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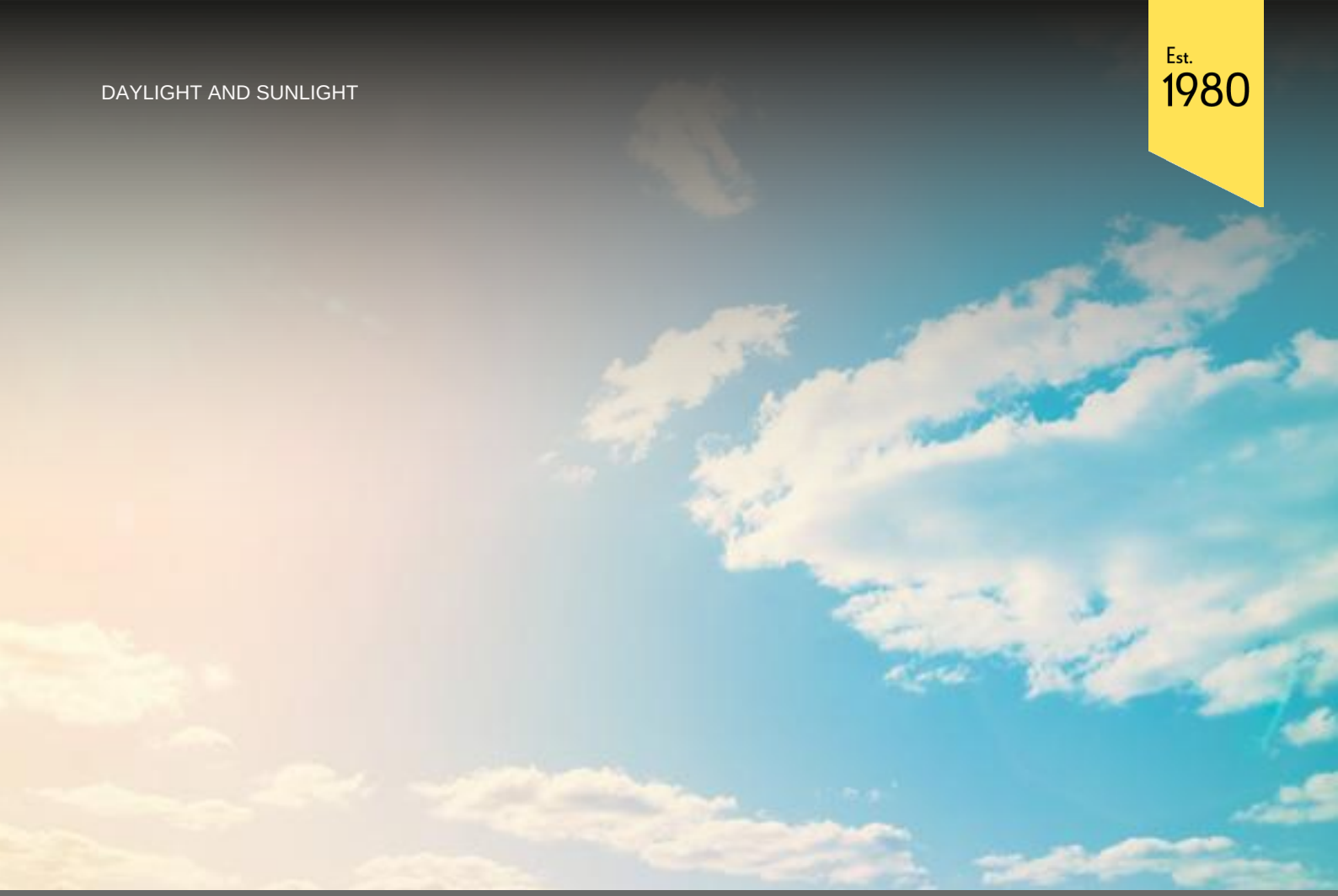

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Internal Daylight & Sunlight Adequacy Report

09 August 2022

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Statements and opinions in this report are expressed on behalf of Delva Patman Redler LLP.

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APPENDICES

1. Introduction

1.1. Delva Patman Redler LLP have been engaged by the Applicant to assess daylight and sunlight provision to the new dwellings and amenity spaces within the proposed development at Bounty House, Stowage, London SE8 3DE ("the Site"). This report has been prepared to accompany the Applicant's planning application. The potential impact of the proposed development on existing neighbouring properties need not be covered as the proposed scheme is contained entirely within the existing building height, bulk and massing.

1.2. The Site is shown centrally in the aerial photograph in Figure 1 below and on the location plan in Appendix 2.

Figure 1 - Aerial photo of the Site and neighbouring buildings (© Google)

1.3. The Site is located within the London Borough of Camden.

1.4. The proposed development is illustrated in spot-height drawings in Appendix 2. It comprises demolition of existing petrol filling station and associated convenience store (sui generis), and erection of a six-storey building comprising ground floor commercial space (Class E) and flexible commercial/educational space (Class E/F1), and 31 x residential apartments above

1.5. Our daylight and sunlight study has been carried out using the assessment methodology recommended in the Building Research Establishment (BRE) Report 209, *'Site Layout Planning for Daylight and Sunlight: A guide to good practice'* (third edition, 2022) ("the BRE guide") and the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors.

1.6. This report is accompanied by the Appendices listed on the Contents page, including an explanation of the BRE assessment methodology, a glossary of technical terms, drawings, and tabulated results.

2. Planning policy and guidance

National Planning Policy and Guidance

National Planning Policy Framework (July 2021)

2.1. The National Planning Policy Framework (NPPF) sets out the Government's planning policies and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. It places an emphasis on sustainable development and delivery of housing.

2.2. Chapter 11 of the NPPF, entitled *"Making effective use of land"*, promotes the effective use of land in meeting the need for homes and other uses. It gives examples such as developing under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively, and upward extensions to create new homes, where they would be consistent with the prevailing height and form of neighbouring properties and the overall street scene.

2.3. In particular, paragraph 125 of the NPPF states:

> *Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:*
>
> *c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).*

BRE Report 209, 'Site Layout Planning for Daylight and Sunlight: A guide to good practice' (2022)

2.4. The leading publication providing national guidance on the provision of daylight and sunlight to new development, and the impacts of development on daylight and sunlight to neighbouring buildings and open spaces, is BRE Report 209, '*Site Layout Planning for Daylight and Sunlight: A guide to good practice*' (third edition,2022). It is referred to in the development plan documents or supplementary planning documents of most planning authorities.

2.5. The BRE guide states:

> *This guide gives advice on site layout planning to achieve good daylighting and sun lighting, within buildings and in the open spaces between them.*
>
> *(Its) main aim is … to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions.*
>
> *The guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer.*
>
> *Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design.*
>
> *In special circumstances the developer or planning authority may wish to use different target values.*

Regional planning policy and guidance

The London Plan (March 2021)

2.6. The London Plan 2021 is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. Its policies should inform decisions on planning applications across the capital.

2.7. The Plan notes that if London is to meet the challenges of the future, all parts of London will need to embrace and manage change. In many places, change will occur incrementally, especially in outer London, where the suburban pattern of development has significant potential for appropriate intensification over time, particularly for additional housing. The areas that will see the most significant change are identified as Opportunity Areas, many of which are already seeing significant development. London's Central Activities Zone (CAZ) and town centre network have a crucial role to play in supporting London's growth.

Policy GG2 *'Making the best use of land'*

2.8. Policy GG2 states:

> *To create successful sustainable mixed-use places that make the best use of land, those involved in planning and development must:*
>
> *B prioritise sites which are well-connected by existing or planned public transport*
>
> *C proactively explore the potential to intensify the use of land to support additional homes and workspaces, promoting higher density development, particularly in locations that are well-connected to jobs, services, infrastructure and amenities by public transport, walking and cycling*
>
> *D applying a design–led approach to determine the optimum development capacity of sites*

Policy D3 *'Optimising site capacity through the design-led approach'*

2.9. Policy D3 states:

> *A All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations. Optimising site capacity means ensuring that development is of the most appropriate form and land use for the site…*
>
> *B Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling…*

Policy D6 *'Housing quality and standards'*

2.10. Policy D6 states:

> *C Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 'Optimising site capacity through the design-led approach' than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.*
>
> *D The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.*

2.11. The supporting text notes that dual aspect dwellings with opening windows on at least two sides have many inherent benefits, including better daylight, a greater chance of direct sunlight for longer periods, natural cross-ventilation, etc. It notes that the design of single aspect dwellings must demonstrate that all habitable rooms and the kitchen are provided with adequate daylight, and that the orientation enhances amenity, including views. Single aspect dwellings that are north facing should be avoided. Having bay windows can optimise daylight and sunlight and allow buildings to be closer together than can otherwise be achieved.

2.12. The Mayor intends to produce a single guidance document on housing design standards which need to be met in order to implement Policy D6 *'Housing quality and standards'*. This will include guidance on daylight and sunlight standards and will build on the guidance set out in the 2016 Housing SPG.

Mayor of London's Housing Supplementary Planning Guidance (March 2016)

2.13. The Mayor of London's *'Housing Supplementary Planning Guidance'* (March 2016) was developed to support previous versions of the London Plan but remains relevant for the implementation of the London Plan 2021.

2.14. Part 1.3 of the SPG deals with optimising housing potential in development opportunities. At paragraphs 1.3.45 and 1.3.46 it states:

> *Policy 7.6Bd requires new development to avoid causing 'unacceptable harm' to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.*
>
> *The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.*

2.15. Part 2 of the SPG deals with quality of new housing development.

2.15.1. Standard 4 deals with communal open space and states:

> *Where communal open space is provided, development proposals should demonstrate that the space … is designed to take advantage of direct sunlight.*

2.15.2. Standard 29 deals with dual aspect design of dwellings and states:

> *Developments should minimise the number of single aspect dwellings. Single aspect dwellings that are north facing[1], or exposed to noise levels above which significant adverse effects on health and quality of life occur, or which contain three or more bedrooms should be avoided.*

2.15.3. Standard 32 deals with daylight and sunlight provision to new dwellings and states:

[1] In the context of the SPG 'north-facing' means an orientation within 45 degrees either side of due north.

> *All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight.*

2.15.4. The supporting text at paragraphs 2.3.45 to 2.3.47 states:

> *Daylight enhances residents' enjoyment of an interior and reduces the energy needed to provide light for everyday activities, while controlled sunlight can help to meet part of the winter heating requirement. Sunlight is particularly desirable in living areas and kitchen dining spaces. The risk of overheating should be taken into account when designing for sunlight alongside the need to ensure appropriate levels of privacy. In addition to the above standards, BRE good practice guidelines and methodology can be used to assess the levels of daylight and sunlight achieved within new developments, taking into account guidance below and in Section 1.3.*
>
> *Where direct sunlight cannot be achieved in line with Standard 32, developers should demonstrate how the daylight standards proposed within a scheme and individual units will achieve good amenity for residents. They should also demonstrate how the design has sought to optimise the amount of daylight and amenity available to residents, for example, through the design, colour and landscaping of surrounding buildings and spaces within a development.*
>
> *BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognising the London Plan's strategic approach to optimise housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with good accessibility suitable for higher density development (Policy 3.3). Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.*

2.16. Clearly, the guidelines and recommendations given in the BRE guide should be applied with an appropriate degree of flexibility and sensitivity to higher-density housing development, especially in opportunity areas, town centres, large sites and accessible locations. Account should be taken of local circumstances, the need to optimise housing capacity and scope for the character and form of an area to change over time.

Good Quality Homes for all Londoners - consultation draft (October 2020)

2.17. *'Good Quality Homes for All Londoners'* is consultation draft guidance on housing design and delivery. The consultation ended in January 2021 and the final guidance is awaited. It illustrates the direction of travel for standards and guidance for housing design in London, including daylight and sunlight guidance.

2.18. The consultation draft contains the following draft housing standards:

> *C5.2 Aspect and outlook*
>
> *C5.2.1 All new dwellings should be dual aspect, unless there are exceptional circumstances that justify the inclusion of any single-aspect homes. Single-aspect dwellings that are north facing, contain three or more bedrooms, or are exposed to noise levels with significant adverse effects on health and quality of life, should not be permitted.*
>
> *C5.2.2 Where single-aspect dwellings are proposed (by exception), the design team should demonstrate how good levels of ventilation, daylight, privacy and thermal comfort will be provided to each habitable room and the kitchen.*
>
> *C5.3 Daylight, sunlight and overshadowing*

C5.3.1 New dwellings should achieve a minimum average daylight factor (ADF) target value of 1 per cent for a bedroom and 1.5 per cent for a living room.

C5.3.2 Proposed development should maximise quality and availability of sunlight and natural light in outdoor spaces, particularly in winter. Outdoor spaces should benefit from at least two hours of daylight on 21st March into 50 per cent of space in line with BRE guidance.

C5.3.3 All homes must provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight.

2.19. The supporting text on daylight, sunlight and overshadowing states:

Balancing natural light

Providing good levels of natural light makes for a more pleasant internal environment, improving wellbeing as well as reducing the energy required for artificial lighting. This document prioritises good daylight to the home in determining suitable development capacity…

…Natural light can be restricted in densely developed areas. However, an appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts within proposed new homes, as well as the impact that proposed development would have on surrounding homes and open spaces.

Applying BRE guidelines in relation to neighbouring homes

Decision-makers should recognise that fully optimising housing potential on sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

Guidelines should be applied sensitively to higher density development, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances, the need to optimise housing capacity, and the scope for the character and form of an area to change over time.

The BRE guidelines apply nationwide, and the default numerical targets provided are purely advisory. These are based on a uniform, 25-degree development angle (vertical obstruction angle) typical of a low-rise suburban location. This corresponds to the Vertical Sky Component (VSC) target of 27 per cent cited in the guidelines. Typical development angles in a city or central urban location are considerably higher. In Central London, development angles of 40 degree or 50 degree are common and can, if well planned, deliver successful schemes. A uniform development angle of 40 degree corresponds to a VSC target of 18 per cent, and 50 degree gives a VSC target of 13 per cent. Such daylight levels have been accepted in many desirable central areas for well over a century. Module A: Optimising Site Capacity - A Design-led Approach therefore adopts a 50-degree development angle to determine offset distances.

Even with access to good levels of daylight on the outside of a building, it is possible to have low levels of daylight within a building due to design features such as small windows, recessed windows, poor placement of balconies or deep rooms. Therefore, consideration of the retained target VSC should be the principal consideration. Where this is not met in accordance with BRE guidance, it should not be less than 0.8 times its former value (which protects areas that already have low daylight levels).

Less weight should be given to the room-based measures of daylight such as 'no-sky line' or average daylight factor as these are dependent on the design of the neighbouring property. Except in exceptional circumstances, design features of neighbouring properties (referred to above) should not hamper the development potential of a site.

Applying BRE guidelines in relation to proposed homes

It may be possible to mitigate lower external daylight VSC levels by using design features such as larger windows, roof lights and light coloured internal and external surfaces to ensure reasonable internal daylight levels. Therefore, room-based measures of daylight and sunlight are most appropriate for judging the acceptability of a proposed development, as these encourage good daylight design. Appropriate 3D modelling should be used to demonstrate acceptable levels.

BRE guidelines confirm that the acceptable minimum average daylight factor target value depends on the room use. That is 1 per cent for a bedroom, 1.5 per cent for a living room and 2 per cent for a family kitchen. In cases where one room serves more than one purpose, the minimum ADF should be that for the room type with the higher value. Notwithstanding this, the independent daylight and sunlight review states that in practice, the principal use of rooms designed as a 'living room/kitchen/dining room' is as a living room. Accordingly, it would be reasonable to apply a target of 1.5 per cent to such rooms.

The need for balconies to be a minimum depth so as to function as usable amenity space, (see C4 Dwelling Space Standards), can have significant bearing on the daylight and sunlight levels reaching nearby windows and rooms. Inevitably, any window or room under a balcony will receive much lower daylight and sunlight levels, although the adjacent balcony space will typically have excellent levels of daylight and sunlight amenity. Given this, the Mayor encourages boroughs to allow the daylight levels on the balcony to contribute to the ADF of the adjacent living space.

Local planning policy and guidance

Camden Local Plan 2017

2.20. The Camden Local Plan (adopted 3 July 2017) contains the following policies that are relevant to daylight and sunlight.

2.21. Policy H2 *'Maximising the supply of self-contained housing from mixed-use schemes'* aims to maximise the contribution towards Camden's pressing need for self-contained housing from mixed-use developments where they are able to create an acceptable level of amenity, including adequate daylight and sunlight.

2.22. Policy H6 *'Housing choice and mix'* seeks to secure high quality homes in all developments that include housing. The accompanying text notes that aspects of quality that impact on health and well-being of occupiers include daylight and sunlight (page 83, paragraph 3.139).

2.23. Policy A1 'Managing the impact of development' states:

The Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes unacceptable harm to amenity.

We will:
a. seek to ensure that the amenity of communities, occupiers and neighbours is protected; …

The factors we will consider include:
… f. sunlight, daylight and overshadowing;

Camden Planning Guidance, 'Amenity'

2.24. Camden's Planning Guidance on Amenity (adopted January 2021) contains supplementary planning guidance of relevance to daylight and sunlight. It states:

The Council expects applicants to consider the impact of development schemes on daylight and sunlight levels. Where appropriate a daylight and sunlight assessment should submitted which should be follow the guidance in the BRE's 'Site layout planning for daylight and sunlight: A guide to good practice'.

Levels of reported daylight and sunlight will be considered flexibly taking into account site-specific circumstances and context.

The Council aims to protect the quality of life of occupiers and neighbours through Local Plan policy A1 Managing the Impact of Development, which seeks to ensure that development does not cause unacceptable harm to amenity, including in terms of daylight and sunlight.

Major developments and proposals for new dwellings are expected to provide daylight and sunlight reports. These should always include the daylight and sunlight levels to any proposed new residential units. The reports should also include any nearby existing residential properties that may be affected. Although it is normally only residential uses that are assessed, there may also be non-residential uses, existing nearby or proposed as part of the application, that are particularly sensitive to light and so justify a report.

To help determine whether a daylight and sunlight report is needed for other types of development, the Council will have regard to several tests, taken from the BRE guidance. These are referred to as the 45-degree test and the 25- degree test.

The BRE guidance should form the basis for daylight and sunlight reports. They should be prepared by a specialist surveyor or consultant and assess the following:

1. *Levels of daylight and sunlight that occupiers are likely to experience within the proposed development and gardens and open spaces (where relevant); and*

2. *The extent that the proposed development is likely to cause on levels of daylight and sunlight entering windows of neighbouring properties, gardens and open spaces (where relevant)*

Daylight and sunlight reports should also demonstrate how the design has taken into consideration the guidance contained in the BRE document on passive solar design; and have optimised solar gain.

The Council will expect daylight and sunlight reports to report daylight and sunlight levels using the tools cited in the BRE guidance. The most common tools used are:

- *Vertical Sky Component (VSC)*
- *No Sky Line (NSL) also referred to as Daylight Distribution (DD)*
- *Average Daylight Factor (ADF)*
- *Annual Probable Sunlight Hours (APSH)*

Flexible consideration of daylight and sunlight

The Council notes the intentions of the BRE document is to provide advice to developers and decision makers and therefore it should be regarded as a guide rather than policy.

While we support the aims of the BRE methodology for assessing sunlight and daylight we will consider the outcomes of the assessments flexibly where appropriate, taking into account site specific circumstances and context. For example, to enable new development to respect the existing layout and form in some historic areas, or dense urban environments, it may be necessary to consider exceptions to the recommendations cited in the BRE guidance. Any exceptions will assessed on a case-by-case basis.

Camden Planning Guidance, 'Housing'

2.25. Camden's Planning Guidance on Housing (adopted January 2021) contains supplementary planning guidance of relevance to daylight and sunlight. It states:

Layout

In general, the internal layout should seek to ensure the main living room and other frequently used rooms are on the south side and rooms that require less sunlight (bathrooms, utility rooms) are on the north side. Kitchens are better positioned on the north side to avoid excessive heat gain.

Additionally, it is preferable that permanent partitions are present between eating and sleeping areas; and between kitchens and living rooms. Combined kitchens and living areas can be acceptable where sufficient floor area allows a greater range of activity.

- *Dual aspect – Proposals should achieve good dual aspect [London Housing SPG 2016 Standard 29]. Habitable rooms should also have suitable outlook.*

- *Natural light, Daylight/sunlight - All the habitable rooms must have direct natural light, particularly the main living room. The applicant must ensure that the levels of daylight and sunlight that enter habitable rooms comply with BRE standards and that the report for 'Daylight and Sunlight' is submitted with the proposal [London Housing SPG 2016 Standard 32; CPG for Amenity].*

3. Acceptability of daylight/sunlight levels and impacts

3.1. The assessment of impact on daylight amenity is a two-part process[2]: first, as a matter of calculation, whether there would be acceptable light conditions by reference to the BRE guidelines; and second, as a matter of judgment, whether those light conditions would be acceptable in the circumstances.

3.2. The first stage can be addressed by applying the BRE assessment methodology and numerical guidelines. The second stage brings into play much wider considerations, such as:

i) Whether the neighbouring building stands unusually close to the site boundary, including the highway, taking more than its fair share of light, such that lower light levels may be unavoidable if one site is not to be prejudiced by how another has been developed. (A 'mirror-image' study can be informative in such cases.)

ii) Whether windows in buildings themselves are self-obstructed by overhanging or inset balconies or other projections such as to make relatively lower light levels unavoidable even if there is modest obstructions opposite - in effect themselves taking away more than their fair share of light. (A 'without balconies' study can be informative in such cases.)

iii) In historic city centres or areas characterised by modern tall buildings, high density and close proximity, a higher degree of obstruction may be unavoidable if buildings are to accommodate residential uses which match the height and proportion of existing buildings.

iv) In areas that are designated by planning authorities for substantial growth or providing opportunities for change and sustainable regeneration, the sort of change that would be brought about by the introduction of taller, denser development is to be expected, including reductions in daylight and sunlight levels, closer proximity, loss of outlook, etc.

v) In the case of repurposed buildings (change of use applications as is the case here) can the new configuration be laid out to ensure good daylight provision by adopting the existing window configuration.

3.3. Where a higher degree of obstruction may be unavoidable it is appropriate to consider the reasonableness of the retained levels of daylight within the proposed development in context.

[2] Rainbird, R (on the application of) v The Council of the London Borough of Tower Hamlets [2018]

4. Assessment methodology and numerical guidelines

4.1. The technical assessments that underpin this daylight and sunlight study have been carried out in accordance with the assessment methodology recommended in the BRE guide.

4.2. The principal assessments and numerical criteria are summarised below. A fuller explanation of the assessment methodology is given at Appendix 1 of this report.

4.3. The BRE guide (third edition, 2022) is intended to be used in conjunction with the interior daylighting recommendations in BS EN17037:2018 *Daylight in buildings,* and in the CIBSE publication *LG 10 Daylighting - a guide to designer.* The BRE guide is the leading publication providing national guidance and is referred to in development plan documents or supplementary planning documents of most planning authorities. We have therefore followed the assessment methodology in the BRE guide.

Daylight to new dwellings

4.4. Daylight provision in new rooms may be checked using either of the methods described in the BRE guide 2022, direct prediction of illuminance levels using hourly climate data, or the use of the daylight factor, which is a ratio of unobstructed external illuminance under overcast sky conditions. Both are measures of the overall amount of daylight in a space.

4.5. The Illuminance method is more useful, informative and accurate as it is dependent on both geographic location and orientation of the building. Therefore, we undertake our technical assessment using illuminance method.

4.6. The illuminance method requires a 3d model of the space together with the key parameters such as nearby obstructions, the assigned internal and external surface reflectance values, diffuse glazing transmittance, and maintenance factors for the dirt that are a reasonable representation of those for the actual, completed building.

4.7. The minimum recommended target illuminance level (lux) for room types in UK dwellings is 100 lux for bedrooms, 150 lux for living rooms and 200 lux for kitchens. Bathrooms, stairwells and other circulation areas with less than 1.5m wide need not be assessed.

4.8. The guide recommends the target illuminance for the room type with the highest value should be taken where one room in a UK dwelling serves more than a single purpose - for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lux. T

4.9. The BRE guide also advises that non-daylit internal kitchens should be avoided wherever possible, and the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces. The kitchen space should still need to be included in the assessment area. In this case the target illuminance level of 150 lux or more might be acceptable.. That view is supported by the author of the BRE guide, Dr Paul Littlefair, who explains it thus3:

4.10. Where a room has a shared use, the British Standard states that the higher minimum value should apply. However, local authorities frequently accept the living room standard for a shared kitchen/living room, as a small kitchen would not be considered as a habitable room. This is a practical approach, as it is seldom in the final resident's interest to have a closed off, small kitchen which is completely artificially lit in order to force compliance with the Standard for the living room.

4.11. We have therefore adopted an alternative target of 150 lux for KDs and LKDs in our assessment

4.12. Additionally, we also compare these findings to the only recently superseded ADF assessment methodology as championed in the 2011 version of the BRE Guide for benchmarking and comparison purposes. See Appendix 1 for descriptions of the assessment methodologies.

Sunlight to new dwellings

4.13. In housing, sunlight should be assessed in living rooms and conservatories. For interiors, access to sunlight can be quantified by measuring the number of hours during which the space receives direct sunlight, for a clear cloudless reference day in the year.

4.14. The BRE guide recommends that. for dwellings, at least one habitable room, preferably a living room, should receive at least 1.5 hours of sunlight on 21 March. Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings meeting this recommendation.

5. Flexible application of the guidelines and alternative target values

5.1. As noted in paragraph 2.4 above, the BRE guide states that its default numerical guidelines are not mandatory and must be interpreted flexibly because natural lighting is only one of many factors in site layout design.

5.2. We set out below some examples of a flexible approach to applying the BRE guidelines that are of relevance.

5.3. For the reasons explained at paragraphs 4.9 to 4.11 we have adopted an alternative target for the minimum illuminance level of 150 lux for any main living spaces that contain a kitchen, such as LKDs,LKs,KDs and studios.

5.4. Ultimately, it is for the planning authority to judge whether acceptable levels of daylight amenity will be provided to new dwellings and amenity spaces in their neighbourhood context, having regard to all relevant planning policies and guidance and balanced against the merits of the proposed development.

6. Scope of the internal assessment

6.1. Within the proposed development, we have assessed daylight and sunlight to all relevant habitable rooms on all floors within the proposed development.

7. Information used in our technical study

7.1. We have undertaken our technical study using a 3D computer model built in AutoCAD and specialist analysis software, which runs the assessments recommended in the BRE guide.

7.2. We compiled our 3D computer model from the following information:

7.2.1. 3D computer model of the existing buildings on the Site and the contextual massing produced from photogrammetry (aerial photography) supplied by AccuCities Ltd, subsequently enhanced by us with the more detailed information listed below

7.2.2. Measured survey model point cloud produced by our in-house measured survey team in February 2018.

7.2.3. Floor plans for neighbouring buildings, where available;

7.2.4. Proposed development: 3D model supplied by TPBennett Architects on 8 June 2022 (file name: 2_Planning-App Massing Model.skp) + revised layouts on 22 July 2022.

7.3. Our 3D computer model is shown on our spot-height drawings at Appendix 2.

7.4. For the daylight illuminance assessment (BRE 2022), we used the window and room parameters stated in **Table** 1.

Table 1 *– Window and room parameters used in illuminance calculations*

Parameter	Value – Proposed Dwellings
Maintenance factor (dirt on glass)	0.92 for vertical windows with normal exposure in residential developments in urban locations with good maintenance
Diffuse light transmittance of glazing	0.68 for double glazing
Frame and glazing bar factor	0.7 for metal frames and large panes
Internal surface reflectance	0.8 for white ceilings 0.7 for pale cream walls 0.4 for light wood floors

7.5. For the comparative ADF assessment (BRE 2011), we used the window and room parameters stated in **Table 2**.

Table 2 *– Window and room parameters used in ADF calculations*

Parameter	Value – Proposed Dwellings
Maintenance factor (dirt on glass)	0.92 for vertical windows with normal exposure in residential developments in urban locations with good maintenance
Diffuse light transmittance of glazing	0.68 for double glazing
Frame and glazing bar factor	0.8 for metal frames and large panes
Internal surface reflectance	0.85 for white ceilings 0.81 for pale cream walls 0.4 for light wood floors

Limitations and assumptions

7.6. In compiling our 3D computer model for our technical study, we have sought to be as accurate as reasonably possible within the scope of our instruction. We have relied upon the information noted above.

7.7. We have used proven and trusted specialist computer software (Waldram Tools for AutoCAD®) to run the calculations recommended in the BRE guide.

7.8. To the best of our knowledge, the information and advice contained in this report is accurate at the date of issue, based on the information provided to or procured by us prior to its production.

8. Results of internal daylight and sunlight assessment

Daylight to new dwellings

Daylight illuminance – BRE 2022

8.1. The results of the illuminance method for the assessed proposed dwellings are set out in the table of results and floor plans at Appendix 3. The level of adherence to the 2022 BRE numerical guidelines is summarised in Table 3 & 4 below.

***Table 3** – Summary of Adherence to BRE 2022 minimum daylight illuminance*

Building	No. of rooms tested	Daylight illuminance					
		Meeting min. target		No. below min. target	≥80% of hrs. criterion (≥40% area)		<80% of hrs criterion (<40% area)
		No.	%		No.	%	
104 Finchley Road	85	53	62%	32	58	68%	27
Totals:	**85**	**53**		**32**	**58**		**27**
		62%		*38%*	*68%*		*32%*

8.2. **Table 3** shows that 53 (62%) of the 85 rooms assessed would satisfy the BRE 2022 guidelines for daylight illuminance and 58 (68%) would do so by adopting alternative target values.

Internal Daylight Adequacy – BRE 2011

ADF, NSL & RDC

8.3. The results of the ADF, NSL & RDC test for the assessed proposed dwellings are set out in the table of results at Appendix 4. The level of adherence to the 2011 BRE numerical guidelines is summarised in **Table 4** below.

***Table 4** - Number of rooms meeting the guidelines*

Building	No. of rooms tested	ADF			NSL			RDC		
		Meeting guideline		No. below guideline	Meeting guideline		No. below guideline	Meeting guideline		No. below guideline
		No.	%		No.	%		No.	%	
104 Finchley Road	85	58	68%	27	78	92%	7	85	100%	0
Totals:	**85**	**58**		**27**	**78**		**7**	**85**		**0**
		68%		*32%*	*92%*		*8%*	*100%*		*0%*

8.4. **Table 4** shows that 58 (68%%) of the 85 rooms assessed floor would satisfy the 2011 BRE guidelines for ADF, 78 (92%) of the 85 rooms assessed will comply with the NSL and all 85 (100%) of the rooms assessed will achieve the RDC criteria for the previous BRE 2011 assessment criteria.

***Table 5** - Number of rooms meeting the guidelines*

Building	No. of rooms tested	ADF		
		Meeting ATVs (1.5% for LKD, KD & Studio)		*No. below ATVs*
		No.	*%*	
104 Finchley Road	85	*74*	*86%*	*11*
Totals:	**85**	***74***		***11***
		87%		*13%*

8.5. **Table 5** demonstrates that looking at an alternative target value of 1.5% for multipurpose open plan living/kitchen/dining rooms will achieve 87% compliance.

8.6. Overall, the analysis demonstrates good levels of compliance with the recently superseded 2011 BRE Guidance and also good levels of compliance against the new 2022 BRE assessment criteria.

Sunlight to new dwellings

Sunlight exposure – BRE 2022

8.1. The results of the illuminance method for the assessed proposed dwellings are set out in the table of results and floor plans at Appendix 3. The level of adherence to the 2022 BRE numerical guidelines is summarised in Table 6 below.

***Table 6** – Summary of Sunlight exposure results*

Building	**Sunligt exposure** (main living rooms w ith a southerly-aspect w indow)						
	No. of rooms tested	Meeting min. target		No. below min. target	*≥ 80% of min. target (≥ 1.2 hrs)*		*<80% of min. target (<1.2 hrs)*
		No.	*%*		*No.*	*%*	
104 Finchley Road	23	23	*45%*	0	*23*	*45%*	*0*
Totals:	**23**	**23** *100%*		**0** *0%*	***23*** *100%*		***0*** *0%*

8.2. **Table 6** shows that all 23 (100%) main living rooms with at least one window facing within 90º of due south will achieve the target sunlight assessment criteria.

8.3. Also, from the 26 proposed units across the whole scheme only a single unit per floor (4 (15%) in total) will fail to contain at least one habitable room which should receive at least 1.5hours of sunlight on 21 March.

9. Conclusion

9.1. The Site is in an urban location central to Camden, on Finchley Road. The site is currently occupied by a service station with only low-level buildings currently on the site and only covering part of the site as a result.

9.2. We assessed the internal daylight adequacy provision to all habitable rooms on all floors within the proposed development.

9.3. We ran our assessments using methodologies recommended in the 2011 & 2022 version criteria of the BRE guide.

9.4. The advice contained in the BRE guide is not mandatory and its numerical guidelines should be interpreted flexibly.

9.5. The daylight analysis demonstrates very good compliance with the recently superseded 2011 BRE Guidance and good compliance adopting the illuminance target criteria set by the 2022 BRE Guide. The level of adherence drops when measured against the new target criteria but there is still a good level of compliance overall.

9.6. The sunlight analysis demonstrates that all main living rooms with at least one window facing within 90^{o} of due south will achieve the target assessment criteria. The analysis also demonstrates that only a single unit on each floor will fail to contain at least one habitable room which should receive at least 1.5hours of sunlight on 21 March.

9.7. In conclusion, it is submitted that the layout of the proposed development is generally consistent with the Council's local planning policy on internal daylight adequacy.

Delva Patman Redler LLP
Chartered Surveyors

Appendix 1

Assessment methodology and glossary

1. This appendix explains the daylight and sunlight assessment methodology recommended in BRE Report 209, *'Site Layout Planning for Daylight and Sunlight: A guide to good practice'* (2022) and provides a glossary of the terminology used.

Assessment methodology

Daylight and sunlight in new development

Daylight to new dwellings

2. *Daylight illuminance*

3. Daylight illuminance method involves using climate data for the location of the site (weather file within the software) to calculate the illuminance from daylight at each point on an assessment grid on the reference plane at an at least hourly interval for a typical year.

4. A target illuminance (E_T) should be achieved across at least half of the reference plane in a daylit space for at least half of the daylight hours.

5. Appendix C, *Interior daylighting recommendations,* of the BRE guide gives guidance on how to calculate the illuminance. This methodology require assessment via detailed computer modelling to simulate the illuminance or daylight factor at calculation points within a proposed space. Appropriate simulation settings must be used. The calculation model should include all the room surfaces, and any surface outside the room that could affect the light received.

6. The BRE guide 2022 gives the target illuminance recommendations of 200 lux for kitchens, 150 lux for living rooms and 100 lux for bedrooms in UK dwellings. These values to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours.

7. Living rooms and kitchens need more daylight than bedrooms. Areas without a special requirement for daylight, like bathrooms, stairwells, garages and storage areas, need not be assessed.

8. Internal and external surfaces and obstructions should be modelled including appropriate surface reflectance. Glazing transmission factors, including maintenance factors, need to be included in the simulation along with account for, or modelling of, window framing.

9. The calculation of illuminance or daylight factor needs to be carried out on a grid of points on a reference plane within each room assessed. The calculation plane should normally be 0.85m from the floor level and is sometimes described as a working plane.

10. It is recommended that a band of 0.3m should be excluded. Professional judgement should be used in cases with irregular-shaped spaces or rooms with corridors or annexe areas. For example, in a room with a corridor, the corridor need not be included in the assessment grid area if it is less than 1.5m).

Sunlight to new dwellings

11. The BRE guide states:

> *In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon.*
>
> *Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight.*
>
> *The overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east or west. The aim should be to minimise the number of dwellings whose living rooms face solely*

north, north east or north west, unless there is some compensating factor such as an appealing view to the north.

12. The BRE guide recommends that space should receive a minimum of 1.5 hours of direct sunlight on 21st March. For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion.

13. Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings that meet this recommendation.

14. Although the criteria applies to rooms of all orientations, if a room faces significantly north of due east or west, the guide notes they are unlikely to be met.

15. When calculating the sunlight, the BRE guide advises that:

…if a window positions are known, a reference point on the inside face of the window aperture at the centre of the opening width and at least 1.2m above the floor and 0.3 m above the sill (whichever is the higher) is used.

16. It also advises that:

… a point on the inside face of the window wall should be taken. Sunlight blocked by the window reveals should not be included, but the effect of the window frames in blocking sunlight need not be taken into account. If a room has multiple windows on the same wall or on adjacent walls, the highest value of APSH should be taken. If a room has two windows on opposite walls, the APSH due to each can be added together.

17. In rooms with multiple windows, our computer software calculates the total sunlight across all windows.

Daylight to new dwellings – BRE 2011

*Average daylight factor (**ADF**)*

18. The BRE guide advises that daylight provision in new rooms can be checked using the average daylight factor (ADF). The ADF is a measure of the overall amount of daylight in a space.

19. Living rooms and kitchens need more daylight than bedrooms. Areas without a special requirement for daylight, like bathrooms, stairwells, garages and storage areas, need not be assessed.

20. Appendix C of the BRE guide gives guidance on how to calculate the ADF. Where there are multiple windows, the ADF due to each one can be added together. The ADF due to each window can be calculated using the following formula:

$$ADF = \frac{TMA_w\theta}{A(1-R^2)}$$

where:

T is the diffuse visible transmittance of the glazing (for clean, clear double glazing with a low emissivity coating, a value of 0.68 can be used);

M is a maintenance factor, allowing for the effects of dirt;

A_w is the net glazed area of the window (m^2);

A is the total area of the room surfaces: ceiling, floor, walls and windows (m^2);

R is their average reflectance based on the reflectances of the room finishes (if room finishes are not known a default value of 0.5 can be taken for fairly light-coloured rooms);

θ is the angle of visible sky in degrees, measured from a point halfway between the inner and outer faces of the window wall.

21. Of these quantities, only θ depends on external obstruction. It can be directly related to the vertical sky component (VSC), which can be calculated using the Waldram diagram method explained in Appendix

B of the BRE guide. Our computer software uses this calculation method and converts the VSC value to an equivalent angle of visible sky for use in the ADF formula.

22. A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85 m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low-level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor, if this is known. If room reflectances are not known, a value of 0.15 can be taken. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.

23. The BRE guide gives minimum values of ADF in housing of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. It notes that with a higher ADF, indoor daylight will be sufficient for more of the year. So, although the minimum values can be used as targets for daylight in obstructed situations, achieving higher levels will give improved daylight provision.

24. The BRE guide advises that non-daylit internal kitchens should be avoided wherever possible, especially if the kitchen is used as a dining area too. It suggests that if the layout means that a small internal galley-type kitchen is inevitable, it should be directly linked to a well-daylit living room.

Glossary of terms

25. The daylight and sunlight terminology used in our report is explained below.

Term	Meaning
Average daylight factor (**ADF**) (BRE 2011)	Ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky. Thus a 1% ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance.
Daylight factor(D)	Ratio of total daylight illuminance at a reference point on the working plane within a space to outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky.
Daylight	Combined skylight and sunlight.
Illuminance	A measure of the amount of light falling on a surface, usually measured in lux.
Obstruction angle	The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.
Room depth criterion (**RDC**) (BRE 2011)	The limiting depth of a room for good daylighting, where it is lit from one side only. The limiting depth is a factor of the window head height above floor level, the room width, and the average reflectance of surfaces in the rear half of the room (away from the window). Sunlight below an angle of
Sky factor	Ratio of the parts of illuminance at a point on a given plane that would be received directly through unglazed openings from a sky of uniform luminance, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The sky factor does not include reflected light, either from outdoor or indoor surfaces.
Target illuminance (E_T)	Illuminance from daylight that should be achieved for at least half of annual daylight hours across a specified fraction of the reference plane in a daylit space.
Vertical sky component (**VSC**)	The amount of daylight falling on a vertical wall or window. It is the ratio of that part of illuminance, at a point on a given vertical plane (e.g. window), that is received directly from a CIE standard overcast sky, to simultaneous illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The VSC does not include reflected light, either from the ground or from other buildings. The ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.
Working plane	Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 0.85 m above the floor in housing.

Appendix 2

Location drawings

Site location plan
Spot-height drawing(s)

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Consented
- Proposed
- Cumulative
- Neighboring Property
- Cutback Envelope

SOURCE DATA:

Existing and surrounding buildings:
Zmap model received 27.09.2017 - Harben Parade_301115_Solids.dwg

Proposed scheme:
TP Bennett:
Dwg No: A12003_D0099 Rev P6, D0100 Rev P5, D0101 Rev P5, D0102 Rev P4, D0103 Rev P4, D0104 Rev P4, D0105 Rev P5

3D model received on 08.06.2022 - 2_Planning-App Massing Model.dwg

NOTES:
All heights given in m AOD

REV	Description	Drawn	Date

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Bristol 0117 450 9703

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TITLE:
HAMPSTEAD SERVICE STATION, 104 FINCHLEY ROAD
LONDON
NW3

DRAWING:
Existing V Proposed
Plan and 3D Views
.

DRAWN: RM	JOB NBR: 17482
SCALE: NTS	
DATE: 14.06.2022	
DWG NO: SPT_001	REV: -

Appendix 3

Daylight & Sunlight results for proposed dwellings

BRE 2022

Upper Ground

First

Second

Third

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:
% of daylight hours ≥ target illuminance (lux)

≥50%
≥40%
≥30%
≥20%
≥10%
<10%

SOURCE DATA:
Existing and surrounding buildings:
Zmap model received 27.09.2017 - Harben Parade_301115_Solids.dwg

Proposed scheme:
TP Bennett:
Dwg No: A12003_D0099 Rev P6, D0100 Rev P5, D0101 Rev P7, D0102 Rev P6, D0103 Rev P6, D0104 Rev P4, D0105 Rev P5

3D model received on 08.06.2022 - 2_Planning-App Massing Model.dwg

NOTES:
Illuminance level calculated in accordance with the BRE guide 2022
"A space is considered to provide adequate daylight if a target illuminance level is achieved across a 50% of the space for at least half of the daylight hours in the year."
The total number of daylight hours are considered as 4,380.

Table NA.1 - Values of target illuminance for room types in UK dwellings:

Room type	Target illuminance (lux)
Kitchen	200
Living room	150
Bedroom	100

REV	Description	Drawn	Date

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TITLE:
HAMPSTEAD SERVICE STATION,
104 FINCHLEY ROAD
LONDON
NW3

DRAWING:
LOCATION PLAN
Daylight Illuminance Method
.

DRAWN: RM	JOB NBR: 17482
SCALE: 1:250@A3	
DATE: 10.08.2022	
DWG NO: ST_004	REV: -

Fourth

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:
% of daylight hours ≥ target illuminance (lux)

- ≥50%
- ≥40%
- ≥30%
- ≥20%
- ≥10%
- <10%

SOURCE DATA:

Existing and surrounding buildings:
Zmap model received 27.09.2017 - Harben Parade_301115_Solids.dwg

Proposed scheme:
TP Bennett:
Dwg No: A12003_D0099 Rev P6, D0100 Rev P5, D0101 Rev P7, D0102 Rev P6, D0103 Rev P6, D0104 Rev P4, D0105 Rev P5

3D model received on 08.06.2022 - 2_Planning-App Massing Model.dwg

NOTES:
Illuminance level calculated in accordance with the BRE guide 2022
"A space is considered to provide adequate daylight if a target illuminance level is achieved across a 50% of the space for at least half of the daylight hours in the year."
The total number of daylight hours are considered as 4,380.

Table NA.1 - Values of target illuminance for room types in UK dwellings:

Room type	Target illuminance (lux)
Kitchen	200
Living room	150
Bedroom	100

REV	Description	Drawn	Date

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TITLE:
HAMPSTEAD SERVICE STATION,
104 FINCHLEY ROAD
LONDON
NW3

DRAWING:
LOCATION PLAN
Daylight Illuminance Method
.

DRAWN: RM	JOB NBR: 17482
SCALE: 1:250@A3	
DATE: 10.08.2022	
DWG NO: ST_005	REV: -

Property & room attributes					Daylight/Sunlight (BRE 2022)			
					Daylight (illum)		Sun exposure (21 Mar)	
Floor	Flat no.	Room ref.	Property type	Room use	Target illum (lx)	% area ≥target	Room (Hrs)	Level
104 Finchley Road								
ber Gro	Measured	R1	Residential	LKD	200	4%	0.0	Not met
	Measured	R2	Residential	Bedroom	100	48%	0.0	Not met
	Measured	R3	Residential	Bedroom	100	74%	0.0	Not met
	Measured	R4	Residential	Bedroom	100	100%	0.0	Not met
	Measured	R5	Residential	Bedroom	100	49%	0.0	Not met
	Measured	R6	Residential	LKD	200	48%	7.3	High
	Measured	R7	Residential	Bedroom	100	93%	7.5	High
	Measured	R8	Residential	LKD	200	16%	7.7	High
	Measured	R9	Residential	Bedroom	100	89%	7.8	High
	Measured	R10	Residential	Bedroom	100	90%	7.9	High
	Measured	R11	Residential	LKD	200	20%	8.1	High
	Measured	R12	Residential	Bedroom	100	90%	8.1	High
	Measured	R13	Residential	LKD	200	26%	3.6	Medium
First	Measured	R1	Residential	Bedroom	100	8%	0.7	Not met
	Measured	R2	Residential	Bedroom	100	49%	2.4	Minimum
	Measured	R3	Residential	Bedroom	100	31%	4.8	High
	Measured	R4	Residential	LKD	200	11%	2.2	Minimum
	Measured	R5	Residential	Bedroom	100	90%	0.0	Not met
	Measured	R6	Residential	Bedroom	100	77%	0.0	Not met
	Measured	R7	Residential	Bedroom	100	70%	0.0	Not met
	Measured	R8	Residential	LKD	200	11%	0.0	Not met
	Measured	R9	Residential	LKD	200	10%	0.0	Not met
	Measured	R10	Residential	Bedroom	100	81%	0.0	Not met
	Measured	R11	Residential	Bedroom	100	100%	0.1	Not met
	Measured	R12	Residential	Bedroom	100	55%	0.0	Not met
	Measured	R13	Residential	LKD	200	61%	7.5	High
	Measured	R14	Residential	Bedroom	100	96%	7.8	High
	Measured	R15	Residential	LKD	200	17%	7.8	High
	Measured	R16	Residential	Bedroom	100	95%	7.8	High
	Measured	R17	Residential	Bedroom	100	94%	8.1	High
	Measured	R18	Residential	LKD	200	22%	8.1	High
	Measured	R19	Residential	Bedroom	100	96%	8.1	High
	Measured	R20	Residential	LKD	200	31%	3.6	Medium
Second	Measured	R1	Residential	Bedroom	100	17%	1.0	Not met
	Measured	R2	Residential	Bedroom	100	59%	3.0	Medium
	Measured	R3	Residential	Bedroom	100	39%	4.9	High
	Measured	R4	Residential	LKD	200	17%	2.2	Minimum
	Measured	R5	Residential	Bedroom	100	92%	0.0	Not met
	Measured	R6	Residential	Bedroom	100	89%	0.0	Not met
	Measured	R7	Residential	Bedroom	100	83%	0.0	Not met
	Measured	R8	Residential	LKD	200	14%	0.0	Not met
	Measured	R9	Residential	LKD	200	15%	0.0	Not met

Orange or Red = Below guidelines (Orange = within 20% of guideline or LKD/LK/KD/Studio>1.5% ADF)
Grey APSH = not a main living room

Property & room attributes					Daylight/Sunlight (BRE 2022)			
					Daylight (illum)		Sun exposure (21 Mar)	
Floor	Flat no.	Room ref.	Property type	Room use	Target illum (lx)	% area ≥target	Room (Hrs)	Level
	Measured	R10	Residential	Bedroom	100	86%	0.0	Not met
	Measured	R11	Residential	Bedroom	100	100%	0.2	Not met
	Measured	R12	Residential	Bedroom	100	57%	0.2	Not met
	Measured	R13	Residential	LKD	200	67%	7.8	High
	Measured	R14	Residential	Bedroom	100	99%	7.8	High
	Measured	R15	Residential	LKD	200	19%	7.8	High
	Measured	R16	Residential	Bedroom	100	100%	7.8	High
	Measured	R17	Residential	Bedroom	100	100%	8.1	High
	Measured	R18	Residential	LKD	200	23%	8.1	High
	Measured	R19	Residential	Bedroom	100	100%	8.1	High
	Measured	R20	Residential	LKD	200	35%	3.6	Medium
Third	Plan(s)	R1	Residential	Bedroom	100	44%	1.0	Not met
	Plan(s)	R2	Residential	Bedroom	100	68%	3.0	Medium
	Plan(s)	R3	Residential	Bedroom	100	53%	5.8	High
	Plan(s)	R4	Residential	LKD	200	32%	2.1	Minimum
	Plan(s)	R5	Residential	Bedroom	100	93%	0.0	Not met
	Plan(s)	R6	Residential	Bedroom	100	100%	0.0	Not met
	Plan(s)	R7	Residential	Bedroom	100	91%	0.0	Not met
	Plan(s)	R8	Residential	LKD	200	16%	0.0	Not met
	Plan(s)	R9	Residential	LKD	200	19%	0.0	Not met
	Plan(s)	R10	Residential	Bedroom	100	90%	0.0	Not met
	Plan(s)	R11	Residential	Bedroom	100	100%	0.2	Not met
	Plan(s)	R12	Residential	Bedroom	100	60%	0.2	Not met
	Plan(s)	R13	Residential	LKD	200	72%	7.8	High
	Plan(s)	R14	Residential	Bedroom	100	99%	7.8	High
	Plan(s)	R15	Residential	LKD	200	20%	7.8	High
	Plan(s)	R16	Residential	Bedroom	100	100%	7.8	High
	Plan(s)	R17	Residential	Bedroom	100	100%	8.1	High
	Plan(s)	R18	Residential	LKD	200	24%	8.1	High
	Plan(s)	R19	Residential	Bedroom	100	100%	8.1	High
	Plan(s)	R20	Residential	LKD	200	37%	3.6	Medium
Fourth	Plan(s)	R1	Residential	Bedroom	100	76%	4.9	High
	Plan(s)	R2	Residential	LKD	200	98%	4.7	High
	Plan(s)	R3	Residential	Bedroom	100	99%	0.0	Not met
	Plan(s)	R4	Residential	Bedroom	100	97%	0.0	Not met
	Plan(s)	R5	Residential	LKD	200	74%	0.0	Not met
	Plan(s)	R6	Residential	Bedroom	100	91%	0.0	Not met
	Plan(s)	R7	Residential	Bedroom	100	100%	0.2	Not met
	Plan(s)	R8	Residential	LKD	200	50%	7.8	High
	Plan(s)	R9	Residential	LKD	200	20%	7.8	High
	Plan(s)	R10	Residential	Bedroom	100	100%	7.8	High
	Plan(s)	R11	Residential	Bedroom	100	100%	8.1	High
	Plan(s)	R12	Residential	LKD	200	67%	8.7	High

Orange or Red = Below guidelines (Orange = within 20% of guideline or LKD/LK/KD/Studio>1.5% ADF)
Grey APSH = not a main living room

Appendix 4

Daylight results for proposed dwellings

BRE 2011

Upper Ground

First

Second

Third

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Unit Area

Room Area

SOURCE DATA:

Existing and surrounding buildings:
Zmap model received 27.09.2017 - Harben Parade_301115_Solids.dwg

Proposed scheme:
TP Bennett:
Dwg No: A12003_D0099 Rev P6, D0100 Rev P5, D0101 Rev P7, D0102 Rev P6, D0103 Rev P6, D0104 Rev P4, D0105 Rev P5

3D model received on 08.06.2022 - 2_Planning-App Massing Model.dwg

NOTES:

Cross hatched rooms do not comply with BS 8206-2:2008

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 450 9703

www.delvapatmanredler.co.uk
info@delvapatmanredler.co.uk

TITLE:

HAMPSTEAD SERVICE STATION,
104 FINCHLEY ROAD
LONDON
NW3

DRAWING:

LOCATION PLAN
Plan View
.

DRAWN: RM	JOB NBR: 17482
SCALE: 1:250@A3	
DATE: 10.08.2022	
DWG NO: ST_002	REV: -

Fourth

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Unit Area

Room Area

SOURCE DATA:

Existing and surrounding buildings:
Zmap model received 27.09.2017 - Harben Parade_301115_Solids.dwg

Proposed scheme:
TP Bennett:
Dwg No: A12003_D0099 Rev P6, D0100 Rev P5, D0101 Rev P7, D0102 Rev P6, D0103 Rev P6, D0104 Rev P4, D0105 Rev P5

3D model received on 08.06.2022 - 2_Planning-App Massing Model.dwg

NOTES:

Cross hatched rooms do not comply with BS 8206-2:2008

REV	Description	Drawn	Date

DELVA PATMAN REDLER
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London 020 7936 3668
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TITLE:

HAMPSTEAD SERVICE STATION,
104 FINCHLEY ROAD
LONDON
NW3

DRAWING:

LOCATION PLAN
Plan View
.

DRAWN: RM	JOB NBR: 17482
SCALE: 1:250@A3	
DATE: 10.08.2022	
DWG NO: ST_003	REV: -

Property & room attributes					Daylight (BRE)				
					ADF		NSL	Room depth criterion	
Floor	Flat no.	Room ref.	Property type	Room use	Target (%)	ADF (%)	(% room)	Limit (current) (m)	Criterion met?
104 Finchley Road									
ɔer Gro	Plan(s)	R1	Residential	LKD	2.0	0.84	59%	9.20	Yes
	Plan(s)	R2	Residential	Bedroom	1.0	1.55	91%	8.74	Yes
	Plan(s)	R3	Residential	Bedroom	1.0	1.60	96%	7.62	Yes
	Plan(s)	R4	Residential	Bedroom	1.0	2.37	97%	7.19	Yes
	Plan(s)	R5	Residential	Bedroom	1.0	1.29	91%	9.69	Yes
	Plan(s)	R6	Residential	LKD	2.0	2.80	99%	Exempt: Dual Aspec	Yes
	Plan(s)	R7	Residential	Bedroom	1.0	1.71	96%	8.07	Yes
	Plan(s)	R8	Residential	LKD	2.0	1.38	91%	Exempt: Dual Aspec	Yes
	Plan(s)	R9	Residential	Bedroom	1.0	1.67	97%	8.06	Yes
	Plan(s)	R10	Residential	Bedroom	1.0	1.71	97%	7.97	Yes
	Plan(s)	R11	Residential	LKD	2.0	1.54	93%	Exempt: Dual Aspec	Yes
	Plan(s)	R12	Residential	Bedroom	1.0	2.58	96%	Exempt: Dual Aspec	Yes
	Plan(s)	R13	Residential	LKD	2.0	1.61	95%	9.77	Yes
First	Plan(s)	R1	Residential	Bedroom	1.0	0.44	28%	8.91	Yes
	Plan(s)	R2	Residential	Bedroom	1.0	0.84	88%	7.52	Yes
	Plan(s)	R3	Residential	Bedroom	1.0	1.04	83%	Exempt: Dual Aspec	Yes
	Plan(s)	R4	Residential	LKD	2.0	1.46	72%	Exempt: Dual Aspec	Yes
	Plan(s)	R5	Residential	Bedroom	1.0	2.02	94%	Exempt: Dual Aspec	Yes
	Plan(s)	R6	Residential	Bedroom	1.0	2.01	98%	6.63	Yes
	Plan(s)	R7	Residential	Bedroom	1.0	1.69	97%	7.72	Yes
	Plan(s)	R8	Residential	LKD	2.0	1.19	92%	9.23	Yes
	Plan(s)	R9	Residential	LKD	2.0	1.38	97%	8.65	Yes
	Plan(s)	R10	Residential	Bedroom	1.0	1.71	96%	7.62	Yes
	Plan(s)	R11	Residential	Bedroom	1.0	2.56	98%	7.19	Yes
	Plan(s)	R12	Residential	Bedroom	1.0	1.39	91%	9.69	Yes
	Plan(s)	R13	Residential	LKD	2.0	3.24	100%	Exempt: Dual Aspec	Yes
	Plan(s)	R14	Residential	Bedroom	1.0	1.83	96%	8.07	Yes
	Plan(s)	R15	Residential	LKD	2.0	1.52	94%	Exempt: Dual Aspec	Yes
	Plan(s)	R16	Residential	Bedroom	1.0	1.78	97%	8.06	Yes
	Plan(s)	R17	Residential	Bedroom	1.0	1.82	97%	7.97	Yes
	Plan(s)	R18	Residential	LKD	2.0	1.65	93%	Exempt: Dual Aspec	Yes
	Plan(s)	R19	Residential	Bedroom	1.0	2.72	96%	Exempt: Dual Aspec	Yes
	Plan(s)	R20	Residential	LKD	2.0	1.75	98%	9.77	Yes
Seconc	Plan(s)	R1	Residential	Bedroom	1.0	0.58	48%	8.91	Yes
	Plan(s)	R2	Residential	Bedroom	1.0	0.95	92%	7.52	Yes
	Plan(s)	R3	Residential	Bedroom	1.0	1.18	91%	Exempt: Dual Aspec	Yes
	Plan(s)	R4	Residential	LKD	2.0	1.71	73%	Exempt: Dual Aspec	Yes
	Plan(s)	R5	Residential	Bedroom	1.0	2.17	96%	Exempt: Dual Aspec	Yes
	Plan(s)	R6	Residential	Bedroom	1.0	2.13	98%	6.63	Yes
	Plan(s)	R7	Residential	Bedroom	1.0	1.78	97%	7.72	Yes
	Plan(s)	R8	Residential	LKD	2.0	1.35	93%	9.23	Yes
	Plan(s)	R9	Residential	LKD	2.0	1.58	99%	8.65	Yes

Orange or Red = Below guidelines (Orange = within 20% of guideline or LKD/LK/KD/Studio>1.5% ADF)
Grey APSH = not a main living room

Property & room attributes					Daylight (BRE)				
					ADF		NSL	Room depth criterion	
Floor	Flat no.	Room ref.	Property type	Room use	Target (%)	ADF (%)	(% room)	Limit (current) (m)	Criterion met?
	Plan(s)	R10	Residential	Bedroom	1.0	1.80	96%	7.62	Yes
	Plan(s)	R11	Residential	Bedroom	1.0	2.66	98%	7.19	Yes
	Plan(s)	R12	Residential	Bedroom	1.0	1.45	91%	9.69	Yes
	Plan(s)	R13	Residential	LKD	2.0	3.50	100%	Exempt: Dual Aspec	Yes
	Plan(s)	R14	Residential	Bedroom	1.0	1.93	96%	8.07	Yes
	Plan(s)	R15	Residential	LKD	2.0	1.63	94%	Exempt: Dual Aspec	Yes
	Plan(s)	R16	Residential	Bedroom	1.0	1.87	97%	8.06	Yes
	Plan(s)	R17	Residential	Bedroom	1.0	1.91	97%	7.97	Yes
	Plan(s)	R18	Residential	LKD	2.0	1.74	93%	Exempt: Dual Aspec	Yes
	Plan(s)	R19	Residential	Bedroom	1.0	2.85	96%	Exempt: Dual Aspec	Yes
	Plan(s)	R20	Residential	LKD	2.0	1.86	98%	9.77	Yes
Third	Plan(s)	R1	Residential	Bedroom	1.0	0.85	74%	8.91	Yes
	Plan(s)	R2	Residential	Bedroom	1.0	1.18	96%	7.52	Yes
	Plan(s)	R3	Residential	Bedroom	1.0	1.50	97%	Exempt: Dual Aspec	Yes
	Plan(s)	R4	Residential	LKD	2.0	2.07	73%	Exempt: Dual Aspec	Yes
	Plan(s)	R5	Residential	Bedroom	1.0	2.41	98%	Exempt: Dual Aspec	Yes
	Plan(s)	R6	Residential	Bedroom	1.0	2.26	97%	6.63	Yes
	Plan(s)	R7	Residential	Bedroom	1.0	1.89	95%	7.72	Yes
	Plan(s)	R8	Residential	LKD	2.0	1.50	94%	9.23	Yes
	Plan(s)	R9	Residential	LKD	2.0	1.75	99%	8.65	Yes
	Plan(s)	R10	Residential	Bedroom	1.0	1.90	96%	7.62	Yes
	Plan(s)	R11	Residential	Bedroom	1.0	2.79	97%	7.19	Yes
	Plan(s)	R12	Residential	Bedroom	1.0	1.52	91%	9.69	Yes
	Plan(s)	R13	Residential	LKD	2.0	3.71	100%	Exempt: Dual Aspec	Yes
	Plan(s)	R14	Residential	Bedroom	1.0	2.04	96%	8.07	Yes
	Plan(s)	R15	Residential	LKD	2.0	1.73	94%	Exempt: Dual Aspec	Yes
	Plan(s)	R16	Residential	Bedroom	1.0	1.97	97%	8.06	Yes
	Plan(s)	R17	Residential	Bedroom	1.0	2.01	97%	7.97	Yes
	Plan(s)	R18	Residential	LKD	2.0	1.83	93%	Exempt: Dual Aspec	Yes
	Plan(s)	R19	Residential	Bedroom	1.0	2.98	96%	Exempt: Dual Aspec	Yes
	Plan(s)	R20	Residential	LKD	2.0	1.97	98%	9.77	Yes
Fourth	Plan(s)	R1	Residential	Bedroom	1.0	2.38	89%	8.82	Yes
	Plan(s)	R2	Residential	LKD	2.0	5.84	100%	Exempt: Dual Aspec	Yes
	Plan(s)	R3	Residential	Bedroom	1.0	2.71	96%	8.15	Yes
	Plan(s)	R4	Residential	Bedroom	1.0	2.48	95%	8.32	Yes
	Plan(s)	R5	Residential	LKD	2.0	3.54	98%	10.57	Yes
	Plan(s)	R6	Residential	Bedroom	1.0	2.27	91%	7.89	Yes
	Plan(s)	R7	Residential	Bedroom	1.0	2.08	95%	8.22	Yes
	Plan(s)	R8	Residential	LKD	2.0	2.48	99%	Exempt: Dual Aspec	Yes
	Plan(s)	R9	Residential	LKD	2.0	1.75	94%	Exempt: Dual Aspec	Yes
	Plan(s)	R10	Residential	Bedroom	1.0	2.02	97%	8.01	Yes
	Plan(s)	R11	Residential	Bedroom	1.0	2.02	97%	8.01	Yes
	Plan(s)	R12	Residential	LKD	2.0	3.26	97%	Exempt: Dual Aspec	Yes

Orange or Red = Below guidelines (Orange = within 20% of guideline or LKD/LK/KD/Studio>1.5% ADF)
Grey APSH = not a main living room