



Energy, Sustainability, Overheating and BREEAM Statements

Assunnah Islamic Centre, 565A – 567A High Road, London,
N17 6SB

Assunnah Islamic Centre

13 July 2026

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1 Introduction

1.1. Overview

Assunnah Islamic Centre (the Client) is seeking planning consent for the redevelopment of a site at Assunnah Islamic Centre, 565A – 567A High Road, London, N17 6SB(hereafter referred to as the ‘proposed development’), which is within the London Borough of Haringey (LBH).

The proposal seeks for the following:

The proposal involves the partial demolition of the existing Islamic Centre, with the Locally Listed Building retained. The site will be redeveloped to accommodate a new 3-storey building with a basement level. The redevelopment will unify the site into a cohesive structure with an updated exterior façade. The latest plans do not include a usable roof area.

The client has instructed Aval Consulting Group Limited (ACGL) to produce an Energy, Sustainability, Overheating and BREEAM Statements to accompany the planning application to the LBH for consent to undertake the proposed work.

This report presents the sustainable design features of the development and demonstrates how they relate to applicable planning policy guidance and documents as listed below:

- National Planning Policy Framework (NPPF) (2024).
- Haringey Local Plan.

This statement also provides a prediction of the proposed development’s baseline energy prediction and outlines the use of energy efficiency measures.

The Energy, Sustainability, Overheating and BREEAM Statements supports the London Borough of Haringey’s commitment to achieving a net zero-carbon borough by 2041. The development follows Haringey’s energy and sustainability expectations by prioritising energy demand reduction, efficient systems, and low-carbon technologies, consistent with the Local Plan’s goals for zero-carbon, climate-resilient buildings. The approach also aligns with the borough’s Sustainable Design & Construction SPD, which requires developments to minimise energy use, reduce environmental impacts, and incorporate sustainable materials and technologies.

2 Applicable Standards and Policy

2.1 Planning Policies

2.1.1 The National Planning Policy Framework

The principal national planning policy guidance in respect of the proposed development is the National Planning Policy Framework (NPPF). The most recent update of the NPPF was published in December 2024 and updated in February 2025 by the Ministry of Housing, Communities & Local Government.

The section of the NPPF “Planning for Climate Change” states that:

153. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures or making provision for the possible future relocation of vulnerable development and infrastructure.

154. New development should be planned for in ways that:

a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in vulnerable areas, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and

b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government’s policy for national technical standards.

155. To help increase the use and supply of renewable and low-carbon energy and heat, plans should:

a) provide a positive strategy for energy from these sources, that maximises the potential for a suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);

b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and

c) identify opportunities for development to draw its energy supply from decentralised, renewable or low-carbon energy supply systems and for co-locating potential heat customers and suppliers.

156. Local planning authorities should support community-led initiatives for renewable and low-carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.

157. In determining planning applications, local planning authorities should expect new development to:

a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and

b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

158. When determining planning applications for renewable and low-carbon development, local planning authorities should:

a) not require applicants to demonstrate the overall need for renewable or low-carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions;

b) approve the application if its impacts are (or can be made) acceptable once suitable areas for renewable and low-carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial-scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas, and

c) in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site, and approve the proposal if its impacts are or can be made acceptable.

2.1.2 The London Plan

The London Plan (2021) has been used to produce this strategy, as well as ensure that the proposed development meets all of the requirements imposed on it.

Policy SI 2: Minimising greenhouse gas emissions states that:

- A. Major development should be net zero-carbon. This means reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand by 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 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 lifecycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

Policy 5.9 Cooling Hierarchy states that:

- A. The Mayor seeks to reduce the impact of the urban heat island effect in London and encourages the design of places and spaces to avoid overheating and excessive heat generation, and to reduce overheating due to the impacts of climate change and the urban heat island effect on an area-wide basis.
- B. Major development proposals should reduce potential overheating and reliance on air conditioning systems and demonstrate this by the following cooling hierarchy:
1. minimise internal heat generation through energy-efficient design
 2. reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation, and green roofs and walls
 3. manage the heat within the building through exposed internal thermal mass and high ceilings
 4. passive ventilation
 5. mechanical ventilation
 6. active cooling systems (ensuring they are the lowest carbon options).
- C. Major development proposals should demonstrate how the design, materials, construction, and operation of the development would minimise overheating and also meet its cooling needs. New development in London should also be designed to avoid the need for energy-intensive air conditioning systems as much as possible. Further details and guidance regarding overheating and cooling are outlined in the London Climate Change Adaptation Strategy.

2.1.3 Haringey Local Plan: Energy & Carbon Policies

Haringey's adopted planning framework places a strong emphasis on reducing energy use, lowering carbon emissions, and promoting climate-resilient development. The core adopted policy in this area is Strategic Policy SP4: Working Towards a Low Carbon Haringey, which commits the borough to reducing carbon emissions from new and existing buildings in accordance with London Plan requirements. SP4 requires all new developments to incorporate measures that minimise energy demand, improve energy efficiency, and support the transition toward a low- and zero-carbon borough.

Under SP4, new residential and non-residential development must achieve substantial reductions in regulated CO₂ emissions, with policy promoting high-performance building fabric, efficient energy systems, and the integration of low- and zero-carbon technologies. SP4 also requires developments to assess and, where feasible, deliver decentralised energy solutions, prioritising connection to existing or planned heat networks and supporting wider sub-regional energy infrastructure such as networks within the Upper Lee Valley.

Haringey's Sustainable Design & Construction SPD (2013) provides detailed guidance to support implementation of these adopted policies. The SPD expands on Local Plan requirements and sets out expectations relating to:

- Energy and Carbon (SPD Section 3) – promoting efficient building fabric, airtightness, low-carbon technologies, and measurable on-site CO₂ reductions.
- Climate and Adaptation (SPD Section 4) – requiring design measures such as passive solar control, natural ventilation, and strategies to improve building resilience to future climate conditions.
- Construction and Materials – encouraging sustainable material choices and resource-efficient construction practices.

These adopted SPD standards reinforce the need for developments to prioritise early-stage design measures—such as thermal optimisation, passive design and natural ventilation—to reduce operational energy demand and support borough-wide decarbonisation objectives.

In addition, SP4 requires all developments to examine opportunities for low-carbon or zero-carbon heat sources and to make provision for on-site renewable energy generation, where viable, to achieve further reductions in predicted CO₂ emissions. It also emphasises the importance of connecting to decentralised energy networks as part of Haringey's long-term decarbonisation strategy.

Water efficiency requirements are also embedded within the Sustainable Design & Construction SPD, which calls for water-saving fixtures, reduced potable water consumption, and—where feasible—rainwater harvesting or greywater reuse. These measures support resilience to future climatic pressures and reduce the environmental impact of new development.

Finally, the Local Plan and SPD strongly encourage the retrofitting and upgrading of existing buildings, supporting improvements to building fabric, low-carbon heating systems, renewable energy generation, and efficient water use. These measures are integral to Haringey's longer-term ambition of delivering a borough-wide transition toward a low-carbon future.

2.2 Overall Policies

The proposal to redevelop and unify the existing Islamic Centre, adding new floors and creating a cohesive 3-storey structure with a Basement, Ground, First and Second floor, must comply with the NPPF (2024), London Plan (2021) and the relevant Haringey Local Plan and SPD sustainability requirements.

In practice, this means the scheme should:

- Adopt a fabric-first strategy across both new-build and refurbished elements, ensuring high insulation, airtightness and efficient services.
- Reduce energy demand through optimised layout, façade upgrades and enhancement of thermal performance.
- Integrate low-carbon technologies, including air-source heat pumps as the primary heating source (or equivalent low-carbon alternative), consistent with borough decarbonisation targets.
- Assess and incorporate solar PV on the redesigned roofscape where feasible.
- Provide passive and active overheating mitigation, aligned with Haringey's climate-resilience framework.
- Optimise daylight, ventilation and thermal comfort across prayer spaces, community areas and circulation spaces.
- Reduce water use via efficient fixtures, leak detection and water-saving infrastructure such as rainwater harvesting where viable.
- Use sustainable, low-impact materials and minimise construction waste in line with the SPD.
- Enhance biodiversity, for example through green roofs, new planting or nature-based design measures.
- Support future-proofed decentralised energy connection, ensuring the building can integrate into heat networks if required.

Overall, Haringey's sustainability and climate-action policies require the redeveloped Islamic Centre to deliver significant carbon reductions, high levels of energy efficiency, and robust climate resilience, ensuring the expanded and unified building contributes to the borough's transition to a zero-carbon, climate-resilient future.

3 Energy Strategy

The energy strategy for the redevelopment of the Assunnah Islamic Centre follows national, London-wide and borough-level requirements, applying the London Plan Energy Hierarchy—Be Lean, Be Clean, Be Green. This aligns with Haringey's Strategic Policy SP4: Working Towards a Low Carbon Haringey, which requires new developments to reduce energy use, minimise emissions and support the borough's transition toward a low- and zero-carbon future.

The scheme adopts a fabric-first approach, in accordance with the Sustainable Design & Construction SPD, improving insulation, airtightness, glazing performance and the overall thermal efficiency of both existing and newly constructed floors. These measures minimise heating and cooling demand and reflect the SPD's requirement for early-stage design optimisation through passive solar control, reduced heat loss and opportunities for natural ventilation where appropriate.

Low-carbon, efficient building services form a core part of the energy strategy. Air-source heat pumps will provide low-carbon heating and cooling, supported by mechanical ventilation with heat recovery to improve air quality and reduce energy consumption. Consistent with SP4, the development includes provision for future connection to decentralised heat networks by safeguarding suitable routes and ensuring the system design can accommodate future linkage to borough-wide low-carbon infrastructure.

The development will also incorporate on-site renewable energy where feasible, with the consolidated roofscape offering suitable areas for installing solar photovoltaic panels. This supports the Local Plan's zero-carbon ambitions and contributes to Haringey's target of becoming a net zero-carbon borough by 2041.

Overall, the strategy aims to maximise on-site carbon reduction in line with London Plan requirements and Haringey's sustainability objectives. By combining high-performance building fabric, low-carbon heating and ventilation systems, and renewable energy generation, the redeveloped Islamic Centre will deliver a more energy-efficient, low-carbon and climate-resilient building that meets the borough's current and emerging expectations for sustainable development.

3.1 Baseline Energy Prediction

Energy modelling for the proposed development was executed using SBEM software, based on Building Regulations 2021 Part L compliance. The notional energy prediction for the proposed development used the dimensions of the proposed development, as well as notional U-values and heating specifications stated in the Building Regulations 2021. The model defined the Target Emissions Rate (TER) for Building Regulations 2021 Part L through the following formula:

$$TER_{2021} = C_H \times FF + C_{PF} + C_L$$

The TER is determined by applying a fuel factor (FF) to space heating and hot water (C_H) which is then added to the energy use of pumps and fans (C_{PF}) and then added to the internal lighting load (C_L).

It is noted that Building Regulations 2021 were introduced in June 2022, and subsequently, the Greater London Authority's (GLA) guidance was updated.

3.2 Be Clean

The London Plan includes the following hierarchy for considering the potential for supplying energy efficiently via heating and cooling infrastructure:

- Connect to local existing or planned heat networks.
- Use zero-emission or local secondary heat sources.
- Use low-emission combined heat and power (CHP).
- Use ultra-low NOx gas boilers.

The London Heat Map has been used to identify potential connections to existing and proposed district heating. The proposed site location is indicated by the red marker (Figure 3.1). The existing Blackhorse Lane is the closest existing network and HDEN Phase 1 is the closest proposed network. The previously mentioned networks are not within proximity of the development and therefore not suitable for connection to the development. Therefore, these have not been included within the calculations of this report.

The development has been designed so that it does not preclude the possibility of connecting to a future district heat network. While no existing or planned network is currently within a viable connection distance, the scheme allows for future safeguarding measures—such as space allocation and adaptable plant arrangements—should a heat network come forward in the vicinity.

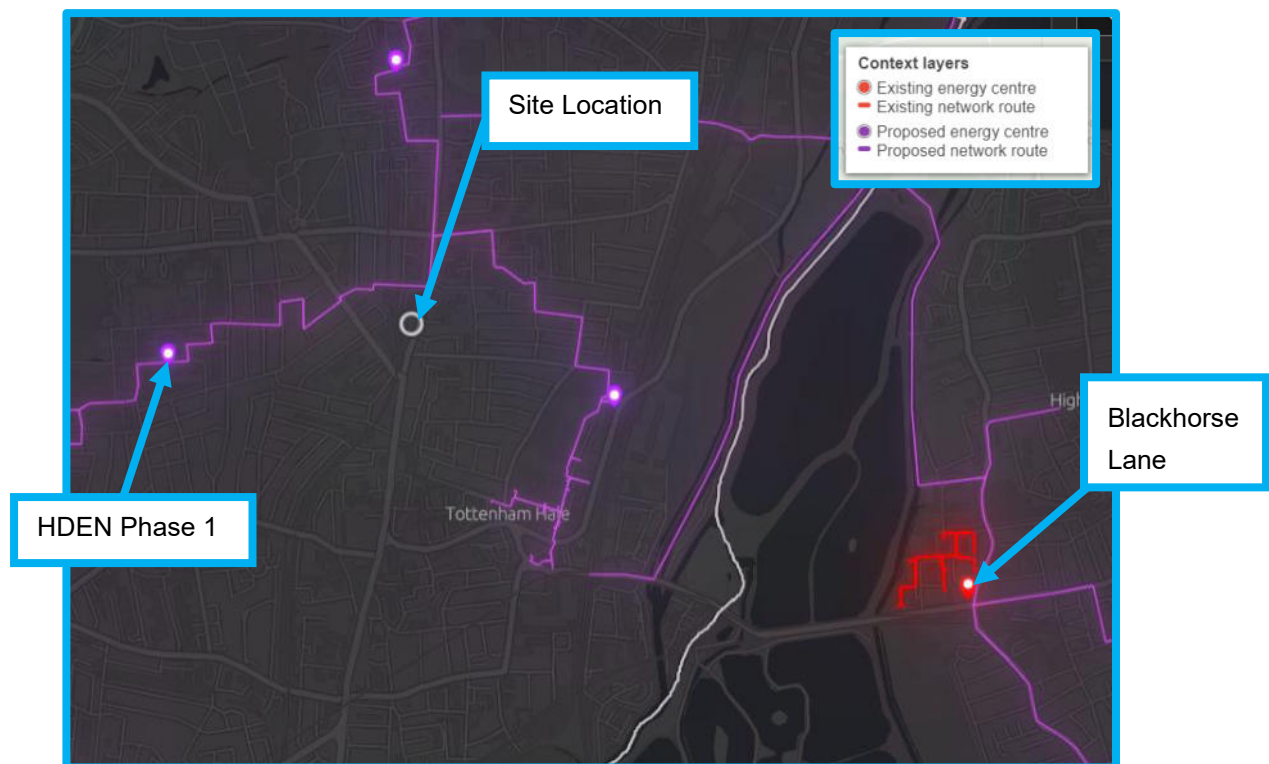


Figure 3.1: An extract of the GLA London Heat Map.

3.3 Energy-Efficient Building Design (Be Lean)

The redevelopment of the Assunnah Islamic Centre applies a demand-reduction strategy that prioritises optimising the building fabric in line with the London Plan Energy Hierarchy and Haringey's Strategic Policy SP4: Working Towards a Low Carbon Haringey, which requires new development to minimise energy use and operational carbon emissions. The design reduces the need for heating, cooling and artificial lighting by improving thermal performance across the unified building, including the Basement, Ground Floor, First Floor, Second Floor and Third Floor. High-performance insulation, reduced thermal bridging and optimised glazing specifications ensure the building performs efficiently without relying on energy-intensive systems.

In accordance with the Sustainable Design & Construction SPD, the building fabric has been designed with high insulation levels, airtight construction, and efficient lighting systems to significantly reduce baseline energy demand. These passive design principles reflect Haringey's guidance on energy efficiency and early-stage design optimisation, helping lower heating and cooling loads before mechanical systems are considered. The scheme incorporates material selections and construction detailing that support long-term durability, resilience and reduced heat loss, consistent with borough and London-wide sustainability principles.

To further reduce operational energy, efficient internal lighting systems with full LED specification are included across the development, achieving near-100% lighting efficiency while reducing internal heat gains. The passive design strategy also supports improved comfort conditions by using appropriate glazing g-values, natural ventilation opportunities, and optimised openings where feasible. These features work in tandem with the building form to limit unwanted solar gains and aid natural cooling.

The development integrates the findings of the TM52 Overheating Assessment to ensure spaces remain comfortable under hotter future weather conditions. The assessment confirmed that, under initial conditions, several prayer and community spaces were at risk of overheating; however, by adopting lower g-value glazing and adding mechanical ventilation at 20 L/s, all assessed rooms fully complied with all three TM52 criteria. This confirms that the proposed building design—supported by improved fabric performance, solar control, and enhanced ventilation—successfully addresses overheating risks and aligns with Haringey's Local Plan climate-resilience requirements.

The combination of passive design measures, optimised thermal envelope and overheating mitigation ensures the proposed development achieves high performance under Be Lean principles, reducing energy demand and supporting the borough's transition toward a net-zero-carbon future.

3.3.1 Water Efficiency

The development adopts a fittings-first approach to water conservation in line with Haringey's Sustainable Design & Construction SPD, which requires efficient fixtures, reduced potable water usage and consideration of water-saving technologies. High-efficiency taps, showers and dual-flush WCs are specified to reduce consumption, with opportunities for rainwater harvesting or other reuse systems considered where feasible. These measures help lower

water demand and support Haringey's resilience objectives under its climate-action framework.

3.3.2 Building Fabric

The minimum building fabric performance is based on Building Regulations Part L requirements, with the proposed development targeting significantly improved U-values to support energy-demand reduction. These values exceed the minimum standards and reflect the high-performance envelope required to deliver meaningful carbon savings under Be Lean measures.

Table 3.2: Minimum U-value requirement for the proposed development and target values.

Element	Minimum Specification Building Regulations (2013)	Minimum Specification Building Regulations (2021)	Target Values for Development
External walls	0.30 W/m ² K	0.26 W/m ² K	0.13 W/m ² K
Floors	0.25 W/m ² K	0.18 W/m ² K	0.11 W/m ² K
Roof	0.20 W/m ² K	0.16 W/m ² K	0.11 W/m ² K
Windows	2.25 W/m ² K	1.60 W/m ² K	1.1 W/m ² K
Doors	2.00 W/m ² K	1.40 W/m ² K	1.0 W/m ² K
Airtightness	10 m ³ /(h·m ²)	8 m ³ /(h·m ²)	3 m ³ /(h·m ²)
Ultra Efficient Gas Boiler	-	-	96% Efficient

These improved values will be refined during detailed design but currently deliver a 12.33% reduction in regulated emissions at Be Lean stage.

For this scheme, achieving the full 15% Be Lean reduction required for non-residential buildings is constrained by the retention of the locally listed building, which limits opportunities for further fabric improvements. In addition, the modest scale and form of the development restrict the ability to increase passive design gains (e.g., optimised orientation, enhanced thermal mass) beyond those already integrated. The proposed U-values, airtightness and glazing performance are already pushed to the practical limits of what can be delivered within the architectural, conservation and cost constraints of the retained structure.

As a result, the 12.33% reduction represents the maximum achievable improvement without compromising heritage-related elements or introducing technologies that would fall under later stages of the energy hierarchy (Be Clean / Be Green). The scheme therefore delivers a robust and optimised Be Lean outcome.

3.3.3 Summary of 'Be Lean' Measures

The first step in the energy hierarchy is to reduce emissions through energy efficiency measures. Buildings can reduce their energy usage by passive means. This includes orientation, thermal insulation, and air infiltration. Table 3.3 below presents the minimum reduction expected following the implementation of the 'Be Lean' measures.

Table 3.3: Summary of predicted emissions following 'Be Lean' measures

Dwelling	Target emission rate (kgCO ₂ /m ² /year)	Targeted CO ₂ Emissions (tonnesCO ₂ /year)	'Be lean' building emission rate (kgCO ₂ /m ² /year)	CO ₂ Emissions (tonnesCO ₂ /year)	Reduction in CO ₂ emissions (%)
1	2.56	2.92	2.25	2.56	12.33

By adopting a strong fabric-first approach, the redevelopment achieves substantial reductions in energy demand in line with the London Plan Energy Hierarchy and Haringey SP4. High-performance insulation, improved airtightness, efficient LED lighting and optimised glazing significantly lower heating, cooling and lighting loads.

The building fabric surpasses Building Regulations Part L (2021) with targeted U-values of 0.13 W/m²K (walls), 0.11 W/m²K (floors and roof), and enhanced glazing/door performance of 1.1 W/m²K and 1.0 W/m²K respectively helping minimise heat loss and improve long-term thermal resilience.

Water-efficiency measures are incorporated in line with Haringey's Sustainable Design & Construction SPD, including efficient taps, showers and dual-flush WCs, with rainwater-reuse opportunities considered.

The TM52 Overheating Assessment confirms that, with lower g-value glazing and 20 L/s mechanical ventilation, all spaces comply with TM52 criteria, demonstrating strong thermal resilience and alignment with Haringey's climate-adaptation expectations.

Overall, the Be Lean measures achieve the maximum feasible reduction for this development given the existing building constraints, contributing meaningfully to Haringey's low-carbon and climate-resilient objectives.

3.4. Renewable and Low Carbon Technology (Be Green)

The Be Green stage focuses on reducing regulated carbon emissions through the incorporation of renewable and low-carbon technologies. A feasibility assessment was undertaken in line with London Plan and Haringey policy expectations, evaluating technical viability, site constraints, whole-life carbon benefits, and integration with the building's efficient fabric and low-energy systems. This approach supports Haringey's ambition to deliver a zero-carbon borough by 2041 and its requirement for developments to maximise feasible on-site carbon reduction.

Key policy considerations informing the assessment include the following requirements:

- London Plan Policy SI2 – Minimising Greenhouse Gas Emissions, requiring major developments to achieve $\geq 35\%$ on-site carbon reduction beyond Part L 2021 before any offset contributions.
- London Plan Energy Hierarchy – Be Lean, Be Clean, Be Green, Be Seen, emphasising maximising on-site reductions prior to offsetting.
- Haringey Local Plan Strategic Policy SP4 – Working Towards a Low Carbon Haringey, requiring new development to reduce energy use, support decentralised energy, and incorporate low- or zero-carbon technology where viable.
- Haringey Sustainable Design & Construction SPD, which encourages renewable energy generation, reduced reliance on fossil fuel systems, and holistic low-carbon design integration.
- Local Plan Zero-Carbon Policies, which propose that new developments contribute to Haringey's borough-wide transition to zero-carbon, using on-site renewables and low-carbon materials.

The feasibility review considered the building's energy-demand profile, roof orientation, shading, mechanical system compatibility, capital and operational costs, maintenance requirements, visual and heritage impacts, and long-term energy resilience. This ensured compliance with the borough's decarbonisation objectives while accommodating the constraints of a multi-storey, unified Islamic Centre with prayer rooms, community spaces and highly variable occupancy levels.

Based on this assessment, the following renewable and low-carbon measures are proposed for the redeveloped centre:

- Roof-mounted Solar Photovoltaic (PV) Panels on the newly consolidated roofscape, providing clean on-site electricity generation. The expanded, unified roof area offers improved installation potential, supporting Haringey's zero-carbon expectations.
- Air-Source Heat Pumps (ASHP) as the primary low-carbon heating and cooling technology, in line with SP4, which promotes low-carbon heat sources and reduced dependence on combustion-based systems.
- High-performance building fabric to reduce residual heating and cooling loads, supporting the London Plan hierarchy requirement to minimise demand before renewable generation is applied.
- Efficient building services and controls, including mechanical ventilation with heat recovery (MVHR), which also contributes to TM52 overheating mitigation by supporting controlled airflow and stable internal conditions.

These measures work alongside the Be Lean and Be Clean strategies to deliver substantial on-site carbon reductions. The approach is consistent with London Plan SI2, which requires major developments to achieve at least 35% on-site reduction in regulated emissions beyond Part L 2021 standards, with further reductions encouraged where feasible.

Given Haringey's commitment to a zero-carbon borough and its support for decentralised and renewable energy solutions under SP4, the proposed strategy targets the maximum feasible on-site carbon savings. This ensures the redevelopment makes a meaningful contribution to

borough-wide decarbonisation while providing long-term operational cost savings and supporting the resilience of the Islamic Centre against future climate and energy-system pressures.

Table 3.4: A feasibility study of potential renewable and low-carbon technology

Renewable/ Low Carbon Technology	Feasibility	Further consideration
Photovoltaics (PV)	Solar photovoltaic technology can provide a reliable contribution to the development's electrical demand by generating clean, on-site electricity. The system is silent in operation and requires minimal maintenance, producing no noise pollution. While roof space is limited, PV panels remain a feasible and effective low-carbon solution, helping reduce grid electricity consumption and supporting the development's sustainability objectives.	Yes
Biomass boilers	Biomass boilers require a constant supply of fuel, which has traditionally been an issue. Transporting and storing large quantities of fuel can often be a problem. Regular transportation of the fuel will generate traffic-related pollutants and emissions from biomass boilers (particularly NOx and particulate matter) are also a big issue. Therefore, the installation of biomass boilers could compromise the air quality within the area.	No
Wind Turbines	Small-scale wind turbines, building-integrated wind power, are proven, and viable technology. However, the average surface roughness in built-up areas is high, leading to both reduced wind speeds and increased turbulence. The location of the site is urban and therefore there are no suitable open spaces. As well as this, a lack of aesthetic appeal and noise pollution associated with wind turbines, means that they have not been considered as part of the development.	No
Heat Pumps	Ground or air source heat pumps offer a low-carbon heating solution that can efficiently provide both heating and cooling. They are compatible with decarbonised grid electricity and may qualify for certain government incentives. While site-specific factors such as space for external units and installation complexity need to be considered, heat pumps	Yes

Renewable/ Low Carbon Technology	Feasibility	Further consideration
	are a feasible low-carbon technology for this development, capable of significantly reducing reliance on fossil fuels.	

Table 3.4 summarises the renewable and low-carbon technologies considered for this development. PV were identified as a practical and effective solution, capable of generating clean on-site electricity with minimal maintenance and no associated noise. Biomass boilers and wind turbines were discounted due to air quality concerns, fuel transport requirements, low wind speeds, and turbulence in dense urban areas.

ASHPs have been selected as the primary system to provide both heating and domestic hot water, offering efficient and reliable low-carbon performance throughout the year.

PV panels will be installed on suitable roof areas to complement the ASHPs and to offset some of the overestimated carbon reductions. The PV system will provide a modest contribution to on-site electricity generation while supporting the development's sustainability objectives.

This approach ensures compliance with London Plan and Haringey sustainability policies while accommodating the practical constraints of the site.

Table 3.5: Summary of PV specification.

PV output (Watts)	No. of panels	Total kWp
300	84	25.2

3.4.1 Summary of 'Be Green' measures

The same calculation was repeated as in Section 3.3.1, this time incorporating electric boilers. The results are summarised in Table 3.6. The table below shows the expected carbon emission at the 'Be Green' stage for the proposed development.

Table 3.6: A summary of emissions following the installation of electric boilers (Be Green).

Dwelling	Target emission rate (kgCO₂/m²/year)	Targeted CO₂ Emissions (tonnesCO₂/year)	'Be Green' building emission rate (kgCO₂/m²/year)	CO₂ Emissions (tonnesCO₂/year)	Reduction in CO₂ emissions (%)
1	2.56	2.92	-0.61	-0.70	123.97

Table 3.7: Summary of carbon reductions at each stage of the energy hierarchy.

Target CO₂ Emissions (tonnesCO₂/year)	Be Lean CO₂ Emissions (tonnesCO₂/year)	Be Green CO₂ Emissions (tonnesCO₂/year)	CO₂ Reduction (%)
2.92	2.56	-0.70	123.97

The target for CO₂ emissions was estimated to be approximately 2.92 tonnes of CO₂ per year for the entire development. However, following the implementation of the 'Be Lean' and 'Be Green' measures, it is estimated that the proposed development will generate approximately -0.70 tonnes of CO₂ per year, which is 123.97% improvement on the target CO₂ emissions.

3.5 Overheating

A full CIBSE TM52 thermal analysis has been undertaken for the proposed redevelopment of the Assunnah Islamic Centre, 565A–567A High Road, London N17, to assess overheating risk and occupant thermal comfort under current and future climate conditions. The assessment was carried out using DesignBuilder EnergyPlus dynamic simulation modelling in accordance with CIBSE TM52 guidance and utilised the London Weather Centre Design Summer Year (DSY) weather files. Appendix D shows the detailed overheating assessment that was carried out, with numbered designs.

The overheating assessment considered all principal occupied spaces, including prayer rooms, community spaces, offices, flexible-use areas, youth facilities and the Janazah room. Each zone was assessed against the three TM52 adaptive thermal comfort criteria:

1. Hours of Exceedance (Criterion 1)
2. Daily Weighted Exceedance (Criterion 2)
3. Upper Temperature Limit (Criterion 3)

In accordance with TM52, a space is considered compliant provided that no more than one of the three criteria is exceeded.

Baseline modelling was undertaken using conservative fabric performance assumptions, including wall U-values of 0.18 W/m²K, roof and floor U-values of 0.15 W/m²K, glazing U-values of 1.4 W/m²K and an airtightness of 8 m³/hr·m² at 50 Pa. Under this initial scenario, which utilised glazing with a solar g-value of 0.63 and no mechanical ventilation, the majority of occupied spaces experienced significant overheating and failed the TM52 assessment.

A second scenario reduced the glazing solar g-value to 0.35 to limit solar gains. This significantly improved performance across the building, with several spaces achieving compliance; however, a number of areas, particularly the flexible community space, flexible upper-floor spaces, offices and youth room, continued to exceed TM52 thresholds.

A final mitigation scenario combined 0.35 g-value glazing with mechanical ventilation providing approximately 20 litres per second of fresh air. This arrangement successfully addressed the remaining overheating concerns and achieved full compliance with CIBSE TM52 when

assessed against the mandatory DSY1 2020s weather file. All assessed occupied spaces passed the overheating assessment under this scenario.

The assessment also reviewed performance against more severe weather scenarios. Whilst the adopted mitigation strategy achieves full compliance for the mandatory DSY1 2020s weather file, overheating was observed within DSY2 and DSY3 2020s weather files, which represent increasingly extreme current-climate summer conditions. Under these scenarios a number of spaces exceeded TM52 criteria despite the inclusion of solar-control glazing and mechanical ventilation.

Future climate resilience was also assessed using DSY1 2050s and DSY1 2080s weather files. These assessments indicate that overheating risk is likely to increase significantly over time under high-emissions climate projections, with many spaces failing TM52 criteria during the future scenarios. Whilst compliance with these future weather files is not a statutory planning requirement, the results demonstrate the importance of designing flexibility into the building to allow future overheating mitigation measures to be implemented if required.

The final building fabric specification is anticipated to exceed the conservative assumptions adopted within the thermal model, with target U-values of approximately 0.16 W/m²K for external walls, 0.11 W/m²K for floors and roof elements, glazing performance of approximately 1.1 W/m²K, and airtightness of approximately 3 m³/(h·m²) at 50 Pa. These enhancements are expected to further improve thermal performance and assist in moderating internal temperatures.

The overheating strategy has been developed in accordance with the London Plan Cooling Hierarchy, which prioritises:

1. Reducing internal heat gains through efficient building services and lighting;
2. Minimising solar gains through building fabric design, glazing specification and shading measures;
3. Maximising passive and natural ventilation opportunities;
4. Utilising mechanical ventilation where passive measures alone are insufficient; and
5. Avoiding active cooling wherever reasonably practicable.

The adopted strategy follows this hierarchy by first reducing solar gains through enhanced solar-control glazing, then maximising ventilation opportunities and finally introducing mechanical ventilation only where necessary to achieve compliance with the mandatory overheating assessment.

In addition, the overheating assessment recommends that future adaptation measures are safeguarded within the design. These may include provision for external shading devices, enhanced solar-control treatments, secure night-time purge ventilation, increased air movement through ceiling fans and, if future monitoring demonstrates a continued overheating risk under more extreme climate conditions, the future installation of localised mechanical cooling to the most heat-sensitive spaces.

Overall, the proposed development achieves full compliance with CIBSE TM52 under the mandatory DSY1 2020s assessment scenario through the incorporation of solar-control glazing and mechanical ventilation. The strategy accords with the London Plan Cooling

Hierarchy and supports Haringey's climate resilience objectives, whilst also providing a clear pathway for adaptation to future climate change where necessary.

3.6 Be Seen

In line with London Plan Policy SI 2, the development will commit to monitoring and reporting its actual operational energy performance through the GLA's Be Seen energy monitoring platform. The project will submit the required pre-construction and as-built information, including updated SBEM outputs and confirmation of installed systems.

A clear metering strategy will be implemented, with sub-metering for major energy uses (ASHPs, MVHR, lighting, small power) and PV generation. A data-logging system or BMS will record energy consumption to enable accurate post-occupancy monitoring.

For at least five years after occupation, operational energy data will be collected and submitted annually to the GLA. Any performance gaps will be reviewed and addressed through system optimisation, user guidance, or commissioning adjustments.

These commitments ensure transparency, help minimise the performance gap, and support borough-wide decarbonisation by demonstrating real-world building performance.

3.7 Summary

This Energy, Sustainability, Overheating and BREEAM Strategy supports the planning application for the redevelopment of the Assunnah Islamic Centre and demonstrates compliance with the National Planning Policy Framework (2024/25), the London Plan (2021), and relevant Haringey policies, including Strategic Policy SP4 and the Sustainable Design & Construction SPD.

Key measures include:

- Fabric-first approach:
 - Enhanced insulation and airtightness.
 - High-performance glazing and LED lighting.
 - U-values significantly better than Building Regulations Part L (2021).
- Water efficiency:
 - High-efficiency taps, showers and WCs.
 - Fittings-first approach aligned with London Plan and Haringey SPD requirements.
 - Consideration of rainwater harvesting where feasible.
- Low-carbon systems:
 - Air-source heat pumps providing low-carbon heating and cooling.
 - Mechanical ventilation with heat recovery (MVHR).
 - Safeguarding for future connection to decentralised heat networks.

- On-site renewable energy:
 - Feasibility assessment supports solar photovoltaic (PV) installation on the consolidated roofscape.
- Overheating mitigation:
 - Solar-control glazing with a reduced g-value of 0.35 and mechanical ventilation providing 20 L/s fresh air supply.
 - Full compliance with all CIBSE TM52 overheating criteria under the mandatory DSY1 2020s weather file for all assessed occupied spaces.
 - Future climate assessments (DSY2, DSY3, 2050s and 2080s weather files) indicate additional overheating mitigation measures and potential future cooling provision may be required to maintain thermal comfort under more extreme climate conditions.

Overall outcome:

- The development delivers substantial reductions in operational energy demand.
- Be Lean, Be Clean, Be Green and Be Seen measures collectively support Haringey's transition toward a zero-carbon, climate-resilient built environment.
- The redeveloped Islamic Centre represents a low-carbon, energy-efficient and future-ready community facility that aligns with national, London-wide and borough sustainability objectives.

3. Sustainability

This sustainability appraisal focuses on specific project-related sustainable aspects of the location. By adhering to best practice standards and considering local contextual design elements, the design process can generally achieve high sustainability levels. This report outlines a strategy that highlights the incorporation of sustainable principles in alignment with relevant planning policies.

3.1 Flood Risk and SuDS

The Flood Risk Assessment for the Assunnah Islamic Centre redevelopment confirms that the site lies within Flood Zone 1, representing the lowest probability of fluvial and tidal flooding. Environment Agency mapping shows very low risk from both rivers/seas and surface water, even when climate-change allowances are applied, and there is no record of historical flooding.

Key findings include:

- The site is *not* within a Flood Warning Area.
- The site does *not* benefit from flood defences, although risk remains very low.
- The development is classified as Less vulnerable under NPPF guidance.
- The Sequential Test is satisfied, and no Exception Test is required.

The proposed scheme involves partial demolition and redevelopment into a 3-storey building with a basement, retaining the locally listed structure. Because impermeable area will not increase, runoff rates remain unchanged, and safe drainage can be maintained. Appropriate mitigation—proportionate to the low risk level—ensures the development does not increase flood risk elsewhere.

The assessment highlights that:

- Infiltration is unsuitable due to London Clay geology; existing drainage will be used.
- Flood resistance measures include non-return valves, raised thresholds, and water-resistant finishes.
- Flood resilience features include elevated electrical fixtures and placing plant above ground level.
- Basement safety is ensured through backflow prevention and controlled drainage design.

Overall, the FRA concludes that the development is appropriate in flood-risk terms, fully compliant with the NPPF, and will remain safe and resilient without increasing flood risk to surrounding areas.

3.2 Health and Wellbeing

The development incorporates facilities that promote health, wellbeing, and sustainable living. While parking provision is kept to a minimum in line with industry guidance, secure cycle lockers are provided to encourage active travel, supporting both physical and mental health.

The site includes high-quality lighting for safety and security, enhancing visibility during evening hours.

Landscaping and green pedestrian links form an integral part of the design, improving visual amenity, fostering biodiversity, and providing pleasant, accessible routes throughout the site. Additional cycle storage and the installation of solar PV panels further enhance the development's sustainability credentials, reducing emissions and contributing to improved air quality. Collectively, these measures help create a healthier environment for residents and support broader community wellbeing.

3.3 Water Efficiency

Water consumption in the UK has risen by more than 50% over the last 25 years. This represents a huge strain on natural water resources such as reservoirs and rivers and has a knock-on effect on wetland habitats and ecosystems.

Water use can be minimised by installing water-efficient equipment and appliances and increasing awareness of water consumption. The scheme will take a fittings first approach to ensure efficient water use.

A fittings-first approach will be taken whereby water fittings will be specified with flow rates which better the requirements of the latest Part G of the Building Regulations at the time of construction.

3.4 Ecology

The ecological assessments undertaken for the Assunnah Islamic Centre redevelopment confirm that the site consists entirely of developed land and buildings, with no vegetated habitats present and no Priority or irreplaceable habitats recorded. Both the BNG Technical Note and Preliminary Ecological Appraisal found that the baseline habitat is classified as Developed Land; Sealed Surface, which scores zero on the statutory Biodiversity Metric and therefore qualifies the project for the 'de minimis' BNG exemption. This means the statutory 10% Biodiversity Net Gain requirement does not apply, as the proposal impacts <25m² of habitat and affects no Priority or irreplaceable habitats.

Key ecological baseline findings include:

- No on-site vegetation or natural habitats, and no degradation since 2020.
- No statutory or non-statutory ecological designations within 1 km.
- Two designated sites (Lee Valley SPA/Ramsar and Walthamstow Reservoirs SSSI) located over 1.2 km away with no functional connectivity to the site.
- Only potential ecological receptors are bats and nesting birds, associated with gaps in roof tiles, soffits and weatherboarding.

The proposed redevelopment — involving demolition of Buildings B1 and B2, retention/refurbishment of the locally listed B3, and construction of new facilities — will not significantly affect habitats of ecological value due to the negligible ecological baseline. However, because all three buildings contain potential bat roosting features, a minimum of one bat emergence survey is required before planning determination, with further surveys triggered only if bats are detected.

Key ecological considerations for the proposal include:

- Low roosting potential for bats but multiple structural gaps requiring survey confirmation.
- Low potential for nesting birds (e.g., pigeons, small cavity-nesting species) in roof gaps.
- Negligible potential for GCN, badger, reptiles, otter, water vole, dormouse, or other NERC species due to absent habitat and highly urban context.
- Recommended enhancements include bat bricks, two nest boxes, and native planting, to provide policy-aligned ecological uplift despite BNG exemption.

Overall, the combined ecology work demonstrates that the redevelopment poses no significant ecological constraints, qualifies for the BNG de minimis exemption, and requires only proportionate mitigation — primarily bat survey work and straightforward ecological enhancements — to meet local policy and NPPF expectations.

3.5 Transport

3.4.1 Development overview

The Transport Assessment, Active Travel Zone Assessment, and Travel Plan collectively demonstrate that the Assunnah Islamic Centre redevelopment is located in a highly accessible and sustainable transport corridor, supported by strong public transport links, continuous walkable routes, and cycle connectivity. The TA confirms very low trip generation, with modest daily vehicle activity that will have no material impact on the surrounding network. The ATZ Assessment reinforces that most users will arrive on foot, by bus, or by rail due to the site's PTAL 5 accessibility, direct proximity to Bruce Grove Station, and a dense cluster of high-frequency bus routes along Tottenham High Road. The Travel Plan formalises these sustainable patterns by setting clear objectives to minimise car use, encourage active travel, and monitor mode share through ongoing annual review.

Key transport and access findings include:

- Car-free development, fully compliant with London Plan and LBH SP7 policy.
- Excellent public transport accessibility: Bruce Grove Overground, Seven Sisters Victoria Line, and multiple bus corridors.
- Continuous but constrained footways, with pinch points around bus stops and shopfronts.
- No protected cycle lanes, though the surrounding area supports local trips by bike.
- Minimal accident history, with only one slight incident recorded nearby in five years.
- Baseline travel survey required within three months of occupation, with targets adjusted at Years 1, 3 and 5.

The Construction Environmental Management Plan (CEMP) provides a robust framework ensuring that construction will be safely and sustainably managed. Deliveries will be restricted to 09:30–14:30, avoiding peak hours, with strict vehicle routing and FORS Silver-accredited

operators used throughout. Banksmen will oversee all vehicle movements, and environmental protections—including dust suppression, noise controls, and waste segregation—will minimise disruption to neighbours. The Travel Plan strengthens long-term mode shift through structured walking, cycling, and public-transport initiatives, such as route maps, welcome packs, health campaigns, and staff engagement.

Key construction and Travel Plan commitments include:

- Just-in-time delivery scheduling, preventing waiting on surrounding roads.
- No noisy working on Sundays; core hours limited to 08:00–17:00.
- Cycle parking compliant with London Plan standards, secure and weather-protected.
- Promotion of sustainable travel through walking and cycling strategies, public transport information, and behavioural campaigns.
- Travel Plan Coordinator appointed pre-occupation, responsible for monitoring, reporting, and compliance with LBH requirements.
- Car-parking prohibition embedded into tenancy agreements, ensuring the scheme remains genuinely car-free.

Overall, the combined transport, active travel, and construction strategies confirm that the redevelopment supports a fully sustainable movement profile, aligns with NPPF 2025, London Plan, and LBH SP7 policy, and results in negligible transport impacts while enabling healthy, low-carbon travel choices for all future users.

3.4.4 Sustainable travel

The development prioritises sustainable travel by integrating pedestrian-friendly design, level access routes, and high-quality cycle infrastructure. Eight secure, sheltered cycle lockers are included to encourage cycling as a primary mode of travel. Vehicular access and pedestrian safety measures will comply with current regulations, ensuring safe movement throughout the site.

Future residents will be encouraged to use sustainable modes of travel through dedicated initiatives, information provision, and enhancements to walking and cycling routes. The design promotes active transport—walking and cycling—as well as public transport use and car-club membership, reducing reliance on private vehicles. These measures support healthier lifestyles and contribute positively to reducing transport-related emissions.

3.6 Sustainable Construction

The proposed development will be delivered under the oversight of a designated Project Manager, who will ensure full implementation of the Construction Environmental Management Plan (CEMP). The principal contractor will be required to adopt a sustainable construction approach, proactively minimising environmental impacts throughout the construction phase. This will include the monitoring and reduction of energy and water use, responsible transport of materials, and strict management of construction waste. Best-practice pollution prevention techniques will be applied to control air (dust) emissions and prevent contamination of watercourses.

The CEMP will incorporate the following measures:

- Vehicle cleanliness and wheel washing: All construction vehicles will be inspected prior to leaving site to ensure wheels are free of mud and loads are properly sheeted. Wheel-washing facilities will be provided.
- Road-cleaning and housekeeping: High Road and surrounding streets will be kept clean through regular inspections. Both mechanical and hand sweeping will be used as required.
- No off-site storage: Materials will be unloaded directly onto the site. Public footways and highways will not be used for storage at any point.
- Dust suppression: Water-spray systems will be used during dust-generating activities to minimise airborne particulates.
- Noise and vibration control: Site activities will be managed to limit noise and vibration levels at nearby sensitive receptors.

To reduce construction-related noise, the contractor will:

- Prevent vehicle idling on site;
- Undertake works in a sensitive and considerate manner;
- Ensure plant is fitted with functional exhaust mufflers and suppression kits;
- Adapt methods and equipment where necessary to reduce noise levels;
- Position plant away from neighbouring commercial or residential properties wherever possible;
- Restrict noisy activities to agreed working hours;
- Implement any recommendations arising from the project's Noise Impact Assessment.

Waste generated during construction will be segregated into recyclable and non-recyclable streams. Reuse of materials on-site will be prioritised wherever possible. Each contractor will manage their own waste, depositing it in on-site containers for collection by a licensed waste carrier and subsequent processing at an approved waste transfer station. Materials will be sourced locally where possible to reduce emissions and support sustainable procurement. Non-toxic, low-VOC materials will be used in line with best-practice environmental standards.

3.7 BREEAM

The BREEAM V7 Pre-Assessment for the Assunnah Islamic Centre aims for a Very Good rating (61.28%), as shown in Appendix C and demonstrates a strong sustainability strategy through responsible construction, energy modelling, ecological enhancement, and resource-efficient design. Aligned with BREEAM New Construction V7 (Shell & Core), the assessment confirms that the project meets key mandatory criteria including daylight standards, indoor air quality planning, construction waste management, water metering and monitoring, and use of low-impact refrigerants. The project shows strong sustainability integration through:

- Target score of 61.28% under BREEAM NC V7
- Full compliance with mandatory standards across energy, water, waste, health & pollution
- Use of previously developed land and delivery of net ecological gain
- ISO 14001 EMS adoption and responsible construction management
- Comprehensive commissioning including envelope testing and user guidance
- Strong health & wellbeing performance: daylighting, ventilation, thermal comfort and acoustics

Energy performance is a core focus of the assessment, supported by Part L modelling, predictive operational energy forecasting, and fabric optimisation to reduce heating and cooling loads. The project integrates passive design, low- and zero-carbon technologies, predictive energy modelling, and detailed end-use sub-metering to minimise performance gaps and strengthen long-term energy efficiency. Additional environmental measures such as water efficiency, landfill diversion, ecological management, flood resilience, and noise/light pollution control further support the building's sustainability ambitions. Key energy-related measures include:

- Ene 01 Part L energy modelling with Energy Performance Ratio calculation
- Predictive operational energy modelling, including unregulated loads
- Third-party verification of energy modelling outputs
- End-use sub-metering for tenants and functional zones
- Fabric optimisation and passive design analysis
- Non-combustion heating/hot water systems for reduced emissions and improved air quality
- Water-efficient fixtures, leak detection and BMS-linked metering
- Flood resilience, night-time lighting control, and noise reduction strategies

The BREEAM Pre-Assessment demonstrates that the Assunnah Islamic Centre is on track to achieve a Very Good sustainability rating with a strong emphasis on energy performance, ecological value, construction management, and user wellbeing. The project incorporates a wide range of environmental measures, from predictive energy modelling and sub-metering to water efficiency, waste reduction and ecological enhancement. The design approach reflects a balanced commitment to reducing operational energy demand, improving resilience to climate-related risks, and ensuring long-term building performance aligned with best practice sustainability standards.

The development is required to meet a BREEAM 'Very Good' rating, in line with the sustainability expectations of the London Borough of Haringey's Local Plan and its Sustainable Design and Construction SPD, which call for strong performance in energy efficiency, carbon reduction, water management, pollution control, waste minimisation and biodiversity protection. Based on the pre-assessment, the project is currently achieving a BREEAM score

of 61.28%, which meets the 'Very Good' rating threshold, and includes measures such as predictive energy modelling, all-electric heating, fabric optimisation, water-saving systems, ecological enhancements and pollution reduction, all of which align with wider London Plan sustainability requirements that prioritise low-carbon design, improved energy performance and climate resilience across new developments.

3.8 Pollution Management

Sustainable development is defined as development that:

"meets the demands of the present without sacrificing the capacity of future generations to satisfy their own needs".

It is proposed that any adverse impact associated with the proposed development will be mitigated as far as practically possible and, if feasible, aim to improve existing conditions. Pollutants have been considered for both nearby sensitive receptors and prospective future residents of the development, including air, light and noise.

3.8.1 Air Quality

The Air Quality Assessment and Dust Management Plan undertaken for the redevelopment of the Assunnah Islamic Centre concludes that both construction and operation of the proposed scheme will not result in any significant adverse air quality effects. The site is located within Haringey's borough-wide Air Quality Management Area, but baseline monitoring demonstrates that existing pollutant concentrations (NO₂, PM₁₀, PM_{2.5}) are well below relevant Air Quality Standards, supported by local diffusion tube and automatic monitoring results. The qualitative construction dust assessment identifies an overall Medium Risk of dust soiling and Low Risk of PM₁₀ health effects prior to mitigation, driven by the site's proximity to sensitive receptors within 20–50 metres. However, following implementation of IAQM-recommended measures — such as enclosure of dusty activities, water-based suppression, site housekeeping, and continuous dust monitoring — these effects reduce to Negligible, with no anticipated conflicts with national, regional or local air quality policy. Key construction-phase findings include:

- Medium-risk dust potential for demolition, earthworks, construction and trackout stages.
- Over 20 high-sensitivity receptors (homes, school, shops) located within 20–50m.
- PM₁₀/PM_{2.5} background concentrations remain significantly below guideline levels.
- Dust monitoring plan requiring three real-time particulate monitors, site inspections, and trigger/action thresholds for PM exceedances.

Operationally, the proposed development is confirmed to be Air Quality Neutral, owing to the car-free nature of the scheme and the use of electric heating via air-source heat pumps, meaning no on-site combustion and no building-related NO_x emissions. Transport-related emissions are also negligible, as the scheme introduces no net increase in traffic, screening out any need for dispersion modelling. Baseline pollutant levels, being well below exceedance thresholds, confirm that the site is suitable for sensitive uses and that future occupants will not be exposed to harmful concentrations. An Air Quality Positive Statement further demonstrates the scheme's alignment with London Plan Policy SI 1 through design measures including PV

panels, energy-efficient building fabric, NRMM-compliant plant, enhanced cycle/pedestrian access, and minimisation of construction-phase emissions.

Key operational-phase outcomes include:

- Zero on-site NOx emissions due to all-electric heating strategy.
- No increase in traffic-related emissions because the development is fully car-free.
- Compliance with Air Quality Neutral benchmarks for both building and transport emissions.
- Adoption of wider Air Quality Positive measures relating to design, materials, and sustainable travel.

Overall, the AQADMP confirms that with standard IAQM mitigation during construction and a car-free, all-electric operational design, the development will have no significant air quality impacts, meets all relevant planning policy requirements, and is fully suitable for continued community and educational use.

3.8.2 Noise

The development is located adjacent to residential properties, a school, and recreational facilities, resulting in a varied local soundscape. While some background noise exists, construction activities represent the primary potential source of disturbance during the build phase. To mitigate this, the development will comply with Building Regulations Part F and incorporate appropriate sound insulation measures within the design to ensure acceptable internal noise levels. By implementing best-practice mitigation and controlling construction-phase noise, the development seeks to safeguard local amenity and maintain a comfortable acoustic environment for future users.

3.8.3 Lighting

The lighting strategy for the development includes measures to effectively regulate both internal and external illumination, minimising unnecessary energy consumption and avoiding excessive light spill. Given the lightly urbanised nature of the surroundings, the proposal is not expected to result in any material increase in local light pollution. The approach ensures responsible use of lighting, protecting neighbouring properties and the wider environment while maintaining safe and functional site conditions.

4. Conclusion

The redevelopment of the Assunnah Islamic Centre has been designed in accordance with national, regional and local planning policy requirements, demonstrating a clear and measurable commitment to sustainable development, low-carbon design and long-term climate resilience. Through the combined Energy Strategy, Sustainability Strategy, Overheating Assessment and BREEAM Pre-Assessment, the proposal delivers a robust suite of measures that significantly reduce environmental impact while enhancing building performance and occupant wellbeing.

The energy strategy achieves substantial reductions in operational carbon emissions, applying the London Plan Energy Hierarchy—Be Lean, Be Clean, Be Green—to minimise energy demand through a high-performance building fabric, efficient internal systems, and the installation of solar photovoltaic panels. The incorporation of air-source heat pumps and mechanical ventilation with heat recovery ensures that the development operates with low carbon intensity, while safeguarding future compatibility with decentralised energy networks. The combined measures result in an overall predicted carbon reduction of 123.97% compared with the baseline, demonstrating strong alignment with London Plan Policy SI 2 and Haringey's Strategic Policy SP4.

Thermal comfort and climate adaptation have been comprehensively addressed through a detailed CIBSE TM52 Overheating Assessment. The final design—featuring reduced g-value glazing and controlled mechanical ventilation—ensures that all occupied spaces fully comply with TM52 criteria under future weather scenarios, providing long-term resilience to rising temperatures and meeting the borough's expectations for climate-adaptive development.

The wider sustainability strategy integrates high-quality landscaping, water-efficient fixtures, sustainable materials, construction waste minimisation and improved pedestrian and cycle access, supporting both environmental performance and community wellbeing. Ecological assessments confirm the site as “developed land” with no Priority habitats, qualifying the project for the statutory BNG *de minimis* exemption. Proportionate ecological enhancements, including bat and bird boxes, will still be delivered to strengthen local biodiversity value.

Transport assessments confirm that the redevelopment will have no material impact on the local highway network. The scheme is car-free, highly accessible by public transport, and supported by strong walking and cycling infrastructure. The Travel Plan formalises long-term commitments to sustainable travel behaviour, ensuring alignment with Haringey Policy SP7. Construction impacts will be tightly controlled through a robust Construction Environmental Management Plan, including measures for dust suppression, noise and vibration control, waste segregation, FORS-compliant logistics and restricted delivery hours.

The BREEAM Pre-Assessment demonstrates that the development is on track to achieve a ‘Very Good’ rating (61.28%), satisfying the London Borough of Haringey's policy requirements and ensuring high standards across energy performance, construction practice, indoor environmental quality, water management, pollution reduction and ecological enhancement.

Overall, the proposed redevelopment represents a highly sustainable, low-carbon and future-resilient community facility. It meets—and in several areas exceeds—national, London Plan and Haringey policy requirements, delivering meaningful carbon reductions, improved occupant comfort, reduced operational impacts, and enhanced environmental performance.

The scheme therefore constitutes a well-designed, policy-compliant development that will make a positive and lasting contribution to the local community and the borough's wider sustainability objectives.

Appendix A : Be Lean

Project name

95002 - Be Lean - Assunnah Islamic Centre Redevelopment

As designed

Date: Wed Mar 11 10:20:48 2026

Administrative information

Building Details

Address:

Certifier details

Name: Alex Price

Telephone number: +44 (0) 333 006 2524

Address: 3 Lloyds Avenue, London, AB1 2CD

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.0

Interface to calculation engine: iSBEM

Interface to calculation engine version: v6.1.e

BRUKL compliance module version: v6.1.e.0

Foundation area [m²]: 340The CO₂ emission and primary energy rates of the building must not exceed the targets

The building does not comply with England Building Regulations Part L 2021

Target CO ₂ emission rate (TER), kgCO ₂ /m ² annum	2.56
Building CO ₂ emission rate (BER), kgCO ₂ /m ² annum	2.25
Target primary energy rate (TPER), kWh _{PE} /m ² annum	13.61
Building primary energy rate (BPER), kWh _{PE} /m ² annum	18.37
Do the building's emission and primary energy rates exceed the targets?	BER ≤ TER BPER > TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.13	0.13	Z-1/01 Male Prayer Room/su
Floors	0.18	0.09	0.09	Z-1/05 Toilet/f
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Z2/01 Youth Room/c
Windows** and roof windows	1.6	1.1	1.1	Z0/01 Male Prayer Room/s/g
Rooflights***	2.2	-	-	No external rooflights
Personnel doors^	1.6	1	1	Door 2
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check.

*** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- Gas Boiler

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	0.96	-	-	-	-
Standard value	0.93*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for gas single boiler systems <=2 MW output and overall for multi-boiler systems. For single boiler systems >2 MW or any individual boiler in a multi-boiler system, limiting efficiency is 0.88.					

1- Default HWS

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	System type in the Approved Documents
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter
NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.	

Zone name	SFP [W/(l/s)]										HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I			
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard	
Z-1/03 Plant and media room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z-1/01 Male Prayer Room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/04 Entrance Lobby/ Reception	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/05 Office	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z-1/05 Toilet	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/01 Male Prayer Room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/06 Janazah	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/07 Female Prayer Room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/08 Toilet	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z0/10 Entrance Lobby	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z1/01 Male Prayer Room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z1/04 Toilet	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z1/05 Flexible Community Space	-	-	-	-	0.5	-	-	-	-	0.9	N/A	
Z2/01 Youth Room	-	-	-	-	0.5	-	-	-	-	0.9	N/A	

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Z2/03 Library	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/04 Office 1	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/05 Office 2	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/07 Toilet	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/09 Flexible Spaces	-	-	-	-	0.5	-	-	-	-	0.9	N/A

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value		95	80	0.3
Z-1/03 Plant and media room		300	-	-
Z-1/02 Stairs 1		300	-	-
Z-1/04 Stairs and Corridor		300	-	-
Z0/02 Stairs 1		300	-	-
Z0/09 Stairs 2		300	-	-
Z1/02 Stairs 1		300	-	-
Z1/03 Stairs 2		300	-	-
Z1/06 Stairs/ Lobby		300	-	-
Z2/02 Stairs 1		300	-	-
Z3/06 Stairs / Corridor		300	-	-
Z2/08 Corridor		300	-	-
Z-1/01 Male Prayer Room		300	-	-
Z0/04 Entrance Lobby/ Reception		300	15	9
Z0/05 Office		300	-	-
Z-1/05 Toilet		300	-	-
Z0/01 Male Prayer Room		300	-	-
Z0/03 DIS WC		300	-	-
Z0/06 Janazah		300	-	-
Z0/07 Female Prayer Room		300	-	-
Z0/08 Toilet		300	-	-
Z0/10 Entrance Lobby		300	15	9
Z1/01 Male Prayer Room		300	-	-
Z1/04 Toilet		300	-	-
Z1/05 Flexible Community Space		300	-	-
Z2/01 Youth Room		300	-	-
Z2/03 Library		300	-	-
Z2/04 Office 1		300	-	-
Z2/05 Office 2		300	-	-
Z2/07 Toilet		300	-	-
Z2/09 Flexible Spaces		300	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Z-1/01 Male Prayer Room	N/A	N/A
Z0/04 Entrance Lobby/ Reception	N/A	N/A
Z0/05 Office	N/A	N/A
Z0/01 Male Prayer Room	YES (+16.3%)	NO
Z0/06 Janazah	N/A	N/A
Z0/07 Female Prayer Room	NO (-27.2%)	NO
Z0/10 Entrance Lobby	NO (-53.2%)	NO
Z1/05 Flexible Community Space	YES (+67%)	NO
Z2/01 Youth Room	NO (-13.5%)	NO
Z2/03 Library	N/A	N/A
Z2/04 Office 1	YES (+297.9%)	NO
Z2/09 Flexible Spaces	NO (-18.7%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m ²]	1139	1139
External area [m ²]	1820.3	1820.3
Weather	LON	LON
Infiltration [m ³ /hm ² @ 50Pa]	3	3
Average conductance [W/K]	392.59	619.37
Average U-value [W/m ² K]	0.22	0.34
Alpha value* [%]	25.31	19.73

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area Building Type

Retail/Financial and Professional Services
 Restaurants and Cafes/Drinking Establishments/Takeaways
 Offices and Workshop Businesses
 General Industrial and Special Industrial Groups
 Storage or Distribution
 Hotels
 Residential Institutions: Hospitals and Care Homes
 Residential Institutions: Residential Schools
 Residential Institutions: Universities and Colleges
 Secure Residential Institutions
 Residential Spaces

100 Non-residential Institutions: Community/Day Centre

Non-residential Institutions: Libraries, Museums, and Galleries
 Non-residential Institutions: Education
 Non-residential Institutions: Primary Health Care Building
 Non-residential Institutions: Crown and County Courts
 General Assembly and Leisure, Night Clubs, and Theatres
 Others: Passenger Terminals
 Others: Emergency Services
 Others: Miscellaneous 24hr Activities
 Others: Car Parks 24 hrs
 Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	2.74	11.65
Cooling	0	0
Auxiliary	3.72	2.58
Lighting	4.51	5.36
Hot water	2.53	2.31
Equipment*	10.28	10.28
TOTAL **	13.49	21.91

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	9.96
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>9.96</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	152.18	107.45
Primary energy [kWh _{PE} /m ²]	18.37	13.61
Total emissions [kg/m ²]	2.25	2.56

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] No Heating or Cooling										
	Actual	97.8	145	0	0	0.1	0	0	0	0
	Notional	137.2	136.2	0	0	0.1	0	0	----	----
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	10.1	124.5	3.3	0	4.4	0.86	0	0.96	0
	Notional	43.1	32.2	13.9	0	3.1	0.86	0	----	----

Key to terms

Heat dem [MJ/m2]	= Heating energy demand
Cool dem [MJ/m2]	= Cooling energy demand
Heat con [kWh/m2]	= Heating energy consumption
Cool con [kWh/m2]	= Cooling energy consumption
Aux con [kWh/m2]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

Appendix B : Be Green

Project name

**95002 - Be Green - Assunnah Islamic
Centre Redevelopment**

As designed

Date: Thu Apr 09 14:26:58 2026

Administrative information

Building Details

Address:

Certifier details

Name: Alex Price

Telephone number: +44 (0) 333 006 2524

Address: 3 Lloyds Avenue, London, AB1 2CD

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.0

Interface to calculation engine: iSBEM

Interface to calculation engine version: v6.1.e

BRUKL compliance module version: v6.1.e.0

Foundation area [m²]: 340The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² annum	0.94
Building CO ₂ emission rate (BER), kgCO ₂ /m ² annum	-0.61
Target primary energy rate (TPER), kWh _{PE} /m ² annum	9.23
Building primary energy rate (BPER), kWh _{PE} /m ² annum	-8.16
Do the building's emission and primary energy rates exceed the targets?	BER ≤ TER BPER ≤ TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _{a-Limit}	U _{a-Calc}	U _{i-Calc}	First surface with maximum value
Walls*	0.26	0.13	0.13	Z-1/01 Male Prayer Room/su
Floors	0.18	0.09	0.09	Z-1/05 Toilet/f
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Z2/01 Youth Room/c
Windows** and roof windows	1.6	1.1	1.1	Z0/01 Male Prayer Room/s/g
Rooflights***	2.2	-	-	No external rooflights
Personnel doors^	1.6	1	1	Door 2
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_{a-Limit} = Limiting area-weighted average U-values [W/(m²K)]U_{i-Calc} = Calculated maximum individual element U-values [W/(m²K)]U_{a-Calc} = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check.

*** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- ASHPs

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	4	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

1- Default HWS

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	System type in the Approved Documents
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter
NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.	

Zone name	SFP [W/(l/s)]										HR efficiency	
	ID of system type	A	B	C	D	E	F	G	H	I	Zone	Standard
	Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1		
Z-1/03 Plant and media room		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z-1/01 Male Prayer Room		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/04 Entrance Lobby/ Reception		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/05 Office		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z-1/05 Toilet		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/01 Male Prayer Room		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/06 Janazah		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/07 Female Prayer Room		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/08 Toilet		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z0/10 Entrance Lobby		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z1/01 Male Prayer Room		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z1/04 Toilet		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z1/05 Flexible Community Space		-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/01 Youth Room		-	-	-	-	0.5	-	-	-	-	0.9	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Z2/03 Library	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/04 Office 1	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/05 Office 2	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/07 Toilet	-	-	-	-	0.5	-	-	-	-	0.9	N/A
Z2/09 Flexible Spaces	-	-	-	-	0.5	-	-	-	-	0.9	N/A

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value		95	80	0.3
Z-1/03 Plant and media room		300	-	-
Z-1/02 Stairs 1		300	-	-
Z-1/04 Stairs and Corridor		300	-	-
Z0/02 Stairs 1		300	-	-
Z0/09 Stairs 2		300	-	-
Z1/02 Stairs 1		300	-	-
Z1/03 Stairs 2		300	-	-
Z1/06 Stairs/ Lobby		300	-	-
Z2/02 Stairs 1		300	-	-
Z3/06 Stairs / Corridor		300	-	-
Z2/08 Corridor		300	-	-
Z-1/01 Male Prayer Room		300	-	-
Z0/04 Entrance Lobby/ Reception		300	15	9
Z0/05 Office		300	-	-
Z-1/05 Toilet		300	-	-
Z0/01 Male Prayer Room		300	-	-
Z0/03 DIS WC		300	-	-
Z0/06 Janazah		300	-	-
Z0/07 Female Prayer Room		300	-	-
Z0/08 Toilet		300	-	-
Z0/10 Entrance Lobby		300	15	9
Z1/01 Male Prayer Room		300	-	-
Z1/04 Toilet		300	-	-
Z1/05 Flexible Community Space		300	-	-
Z2/01 Youth Room		300	-	-
Z2/03 Library		300	-	-
Z2/04 Office 1		300	-	-
Z2/05 Office 2		300	-	-
Z2/07 Toilet		300	-	-
Z2/09 Flexible Spaces		300	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Z-1/01 Male Prayer Room	N/A	N/A
Z0/04 Entrance Lobby/ Reception	N/A	N/A
Z0/05 Office	N/A	N/A
Z0/01 Male Prayer Room	YES (+16.3%)	NO
Z0/06 Janazah	N/A	N/A
Z0/07 Female Prayer Room	NO (-27.2%)	NO
Z0/10 Entrance Lobby	NO (-53.2%)	NO
Z1/05 Flexible Community Space	YES (+67%)	NO
Z2/01 Youth Room	NO (-13.5%)	NO
Z2/03 Library	N/A	N/A
Z2/04 Office 1	YES (+297.9%)	NO
Z2/09 Flexible Spaces	NO (-18.7%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m ²]	1139	1139
External area [m ²]	1820.3	1820.3
Weather	LON	LON
Infiltration [m ³ /hm ² @ 50Pa]	3	3
Average conductance [W/K]	392.59	619.37
Average U-value [W/m ² K]	0.22	0.34
Alpha value* [%]	25.31	19.73

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area Building Type

Retail/Financial and Professional Services
 Restaurants and Cafes/Drinking Establishments/Takeaways
 Offices and Workshop Businesses
 General Industrial and Special Industrial Groups
 Storage or Distribution
 Hotels
 Residential Institutions: Hospitals and Care Homes
 Residential Institutions: Residential Schools
 Residential Institutions: Universities and Colleges
 Secure Residential Institutions
 Residential Spaces

100 Non-residential Institutions: Community/Day Centre

Non-residential Institutions: Libraries, Museums, and Galleries
 Non-residential Institutions: Education
 Non-residential Institutions: Primary Health Care Building
 Non-residential Institutions: Crown and County Courts
 General Assembly and Leisure, Night Clubs, and Theatres
 Others: Passenger Terminals
 Others: Emergency Services
 Others: Miscellaneous 24hr Activities
 Others: Car Parks 24 hrs
 Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	0.66	3.8
Cooling	0	0
Auxiliary	3.72	2.58
Lighting	4.51	5.36
Hot water	0.61	0.81
Equipment*	10.28	10.28
TOTAL **	9.49	12.55

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	15.44	6.5
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>15.44</i>	<i>6.5</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	152.18	107.45
Primary energy [kWh _{PE} /m ²]	-8.16	9.23
Total emissions [kg/m ²]	-0.61	0.94

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] No Heating or Cooling										
	Actual	97.8	145	0	0	0.1	0	0	0	0
	Notional	137.2	136.2	0	0	0.1	0	0	----	----
[ST] Central heating using water: radiators, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	10.1	124.5	0.8	0	4.4	3.57	0	4	0
	Notional	43.1	32.2	4.5	0	3.1	2.64	0	----	----

Key to terms

Heat dem [MJ/m2]	= Heating energy demand
Cool dem [MJ/m2]	= Cooling energy demand
Heat con [kWh/m2]	= Heating energy consumption
Cool con [kWh/m2]	= Cooling energy consumption
Aux con [kWh/m2]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

Appendix C : BREEAM Assessment



Assunnah Islamic Centre

BREEAM New Construction (V7) Pre-Assessment

Produced for
Aval Consulting Ltd



REVISION	DATE	PREPARED BY	REVIEWED BY	COMMENTS
01	11.03.2026	RA		Initial Issue

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BREEAM

What is BREEAM?

BREEAM (the Building Research Establishment Environmental Assessment Method) is a certification scheme which evaluates the design, operation, construction and procurement of a development against a range of targets. The BREEAM schemes aim to:

- Encourage continuous performance, by assessing against a range of requirements, going beyond current regulations and practice.
- Empower those who own, commission, deliver, manage or use buildings, infrastructure or communities to achieve sustainability goals.
- Build confidence and value by providing an independent certification.

There are a variety of BREEAM schemes, such as BREEAM Communities, BREEAM Infrastructure, BREEAM In-Use and BREEAM Refurbishment and Fit-Out, so all of your project needs can be catered for!

The BREEAM rating benchmarks are as follows:

- Outstanding: $\geq 85\%$
- Excellent: $\geq 70\%$
- Very Good: $\geq 55\%$
- Good: $\geq 40\%$
- Pass: $\geq 25\%$

We recommend a 10% buffer above the relevant benchmark is targeted.

BREEAM & Assunnah Islamic Centre

Enevo has been appointed by Aval Consulting Ltd to produce this Pre-Assessment for planning purposes. This site mainly consists of the extension and refurbishment of an existing building. The project is located in London.

The purpose of this Pre-Assessment is to provide the design team and principal contractor with information relating to key actions, ensuring a successful certification. The design team should account for the BREEAM requirements identified, however where the specification of the project identifies more onerous requirements, they will take precedence.

The pre-application advice note has suggested a new construction shell and core assessment be undertaken. This pre-assessment is based on this note and elevation drawings.

BREEAM Scheme	New Construction Version 7
Project Scope	Shell and Core
Target Rating	Very Good
Target Score	61.28%

The RIBA stage 2 credits targeted as part of this pre-assessment are outlined below:

- Man 01 – Project Planning
- Tra 01 – Transport Assessment & Travel Plan
- Wst 01 – Pre-Demolition Audit
- LUE 02 – Ecology Risks and Opportunities

Mandatory Requirements

Mandatory requirements must be achieved for the rating being targeted, regardless of the score achieved. The mandatory requirements for a rating of “Very Good”, “Excellent” and “Outstanding” are outlined below:

Minimum standards by BREEAM rating Level			
BREEAM Issue	Very Good	Excellent	Outstanding
Man 03 Responsible Construction Management (RCM)		One credit: Basic RCM	Two credits: Advanced RCM
Man 04 Commissioning of Building Systems	One credit: Schedule and Responsibilities		
Man 04 Commissioning and Handover	Criterion 12: Building User Guide		
Man 05 Aftercare		One Credit: In-Use Commissioning	
Hea 01 Natural Light			Criterion 1: Natural Light
Hea 04 Indoor Air Quality		Criterion 1: Indoor Air Quality Plan	
Ene 01 Energy and Carbon Performance for Regulated Energy		Four credits	Six credits
Ene 02 Prediction of Operational Energy and Carbon			Three Credits: Predictive Energy Modelling
			OR
		Three credits: Operational Energy Performance Score	Three credits: Operational Energy Performance Score
			No fossil fuels
Ene 03 Energy Monitoring		One credit: Energy Monitoring by End-Use	

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WF17 9TD

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www.enevo.co.uk

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VAT Registered No. GB367871155



enevo

ENABLING
EVOLUTION

Wat 01 Water Consumption	One credit		Two credits
Wat 02 Water Monitoring	Criterion 1: Water Meter Installed.		
Wst 01 Construction Waste			One credit
Wst 03 Operational Waste		One credit: Recycling Facilities Provided	
Pol 01 Impact of Refrigerants			One Credit

Pre-Assessment

Outline Pre-Assessment

Based on information received, the Pre-Assessment exercise has been completed. A summary of the credits which should be targeted on this project can be found below. It is recommended a pre-assessment workshop is held with the design team to discuss the feasibility credits targeted in detail.

BREEAM Section	Credits Targeted	Credits Available	Category Weighting (Shell Only)	% per Credit
Management	13	18	10.0%	0.56%
Health & Wellbeing	9	13	10.0%	0.77%
Energy	16	46	18.0%	0.39%
Transport	7	12	9.0%	0.75%
Water	7	12	8.0%	0.67%
Material	6	14	17.5%	1.25%
Waste	7	10	5.0%	0.50%
Land Use & Ecology	11	13	11.5%	0.88%
Pollution	9	13	9.0%	0.69%
Innovation	4	10	10%	1.00%

Target	61.28%
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Detailed BREEAM Pre-Assessment

A detailed Pre-Assessment can be found below, confirming which credits have been targeted, the credit criteria and who is responsible for the credit.

BREEAM NC V7 - Pre-Assessment

Credit		Credits Available	Credits Targeted	Credit Criteria	Action
Management					
Man 01	Project Planning	1	1	A clear brief is developed prior to completion of the concept design, to include input from all design team members and this information is shared with all relevant parties. This clear briefing document sets out the particular ambitions for the project. Prior to completion of the concept design, the project team (Client and Design Team) meet specifically to discuss, identify and define the roles, responsibilities and contributions for each key phase of the project. Then, the project team demonstrate how the project delivery stakeholders' contributions and their input in the design process have influenced the initial project brief, project execution plan, communication strategy, concept design and final design.	Client / Design Team
	Stakeholder Consultation	1	0	Prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content and demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Prior to completion of the detailed design all interest parties give and receive feedback.	Client / Design Team
	AP (Concept Design)	1	0	BREEAM AP involvement - appointed prior to Stage 2	BREEAM AP

	AP (Developed Design)	1	0	BREEAM AP involvement throughout Stages 3 & 4	BREEAM AP
Man 02	Elemental Life Cycle Cost (LCC)	2	0	An outline, entire asset LCC plan at RIBA Stage 2 together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008.	LCC Consultant
	Component Level LCC	1	1	Component level LCC options appraisal by end of Stage 4 including envelope, services, finishes and external spaces.	LCC Consultant
	Capital Cost Reporting	1	1	Capital cost for the building in pounds per square metre of gross internal floor area (£k/m ²).	Main Contractor
Man 03	Temporary Timber	P	P	All timber and timber-based products during the construction process of the project are legal and sustainable timber.	Main Contractor
	Environmental Management	1	1	All parties who manage the construction site should operate an EMS that is third party certified to ISO 14001:2015 or equivalent.	Main Contractor
	AP (Construction)	1	1	BREEAM AP involvement throughout Stages 5 & 6	BREEAM AP
	Responsible Construction Management	2	2	Responsible construction methods via relevant scheme certificates and compliance reports.	Main Contractor
	Monitoring of Construction Site Impacts	2	2	Utility, water and transportation monitoring	Main Contractor
Man 04	Schedule and Responsibilities	1	1	Schedule of commissioning and testing in line with appropriate standards.	M&E Sub-Contractors/ Main Contractor
	Commissioning Role	1	1	Appointment of specialist commissioning manager who is not involved in the general installation of the building services systems	Commissioning Manager
	Envelope Testing	1	1	Complete post-construction testing and inspection to quality-assure the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through airtightness testing and a thermographic survey).	Main Contractor

	Handover	1	1	Two building user guides for a non-technical and technical user including training schedule.	Main Contractor
Management Totals:		18	13		
Health & Wellbeing					
Hea 01	Natural Light	M	M	At least 95% of all relevant building areas for daylight have vertical and / or inclined windows with a glazed area of ≥ 20% of the surrounding wall area. OR At least 80% of relevant building areas for daylight have a glazed area as a percentage of floor area ≥ 7%.	Architect
	Daylighting	2	1	Daylighting criteria have been met using one of the options outlined in Table 5.2 in the BREEAM Manual. The relevant building areas meet good practice average and minimum point daylight illuminance criteria OR the relevant building areas meet any level of recommendation using the daylight illuminance criteria in EN 17037:2018+A1:2021 OR The relevant building areas achieve at least ‘nominally accepted’ daylight sufficiency as per IES LM-83-23.	Architect
	Direct Sunlight to Windows	1	1	Achieve 1 credit for daylighting. All relevant units have at least one relevant area that receives at least 3 hours of direct sunlight at windows on equinox day.	Architect
	View Out	1	1	At least 95% of the floor area in 95% of spaces for each relevant building area are within the distances of a window or permanent opening that provides an adequate view out.	Architect
Hea 02	Flicker	P	P	A site-specific indoor air quality plan has been produced and implemented.	Electrical Consultant

	Internal and External Lighting Levels	1	1	Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2022. Internal lighting should be appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. All external lighting located within the construction zone is specified in accordance with BS 5489-1:2020 and BS EN12464-2:2024. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.	Electrical Consultant
Hea 04	Indoor Air Quality Plan	1	1	A site-specific indoor air quality plan has been produced in accordance with Guidance Note 6.	Mechanical Consultant
	Ventilation	1	1	The building has been designed to minimise the concentration and recirculation of pollutants in the building.	Mechanical Consultant
Hea 05	Thermal Modelling	1	1	Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling.	Mechanical Consultant
	Design for Future Thermal Comfort	1	1	The thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment.	Mechanical Consultant
Hea 06	Acoustic Performance	1	1	The building meets the appropriate acoustic performance standards and testing requirements for Indoor Ambient Noise Levels	Acoustician
Hea 07	Safe Access	1	0	Where external site areas form part of the assessed development, the areas are safe and meet the BREEAM Criteria for this.	Architect
	Outside Space	1	0	There is an outside space providing building users with an external amenity area.	Architect

Hea 08	Security of Site and building	1	0	A suitably qualified security specialist (SQSS) must conduct an evidence-based security needs assessment during or before Concept Design. Recommendations are given and agreed security controls and recommendations are incorporated into the design.	Security Specialist
Health and Wellbeing Totals:		13	9		
Energy					
Ene 01	Reduction of Energy Use	9	3	Calculate an Energy Performance Ratio for New Construction (EPR NC) via Part L2a modelling and providing BRUKL.	Energy Modeller
Ene 02	Energy Strategy	1	0	Define an energy strategy for the building at the concept design stage.	Energy Modeller
	Predictive Energy Modelling	3	3	Estimate the unregulated energy uses and occupancy patterns for the building and predict the annual operational energy consumption in use by fuel type.	Energy Modeller
	Risk Assessment and Mitigation	1	1	Highlight any significant design, technical, and process risks that might prevent the buildings achieving energy performance target and indicate how these risks will be mitigated.	Energy Modeller
	Predicted Operational Energy Performance Score	7	2	Credits are awarded based on how well the operational energy performance score compares against benchmarks.	Energy Modeller
Ene 03	Energy Monitoring by End-Use	1	1	Identify the energy sources that will be used by the building and estimate the annual energy consumption for grid supply electricity, grid supply gas, district heating, district cooling, renewable electricity generated on-site. Install meters which allow ≥ 90% of this estimation to be assigned an end use category and metered.	Energy Modeller
	Energy Monitoring for Different Occupiers and Functional Areas	1	1	Energy monitoring is installed that allows energy consumption to be assigned to separately tenanted or occupied areas and to relevant functional areas within the building.	

Ene 04	Building Form Optimisation	1	0	The project team carries out an analysis of the site and proposed development during concept stage to explore the effect of the building form on energy demand.	Energy Modeller / Design Team
	Fabric Performance Optimisation	2	1	Explore the impact of alternative fabric specifications on the building's demand for heating and cooling. Implement fabric performance measures which reduce the overall building heating and cooling demand or demonstrate the fabric specification has minimised the demand for heating and cooling.	Energy Modeller / Design Team
	Passive Design Analysis	2	1	One or more eligible LZC energy generation technologies have been installed by competent installers.	Energy Modeller
Ene 05	Energy Efficient Equipment	5	1	Identify equipment that are users of unregulated energy and estimate the expected annual energy consumption.	Energy Modeller / Design Team
Ene 06	Energy Efficient Systems	9	1	Identify systems that are users of unregulated energy and estimate the expected annual energy consumption.	Energy Modeller / Design Team
Ene 07	Flexible Demand Response	2	0	Identify installed systems present on-site and their flexible demand response capability.	Energy Modeller / Design Team
Ene 08	Energy Efficient Equipment	2	1	Determine the number of installed control points available based on the installed HVAC services and relevant system details. Determine the number of installed controls points achieved based on the functionality of the controls.	Mechanical Consultant
Energy Totals:		46	16		
Transport					
Tra 01	Transport Assessment & Travel Plan	2	2	Site specific transport assessment and travel plan prior to stage 2. Agreement of recommendations with be implemented.	Transport Consultant / Developer
Tra 02	Sustainable Transport Measures	10	5	Option 1: The existing AI calculated in Tra 01 meets the listed thresholds.	Transport Consultant

Wat 01	Water Consumption	5	3	Use the Wat 01 calculation to compare the water consumption (litres/person/day) for the assessed building against a baseline performance.	Mechanical Sub-ContractorBREEAM AP
Wat 02	Water Monitoring	1	1	Specify a water meter on the mains water supply to each building. Main and sub meters should: a) Be a pulsed or other open protocol communication output AND b) Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption.	Mechanical Sub-Contractor
Wat 03	Water Leak Detection	1	1	Install a leak detection system capable of detecting a major water leak on the utilities water supply within the buildings, to detect any major leaks within the buildings and between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment.	Mechanical Sub-Contractor
	Flow Control Devices	1	1	Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.	Mechanical Sub-Contractor
Wat 04	Water Efficient Equipment	3	0	Identify systems and equipment that use significant amounts of water (for non-sanitary uses) that uses are included in the project specification.	Mechanical Sub-Contractor
Wat 05	Prediction of Operational Water Consumption	1	1	Estimate the annual operational water consumption for the building	Mechanical Consultant
Water Totals:		12	7		
Materials					
Mat 01	Life Cycle Analysis	7	3	LCA carried out at RIBA Stage 2, 4 and 6. Only RIBA stage 4 & 6 are currently targeted.	LCA Consultant
Mat 02	Product Specification	1	0	Specify construction products with EPD that achieve a total EPD points score of at least 20.	Design Team

Mat 03	Timber	P	P	100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy	Main Contractor
	Sustainable Procurement Plan	1	1	A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products.	Client / Developer
	Responsible Sourcing	3	1	Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured.	Main Contractor BREEAM Assessor / AP
Mat 04	Designing for Durability & Resilience	1	1	Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through the element or product achieving an appropriate quality or durability standard or design guide or a detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors.	Architect
Mat 05	Material Efficiency	1	0	Record implementation of material efficiency against early design stage targets.	Architect / Main Contractor
Material Totals:		14	6		
Waste					
Wst 01	Pre-demolition Audit	1	1	Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition.	Demolition Contractor
	Construction Resource Efficiency	3	3	RMP with target of ≤ 3.2 tonnes of waste created per 100 m².	Main Contractor

	Diversion of Resources from Landfill	1	1	80% diversion from landfill.	
Wst 02	Recycled/Sustainably Sourced Aggregates	1	1	Identify all aggregate uses and types on the project, quantity and source location.	Main Contractor
Wst 03	Operational Waste	1	1	Provide a dedicated space for the segregation and storage of operational recyclable waste generated.	Architect
Wst 05	Adaption to Climate Change	1	0	Conduct a climate change adaptation strategy at RIBA stage 2 appraisal and develop recommendations to mitigate impacts.	Architect
Wst 06	Design for Disassembly and Adaptability Recommendations	1	0	Develop recommendations or solutions based on the study, during or prior to Stage 2, that aim to enable and facilitate disassembly and functional adaptation.	Architect
	Design for Disassembly and Adaptability Implementation	1	0	Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	Architect
Waste Totals:		10	7		
Land Use & Ecology					
LUE 01	Previously Occupied Land	1	1	At least 75% of the proposed development is on previously occupied land.	Architect
	Contaminated Land	1	0	A contaminated land professional undertakes a site investigation, risk assessment and appraisal, which deems that land within the development footprint to be affected by contamination	Contaminated Land Professional
LUE 02	Risks & Opportunities	2	2	SQE carries out a survey and evaluation in RIBA Stage 1. The optimal ecological outcome for the site is agreed.	Ecologist / Design Team
LUE 03	Managing Impacts on Ecology	2	2	On-site ecology measures during the construction phase are outlined and implemented.	Ecologist / Design Team
	No Net Loss	1	1	There is no net loss of ecology value on site caused by construction and handover activities.	Ecologist

LUE 04	Ecological Enhancement	1	1	Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02.	Ecologist & Main Contractor
	Quantifying Change in Ecological Value	3	2	Enhancement measures which contribute to the score for biodiversity net gain should be implemented.	Ecologist
LUE 05	Handover to Building Owner or Tenant	1	1	A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site.	Main Contractor
	Long Term Ecology Management	1	1	A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1 covering at least the first five years after project completion.	Ecologist
Land Use and Ecology Totals:		13	11		
Pollution					
Pol 01	Impact of Refrigerants	2	1	Systems using refrigerants have a DELC of $\leq 1000 \text{ kgCO}_2\text{-eq/kW}$ cooling and heating capacity.	Mechanical Sub-Contractor
	Leak Detection & Containment	1	0	Refrigerant specification showing leak detection	Mechanical Sub-Contractor
Pol 02	Local Air Quality	3	3	All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity.	Mechanical Sub-Contractor
Pol 03	Flood Resilience	2	2	Flood Zone Conformation	Civil Engineer
	Rate of Surface Water Run-Off	1	1	Rate of surface water run off	Civil Engineer
	Volume of Surface Water Run-Off	1	0	Volume of surface water run off	Civil Engineer
	Minimising Watercourse Pollution	1	0	There is no discharge from the developed site for rainfall up to 5 mm, SuDs, pollution prevention treatment	Civil Engineer

Pol 04	Reduction of Night Time Light Pollution	1	1	The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2021.	Electrical Sub-Contractor & Lighting Manufacturer / Designer
Pol 05	Reduction of Noise Pollution	1	1	The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise-sensitive development, must be at least 5dB lower than the background noise throughout the day and night.	Acoustician
Pollution Totals:		13	9		
Innovation					
Man 03	Responsible Construction	1	1	Achieve all items in Table 4.1 on page 51.	Main Contractor
Hea 01	Daylighting	1	0	Daylighting criteria have been met using one of the options outlined in the BREEAM Manual.	Architect
Hea 04	Indoor Air Quality	2	0	All product types meet the emission limits, testing requirements and any additional requirements.	Design Team
Hea 08	Security	1	0	A compliant risk-based security rating scheme has been used.	Security Specialist
Ene 01	Beyond Zero Net Regulated Carbon	3	0	100% of the building's service energy requirements are met by eligible low and zero carbon technologies.	Energy Modeller
Ene 02	Disclosing an In-Use Energy Performance Target	1	0	An in-use energy performance target has been made publicly available prior to PC.	Energy Modeller
Ene 02	Third-Party Validation of Predictive Energy Modelling	1	1	The predicted energy consumption modelling results have undergone third-party verification.	Energy Modeller
Ene 02	Preparing for In-Use Measurement of Energy Consumption	1	1	Achieve maximum credits in Ene 03. The energy modelling outputs include a breakdown of energy use by sub-meter that aligns with the energy monitoring strategy.	Energy Modeller
Ene 02	Commitment to Measure Energy Consumption In-Use	1	1	The client or occupier commits funds to pay for the in-use energy consumption once the building reaches occupancy thresholds.	Energy Modeller

Wat 05	Prediction of Operational Water Consumption	1	0	Disclose the in-use performance target to the public prior to PC and pay for in-use water consumption measurement and reporting.	Client
Mat 01	Embodied Carbon Benchmark Comparison	2	0	Compare the calculated embodied carbon emissions against the benchmark.	LCA Consultant
Mat 01	Third Party Verification	1	0	A third party verifies the LCA work.	LCA Consultant
Mat 01	Embodied Carbon Public Data Disclosure	1	0	Submit the LCA or carbon results and data to a relevant publicly available LCA or carbon database.	LCA Consultant
Mat 03	Responsible Construction Materials	1	0	Score above 50% of the available points.	Design Team
Wst 01	Construction Waste Management	1	0	The percentage of waste diverted from landfill meets or exceeds the exemplary level percentage benchmarks.	Main Contractor
Wst 05	Responding to Climate Change	1	0	Achieve the criteria or credits given within Table 10.11 of the BREEAM Manual	BREEAM Assessor
LUE 02	Wider Site Sustainability	1	0	When determining the optimal ecological outcome for the site consider the wider site sustainability-related activities and the potential for ecosystem service-related benefits	Ecologist / Design Team
LUE 04	Quantifying Change in Ecological Value	1	0	Enhancement measures which contribute to the score for biodiversity net gain should be implemented.	Ecologist / Design Team

Appendix D : Overheating Assessment

Overview

Enevo has been instructed by Aval Consulting Group Ltd to prepare a TM52 Thermal Analysis Report for a proposed new building at 565A -567A High Road, London, N17 6SB.

The project assessed anticipates the provision of 3-storey building with a basement.

Simulations have been undertaken for the development using DesignBuilder EnergyPlus, which is a dynamic simulation modelling software that can accurately simulate predicted internal environments and temperatures for the purposes of identifying area which are at a risk of overheating. This data is then used to assess the compliance against the criteria outlined in CIBSE TM52.

The plans of the proposed development can be seen in the Figures below:

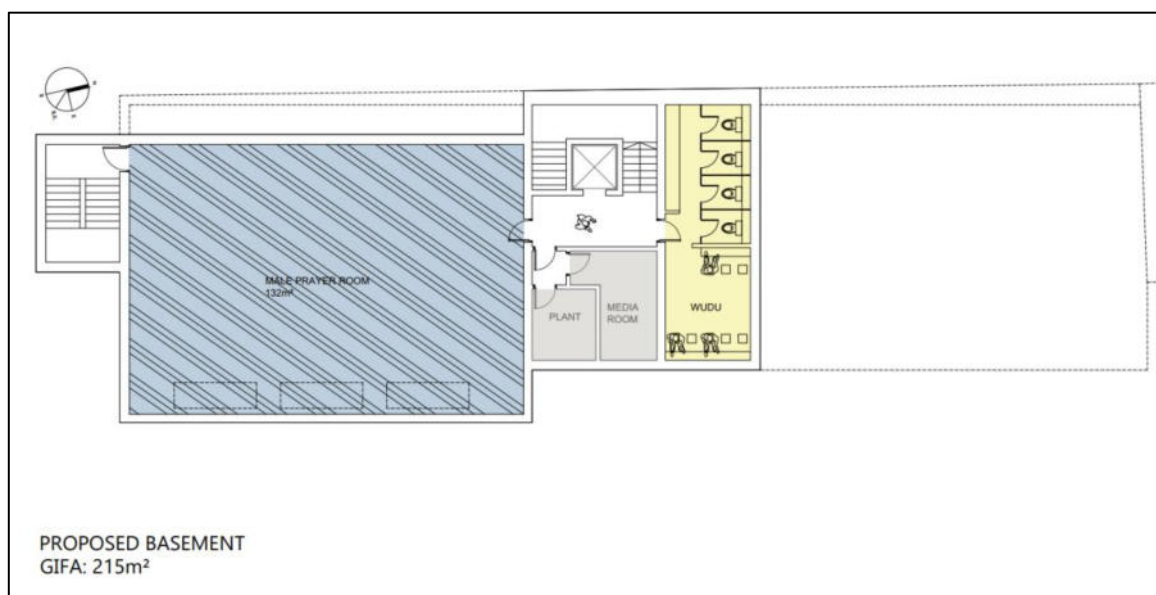


Figure 1: Proposed Basement Floor “9030 - 1100 - Proposed Basement.pdf”



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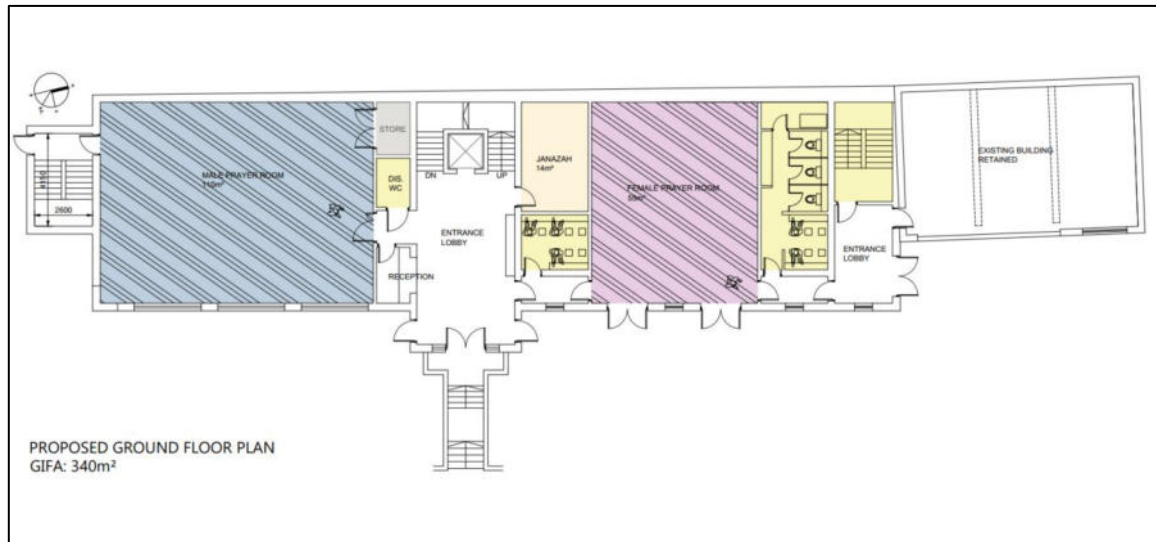


Figure 2: Proposed Ground Floor “9030 - 1101 - Proposed Ground Floor.pdf”

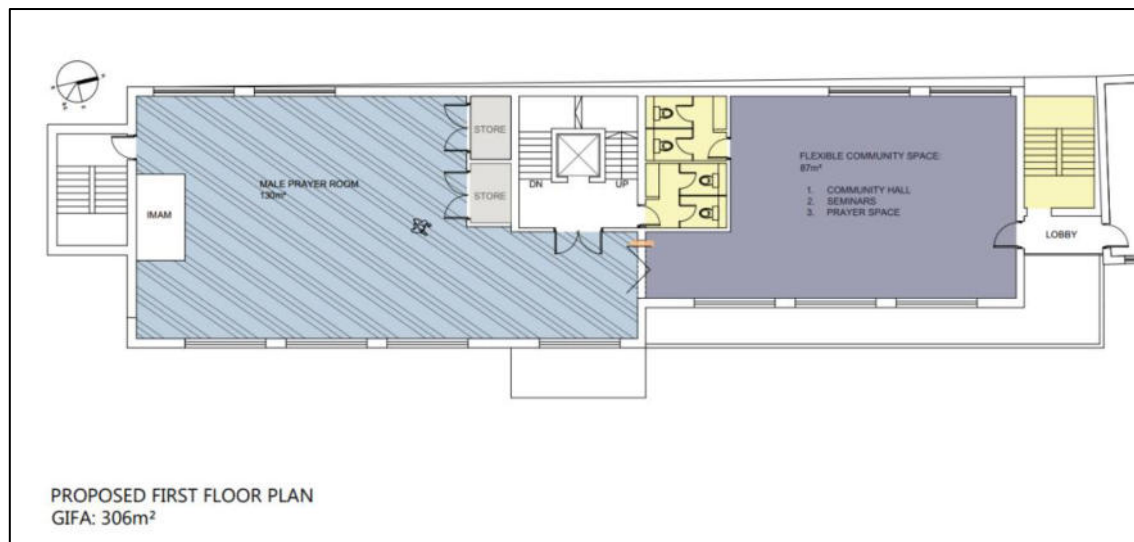


Figure 3: Proposed First Floor “9030 - 1102 - Proposed 1st & Second.pdf”



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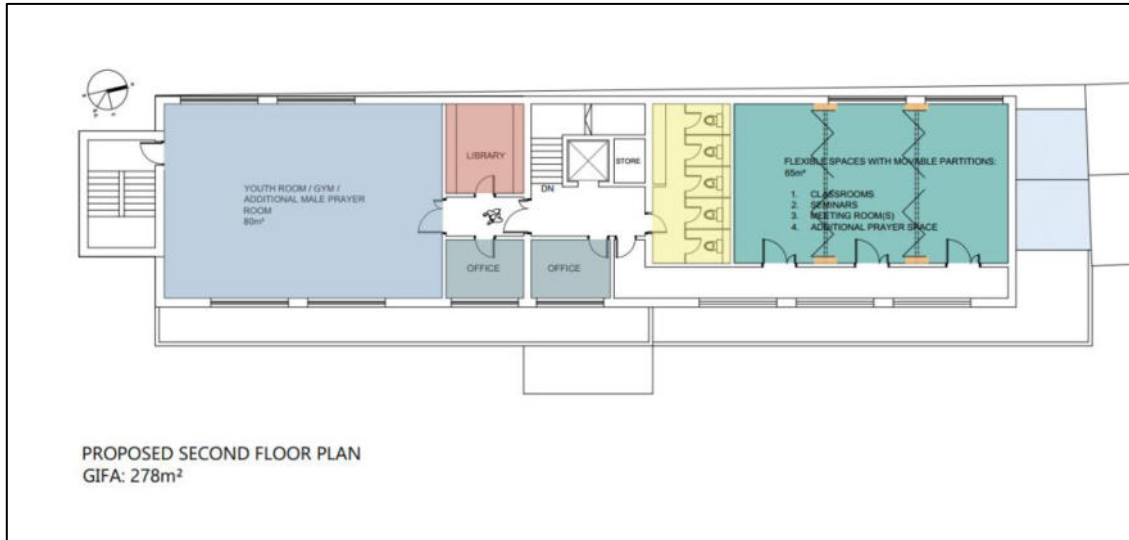


Figure 4: Proposed Second Floor “9030 - 1102 - Proposed 1st & Second.pdf”

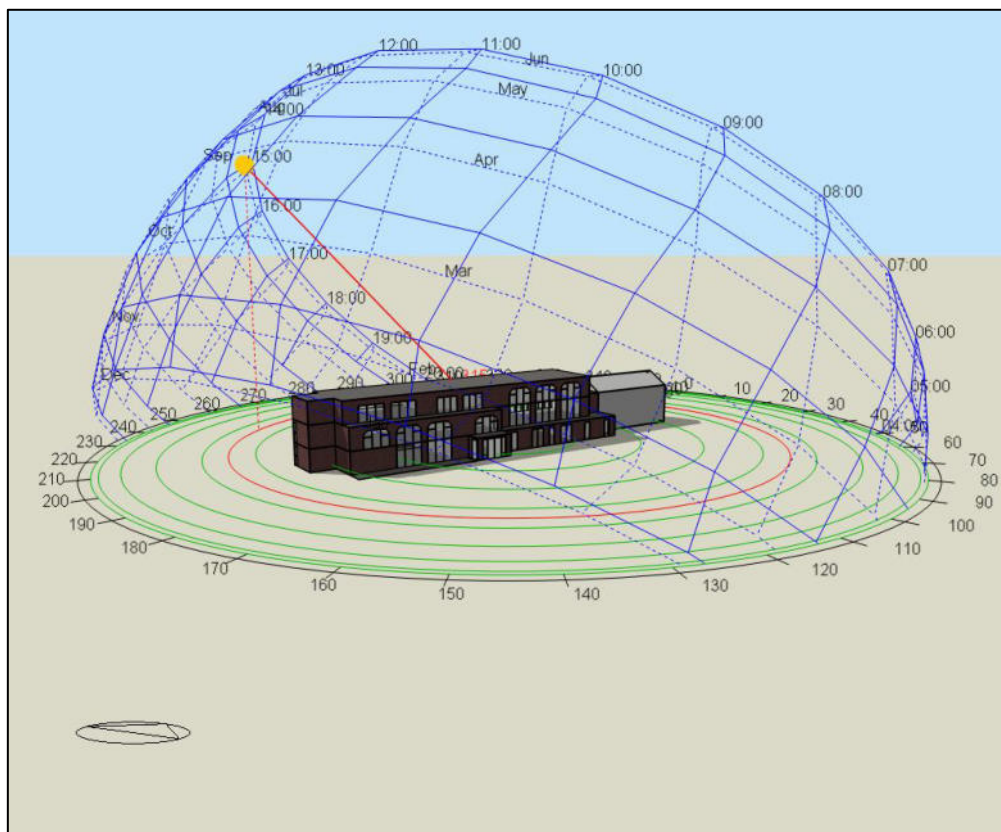


Figure 5: Model Image taken from DesignBuilder



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Software Calculation Specification

This overheating analysis was conducted using the DesignBuilder EnergyPlus software package.

Calculation Engine: DesignBuilder EnergyPlus v9.4

Calculation Engine Version: v7.3

Weather File Detail

In accordance with CIBSE Technical Memorandum 52, the development is required to pass the overheating criteria using the DSY1 weather file for the most appropriate location nearest to the development.

The DSY represents warmer than typical year and is used to evaluate overheating risk within buildings.

The specific weather location chosen for this assessment was London Wether Cent for location template and London_LWC_DSY1_2020_High50 for weather file.

Methodology for TM52

The risk of overheating in buildings is becoming more prevalent as changing climates and global energy insecurity make the control of indoor climate increasingly problematic. Overheating occurs in a building either through inappropriate design, poor management or inadequate services. Features of a design that support lower winter heating demand (such as large areas of south facing windows, high levels of insulation, low air permeability rates and low thermal mass) can result in excessively high internal temperatures during summer months.

In response to this increasing level of risk, CIBSE have developed an adaptive methodology to assess the predicted level of thermal comfort within a building. This assessment can be carried out at the detailed design stage by way of Dynamic Simulation Model. CIBSE TM52 sets three criteria for compliance. A building that fails two or more of the criteria is deemed to be at unacceptable risk of overheating:

Criterion 1: Hours of Exceedance

Criterion 2: Daily Weighted Exceedance

Criterion 3: Upper Limit Temperature

Criterion 1 sets a limit of 3% on the number of occupied hours that the operative temperature can exceed the threshold comfort temperature, T_{max} , by 1K or more during the occupied hours of a typical non-heating season – 1 May to 30 September. T_{max} is a function of the outdoor running-mean temperature.

Criterion 2 deals with the severity of overheating within any one day, which can be as important as its frequency. This is a function of both temperature above T_{max} and its duration. This criterion sets a daily limit for acceptability. If each hour (or part-hour) in which the temperature exceeds T_{max} by at least 1K is multiplied by the number of degrees by which it is exceeded, then this 'excess' should not be more than six degree-hours.

Criterion 3 sets an absolute maximum temperature of $(T_{max} + 4)$ °C for a room (T_{upp}), beyond which the level of overheating is unacceptable. The overheating risk is assessed between the 1st of May and the 31st of September.

CIBSE TM52 overheating criteria only apply to "free-running" spaces, i.e. where the peak internal temperature is not controlled by air conditioning.

Overheating Model Inputs

Building Fabric

The fabric performance detailed in Table 1 has been based on the proposed performance detailed in the project design brief and anticipated construction where this information was readily available, where this is unknown, the information has been assumed.

The detailed information should be reviewed in detail for consistency with the design proposals.

Construction		U-Value	
	Build Up		
External Walls	Assumed	0.18	W/m2K
Flat Roof/Pitched Roof		0.15	W/m2K
Ground Floor		0.15	W/m2K
Glazing		1.4	W/m2K
Design Air Infiltration		8	M ³ /hr-m ² @ 50Pa

Proposed Heating, Ventilation and Hot Water systems

Heating Generation			
System Type	Setpoint	Setback	Schedule
ASHP	22	16	Room Dependent

Hot Water Generation	
System Type	Delivery Temperature
Standalone Dedicated Water Heaters	65°C

Mechanical Ventilation		
Type	Heat Recovery	Schedule
As per "Set 3" of results section	Included	Room Dependent



Proposed shading

Windows applicable	Schedule	Shade data
N/A	N/A	N/A

Glazing openable area

Using the Protection From Falling specification to ensure safely openable windows that do not pose risk to the user when operating:

Protection from falling

- 3.8** Openings which are intended to be open for long periods to reduce overheating risk might pose a higher risk of falls from height. Only the proportion of openings which can be opened with a very low risk of occupants falling from height should be considered to form part of the overheating mitigation strategy.
- 3.9** Openings that can be opened wider than 100mm may form part of the overheating mitigation strategy where they meet all of the following conditions.
- Window handles on windows that open outwards are not more than 650mm from the inside face of the wall when the window is at its maximum openable angle.
 - Guarding meets the minimum standards in Table 3.1.
 - Guarding does not allow children to easily climb it. For example, horizontal bars should generally be avoided.

NOTE: To ensure safe operation it may be necessary to reduce the size of the outward opening windows and provide more windows to meet the required free area.

Occupancy

Zone	Occupancy
Basement: Male Prayer Room	23
GF: Female Prayer Room	12
GF: Janazah	3
GF: Male Prayer Room	19
GF: Small Prayer Area	2
FF: Flexible Community Space	15
FF: Male Prayer Room	24
SF: Flexible Spaces	11
SF: Office	1
SF: Office 2	1
SF: Youth Room	14



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Modelled Floor Plans

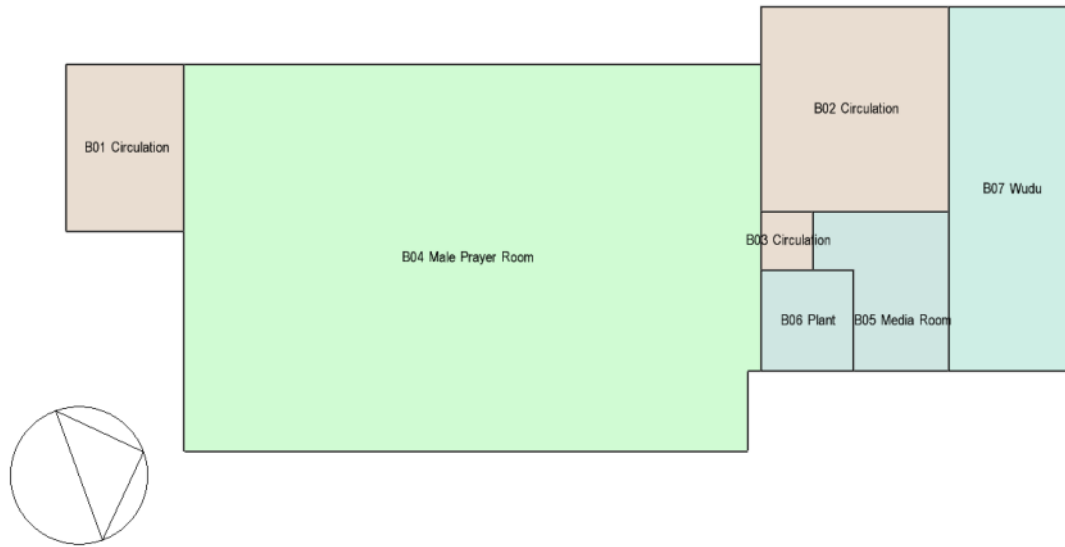


Figure 6: Basement

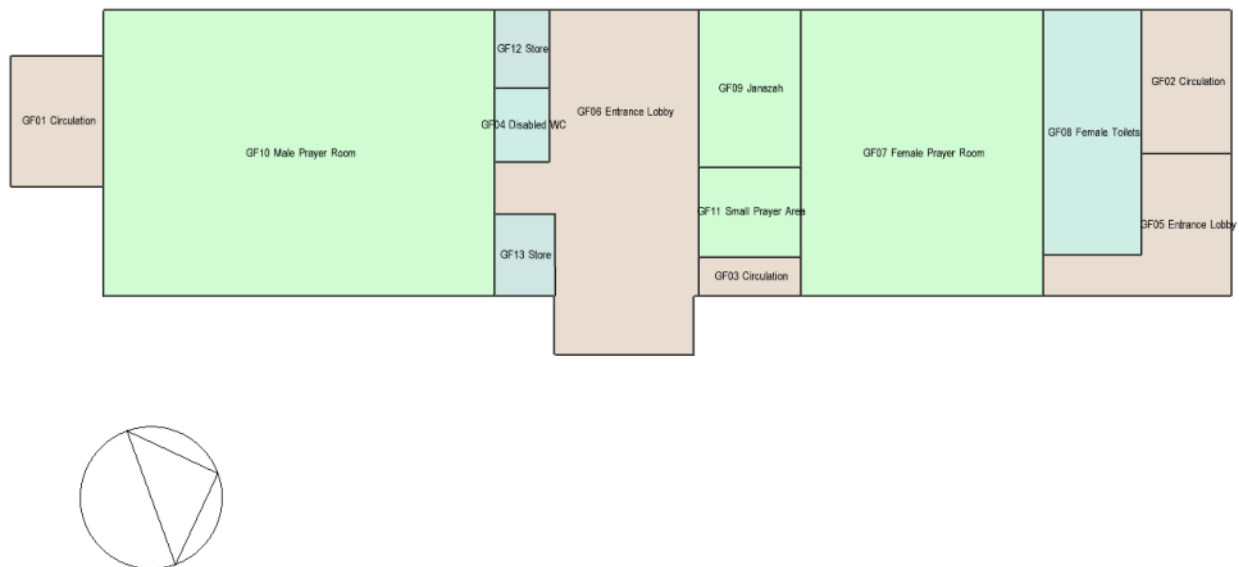


Figure 7: GF

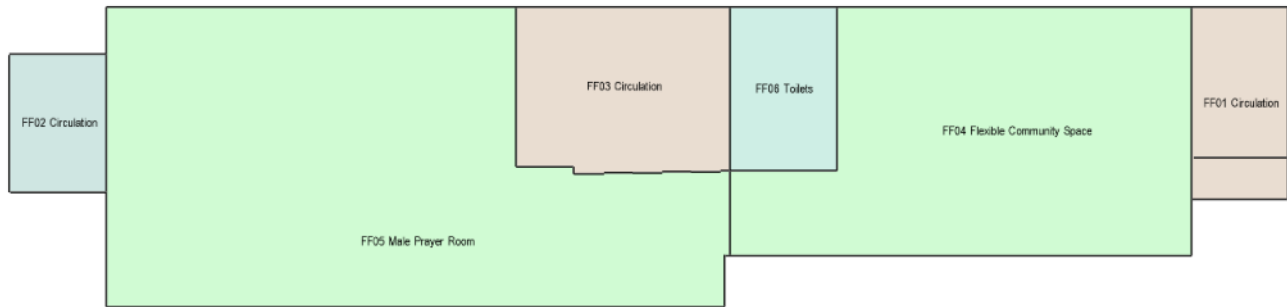


Figure 8: FF

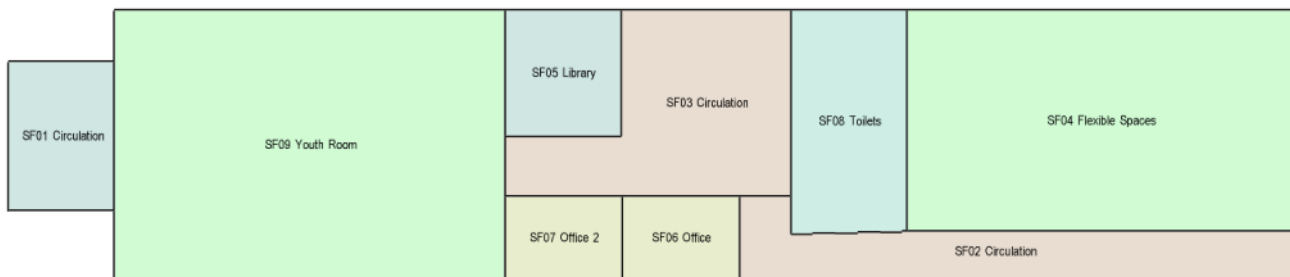


Figure 9: SF

Results

DSY1 for 2020s weather file (high emissions, 50% percentile)

Set 1:

Using glazing of 0.63 g-value and no mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	2.54	7.83	0	Pass
GF	GF09 JANAHAH	4.63	16.5	0	Fail
GF	GF10 MALE PRAYER ROOM	39.63	29.83	0	Fail
GF	GF11 SMALL PRAYER AREA	3.71	10	0	Fail
GF	FF04 FLEXIBLE COMMUNITY SPACES	38.78	33.17	0	Fail
FF	FF05 MALE PRAYER ROOM	5.52	22	0	Fail
FF	SF04 FLEXIBLE SPACES	4.52	17.83	0	Fail
SF	SF06 OFFICE	8.63	19.33	2	Fail
SF	SF07 OFFICE2	12.5	33.5	7.17	Fail
SF	SF09 YOUTH ROOM	11.73	31.83	6.83	Fail
SF	GF07 FEMALE PRAYER ROOM	5.69	21.67	0	Fail

Set 2:

Using glazing of 0.35 g-value and no mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	0	0	0	Pass
FF	GF09 JANAHAH	1.78	10	0	Pass
FF	GF10 MALE PRAYER ROOM	1.15	6.83	0	Pass
GF	GF11 SMALL PRAYER AREA	0.99	3.83	0	Pass
GF	FF04 FLEXIBLE COMMUNITY SPACES	12.01	13.5	0	Fail
GF	FF05 MALE PRAYER ROOM	0.24	2.83	0	Pass
GF	SF04 FLEXIBLE SPACES	7.19	12.67	0	Fail
SF	SF06 OFFICE	3.6	11.5	0	Fail
SF	SF07 OFFICE2	4.84	21.17	0	Fail
SF	SF09 YOUTH ROOM	4.6	20.5	0	Fail
SF	GF07 FEMALE PRAYER ROOM	2.34	13	0	Pass

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Set 3:

Further to "Set 2" heat mitigation, adding 20l/s of mechanical ventilation to further offset overheating.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	0	0	0	Pass
GF	GF09 JANAHAH	0.9	3.83	0	Pass
GF	GF10 MALE PRAYER ROOM	1.13	4.5	0	Pass
GF	GF11 SMALL PRAYER AREA	0.25	3	0	Pass
GF	FF04 FLEXIBLE COMMUNITY SPACES	1.4	4.17	0	Pass
FF	FF05 MALE PRAYER ROOM	1.72	10.33	0	Pass
FF	SF04 FLEXIBLE SPACES	1.15	6.83	0	Pass
SF	SF06 OFFICE	2.39	11.5	0	Pass
SF	SF07 OFFICE2	2.7	21.33	0	Pass
SF	SF09 YOUTH ROOM	2.46	20.83	0	Pass
SF	GF07 FEMALE PRAYER ROOM	2.31	13	0	Pass

DSY2 for 2020s weather file (high emissions, 50% percentile)
Set 1:

Using glazing of 0.35 g-value and adding 20l/s of mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	0.86	11.5	0	Pass
GF	GF09 JANAHAH	4.32	22.67	0	Fail
GF	GF10 MALE PRAYER ROOM	28.97	34.33	0	Fail
GF	GF11 SMALL PRAYER AREA	3.64	15.5	0	Fail
GF	FF04 FLEXIBLE COMMUNITY SPACES	26.55	31	0	Fail
FF	FF05 MALE PRAYER ROOM	5.25	30.33	6.67	Fail
FF	SF04 FLEXIBLE SPACES	4.46	25	5.17	Fail
SF	SF06 OFFICE	6.59	27	6.67	Fail
SF	SF07 OFFICE2	9.37	46.33	14	Fail
SF	SF09 YOUTH ROOM	8.92	45.67	13	Fail
SF	GF07 FEMALE PRAYER ROOM	5.31	31	6.83	Fail

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DSY3 for 2020s weather file (high emissions, 50% percentile)

Set 1:

Using glazing of 0.35 g-value and adding 20l/s of mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	4.74	13.67	0	Fail
GF	GF09 JANAHAH	7.3	33.17	10.33	Fail
GF	GF10 MALE PRAYER ROOM	35.56	51.67	10.17	Fail
GF	GF11 SMALL PRAYER AREA	5.96	27.5	0.67	Fail
GF	FF04 FLEXIBLE COMMUNITY SPACES	32.28	55.17	20.33	Fail
FF	FF05 MALE PRAYER ROOM	7.76	38.67	13	Fail
FF	SF04 FLEXIBLE SPACES	6.82	34	10.67	Fail
SF	SF06 OFFICE	8.92	39.67	15.33	Fail
SF	SF07 OFFICE2	12.91	54.5	31.83	Fail
SF	SF09 YOUTH ROOM	12.43	53	29.67	Fail
SF	GF07 FEMALE PRAYER ROOM	7.62	37.5	12.67	Fail

DSY1 for 2050s weather file (high emissions, 50% percentile)

Set 1:

Using glazing of 0.35 g-value and adding 20l/s of mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	2.7	7.17	0	Pass
GF	GF09 JANAHAH	8.12	24	0	Fail
GF	GF10 MALE PRAYER ROOM	45.09	40.67	0	Fail
GF	GF11 SMALL PRAYER AREA	6.34	16.83	0	Fail
GF	FF04 FLEXIBLE COMMUNITY SPACES	42.56	44.67	4.5	Fail
FF	FF05 MALE PRAYER ROOM	9.55	29.83	6.5	Fail
FF	SF04 FLEXIBLE SPACES	8.01	25	2.5	Fail
SF	SF06 OFFICE	12.43	28.17	7.5	Fail
SF	SF07 OFFICE2	18.58	44.67	12.5	Fail
SF	SF09 YOUTH ROOM	17.53	43.5	12	Fail
SF	GF07 FEMALE PRAYER ROOM	9.24	29.5	6.5	Fail

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DSY1 for 2080s weather file (high emissions, 50% percentile)

Set 1:

Using glazing of 0.35 g-value and adding 20l/s of mechanical ventilation.

Floor	Zone	Criterion 1 (%)	Criterion 2 (K.hr)	Criterion 3 (hr)	Pass/Fail
BASEMENT	GF07 FEMALE PRAYER ROOM	4.66	15.5	0	Fail
GF	GF09 JANAHAH	13.21	35.33	4.5	Fail
GF	GF10 MALE PRAYER ROOM	51.71	56.5	16.67	Fail
GF	GF11 SMALL PRAYER AREA	11.21	29.67	0	Fail
GF	FF04 FLEXIBLE COMMUNITY SPACES	46.53	58.67	5.5	Fail
FF	FF05 MALE PRAYER ROOM	13.78	42.67	8	Fail
FF	SF04 FLEXIBLE SPACES	11.78	37.17	5.83	Fail
SF	SF06 OFFICE	17.53	44.5	10.5	Fail
SF	SF07 OFFICE2	26.49	57.33	24.17	Fail
SF	SF09 YOUTH ROOM	25.23	56.83	21.17	Fail
SF	GF07 FEMALE PRAYER ROOM	13.14	41.67	7.83	Fail

Conclusion

Mandatory compliance with DSY1 for 2020s weather file

The assessment demonstrates that the proposed development is capable of achieving mandatory compliance with CIBSE TM52 when assessed against the DSY1 2020s weather file under the high emissions, 50th percentile scenario. The initial modelling using 0.63 g-value glazing and no mechanical ventilation identified widespread overheating risk, with most occupied zones failing due to exceedance of Criteria 1 and 2. The subsequent mitigation steps show a clear improvement: reducing the glazing g-value to 0.35 significantly reduced solar gains, and the addition of 20 l/s mechanical ventilation further reduced overheating risk. Under the final DSY1 2020s mitigation case, all assessed spaces achieve an overall pass against the TM52 criteria. On this basis, the proposed glazing specification and mechanical ventilation strategy should be retained as minimum design requirements for compliance.

Mitigation measures for DSY2 and DSY3 2020s weather files

The DSY2 and DSY3 2020s weather file results indicate that, even with the DSY1 mitigation package of 0.35 g-value glazing and 20 l/s mechanical ventilation, a number of spaces remain at risk of overheating. DSY2 shows a mixed outcome, with some spaces passing but several occupied rooms continuing to fail, particularly where Criterion 1 and Criterion 2 exceedances remain high. DSY3 represents a more severe overheating scenario and results in all or nearly all assessed spaces failing the TM52 criteria. This demonstrates that the current mitigation package is not sufficient to fully control overheating during more extreme present-day weather conditions.

To comply as far as feasible for DSY2 and DSY3 2020s weather files, further passive measures should still be explored, including external solar shading such as brise soleil where architecturally acceptable, improved solar control glazing, increased purge ventilation, optimised window opening areas and controls, secure night-time ventilation, and a reduction in internal gains where practical. However, given the high number of remaining failures and the scale of Criterion 1, Criterion 2 and Criterion 3 exceedances under DSY2 and particularly DSY3, passive measures on their own may not be sufficient to achieve acceptable comfort conditions. On this basis, mechanical cooling should be considered as part of the mitigation strategy. Mechanical cooling may ultimately be the only practicable solution for the most affected spaces, particularly prayer rooms, flexible community spaces, offices and youth rooms, where the overheating risk remains significant even after the current mitigation package has been applied.

Retrofit plan for future weather files

The future weather file results for DSY1 2050s and DSY1 2080s show a significant increase in overheating risk, with the majority of spaces failing under the 2050s scenario and all assessed spaces failing under the 2080s scenario. This indicates that the current design mitigation package is unlikely to remain resilient over the longer term under high emissions future climate projections. A retrofit strategy should therefore be developed to allow additional measures to be implemented if overheating risk increases in operation.

The retrofit plan should prioritise measures that can be phased and upgraded over time. Passive measures should form the first stage of this approach and may include provision for external shading systems such as brise soleil,

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shutters or blinds; higher performance solar control glazing or retrofit solar control film; secure night-purge ventilation; enhanced air movement through ceiling fans; and continued monitoring of internal temperatures after occupation. However, the future DSY1 2050s and 2080s results indicate that overheating is likely to become too severe for passive measures alone to provide adequate resilience. Due to the number of failed spaces and the magnitude of the exceedances, the retrofit plan should therefore allow for future mechanical cooling, either as localised comfort cooling to the highest-risk zones or as a wider building services upgrade if monitoring confirms persistent overheating in operation. This approach would provide a practical route to maintaining occupant comfort where passive design measures cannot reasonably offset the projected future climate risk.

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