (discussed above) and requirements of policy.

Assessment Matrix

	Economic	Social	Environmental
Strategic	✓	✓	✓
Design	✓	✓	✓
Construction	✓	✓	✓

3.8 It is recognised that the scale and nature of the scheme will affect the relative importance of the matrix dimensions and entries. For example, a single residential unit is unlikely to be viewed as having a major societal impact on the basis of its scale relative to its context. However, the societal implications of an urban extension may be much more significant.

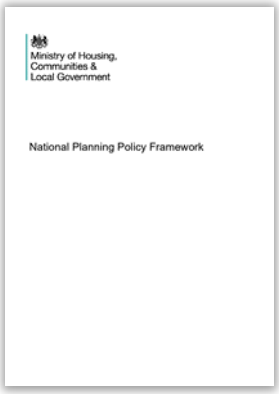
3.9 The emphasis is therefore case specific, and the assessment sections of this report seek to highlight the relevant factors in a suitably balanced manner.

4. Planning Context

4.1 Local planning policy relevant to sustainable development is considered below:

National Context

National Planning Policy Framework (2021)



4.2 The National Planning Policy Framework (NPPF) was updated in July 2021. Paragraphs 7, 8 and 10 of the revised NPPF include reference to the following:

7. "The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. At a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being and environmental protection".

8. "Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

- *An economic objective - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
- *A social objective - to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and*
- *An environmental objective - an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

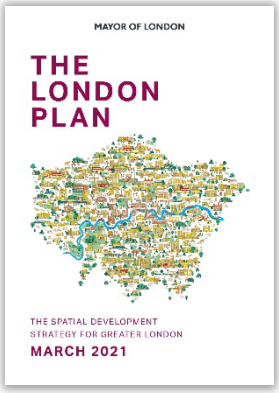
10. "So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development"

Planning Practice Guidance (2016; updated 2018)

- Climate Change - Advises how planning can identify suitable mitigation and adaption measures in plan-making and the application process to address the potential for climate change.
- Design - Design affects how people interact with places and can affect a range of economic, social and environmental objectives. The guidance states that planning policies and decisions should seek to ensure that the physical environment supports these objectives.
- Natural Environment - Explains key issues in implementing policy to protect biodiversity, including local requirements.
- Renewable and Low Carbon Energy - The guidance is intended to assist local councils in developing policies for renewable energy in local plans and identifies the planning considerations for a range of renewable sources.

London Context

London Plan (2021)



4.3 The London Plan is the overall strategic plan for London, it sets out an integrated economic, environmental, transport and social framework for development of London over the next 20-25 years. The London Plan is part of the Development Plan and covers a range of planning issues. The presented policies provide a vision for how London should sustainably grow and develop in the future. Policies considered pertinent to this report are presented below:

- Policy D2 (*Infrastructure requirements for sustainable densities*) – development proposals should be considerate of future planned levels of infrastructure and proportionate to the site's connectivity.
- Policy D3 (Optimising Site capacity through the design-led approach) - lists a series of requirements including a requirement for development to aim for high sustainability standards.
- Policy G1 (Green Infrastructure) - Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.
- Policy G4 (Open Space) - Development proposals should not result in the loss of protected open space; and where possible create areas of publicly accessible open space.

- Policy G5 (Urban Greening) - Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design.

- Policy G6 (Biodiversity and access to nature) - Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain.

- Policy SI1 (Improving air quality) – Development proposals should not lead to further deterioration of existing poor air quality.

- Policy SI 2 (Minimising greenhouse gas emissions) - Major development should be net zero-carbon and minimise emissions in accordance with the following energy hierarchy: be lean, be clean, be green, be seen. A minimum on site reduction of 35% beyond Building Regulations will be required for major development. Residential development should achieve 10 per cent, and non-residential development should achieve 15 per cent through energy efficiency measures. Any short fall with the zero carbon target should be addressed through a carbon offset payment. Development referable to the GLA should also calculate whole life-cycle carbon emissions.

- Policy SI3 (Energy infrastructure) - Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system.

- Policy SI 4 (Managing heat risk) - Major development proposals should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems.

- Policy SI 5 (Water infrastructure) – Development proposals should be achieving mains water consumption of 105 litres or less per head per day; and achieve at least the BREEAM excellent standard for the 'Wat 01' water category. Smart metering, water saving and recycling measures should also be incorporated.

- Policy SI 7 (Reducing waste and supporting the circular economy) - Referable applications should promote circular economy outcomes and aim to be net zero-waste.

- Policy SI 12 (Flood risk management) - Development proposals should ensure that flood risk is minimised and mitigated.

- Policy 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.

Sustainable Design and Construction Supplementary Planning Guidance (2014)

4.4 This SPG aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development. It provides guidance on to how to achieve the London Plan objectives

effectively, supporting the Mayor's aims for growth, including the delivery of housing and infrastructure.

4.5 The guidance in this SPG is intended to:

- provide detail on how to implement the sustainable design and construction and wider environmental sustainability policies in the London Plan;
- provide guidance on how to develop more detailed local policies on sustainable design and construction;
- provide best practice guidance on how to meet the sustainability targets set out in the London Plan; and
- provide examples of how to implement sustainability measures within developments.

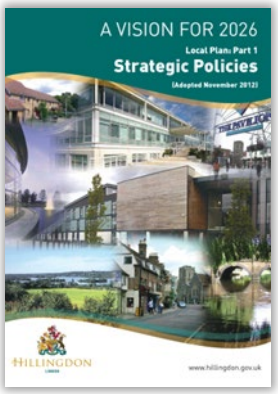
Energy Assessment Guidance (2022)

4.6 This guidance document explains how to prepare an energy assessment to accompany strategic planning applications referred to the Mayor as set out in London Plan Policy SI 2. It states that the purpose of an energy assessment is to demonstrate that the proposed climate change mitigation measures comply with London Plan energy policies, including the energy hierarchy.

4.7 Although primarily aimed at strategic planning applications, London boroughs are encouraged to apply the same structure for energy assessments related to non-referable applications and adapt it for relevant scales of development.

Local Context

London Borough of Hillingdon Local Plan Part 1 - Strategic Policies (2012)



4.8 The Local Plan Part 1 sets out the overall level and broad locations of growth up to 2026. It comprises a spatial vision and strategy, strategic objectives, core policies and a monitoring and implementation framework with clear objectives for achieving delivery

4.9 The following policies are considered pertinent to this report:

- Policy NPPF1 (*National Planning Policy Framework - Presumption in Favour of Sustainable Development*) - When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework.

- Policy BE1 (*Built Environment*) - The Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods. Includes reference to aligning with the carbon dioxide targets of the London Plan; and BREEAM.

- Policy EM1 (*Climate Change Adaptation and Mitigation*) - The Council will ensure that climate change mitigation is addressed at every stage of the development process.

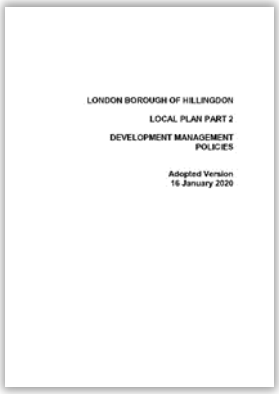
- Policy EM6 (*Flood Risk Management*) - The Council will require all development across the borough to use sustainable urban drainage systems (SUDS) unless demonstrated that it is not viable.

- Policy EM7 (*Biodiversity and Geological Conservation*) – includes reference to the provision of biodiversity improvements from all development, and provision of green roofs and living walls.

- Policy EM8 (*Land, Water, Air and Noise*) – Includes a requirement for all new development to demonstrate the incorporation of water efficiency measures.

- Policy EM11 (*Sustainable Waste Management*) - The Council will require all new development to address waste management at all stages of a development's life from design and construction through to the end use and activity on site, ensuring that all waste is managed towards the upper end of the waste hierarchy.

London Borough of Hillingdon Local Plan Part 2 - Development Management Policies (2020)



4.10 This Development Management Policies document forms part of Hillingdon's Local Plan Part 2. Its purpose is to provide detailed policies that will form the basis of the Council's decisions on individual planning applications.

4.11 The following policies are highlighted:

- Policy DMHB11 (*Design of New Development*) - All development, including extensions, alterations and new buildings will be required to be designed to the highest standards and, incorporate principles of good design.

- Policy DMEI1 (*Living Walls and Roofs and On-Site Vegetation*) - All major development should incorporate living roofs and/or walls into the development.

- Policy DMEI2 (*Reducing Carbon Emissions*) - All developments are required to make the fullest contribution to minimising carbon dioxide emissions in accordance with London Plan targets.

- Policy DMEI3 (*Decentralised Energy*) - All major developments are required to be designed to be able to connect to a Decentralised Energy Network (DEN).
- Policy DMEI7 (*Biodiversity Protection and Enhancement*) - The design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site.
- Policy DMEI9 (*Management of Flood Risk*) - Proposals that fail to make appropriate provision for flood risk mitigation, or which would increase the risk or consequences of flooding, will be refused.
- Policy DMEI10 (*Water Management, Efficiency, and Quality*) - Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated.
- Policy DMIN4 (*Re-use and Recycling of Aggregates*) - All developments will be encouraged to recycle and re-use construction, demolition and excavation waste as aggregates.
- Policy DMT1 (*Managing Transport Impacts*) - Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner.

5. Site Context

5.1 In line with the "three pillars" of sustainability discussed within the methodology section, the site context has been considered with regard to its economic, social and environmental context; acknowledging that interrelationships exist between many of these issues.

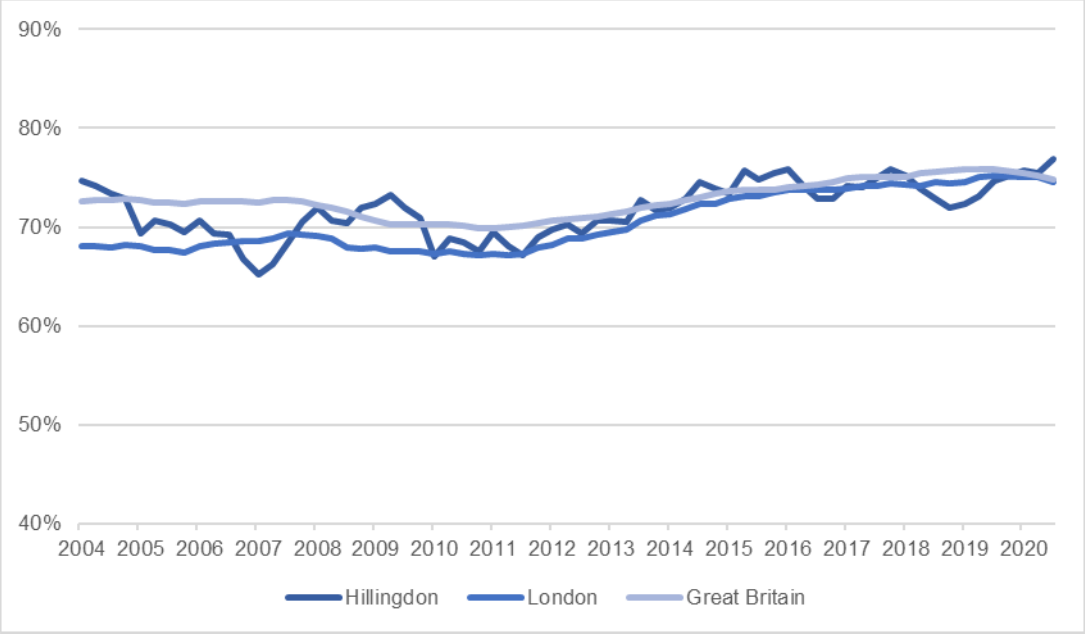
Socio Economic Context

Labour Market

5.2 Nomis is a service provided by the Office for National Statistics, providing local labour market profiles. It provides data on the percentage of economically active residents in an area in groups from January 2004 – December 2004 to July 2020 – June 2021.

5.3 The percentage of economically active residents in employment in Hillingdon has historically closely followed those for London and Great Britain. There is also an upward trend in economically active residents who are in employment in Hillingdon.

Figure 5.1 Economically Active – In Employment



Note: Percentage figures are for those of aged 16-64.

Output Area Classifications

5.4 Area classifications for Great Britain have been produced after every census since 1971, and as of the 2001 Census, they have been extended to cover the UK as a whole.

5.5 Using socioeconomic and demographic data from each census, the classifications seek to identify areas of the country with similar characteristics. Therefore, the presented information should not be interpreted as an assessment specific to the Application Site and the surrounding

area; but rather it is a reflection of the characteristics of areas with a similar socioeconomic and demographic pattern.

5.6 Data from the 2011 Census has been released identifying the site as covering an OAC area with OAC Code E00012653 which is classified as “Multicultural Metropolitans” (Supergroup Code 4), “Challenged Asian Terraces” (Group Code 4b) and “Asian Terraces and Flats” (Subgroup Code 4b1).

5.7 Radial Plots are provided by the Office for National Statistics. Each data point on a radial plot displays the value for each one of the 60 standardised and transformed 2011 Census variables used.

5.8 The data indicates higher than average occupancy of terraced houses and flats. Renting and overcrowding are above the national average. Education levels are general average or lower than average. Unemployment is identified as being higher than average, with full-time similar to the national average and part-time being higher than average.

Indices of Multiple Deprivation

5.9 The English Indices of Deprivation use 38 separate indicators, organised across seven distinct domains of deprivation. The Indices of Multiple Deprivation data are then constructed by combining the seven transformed domain scores, using the following weights; income (22.5%); employment (22.5%); health and disability (13.5%); education, skills and training (13.5%); barriers to housing and services (9.3%); crime (9.3%); and living environment (9.3%).

5.10 The IMD can be used to rank every Lower Layer Super Output Area in England according to their relative level of deprivation. The data is not a measure of affluence; therefore, the area ranked as the least deprived is not necessarily the most affluent.

5.11 The IMD data comprise a numeric value in a scale of 1 to 32,844 (1=most deprived) and are represented in a coloured scale of deciles (1=most deprived – dark red; 10=least deprived – dark blue) in the respective maps. Government data (illustrated below) indicates that the area ranks 10,730 out of 32,844; where 1 is the most deprived. The area is therefore considered to have a higher than average level of deprivation overall.

5.12 The table below provides the data for the individual domains:

Table 5.1 IMD Domain Scores

Domain	Score
Income Rank	7,585
Employment Rank	14,161
Education, Skills and Training Rank	15,429
Health Deprivation and Disability Rank	23,362
Crime Rank	14,901

Barriers to Housing and Services Rank	925
Living Environment Rank	15,552
Rank of IMD Score	**10,730**

Note: Scores out of 32,844, where 1 is the most deprived.

Environmental Context

5.13 The environmental context is assessed in greater detail in the accompanying environmental reports. The following provides an overview of the pertinent matters:

Land Use

5.14 The site constitutes brownfield land, meaning that its development will reduce the pressure to develop elsewhere and on greenfield.

Flooding

5.15 The site is identified as being in Flood Zone 1 meaning the area is at low probability for flooding. Further details can be found in the accompanying Flood Risk Assessment.

Ecology

5.16 The existing site is almost entirely covered by hardstanding and existing structures. The current ecological value is considered negligible.

Local Amenities & Public Transport

5.17 Many of the social and economic issues concern accessibility, which in its broadest sense is regarded as a combination of access to local shops, services, amenities, employment opportunities; as well as access to public and other transport facilities. Therefore, the accessibility of the proposed scheme to local amenities is a relevant consideration in determining whether the site represents a sustainable location.

5.18 With a Public Transport Accessibility Level (PTAL) of 2, the Site is relatively accessible. The closest station is Southall (TfL Rail, GWR), approximately 1 mile south-east of the Site. Bus stops are located immediately outside the Site on Uxbridge Road/The Broadway providing regular services to White City, Acton, Hayes and Uxbridge.

5.19 The Site is also highly accessible via the highways network with connections to Uxbridge Road/The Broadway, The Parkway, the A40 and the M4.

5.20 Further detail of the transport infrastructure can be found in the Transport Statement produced in support of the planning application.

6. Sustainable Design Proposals

6.1 This section presents an overview of the proposed sustainable design features for the scheme.

Energy & Carbon

6.2 Priority will be given to efficiency first, on the basis that it is better to reduce energy demand (and associated carbon emissions and resource requirements) than to generate energy; even using low carbon or renewable technologies.

Passive Design

6.3 Passive design seeks to maximise the use of natural sources of heating, cooling and ventilation to maintain thermal comfort levels within the building.

6.4 The development comprises a number of buildings across the site. The development therefore has multiple faces orientated in all directions.

6.5 Where compatible with aesthetic considerations, external features have been included to provide a degree of shading from the sun. It is intended that the building will have the potential to be naturally ventilated (via openable window / vent).

Fabric Efficiency

6.6 Fabric efficiency concerns the thermal properties associated with the building fabric and construction.

6.7 Heat Transfer Coefficients, otherwise referred to as U-Values, are a measure of the rate of heat transfer through a building element over a given area, under standardised conditions (i.e., the rate at which heat is lost or gained through a fabric).

6.8 It is intended that the performance of the building fabric will incorporate relatively low U-Values to reduce the rate at which the buildings lose heat, preserving the heat within the space and reducing the requirement for mechanical heating.

6.9 A high level of air tightness is proposed is targeted, meaning that air infiltration between the internal and the external environment will be largely controlled, and space heating demand further reduced.

6.10 Thermal bridging is the penetration of the insulation layer by a highly conductive non-insulating material allowing rapid heat transfer from an interior to exterior environment (and vice versa). In well insulated buildings, as much as 30% of heat loss can occur through thermal bridges.

6.11 The building fabric shall be constructed so that there are no reasonably avoidable thermal bridges in the insulation layers caused by gaps within the various elements.

System Efficiency

6.12 Where fans are employed, the specific fan power (SFP) for these systems will be efficient and target a power consumption rate of 0.3W/l/s.

Metering

6.13 The major energy uses shall be monitored via separate “smart” energy meters with time and temperature zone control.

Lighting

6.14 At this stage, detailed lighting design calculations have not yet been undertaken, but lighting design is intended to be highly efficient and in excess of Building Standards requirements. In the domestic components it is intended that lighting efficacy shall be in excess of 90lumens/circuit Watt (likely predominantly LED).

Mechanical Ventilation

6.15 Whilst the units will have the option of natural ventilation, mechanical ventilation (with heat recovery) will also be incorporated into certain area (e.g., office spaces) in order to preserve heat during colder months.

Low Carbon / Renewable Technologies

6.16 Where space heating is required (e.g. office areas), this will be provided predominantly by Air Source Heat Pump (ASHP). An extent of roof mounted PV will also be included to satisfy the planning policy targets.

6.17 With all proposed systems being electric, coupled with the decarbonisation of the national grid, the development proposals will be capable of being zero carbon.

6.18 Further information can be found in the accompanying Energy Statement.

Climate Change

Thermal Comfort

6.19 The issue of overheating has been separately assessed; on the basis that, as buildings become progressively better sealed and insulated, the potential for overheating increases. However, given that the buildings will have openable windows, supported by mechanical ventilation, the risk is considered to be low.

Flood Risk

6.20 The existing site is entirely hardstanding impermeable ground and therefore the volume of water run-off over the development’s lifecycle will be no greater than it would have been prior to development.

6.21 The Site will incorporate SuDS throughout the development to minimise run-off and reduce the risk of flooding elsewhere. Soft landscaping is also included in the proposals to improve drainage across the site. Further information can be found in the accompanying Drainage Strategy.

Water

6.22 The Development would ensure the efficient use of natural resources (including water), including making the most of natural systems both within and around buildings by:

- The provision of water efficient/low flow sanitaryware fittings and fixtures throughout the development, will be specified to reduce potable water consumption and foul flow.
- The Development would include a pulsed output water meter on the mains incoming water supply with associated major leak detection system.
- Landscaping will predominantly rely on natural precipitation to reduce demands on the potable water supply.

Pollution

6.23 Heating systems at the site shall also be electrical, avoiding local emissions associated with combustion.

6.24 The developer will also endeavour to avoid the use of materials with a high VOC (volatile organic compound) content, therefore ensuring an improved air quality for the completed development.

6.25 Measures relating to building design, fabric design and landscaping shall be implemented as appropriate so that internal ambient noise levels are acceptable for the intended use and do not compromise the health and well-being of occupants.

6.26 The external lighting strategy shall be designed to minimise light spillage and night time light pollution in line with the ILP's Guidance notes for the reduction of obtrusive light; low illuminance levels, fittings and controls shall be employed accordingly.

6.27 Good internal air quality will be achieved through the creation of a building envelope with a low air permeability; meaning that the building fabric will reduce the infiltration of pollution from the external environment.

Waste

Waste & Recycling

6.28 Suitable waste and recycling facilities will be provided within the Development to collect and segregate wastes generated through the operation of the Site. These will be in convenient

locations and for storage of general refuse, recyclables and food waste. Internal and external storage will be considerate of the relevant Building Regulations, British Standards and Council requirements.

Construction

Circular Economy

6.29 Consideration has been given to the most appropriate Circular Economy ("CE") strategic approaches based on the nature and predicted lifespan of the development.

6.30 Attention has been given to the planning policy and other requirements and a number of specific goals are proposed for the development. Key commitments include:

- The use of materials that have high durability for longevity; to protect vulnerable parts of the building from damage and exposed parts of the building from material degradation to reduce maintenance and operation costs for the end users.
- Diversion of demolition and construction waste from landfill by converting elements and materials for alternative use.
- Efficient construction and operational waste management via accessible, dedicated areas for segregated waste volumes.

Sustainable Sourcing

- Selection of sustainably sourced materials with suppliers being used that are able to provide BES6001 certification and ISO14001, where possible.
- All timber and timber-based products should be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source.

Whole Lifecycle Carbon Assessment

6.31 Whole life-cycle carbon ("WLC") emissions are the carbon emissions resulting from materials, construction and use of a building over its entire life, including its demolition and disposal. A whole life carbon approach identifies the overall best combined opportunities for reducing lifetime emissions and helps to avoid any unintended consequences of focusing on operational emissions alone.

6.32 Consideration will be given to the carbon emissions resulting from the construction and use of the building over its entire life as part of the selection process.

Biodiversity

6.33 A series of measures to enhance the biodiversity value of the Site will be incorporated into the Development in order to conserve and increase the ecological value of habitats at the Site in line with planning policy and include:

- The use of native species or species of benefit to wildlife within any proposed landscape scheme to provide foraging opportunities for birds, bats, invertebrates;
- Additional habitat could be created above ground level such as the provision of bird and bat boxes.

Transport

6.34 The following is also proposed:

- Improving pedestrian amenity around the Site.
- Secure cycle storage will be provided to encourage building users to cycle so promoting exercise and helping reduce congestion and emissions.
- Working closely with the Council, local operators and community facilities to promote or enhance access to local public transport.
- Electric Vehicle (EV) charging points.

Sustainable Building Standards

6.35 A BREEAM “Very Good” rating will be targeted as a minimum; with an aspiration to go beyond policy and achieve “Excellent”.

7. Sustainable Construction Proposals

7.1 It is recognised that the construction industry has the potential to cause significant environmental impacts through resource use, waste generation and pollution. It is therefore proposed to manage the construction phase in a sustainable manner to ensure that these impacts are reduced.

Responsible Construction Practices

Impacts on Neighbours, Pedestrians, Road Users and Workforce

7.2 The scheme will be registered with the Considerate Constructors Scheme to ensure that the contractor carries out the construction operations in a safe and considerate manner, with due regard to local residents, road users, the workforce and the environment. A target of achieving a score of at least 35 and with a minimum score of 7 in each of the five sections shall be set. This represents a high level of performance and a commitment to responsibly manage construction activities.

Environmental Management

7.3 It is expected that the principal contractor for the project shall also operate a third party certified Environmental Management System (EMS), demonstrating sound management and systematic control of environmental impacts.

Materials Optimisation and Waste

7.4 The Site Waste Management Plan (SWMP) will detail the design measures towards optimum use of materials, set specific targets for construction and demolition waste generation and appropriate mechanisms/protocols for segregating waste on-site and monitoring overall waste management.

7.5 The development will aim for more than 95% by tonnage of demolition and construction waste to be diverted from landfill as per minimum.

Pollution Prevention

Pollution Prevention Guidelines

7.6 The Environment Agency's (EA) Pollution Prevention Guidelines (PPG) shall be followed as appropriate to minimise pollution risks from construction activities; works will also be in line with the Environment Agency's Building a better environment, A guide for developers (2006) guidance.

Air Pollution

7.7 Best practice methods for minimising the formation of dust and emissions from construction activities shall be implemented, as appropriate to the specific site and proposed activities. Control measures may include:

- Appropriate site layout;
- Solid screens/barriers or other physical boundaries around dust/emission generating activities;
- Good site maintenance and regular inspections for liquid spillages; and
- Sealed storage for cement, sand and fine aggregates.

7.8 In addition to the above, the contractor shall comply with the BRE Code of Practice to control dust from construction and demolition activities.

Water Pollution

7.9 Appropriate measures shall be implemented to minimise risks of watercourse and underground water pollution, in line with EA's PPG 5 Works in, near or liable to affect watercourses and the Guide for developers Building a better environment, as stated above. Specific measures shall be outlined in the contractor's CEMP.

8. Summary

8.1 This Sustainability Statement provides an overview as to how the proposed scheme contributes to sustainable development in the context of the strategic, design and construction considerations.

8.2 Sustainability is a broad concept and covers a range of environmental, social and economic considerations. A review of Hillingdon's planning policies has identified a number of requirements relating to sustainable development including Local Plan Part 1 policies BE1 (*Built Environment*) and EM1 (*Climate Change Adaptation and Mitigation*); and Local Plan Part 2 policy DMEI2 (*Reducing Carbon Emissions*). Consideration has also been given to the National and London planning policy framework.

Strategic Sustainability

8.3 At a strategic level, the development of commercial uses will help maintain employment for local people, improve the local economy, increase the wealth and lifestyle of employed individuals and contribute to local business rates. The development is considered to be beneficial to the local community and aligned with socio-economic requirements.

Sustainable Design and Construction

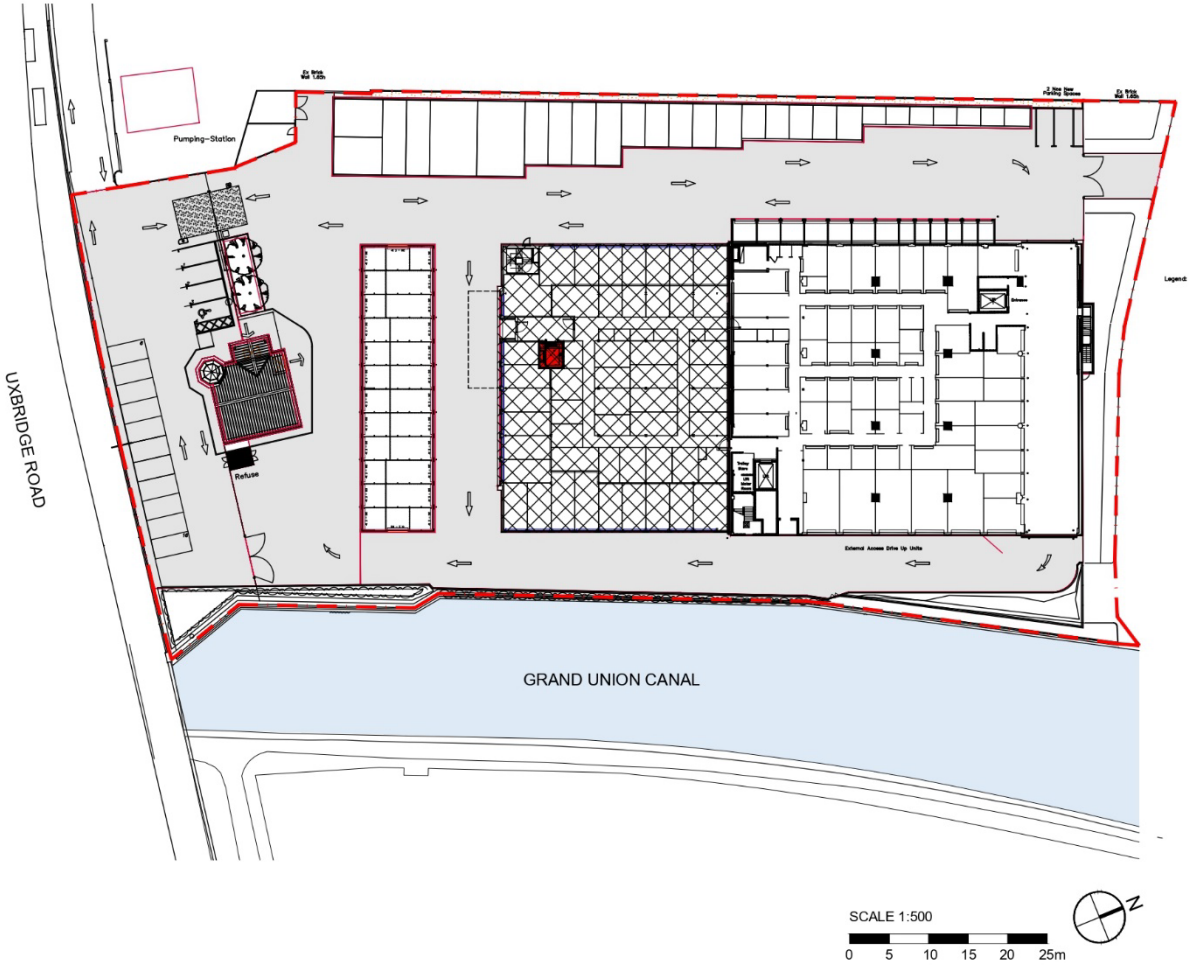
8.4 A range of sustainable design and construction features are proposed including:

- Air Source Heat Pumps will be provided for the office areas and an extent of PV will be located at roof level.
- Highly thermally efficient building fabric.
- Highly efficient lighting.
- Water saving sanitary fittings and appliances to deliver a water efficient development.
- The use of materials with a low lifecycle environmental impact and embodied energy.
- Consideration of the principles of Secured by Design.
- Efficient construction and operational waste management.
- A BREEAM "Very Good" rating will be targeted as a minimum; with an aspiration to go beyond policy and achieve "Excellent".

8.5 Overall, the proposals for the scheme are in line with the overarching principles of sustainable development as well as the policy requirements of the planning authority.

Appendices

A. Site Plans



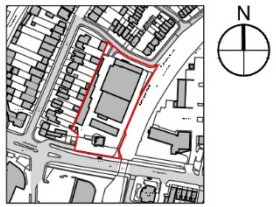
NOTES ORIGINAL A3

All levels and dimensions to be checked on site prior to construction / fabrication; report discrepancies immediately. Do not scale dimensions from this drawings. This drawing is copyright protected.

REVISION

Area of Works = 1053 sqm

Site Boundary
Area = 8196 sqm



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SCALE 1:5000

0 50 100 150 200 250m

SCALE	DATE	DRAWN	CHECKED
1:500	JAN'22	AF	

PROJECT

SHURGARD SELF STORAGE
UK04 - HAYES
LONDON UB4 0HD

DRAWING

Site Plan As Proposed

Threesixty Architecture
10 MONTROSE STREET
GLASGOW
G1 1RE
t 0141 229 7575
www.360architecture.com

DRAWING No.

20165GA-SK-001

B. Key Local Planning Policy Requirements

London Planning Policy Framework

London Plan (2021)

Policy D2 Infrastructure requirements for sustainable densities

A) The density of development proposals should:

1) consider, and be linked to, the provision of future planned levels of infrastructure rather than existing levels

2) be proportionate to the site's connectivity and accessibility by walking, cycling, and public transport to jobs and services (including both PTAL and access to local services).

B) Where there is currently insufficient capacity of existing infrastructure to support proposed densities (including the impact of cumulative development), boroughs should work with applicants and infrastructure providers to ensure that sufficient capacity will exist at the appropriate time. This may mean that if the development is contingent on the provision of new infrastructure, including public transport services, it will be appropriate that the development is phased accordingly.

C) When a proposed development is acceptable in terms of use, scale, and massing, given the surrounding built form, uses and character, but it exceeds the capacity identified in a site allocation or the site is not allocated, and the borough considers the planned infrastructure capacity will be exceeded, additional infrastructure proportionate to the development should be delivered through the development. This will be identified through an infrastructure assessment during the planning application process, which will have regard to the local infrastructure delivery plan or programme, and the CIL contribution that the development will make. Where additional required infrastructure cannot be delivered, the scale of the development should be reconsidered to reflect the capacity of current or future planned supporting infrastructure.

Policy D3 Optimising site capacity through the design-led approach

The design-led approach

A) All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations. Optimising site capacity means ensuring that development is of the most appropriate form and land use for the site. The design-led approach requires consideration of design options to determine the most appropriate form of development that responds to a site's context and capacity for growth, and existing and planned supporting infrastructure capacity (as set out in Policy D2 Infrastructure requirements for sustainable densities), and that best delivers the requirements set out in Part D.

B) Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure, and amenities by public transport, walking and cycling, in accordance with Policy D2 Infrastructure requirements for sustainable densities. Where these locations have existing areas of high-density buildings, expansion of the areas should be positively considered by Boroughs where appropriate. This could also include expanding Opportunity Area boundaries where appropriate.

C) In other areas, incremental densification should be actively encouraged by Boroughs to achieve a change in densities in the most appropriate way. This should be interpreted in the context of Policy H2.

D) Development proposals should:

Form and layout

1) enhance local context by delivering buildings and spaces that positively respond to local distinctiveness through their layout, orientation, scale, appearance, and shape, with due regard to existing and emerging street hierarchy, building types, forms and proportions

2) encourage and facilitate active travel with convenient and inclusive pedestrian and cycling routes, crossing points, cycle parking, and legible entrances to buildings, that are aligned with peoples' movement patterns and desire lines in the area

3) be street-based with clearly defined public and private environments

4) facilitate efficient servicing and maintenance of buildings and the public realm, as well as deliveries, that minimise negative impacts on the environment, public realm, and vulnerable road users

Experience

5) achieve safe, secure, and inclusive environments

6) provide active frontages and positive reciprocal relationships between what happens inside the buildings and outside in the public realm to generate liveliness and interest

7) deliver appropriate outlook, privacy, and amenity

8) provide conveniently located green and open spaces for social interaction, play, relaxation, and physical activity

9) help prevent or mitigate the impacts of noise and poor air quality

10) achieve indoor and outdoor environments that are comfortable and inviting for people to use

Quality and Character

11) respond to the existing character of a place by identifying the special and valued features and characteristics that are unique to the locality and respect, enhance and utilise the heritage assets and architectural features that contribute towards the local character

12) be of high quality, with architecture that pays attention to detail, and gives thorough consideration to the practicality of use, flexibility, safety and building lifespan through appropriate construction methods and the use of attractive, robust materials which weather and mature well

13) aim for high sustainability standards (with reference to the policies within London Plan Chapters 8 and 9) and take into account the principles of the circular economy

14) provide spaces and buildings that maximise opportunities for urban greening to create attractive resilient places that can also help the management of surface water.

E) Where development parameters for allocated sites have been set out in a Development Plan, development proposals that do not accord with the site capacity in a site allocation can be refused for this reason.

Policy S1 Developing London's social infrastructure

A) When preparing Development Plans, boroughs should ensure the social infrastructure needs of London's diverse communities are met, informed by a needs assessment of social infrastructure. Assessments should consider the need for cross-borough collaboration where appropriate and involve relevant stakeholders, including the local community.

B) In areas of major new development and regeneration, social infrastructure needs should be addressed via area-based planning such as Opportunity Area Planning Frameworks, Area Action Plans, Development Infrastructure Funding Studies, Neighbourhood Plans or master plans.

C) Development proposals that provide high quality, inclusive social infrastructure that addresses a local or strategic need and supports service delivery strategies should be supported.

D) Development proposals that seek to make best use of land, including the public-sector estate, should be encouraged and supported. This includes the co-location of different forms of social infrastructure and the rationalisation or sharing of facilities.

E) New facilities should be easily accessible by public transport, cycling and walking and should be encouraged in high streets and town centres.

F) Development proposals that would result in a loss of social infrastructure in an area of defined need as identified in the borough's social infrastructure needs assessment required under Part A should only be permitted where:

1) there are realistic proposals for re-provision that continue to serve the needs of the neighbourhood and wider community, or;

2) the loss is part of a wider public service transformation plan which requires investment in modern, fit for purpose infrastructure and facilities to meet future population needs or to sustain and improve services.

G) Redundant social infrastructure should be considered for full or partial use as other forms of social infrastructure before alternative developments are considered, unless this loss is part of a wider public service transformation plan (see Part F2).

Policy G1 Green Infrastructure [extract]

[...]

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

Policy G4 Open Space […]

[…]

B) Development proposals should:

1) not result in the loss of protected open space

2) where possible create areas of publicly accessible open space, particularly in areas of deficiency.

Policy G5 Urban Greening

A) Major development proposals should contribute 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.

B) Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. 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 (excluding B2 and B8 uses).

C) Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature [extract]

[…]

D) 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.

E) Proposals which reduce deficiencies in access to nature should be considered positively.

Policy SI1 Improving air quality [extract]

[…]

B) To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:

1) Development proposals should not:

a) lead to further deterioration of existing poor air quality […]

Policy SI 2 Minimising greenhouse gas emissions

A) Major development should be net zero-carbon. This means reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the following energy hierarchy:

1) be lean: use less energy and manage demand during operation

2) be clean: exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly

3) be green: maximise opportunities for renewable energy by producing, storing and using renewable energy on-site

4) be seen: monitor, verify and report on energy performance.

B) Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met within the framework of the energy hierarchy.

C) A minimum on-site reduction of at least 35 per cent beyond Building Regulations is required for major development. Residential development should achieve 10 per cent, and non-residential development should achieve 15 per cent 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.

D) Boroughs must establish and administer a carbon offset fund. Offset fund payments must be ring-fenced to implement projects that deliver carbon reductions. The operation of offset funds should be monitored and reported on annually.

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

F) 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.

Policy SI3 Energy infrastructure

A) 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.

B) Energy masterplans should be developed for large-scale development locations (such as those outlined in Part A and other opportunities) which establish the most effective energy supply options. Energy masterplans should identify:

1) major heat loads (including anchor heat loads, with particular reference to sites such as universities, hospitals and social housing)

2) heat loads from existing buildings that can be connected to future phases of a heat network

3) major heat supply plant including opportunities to utilise heat from energy from waste plants

4) secondary heat sources, including both environmental and waste heat

5) opportunities for low and ambient temperature heat networks

6) possible land for energy centres and/or energy storage

7) possible heating and cooling network routes

8) opportunities for futureproofing utility infrastructure networks to minimise the impact from road works

9) infrastructure and land requirements for electricity and gas supplies

10) implementation options for delivering feasible projects, considering issues of procurement, funding and risk, and the role of the public sector

11) opportunities to maximise renewable electricity generation and incorporate demand-side response measures.

C) Development Plans should:

1) identify the need for, and suitable sites for, any necessary energy infrastructure requirements including energy centres, energy storage and upgrades to existing infrastructure

2) identify existing heating and cooling networks, identify proposed locations for future heating and cooling networks and identify opportunities for expanding and inter-connecting existing networks as well as establishing new networks.

D) Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system:

1) the heat source for the communal heating system should be selected in accordance with the following heating hierarchy:

a) connect to local existing or planned heat networks

b) use zero-emission or local secondary heat sources (in conjunction with heat pump, if required)

c) use low-emission combined heat and power (CHP) (only where there is a case for CHP to enable the delivery of an area-wide heat network, meet the development's electricity demand and provide demand response to the local electricity network)

d) use ultra-low NOx gas boilers

2) CHP and ultra-low NOx gas boiler communal or district heating systems should be designed to ensure that they meet the requirements in Part B of Policy SI 1 Improving air quality

3) where a heat network is planned but not yet in existence the development should be designed to allow for the cost-effective connection at a later date.

E) Heat networks should achieve good practice design and specification standards for primary, secondary and tertiary systems comparable to those set out in the CIBSE/ADE Code of Practice CP1 or equivalent.

Policy SI 4 Managing heat risk

A) Development proposals should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure.

B) Major development proposals 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.

Policy SI 5 Water infrastructure [extract]

[…]

C) Development proposals should:

1) through the use of Planning Conditions minimise the use of mains water in line with the Optional Requirement of the Building Regulations (residential development), achieving mains water consumption of 105 litres or less per head per day (excluding allowance of up to five litres for external water consumption)

2) achieve at least the BREEAM excellent standard for the 'Wat 01' water category or equivalent (commercial development)

3) 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.

Policy SI 7 Reducing waste and supporting the circular economy

A) Resource conservation, waste reduction, increases in material reuse 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

2) encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products

3) ensure that there is zero biodegradable or recyclable waste to landfill by 2026

4) meet or exceed the municipal waste recycling target of 65 per cent by 2030

5) 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

6) 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.

B) Referable applications should promote circular economy outcomes and aim to be net zero-waste. A Circular Economy Statement should be submitted, to demonstrate:

1) how all materials arising from demolition and remediation works will be re-used and/or recycled

2) 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

3) opportunities for managing as much waste as possible on site

4) adequate and easily accessible storage space and collection systems to support recycling and re-use

5) how much waste the proposal is expected to generate, and how and where the waste will be managed in accordance with the waste hierarchy

6) how performance will be monitored and reported.

C) Development Plans that apply circular economy principles and set local lower thresholds for the application of Circular Economy Statements for development proposals are supported.

Policy SI 12 Flood risk management [extract]

[…]

C) 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. […]

Policy SI 13 Sustainable drainage [extract]

[…]

B) 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.

Local Plan Part 1 - Strategic Policies (2012)

Policy NPPF1: National Planning Policy Framework - Presumption in Favour of Sustainable Development

When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work pro-actively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the policies in this Local Plan (and, where relevant, with polices in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
- Specific policies in that Framework indicate that development should be restricted.

Policy BE1: Built Environment

The Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods, where people enjoy living and working and that serve the long-term needs of all residents. All new developments should:

1. Achieve a high quality of design in all new buildings, alterations, extensions and the public realm which enhances the local distinctiveness of the area, contributes to community cohesion and a sense of place;
2. Be designed to be appropriate to the identity and context of Hillingdon's buildings, townscapes, landscapes and views, and make a positive contribution to the local area in terms of layout, form, scale and materials and seek to protect the amenity of surrounding land and buildings, particularly residential properties;
3. Be designed to include “Lifetime Homes” principles so that they can be readily adapted to meet the needs of those with disabilities and the elderly, 10% of these should be wheelchair accessible or easily adaptable to wheelchair accessibility encouraging places of work and leisure, streets, neighbourhoods, parks and open spaces to be designed to meet the needs of the community at all stages of people’s lives;
4. In the case of 10 dwellings or over, achieve a satisfactory assessment rating in terms of the latest Building for Life standards (as amended or replaced from time to time);
5. Improve areas of poorer environmental quality, including within the areas of relative disadvantage of Hayes, Yiewsley and West Drayton. All regeneration schemes should ensure that they are appropriate to their historic context, make use of heritage assets and reinforce their significance;
6. Incorporate a clear network of routes that are easy to understand, inclusive, safe, secure and connect positively with interchanges, public transport, community facilities and services;
7. Improve the quality of the public realm and provide for public and private spaces that are attractive, safe, functional, diverse, sustainable, accessible to all, respect the local character and landscape, integrate with the development, enhance and protect biodiversity through the inclusion of living walls, roofs and areas for wildlife, encourage physical activity and where appropriate introduce public art;
8. Create safe and secure environments that reduce crime and fear of crime, anti-social behaviour and risks from fire and arson having regard to Secure by Design standards and address resilience to terrorism in major development proposals;
9. Not result in the inappropriate development of gardens and green spaces that erode the character and biodiversity of suburban areas and increase the risk of flooding through the loss of permeable areas;
10. Maximise the opportunities for all new homes to contribute to tackling and adapting to climate change and reducing emissions of local air quality pollutants. The Council will require all new development to achieve reductions in carbon dioxide emission in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. Where the required reduction from on-site renewable energy is not feasible within major developments, contributions off-site will be sought. The Council will seek to merge a suite of sustainable design goals, such as the use of SUDS, water efficiency, lifetime homes, and energy efficiency into a requirement measured against

the Code for Sustainable Homes and BREEAM. These will be set out within the Hillingdon Local Plan: Part 2- Development Management Policies Local Development Document (LDD). All developments should be designed to make the most efficient use of natural resources whilst safeguarding historic assets, their settings and local amenity and include sustainable design and construction techniques to increase the re-use and recycling of construction, demolition and excavation waste and reduce the amount disposed to landfill;

11. In the case of tall buildings, not adversely affect their surroundings including the local character, cause harm to the significance of heritage assets or impact on important views. Appropriate locations for tall buildings will be defined on a Character Study and may include parts of Uxbridge and Hayes subject to considering the Obstacle Limitation Surfaces for Heathrow Airport. Outside of Uxbridge and Hayes town centres, tall buildings will not be supported. The height of all buildings should be based upon an understanding of the local character and be appropriate to the positive qualities of the surrounding townscape.

Support will be given for proposals that are consistent with local strategies, guidelines, supplementary planning documents and Hillingdon Local Plan: Part 2- Development Management Policies.

Policy EM1: Climate Change Adaptation and Mitigation

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

1. Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.
2. Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency.
3. Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.
4. Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.
5. Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.
6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.
7. Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider bioremediation as part of their proposals.
8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydroelectricty and a greater use of waste as a resource.
9. Promoting new development to contribute to the upgrading of existing housing stock where appropriate.

The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:

10. Locating and designing development to minimise the probability and impacts of flooding.
11. Requiring major development proposals to consider the whole water cycle impact which includes flood risk management, foul and surface water drainage and water consumption.
12. Giving preference to development of previously developed land to avoid the loss of further green areas.
13. Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks.
14. Promoting the inclusion of passive design measures to reduce the impacts of urban heat effects.

Policy EM6 Flood Risk Management

The Council will require new development to be directed away from Flood Zones 2 and 3 in accordance with the principles of the National Planning Policy Framework (NPPF).

The subsequent Hillingdon Local Plan: Part 2 -Site Specific Allocations LDD will be subjected to the Sequential Test in accordance with the NPPF. Sites will only be allocated within Flood Zones 2 or 3 where there are overriding issues that

outweigh flood risk. In these instances, policy criteria will be set requiring future applicants of these sites to demonstrate that flood risk can be suitably mitigated.

The Council will require all development across the borough to use sustainable urban drainage systems (SUDS) unless demonstrated that it is not viable. The Council will encourage SUDS to be linked to water efficiency methods. The Council may require developer contributions to guarantee the long term maintenance and performance of SUDS is to an appropriate standard.

Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:
    - Harefield Gravel Pits
    - Colne Valley Regional Park
    - Fray's Farm Meadows
    - Harefield Pit
2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.
3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.
4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.
5. The provision of biodiversity improvements from all development, where feasible.
6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.
7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

Policy EM11: Sustainable Waste Management

The Council will aim to reduce the amount of waste produced in the Borough and work in conjunction with its partners in West London, to identify and allocate suitable new sites for waste management facilities within the West London Waste Plan to provide sufficient capacity to meet the apportionment requirements of the London Plan which is 382 thousand tonnes per annum for Hillingdon by 2026.

The Council will require all new development to address waste management at all stages of a development's life from design and construction through to the end use and activity on site, ensuring that all waste is managed towards the upper end of the waste hierarchy.

The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

The Council will seek to maximise the use of existing waste management sites through intensification or co-location of facilities.

Policy DMHB 11: Design of New Development

A. All development, including extensions, alterations and new buildings will be required to be designed to the highest standards and, incorporate principles of good design including:

   i. harmonising with the local context by taking into account the surrounding:

      - scale of development, considering the height, mass and bulk of adjacent structures;
      - building plot sizes and widths, plot coverage and established street patterns;
      - building lines and setbacks, rooflines, streetscape rhythm, for example, gaps between structures and other streetscape elements, such as degree of enclosure;
      - architectural composition and quality of detailing;
      - local topography, views both from and to the site; and
      - impact on neighbouring open spaces and their environment.

   ii. ensuring the use of high quality building materials and finishes;

   iii. ensuring that the internal design and layout of development maximises sustainability and is adaptable to different activities;

   iv. protecting features of positive value within and adjacent to the site, including the safeguarding of heritage assets, designated and un-designated, and their settings; and

   v. landscaping and tree planting to protect and enhance amenity, biodiversity and green infrastructure.

B. Development proposals should not adversely impact on the amenity, daylight and sunlight of adjacent properties and open space.

C. Development will be required to ensure that the design safeguards the satisfactory re-development of any adjoining sites which have development potential. In the case of proposals for major development sites, the Council will expect developers to prepare master plans and design codes and to agree these with the Council before developing detailed designs.

D. Development proposals should make sufficient provision for well designed internal and external storage space for general, recycling and organic waste, with suitable access for collection. External bins should be located and screened to avoid nuisance and adverse visual impacts to occupiers and neighbours.

Policy DMEI 1: Living Walls and Roofs and on-site Vegetation

All development proposals are required to comply with the following:

   i. All major development6 should incorporate living roofs and/or walls into the development. Suitable justification should be provided where living walls and roofs cannot be provided; and

   ii. Major development in Air Quality Management Areas must provide onsite provision of living roofs and/or walls. A suitable offsite contribution may be required where onsite provision is not appropriate.

Policy DMEI 2: Reducing Carbon Emissions

A. All developments are required to make the fullest contribution to minimising carbon dioxide emissions in accordance with London Plan targets.

B. All major development proposals must be accompanied by an energy assessment showing how these reductions will be achieved.

C. Proposals that fail to take reasonable steps to achieve the required savings will be resisted. However, where it is clearly demonstrated that the targets for carbon emissions cannot be met onsite, the Council may approve the application and seek an off-site contribution to make up for the shortfall.

Policy DMEI 3: Decentralised Energy

A. All major developments are required to be designed to be able to connect to a Decentralised Energy Network (DEN).

B. Major developments located within 500 metres of an existing DEN, and minor new-build developments located within 100 metres, will be required to connect to that network, including provision of the means to connect to that network and a reasonable financial contribution to the connection charge, unless a feasibility assessment demonstrates that connection is not reasonably possible.

C. Major developments located within 500 metres of a planned future DEN, which is considered by the Council likely to be operational within 3 years of a grant of planning permission, will be required to provide a means to connect to that network and developers shall provide a reasonable financial contribution for the future cost of connection and a commitment to connect via a legal agreement or contract, unless a feasibility assessment demonstrates that connection is not reasonably possible.

D. The Council will support the development of DENs and energy centres in principle, subject to meeting the wider policy requirements of this plan and in particular on design and air quality.

Policy DMEI 7: Biodiversity Protection and Enhancement

A. The design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement.

B. If development is proposed on or near to a site considered to have features of ecological or geological value, applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value.

C. All development alongside, or that benefits from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements.

D. Proposals that result in significant harm to biodiversity which cannot be avoided, mitigated, or, as a last resort, compensated for, will normally be refused.

Policy DMEI9: Management of Flood Risk

A. Development proposals in Flood Zones 2 and 3a will be required to demonstrate that there are no suitable sites available in areas of lower flood risk. Where no appropriate sites are available, development should be located on the areas of lowest flood risk within the site. Flood defences should provide protection for the lifetime of the development. Finished floor levels should reflect the Environment Agency's latest guidance on climate change.

B. Development proposals in these areas will be required to submit an appropriate level Flood Risk Assessment (FRA) to demonstrate that the development is resilient to all sources of flooding.

C. Development in Flood Zone 3b will be refused in principle unless identified as an appropriate development in Flood Risk Planning Policy Guidance. Development for appropriate uses in Flood Zone 3b will only be approved if accompanied by an appropriate FRA that demonstrates the development will be resistant and resilient to flooding and suitable warning and evacuation methods are in place.

D. Developments may be required to make contributions (through legal agreements) to previously identified flood improvement works that will benefit the development site.

E. Proposals that fail to make appropriate provision for flood risk mitigation, or which would increase the risk or consequences of flooding, will be refused.

Policy DMEI10: Water Management, Efficiency, and Quality

A. Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy 5.13: Sustainable drainage).

B. All major new build developments, as well as minor developments in Critical Drainage Areas or an area identified at risk from surface water flooding must be designed to reduce surface water run-off rates to no higher than the pre-development greenfield run-off rate in a 1:100 year storm scenario, plus an appropriate allowance for climate change for the worst storm duration. The assessment is required regardless of the changes in impermeable areas and the fact that a site has an existing high run-off rate will not constitute justification.

C. Rain Gardens and non householder development should be designed to reduce surface water run-off rates to Greenfield run-off rates.

D. Schemes for the use of SuDS must be accompanied by adequate arrangements for the management and maintenance of the measures used, with appropriate contributions made to the Council where necessary.

E. Proposals that would fail to make adequate provision for the control and reduction of surface water run-off rates will be refused.

F. Developments should be drained by a SuDs system and must include appropriate methods to avoid pollution of the water environment. Preference should be given to utilising the drainage options in the SuDS hierarchy which remove the key pollutants that hinder improving water quality in Hillingdon. Major development should adopt a 'treatment train' approach where water flows through different SuDS to ensure resilience in the system.

Water Efficiency

G. All new development proposals (including refurbishments and conversions) will be required to include water efficiency measures, including the collection and reuse of rain water and grey water.

H. All new residential development should demonstrate water usage rates of no more than 105 litres/person/day.

I. It is expected that major development8 proposals will provide an integrated approach to surface water run-off attenuation, water collection, recycling and reuse.

Water and Wastewater Infrastructure

J. All new development proposals will be required to demonstrate that there is sufficient capacity in the water and wastewater infrastructure network to support the proposed development. Where there is a capacity constraint the local planning authority will require the developer to provide a detailed water and/or drainage strategy to inform what infrastructure is required, where, when and how it will be delivered.

Policy DMIN4: Re-use and Recycling of Aggregates

A. The Council will promote the recycling of construction, demolition and excavation waste.

B. All developments will be encouraged to:

i. recycle and re-use construction, demolition and excavation waste as aggregates;

ii. process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and

iii. use substitute or recycled materials in new development in place of primary minerals.

C. Planning permission for aggregates recycling on active minerals extraction and landfill sites will be supported, subject to local amenity and other policies within the Local Plan. Applications for aggregates recycling sites in other areas such as Strategic Industrial Locations will be required to satisfy other relevant policies in the Local Plan including the West London Waste Plan.

Policy DMT 1: Managing Transport Impacts

A. Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to:

i. be accessible by public transport, walking and cycling either from the catchment area that it is likely to draw its employees, customers or visitors from and/or the services and facilities necessary to support the development;

ii. maximise safe, convenient and inclusive accessibility to, and from within developments for pedestrians, cyclists and public transport users;

iii. provide equal access for all people, including inclusive access for disabled people;

iv. adequately address delivery, servicing and drop-off requirements; and

v. have no significant adverse transport or associated air quality and noise impacts on the local and wider environment, particularly on the strategic road network.

B. Development proposals will be required to undertake a satisfactory Transport Assessment and Travel Plan if they meet or exceed the appropriate thresholds. All major developments11 that fall below these thresholds will be required to produce a satisfactory Transport Statement and Local Level Travel Plan. All these plans should demonstrate how any potential impacts will be mitigated and how such measures will be implemented.

C. BREEAM Pre-Assessment

Issue ID	Issue ID/ Description/Aim	Credit Requirements	Available Credits	Predicted Credits	Awarded Credits	Contingency Credits	Available Score	Predicted Score	Awarded Score	Contingency Credits	RIBA Stage - Critical	Responsibilities/Comments
Man01	**Project brief and design** Encouraging an integrated design process and considering BREEAM performance targets early to influence decision-making and optimise building performance, while avoiding unnecessary costs.	**Project Delivery Planning (1 Credit)** 1. Responsibilities Matrix 2. Project directory and project brief 3. Design and Access Statement 4. Key meeting minutes **Stakeholder Consultation (interested parties) (1 Credit)** 1. Copy of the consultation plan 2. Meeting Minutes/Consultation report summary 3. List of design changes as a result of consultation **BREEAM AP (concept design) (1 Credit)** 1. BREEAM pre-assessment + any additional sustainability targets and requirements 2. Meeting minutes BREEAM AP demonstrating regular attendance to DTM (monthly) **BREEAM AP (developed design) (1 Credit)** As above	4	4	0	0	2.44%	2.44%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Client Project Manager Architect BREEAM AP **Comments** Early actions required Ensphere to provide letter template
Man02	**Life cycle cost and service life planning** Promoting the business case for sustainable buildings through the enhanced understanding of capital cost. Improving design, specification, maintenance and operation, by encouraging the use of life cycle costing.	**Elemental Life Cycle Cost (LCC) (2 Credits)** 1. A copy of Elemental Life Cycle Cost Report 2. List of design changes as a result of the LCC **Component Level LLC Option Appraisal (1 Credit)** 1. A copy of componant Life Cycle Cost Report 2. List of design changes as a result of the LCC **Capital Cost Reporting (1 Credit)** 1. Predicted Capital Cost report	4	4	0	0	2.44%	2.44%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Client Contractor **Comments** Early actions required
Man03	**Responsible Construction Practices** Encouraging construction sites to be managed in an environmentally and socially considerate and responsible manner. Monitoring to encourage continuous improvements and utility consumption reduction.	**Pre-requisite** 1. All specification containing timber products to have the relevant timber requirements **Environmental Management (1 Credit)** 1. Copy of EMS certificates from Principal contractor and completed PPG6 **BREEAM AP Site (1 Credit)** 1. Appointment of AP for construction and a copy of agreed targets during construction **Responsible Construction Management (Up to 2 credits)** 1. A copy of Environmental Management Plan 2.Template of environment site inspection that will be used during construction **Monitoring of Construction Site Impacts (1 Credit)** 1. Commitment to monitor, record energy and water consumption **Monitoring of Construction Site Impacts - Transport of construction materials & waste (1 Credit)** 1. Target and commitment to monitor, record CO2e emissions associated with material and waste transport	6	6	0	0	3.67%	3.67%	0.00%	0.00%		**Responsibilities** Contractor **Comments** Ensphere to provide letter templates

Man04	**Commissioning and handover** Encouraging a well-managed handover and commissioning process, which will ensure building services and fabric defects are identified and rectified. Ensuring that the building responds to the needs of the occupants.	**Pre-Requisite** 1. Commitment letter from client to produce two BUGs. **Commissioning - Testing Schedule and Responsibilities (1 Credit)** 1. Appointment letter for commissioning manager. **Commissioning - Design and Preparation (1 Credit)** 1. Appointment letter for commissioning manager at RIBA stage 2/3. 2. Meeting minutes from commissioning manager showing input during design stage. Evidence the commissioning manager has the relevant qualification **Testing and Inspecting Building Fabric (1 Credit)** 1. Commitment letter from client to undertake thermographic survey and rectify any issues **Handover (1 Credit)** Commitment letter from client to undertake two BUGs and corresponding trainings.	4	3	0	1	2.44%	1.83%	0.00%	0.61%		**Responsibilities** Commissioning Manager M&E Client **Comments** Ensphere to provide letter templates
Man05	**Aftercare** Encouraging aftercare support during the first year of the building operation, to ensure the building operates in accordance with the design intent and in response to the building occupants' needs.	**Aftercare Support (1 Credit)** 1. Commitment letter from client to provide appropriate aftercare support **Commissioning Implementation (1 Credit)** 1. Commitment letter from client to provide the following seasonal commissioning activities **Post Occupancy Evaluation (1 Credit)** 1. Commitment letter from client/building occupier to undertake POE	0	0	0	0	0.00%	0.00%	0.00%	0.00%		**Responsibilities** Client Building Occupier **Comments** Ensphere to provide letter templates
Hea01	**Visual comfort** Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out. Designing internal and external lighting systems to provide appropriate illuminance (lux) levels, thereby giving a more comfortable environment for occupants Internal lighting is zoned to allow for occupant control.	**Glare Control (1 Credit)** 1. Copy of the glare strategy covering areas deemed at risk and measures to minimise/avoid glare. **Daylighting (building type dependent) (Up to 2 Credits)** 1. Report from specialist confirming the targeted daylight ratio **View Out (1 Credit)** 1. Drawings confirming view out calculations. **Internal Lighting, External Lighting and Zoning and Occupant Control (1 Credit)** 1. Internal lighting strategy and modelling demonstrating compliance with the different standards 1. Light fittings schedule 2. Product datasheet confirming luminance of light fittings install 1. Zoning and control strategy - drawing showing it	4	2	0	1	2.91%	1.45%	0.00%	0.73%		**Responsibilities** Daylight Consultant Architect M&E **Comments** Ensphere to provide letter template
Hea02	**Indoor air quality** Facilitating good indoor air quality by considering indoor air pollution early in the design process so that a mitigation strategy can be put in place. Managing harmful emissions from construction products by specifying finishes and products that have been tested in accordance with the appropriate standards. Specifying an appropriate ventilation strategy that maintains good indoor air quality.	**Pre-requisite - Indoor Air Quality (IAQ) plan** 1. Indoor Air Quality Plan **Ventilation (1 Credit)** 1. Drawings confirming calculations	1	0	0	0	0.73%	0.00%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Air Quality Consultant M&E Architect Contractor **Comments** Ensphere to provide letter template
Hea03	**Safe containment in laboratories** This is no longer assessed as a separate issue within BREEAM UK New Construction 2018.	N/A	0	0	0	0	0.00%	0.00%	0.00%	0.00%		

Hea04	**Thermal comfort** Thermal modelling informs the building design to provide a comfortable thermal environment that considers current climatic conditions, and projected climate change scenario conditions. Giving occupants control over their environment through appropriate temperature control strategies and thermal zoning.	**Thermal Modelling (1 Credit)** 1. Thermal Modelling and full dynamic thermal analysis **Design for Future Thermal Comfort (1 Credit)** 1. Thermal Modelling and full dynamic thermal analysis **Thermal Zoning and Controls (1 Credit)** 1. Thermal Modelling and full dynamic thermal analysis	2	2	0	0	1.45%	1.45%	0.00%	0.00%		**Responsibilities** M&E
Hea05	**Acoustic performance** Enabling occupants to experience best practice acoustic performance levels appropriate to the functional activities in occupied spaces.	**Acoustic Performance (1 Credits)** 1. Acoustic report	1	0	0	1	0.73%	0.00%	0.00%	0.73%		**Responsibilities** Acoustician
Hea06	**Security** Designing the building to consider and take into account security needs to ensure occupants safety and wellbeing.	**Security of Site and Building (1 Credit)** 1. Meeting minutes with SQSS 2. Drawings, technical memos showing that the recommendations have been incorporated	1	1	0	0	0.73%	0.73%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Security Specialist Architect **Comments** Early actions required
Hea07	**Safe and healthy surroundings** Providing external site areas that are safe for occupant use. Enhancing the wellbeing of building users by giving access to an outdoor space.	**Safe Access (1 Credit)** 1. Construction drawings showing cycle and pedestrian paths **Outside Space (1 Credit)** 1. Construction drawings showing external spaces and amenities	2	2	0	0	1.45%	1.45%	0.00%	0.00%		**Responsibilities** Security Specialist Architect
Ene 01	**Reduction of energy use and carbon emissions** Encouraging the design of energy efficient buildings with energy performance above national building regulations. Encouraging the accurate modelling of operational energy consumption.	**Energy Performance (Up to 9 Credits)** 1. RIBA stage 4 BRUKL 2. Energy statement **Prediction of Operational Energy Consumption (4 Credits)** 1. RIBA stage 4 BRUKL 2. Energy statement	13	4	0	2	8.67%	2.67%	0.00%	1.33%	Early Action RIBA Stage 2	**Responsibilities** Energy Specialist **Comments** Early actions required
Ene02	**Energy monitoring** Helping to identify and reduce high energy demands where possible by accurate measurement of the energy consumption of the building by end use.	**Sub-metering of End Use Categories (1 Credit)** 1. Schematics showing metering of space heating, cooling, ventilation, lighting, small power etc. 2. Table Ene 02 filled out **Sub-metering of High Energy Load and Tenancy Areas (1 Credit)** 1. Schematics showing metering of space heating, cooling, ventilation, lighting, small power etc. 2. Table Ene 02 filled out	2	2	0	0	1.33%	1.33%	0.00%	0.00%		**Responsibilities** M&E
Ene03	**External lighting** Reducing the building's energy consumption through the specification of energy efficient external lighting.	**External Lighting (1 Credit)** 1. Product datasheet confirming that the product specified achieves 70 luminaire lumens per circuit Watt 2. Specification confirming control (e.g. daylight, movement etc..) installed for external lighting	1	1	0	0	0.67%	0.67%	0.00%	0.00%		**Responsibilities** M&E

Ene04	**Low carbon design** Reducing the building's energy consumption through the adoption of passive design solutions, free cooling and low or zero carbon (LZC) energy sources.	**Passive Design Analysis (PDA) (1 Credit)** 1. Passive design analysis (PDA) 2. Thermal modelling and BRUKL with passive design measures 3. Evidence that a suitably qualified energy specialist has quantified the CO2e reduction **Free Cooling (1 Credit)** 1. Passive design analysis with cooling analysis 2. Evidence for suitably qualified energy specialist 3. Dynamic simulation model demonstrating that the cooling demand can be met by free cooling **Low and Zero Carbon Technologies (1 Credit)** 1. LZC analysis and BRUKL Report 2. Evidence for suitably qualified energy specialist	3	2	0	1	2.00%	1.33%	0.00%	0.67%	Early Action RIBA Stage 2	**Responsibilities** M&E **Comments** Early actions required
Ene05	**Energy efficient cold storage** Reducing the building's operational greenhouse gas emissions (CO_2-eq) through the design, installation and commissioning of energy efficient refrigeration systems.	**Refrigeration Energy Consumption (1 Credit)** 1. Product data sheets for the refrigeration system 2. Written commitment that Commitioning of the refrigeration system will take place **Indirect Greenhouse Gas Emissions (1 Credit)** 1. Demonstration of savings in indirect greenhouse gas emissions	0	0	0	0	0.00%	0.00%	0.00%	0.00%		**Responsibilities** M&E
Ene06	**Energy efficient transportation systems** Reducing the building's energy consumption by specifying the optimum number and size of energy efficient transportation systems.	**Energy Consumption (1 Credit)** 1. Lift analysis that meet BREEAM requirements **Energy Efficient Features (1 Credit)** 1. Lift specification with corresponding datasheet that confirm the requirements are met	2	0	0	2	1.33%	0.00%	0.00%	1.33%		**Responsibilities** Lift Consultant
Ene07	**Energy efficient laboratory systems** Reducing the building's operational greenhouse gas emissions (CO_2-eq) by specifying best practice energy efficient laboratory equipment.	**Design Specification (1 Credit)** 1. Minutes of meetings to confirm consultation with relevant stakeholders 2. Project brief that includes laboratory performance criteria **Best Practice Energy Efficient Features (Up to 4 Credits)** 1. Energy Demand Assessment 2. Laboratory system specification and drawings	0	0	0	0	0.00%	0.00%	0.00%	0.00%		**Responsibilities** M&E
Ene08	**Energy efficient equipment** Demonstrating a meaningful reduction in the total unregulated energy demand of the building by using energy efficient equipment.	**Energy Efficient Equipment (2 Credits)** 1. Fill in energy 08 table 2. Specification confirming targeted requirements.	0	0	0	0	0.00%	0.00%	0.00%	0.00%		**Responsibilities** M&E
Tra01	**Transport assessment and travel plan** Recognising developments in proximity to good public transport networks, thereby helping to reduce transport-related pollution and congestion	**Travel Plan (2 Credits)** 1. Travel Plan 2. Drawings showing travel plan proposals	2	2	0	0	1.92%	1.92%	0.00%	0.00%		**Responsibilities** Transport Consultant
Tra02	**Sustainable transport measures** Recognising developments in close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants.	**Sustainable Transport Measures (Up to 10 Credits)** 1. Evidence to demonstrate the measures targeted	10	5	0	2	9.58%	4.79%	0.00%	1.92%		**Responsibilities** Transport Consultant
Wat01	**Water consumption** Reducing the demand for potable water through the provision of efficient sanitary fittings, rainwater collection and water recycling systems.	**Water Consumption (Up to 5 Credits)** 1. Water 01 Calculator 2. Specifications 3. Product data sheet confirming flow rates	5	2	0	0	3.89%	1.56%	0.00%	0.00%		**Responsibilities** BREEAM Assessor Architect
Wat02	**Water monitoring** Specification of water meters to allow for management and monitoring of water use in the building. This encourages reductions in water use by identifying areas of high usage and investigating potential causes.	**Pre-requisite** 1. Drawing showing location of water meter **Water Monitoring (1 Credit)** 1. Schematics showing submetering 2. Specification and corresponding product datasheet of the product 3. Specification highlighting connection to BMS or ability to be connected	1	1	0	0	0.78%	0.78%	0.00%	0.00%		**Responsibilities** M&E

Wat03	**Water leak detection** Reducing the unintended water consumption due to leaks by installing leak detection systems and flow control devices.	**Leak Detection System (1 Credit)** 1. Specification detailing leak detection system 2. Product datasheet for the leak detection system **Flow Control Devices (1 Credit)** 1. Mechanical Specification 2. Drawings to show the location if the flow control systems	2	2	0	0	1.56%	1.56%	0.00%	0.00%		**Responsibilities** M&E
Wat04	**Water efficient equipment** Reducing water consumption for non-domestic scale, non-sanitary water uses by specifying efficient systems and improving the design efficiency of any water-using processes.	**Unregulated Water Demand (1 Credit)** 1. Letter template	1	1	0	0	0.78%	0.78%	0.00%	0.00%		**Reponsibilities** Contractor **Comments** Ensphere to provide a letter template
Mat01	**Environmental impacts from construction products - Building life cycle assessment (LCA)** Reducing buildings' environmental life cycle impacts through conducting Life Cycle Assessment and integrating its outcomes in the design decision-making process.	**Life Cycle Impacts** 1. Specifications 2. Allocation to undertake the material assessment 3. Cost plan **Super Structure, Substructure and Hard Landscaping Options Appraisal during Concept Design (Up to 7 Credits)** 1. Specifications 2. Allocation to undertake the material assessment	7	5	0	0	8.75%	6.25%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Architect Structural Engineer LCA modeller **Comments** Early actions required
Mat02	**Environmental impacts from construction products - Environmental Product Declarations (EPD)** To encourage availability of robust and comparable data on the impacts of construction products by rewarding the specification of products with environmental products declarations.	**Specification of Products with a Recognised Environmental Product Declaration (EPD) (1 Credit)** 1. Specification 2. EDPs 3. Allocation to undertake the material assessment	1	0	0	0	1.25%	0.00%	0.00%	0.00%		**Responsibilities** Architect Structural Engineer Building Services
Mat03	**Responsible sourcing of construction products** Recognising and encouraging responsible sourcing of construction products. This includes the source of products and the intermediary companies processing and transporting the product to site.	**Pre-requisite** 1. All relevant specification susceptible to contain timber products to have the relevant timber requirements. **Sustainable Procurement Plan (1 Credit)** 1. Procurement plan in place by RIBA stage 2 **Measuring Responsible Sourcing (Up to 3 Credits)** 2. Responsible Sourcing of materials	4	2	0	0	5.00%	2.50%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Architect Structural Engineer M&E **Comments** Early actions required
Mat04	**Insulation** This is no longer assessed as a separate issue within BREEAM UK New Construction 2018.	N/A	0	0	0	0	0.00%	0.00%	0.00%	0.00%		
Mat05	**Designing for durability and resilience** Increasing the lifespan of the building through designing for durability and protection from degradation and specifying appropriate construction products.	**Protecting Vulnerable Parts of the Building from Damage (0.5 Credit)** 1. Marked up drawings **Protecting Exposed Parts of the Building from Material Degradation (0.5 Credit)** 1. Completed Mat 05 spreadsheet and supporting drawings	1	1	0	0	1.25%	1.25%	0.00%	0.00%		**Responsibilities** Architect

Mat 06	**Material efficiency** Encouraging the reduction of environmental impacts through optimising the use of materials during all stages of the project.	**Material Efficiency (1 Credit)** 1. Material efficiency technical memo/report (must include quantities of materials saved)	1	1	0	0	1.25%	1.25%	0.00%	0.00%	Early Action RIBA Stage 1/2	**Responsibilities** Architect Structural Engineer M&E **Comments** Early actions required
Wst01	**Construction waste management** Improving resource efficiency through developing a pre-demolition audit and a Resource Management Plan, maximising the recovery of material during demolition and diverting non-hazardous waste from landfill.	**Pre-demolition Audit (1 Credit)** 1. Pre-demoilition Audit **Construction Resource Efficiency (Up to 3 Credits)** 1. Site Waste Management Plan **Diversion of Resources from Landfill (1 Credit)** 1. Site Waste Management Plan	5	3	0	0	3.18%	1.91%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Waste Consultant Contractor **Comments** Early actions required
Wst02	**Use of recycled and sustainably sourced aggregates** Encouraging the use of recycled or secondary aggregate or aggregate types with lower environmental impact to reduce waste and optimise material efficiency.	**Recycled Aggregate (1 Credit)** 1. Recycled content calculator 2. Specification 3. Letter of commitment from Contractor	1	0	0	0	0.64%	0.00%	0.00%	0.00%		**Responsibilities** Structural Engineer Contractor
Wst03	**Operational Waste** Encouraging the diversion of operational waste form landfill through the provision of space and facilities allowing the segregation and storage of recyclable waste.	**Operational Waste (1 Credit)** 1. Drawings/Specifications to demonstrate the location of the operational waste facility 2. Confirmation for the likely waste streams for the site.	1	1	0	0	0.64%	0.64%	0.00%	0.00%		**Responsibilities** Architect Waste Consultant
Wst04	**Speculative finishes (Offices only)** Specification of floor and ceiling finishes only where agreed with the occupant or, for tenanted areas where the future occupant is unknown, installation in a show area only, to reduce wastage.		1	0	0	0	0.64%	0.00%	0.00%	0.00%		**Responsibilities** Architect
Wst05	**Adaptation to climate change** Encouraging consideration and implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the lifespan of the building.	**Resilience of Structure, Fabric, Building Services and Renewables Installation (1 Credit)** 1. Climate Change Adaptation Strategy 2. Appraisal or Structural and fabric resilience 3. Systematic risk assessment	1	1	0	0	0.64%	0.64%	0.00%	0.00%	Early Action RIBA Stage 2	**Responsibilities** Architect Structural Engineer M&E **Comments** Early actions required
Wst06	**Design for disassembly and adaptability** Encouraging consideration and implementation of measures design options related to adaptability and disassembly, which can accommodate future changes to the use of the building and its systems over its lifespan.	**Design for Dissembly and Functional Adaptability - Recommendations (1 Credit)** 1. Building-specific functional adaptation strategy study **Disassembly and Functional Adaptability – Implementation (1 Credit)** 1. Building-specific functional adaptation strategy study	2	0	0	2	1.27%	0.00%	0.00%	1.27%	Early Action RIBA Stage 2	**Responsibilities** Architect Structural Engineer M&E **Comments** Early actions required
LE01	**Site selection** Recognising the reuse of previously developed and contaminated land where appropriate remediation has taken place.	**Previously Occupied Land (1 Credit)** 1. Photograph/Exiting site plan of the site or Design and Access Statement describing the previous use **Contaminated Land (1 Credit)** 1. Contaminated site investigation and risk assessment/report 2. Commitment letter from the contractor that the remediation strategy will be implemented	2	1	0	1	2.31%	1.15%	0.00%	1.15%		**Responsibilities** Client Contractor Contaminated land consultant

LE02	**Identifying and understanding the risks and opportunities for the project** Identifying and understanding the ecological risks and opportunities associated with the site to inform the determination of the strategic outcome for the site.	**Pre-requisite - Ecological Value of Site** 1. Risk evaluation checklist completed 2. Appointment of ecologist if going through Route 2 3. EMP detailing the processes in place during construction to monitor ecology **Route 1 - Low Risk and Opportunities Defined in GN34 (1 Credit)** Completed Assessment using GN35 OR **Route 2 - Complex Ecological Systems (2 Credits)** Ecologist's Survey and recommendation following hierachy	2	2	0	0	2.31%	2.31%	0.00%	0.00%	Early Action RIBA Stage 1	**Responsibilities** Ecologist Selected team member **Comments** Early actions required
LE03	**Managing negative impacts on ecology** Recognition of steps taken to avoid impacts on existing site ecology as far as possible.	**Identification and Understanding the Risks and Opportunities for the Site (1 Credit)** 1. Ecologists report 2. Confirmation that the Ecologist is suitably Qualified **Managing Negative Impacts of the Project (Up to 2 Credits)** 1. Ecologists report 2. Confirmation that the features of value will be protected in line with the Ecologist's recommendations	3	3	0	0	3.46%	3.46%	0.00%	0.00%	Early Action RIBA Stage 1	**Responsibilities** Ecologist Selected team member **Comments** Early actions required
LE04	**Change and enhancement of ecological value** Recognition of steps taken to enhance site ecology.	**Identification and Understanding the Risks and Opportunities for the Site** 1. Ecology Report **Change and Enhancement of Ecology - Route 1 ONLY (1 Credit)** 1. Confirmation that the project team have implemented local ecological solutions and measures to enhance the site **Change and Enhancement of Ecology - Route 2 ONLY (Up to 3 Credits)** 1. Calculation of the Ecological value	4	1	0	0	4.62%	1.15%	0.00%	0.00%		**Responsibilities** Ecologist Selected team member
LE05	**Long term ecology management and maintenance** Encouraging the long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive.	**Long Term Impact on Biodiversity** 1. As above **Planning Liason, Data, Monitoring and Review Management and Maintenance (1 Credit)** 1. Ecology report 2. Confirmation of additional measures 3. Confirm Ecology and Biodiversity section in Building User Guide **Landscape and Ecology Plan (1 Credit)** 1. Landscape and Ecology Plan	2	2	0	0	2.31%	2.31%	0.00%	0.00%		**Responsibilities** Ecologist Selected team member Client
Pol01	**Impact of refrigerants** Rewarding buildings that reduce the impact of refrigerant gas emissions.	**Impact of Refrigerants (2 Credits)** 1. Specification and/or manufacturer's literature to confirm the design/type of system to be installed 2. Drawings to show the positioning of the units **Leak Detection (1 Credit)** 1. Specification and/or manufacturer's literature to confirm the design/type of system to be installed 2. Drawings to show the positioning of the units	3	1	0	0	2.25%	0.75%	0.00%	0.00%		**Responsibilities** M&E **Comments** Dependant on whether refridgeration systems are to be installed, if none 3 credits are automatically achieved.
Pol02	**Local air quality** Recognising buildings which limit their impact on local air quality, by consideration of the combustion plant and fuel used on site.	**Local Air Quality (Up to 2 Credits)** 1. Data sheets and/or manufacturer emails confirming NOx emmissions for each piece of equipment 2. Boiler/CHP/Heat Emitter/Cooling/Heater schedules	2	2	0	0	1.50%	1.50%	0.00%	0.00%		**Responsibilities** M&E

Pol03	**Flood and surface water management** Rewarding buildings and their sites that limit on-site and off-site local flooding and hence the damage this can cause.	**Flood Resilience (Up to 2 Credits)** 1. Site Specific Flood Risk Assessment **Pre-requisite - Surface Water Run-off** 1.Calculations and Drainage Plan **Surface Water Run-off Rates (1 Credit)** 1. Calculations and Drainage Plan **Surface Water Run-off Volume (1 Credit)** 1. Calculations and Drainage Plan **Minimising Water Course Pollution (1 Credit)** 1. Drainage Plan	5	2	0	1	3.75%	1.50%	0.00%	0.75%		**Responsibilities** Flood Risk Consultant Drainage Engineer
Pol04	**Reduction of night time light pollution** Avoiding or reducing the impact of night time light pollution, through careful design and specification of light sources.	**Night Time Light Pollution (1 Credit)** 1. Completed letter template 2. Drawings to show the location of the external lighting, time switches and photo-cells	1	1	0	0	0.75%	0.75%	0.00%	0.00%		**Responsibilities** M&E
Pol05	**Reduction of noise pollution** Avoiding or reducing the impact of external noise from the building.	**Reduction of Noise Pollution (1 Credit)** 1. Noise Impact Assessment	1	0	0	0	0.75%	0.00%	0.00%	0.00%		**Responsibilities** Acoustician
Inn01	**Innovation** Test out new ideas which, if successful, could change the status quo of the industry. Allow the industry to explore new opportunities and evolve its processes.	**Up to 10 Credits** 1. Man 03 Responsible construction practices 1. Hea 01 Visual comfort 1. Mat01 Core Building Services Options Appraisal during Concept Design	10	0	0	1	10.00%	0.00%	0.00%	1.00%		
Total								62.17%	0.00%	11.49%		

D. General Note

The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Ensphere Group Ltd for inaccuracies in the data supplied by any other party.

The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.

No site visits have been carried out, unless otherwise specified.

This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.

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Ensphere Group Ltd
52 Grosvenor Gardens
London, SW1W 0AU
+44 (0) 20 7846 9040
www.enspheregroup.com