



Daylight, Sunlight & Overshadowing Assessment:

523 Finchley Road, West Hampstead

Chaing Equities Limited

11th May 2023



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This report has been prepared by Hawkins Environmental Limited for the sole purpose of assisting in gaining planning consent for the proposed development described in the introduction of this report.

This report has been prepared by Hawkins Environmental Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This assessment takes into account the prevailing conditions at the time of the report and assesses the impact of the development (if applicable) using data provided to Hawkins Environmental Limited by third parties. The report is designed to assist the developer in refining the designs for the proposed development and to demonstrate to agents of the Local Planning Authority that the proposed development is suited to its location. This should be viewed as a risk assessment and does not infer any guarantee that the site will remain suitable in future, nor that there will not be any complaints either from users of the development or from impacts emanating from the development site itself.

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1. INTRODUCTION

1.1. Overview

Hawkins Environmental Limited has been instructed by Chaing Equities Limited to undertake a daylight, sunlight & overshadowing assessment for a roof extension to 523 Finchley Road, located in the West Hampstead area of the London Borough of Camden

It has been identified that the site may require a daylight/sunlight assessment to determine whether the proposed development may affect the levels of daylight and sunlight falling on the windows of adjacent buildings, as well as gardens and outdoor amenity space.

In addition, it has been identified that the proposed rooms may not be well internally lit. Therefore, this report also calculates the internal level of daylight within these rooms to determine whether these rooms meet the best practice guidance on levels of internal daylight.

As a consequence, a daylight/sunlight assessment has been carried out in accordance with The Building Research Establishment (BRE) report, *“Site layout planning for daylight and sunlight – A guide to good practice”* by PJ Littlefair, S King, G Howlett, C Ticleanu and A Longfield (Third Edition – 2022). This report summarises an assessment of the impacts of the proposed development on the surrounding properties potential to receive daylight and sunlight. A glossary of terms in relation to daylight and sunlight can be found in **Appendix 1**.

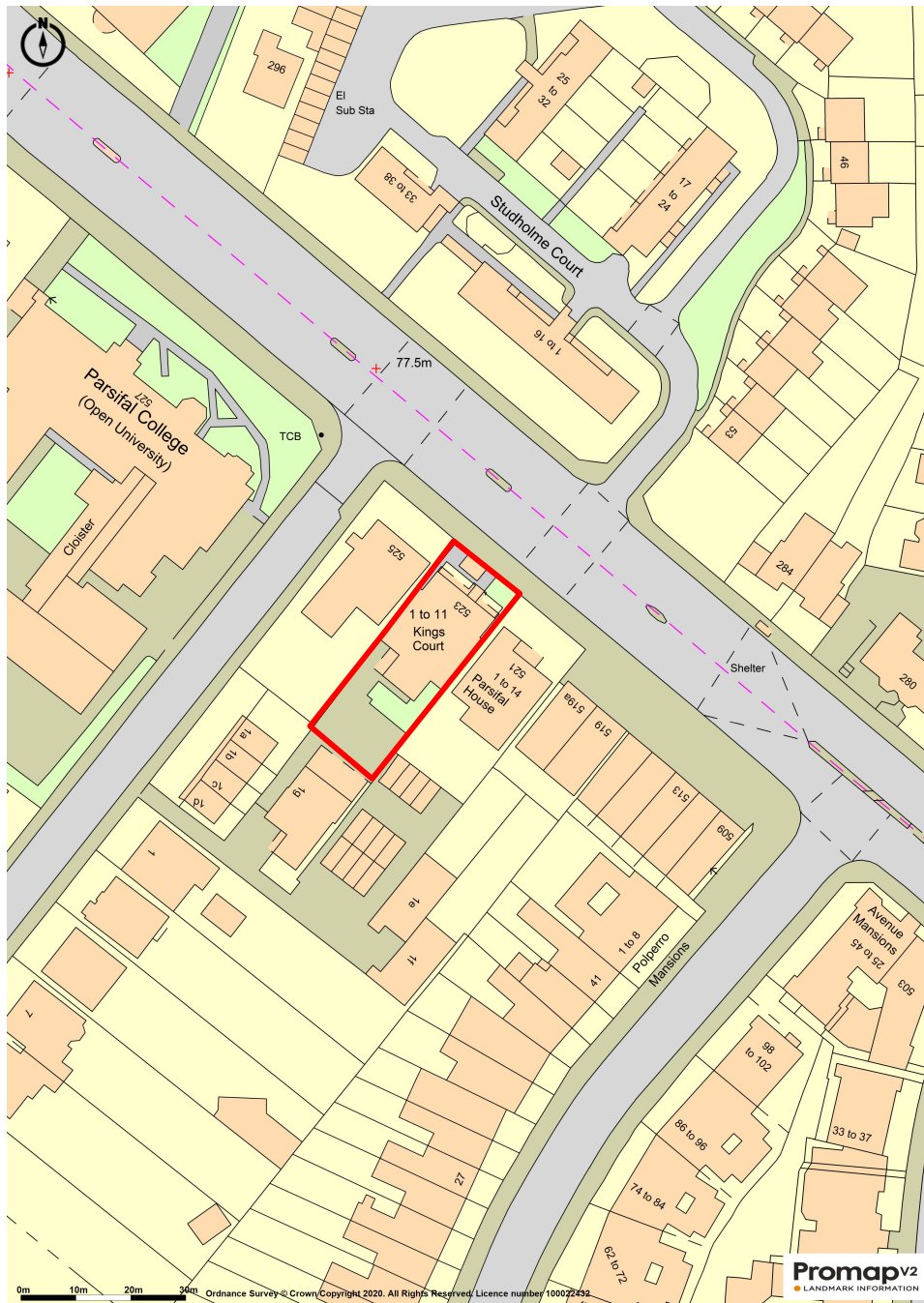
This report should be read in conjunction with the *“H3783 - Kings Court, 523 Finchley Road Daylight Assessment Drawings v1”* which contained the drawings referred to in this report.

1.2. Site Description

The proposed development site is situated on the Finchley Road, in a predominantly residential area. Currently 523 Finchley Road is a four storey residential building. The proposed development will see the construction of two additional storeys forming five dwellings.

A location plan of the proposed site can be seen in **Figure 1.1**.

Figure 1.1: Site Location Plan



2. PLANNING POLICY

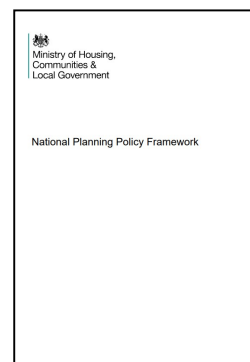
2.1. National Planning Policy Framework (2021)

The National Planning Policy Framework (NPPF) was first published on the 27th March 2012 and revised July 2018, February 2019 and again in July 2021. The NPPF outlines the Government's environmental, economic and social policies for England. The NPPF sets out a presumption in favour of sustainable development which should be delivered with three main dimensions: economic; social and environmental (Paragraphs 7, 8, 10 and 11). The NPPF aims to enable local people and their councils to produce their own distinctive local and neighbourhood plans, which should be interpreted and applied in order to meet the needs and priorities of their communities.

The NPPF states that in the planning system *"Planning policies and decisions should contribute to and enhance the natural and local environment by... e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans"* (Paragraph 174).

Since the publication of the revised 2018 version of the NPPF (which has been retained in the 2019 and 2021 version), the NPPF talks specifically about daylight for the first time. Paragraph 125 states that:

"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...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)".

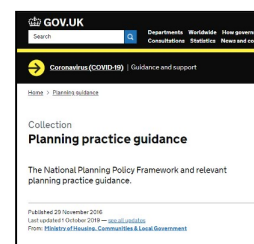


2.2. Planning Practice Guidance

The Planning Practice Guidance (PPG) was launched on 6th March 2014 and provides additional guidance and interpretation to the Government's strategic policies, outlined within the NPPF, in a web-based resource. This is updated regularly.

The PPG discusses the importance of good design and references daylight and sunlight on a number of occasions, specifically the need to ensure that daylight and sunlight patterns are considered when considering the form and scale of a new building, especially in relation to tall buildings.

In the guidance note "Effective use of land", last updated in 2019, guidance is provided on making effective use of land, including planning for higher density development.



The guidance notes that daylight is a consideration: “Where a planning application is submitted, local planning authorities will need to consider whether the proposed development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers, as well as assessing whether daylight and sunlight within the development itself will provide satisfactory living conditions for future occupants (Paragraph: 006 Reference ID: 66-006-20190722)”.

It goes on to note that “all developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings.

In such situations good design (such as giving careful consideration to a building’s massing and layout of habitable rooms) will be necessary to help make the best use of the site and maintain acceptable living standards (Paragraph: 007 Reference ID: 66-007-20190722)”.

Therefore, whilst it is important to ensure that levels of internal daylight within dwellings are maximised, the numerical guidelines are flexible and may vary depending on the context of the site.

2.3. The London Plan (2021)

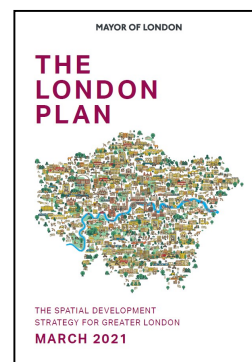
The New London Plan was formally published on the 2nd of March 2021 and replaces the previous London Plan.

The New London Plan, provides substantial revisions in relation to daylighting. Policy D6 - Housing quality and standards states:

“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”.

Policy D9 - Tall buildings states in relation to the environmental impact of tall structures that:

“Wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building”.



2.4. Housing Supplementary Planning Guidance (2016)

Published in March 2016, the Housing Supplementary Planning Guidance highlights the elements of the London Plan that are relevant to housing development, and where applicable, provides more detail.

One important aspect of the Housing SPG is that it acknowledges that the BRE Guidelines should be applied flexibly. The SPG 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”.

The accompanying notes to Standard 32 reinforce this view and state that:

“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”.

Standard 32 talks directly about the need for direct sunlight. The standard states:

“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”.

The accompanying notes go on to state that:

“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) BRE good practice guidelines and methodology can be used to assess the levels of daylight and sunlight achieved within new developments...”

The guidance goes on to state that where Standard 32 cannot be achieved when it is not possible to provide direct sunlight to at least one habitable room:

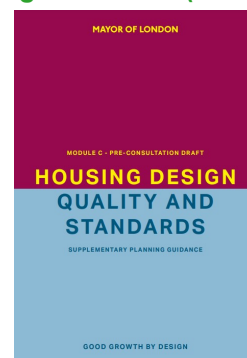


“... developers should demonstrate how the daylight standards proposed within a scheme and individual units will achieve good amenity for residents. They should also demonstrate how the design has sought to optimise the amount of daylight and amenity available to residents, for example, through the design, colour and landscaping of surrounding buildings and spaces within a development”.

2.5. Housing Design Quality and Standards Supplementary Planning Guidance (2020)

Published by the Mayor of London, this as yet unadopted draft (due to be adopted later in 2021) includes new design standards in relation to daylight, sunlight and overshadowing. Much of the guidance replicates and enhances the guidance within the 2016 Housing Supplementary Planning Guidance.

The Guidance notes *“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”.*



Specifically in relation to the impact of a development on surrounding properties, the guidance notes that *“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...”.

“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 (which the guidance notes could include small windows, recessed windows, poor placement of balconies or deep rooms) should not hamper the development potential of a site”.

In relation to levels of daylight within a proposed development, the new guidance recognises for the first time that whilst the target ADF value for a kitchen is 2%, where the *“principal use of rooms designed as a ‘living room/kitchen/dining room’ is as a living room... it would be reasonable to apply a target of 1.5 per cent”.* Furthermore, the guidance acknowledges the competing requirements for daylight and usable outdoor amenity

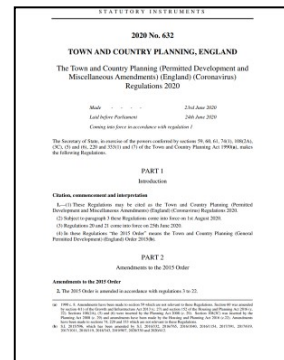
space and notes that the need for balconies “can have significant bearing on the daylight and sunlight levels reaching nearby windows and rooms. Inevitably, any window or room under a balcony will receive much lower daylight and sunlight levels, although the adjacent balcony space will typically have 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”.

2.6. The Town and Country Planning (Permitted Development and Miscellaneous Amendments) (England) (Coronavirus) Regulations (2020)

Under Part 20 of the Town and Country Planning (Permitted Development and Miscellaneous Amendments) (England) (Coronavirus) Regulations (2020), and “Development consisting of works for the construction of up to two additional storeys of new dwellinghouses immediately above the existing topmost residential storey on a building which is a purpose-built, detached block of flats” would be considered Permitted Development.

However, the Regulations state that “the developer must apply to the local planning authority for prior approval of the authority as to...the provision of adequate natural light in all habitable rooms of the new dwellinghouses (and the impact on the amenity of the existing building and neighbouring premises including overlooking, privacy and the loss of light.

The Regulations note that habitable rooms can be defined as “any rooms used or intended to be used for sleeping or living which are not solely used for cooking purposes, but does not include bath or toilet facilities, service rooms, corridors, laundry rooms, hallways or utility rooms”.



3. ASSESSMENT METHODOLOGY

3.1. Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice (2022)

3.1.1. Overview

The Building Research Establishment (BRE) report, “*Site layout planning for daylight and sunlight – A guide to good practice*” Third Edition 2022 by PJ Littlefair, S King, G Howlett, C Ticleanu and A Longfield (referred to as the BRE Guidance) is almost universally used as the official method in the UK and Ireland for determining whether a development meets good practice standards of daylight and sunlight and for determining the impact of a development on daylight and sunlight availability.

The BRE Guidance contains guidance on how to design developments, whilst minimising the impacts on existing buildings from overshadowing and reduced levels of daylight and sunlight, as well as solar dazzle from sloping buildings. In addition, the BRE Report provides advice on how to design buildings to ensure that they retain good practice levels of daylight and sunlight. As well as advice, the report contains a methodology to assess levels of daylight, sunlight and overshadowing and contains criteria to determine the potential impacts of a new development on surrounding buildings and to determine whether new developments are well lit internally. However, the report does state that the good practice guidelines are not mandatory, but should be considered as a guide to help rather than constrain the designer.



The BRE Report looks at three separate areas when considering the impacts on natural lighting:

1. **Daylight** – i.e. the impacts of diffuse daylight.
2. **Sunlight** – i.e. the impacts of only the direct sunlight; and
3. **Overshadowing** of Gardens and Open Spaces.

It is important to note that the methods contained within the BRE Guidance are not tests to determine whether a development meets the guidance, rather “*A Guide to Good Practice*”. Therefore, whilst one should try to achieve the numerical guidance within the report, a transgression from the BRE Guidance does not indicate that the development is unsuitable, nor is it an indication that planning permission should be refused.

The assessment of daylight, sunlight and overshadowing considered several different areas, specifically:

1. The impact of the Proposed Development on levels of daylight reaching surrounding windows;
2. The impact of the Proposed Development on levels of sunlight reaching surrounding windows; and
3. The impact of the Proposed Development on sunlight and shadowing to surrounding gardens and outdoor amenity space.

The BRE Guidance provides a methodology for calculating the amount of daylight and sunlight falling on a window. The Vertical Sky Component (VSC) is used to describe the amount of daylight falling on a window, with the Annual Probable Sunlight Hours (APSH) used to describe the amount of sunlight falling on the window.

3.1.2. BRE Methodology for Determining Sensitive Receptors

The BRE Guidance suggests that the assessment of daylight is required for windows serving rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be assessed. The guidelines also apply to any room that may have a reasonable expectation of daylight, including schools and hospitals. Commercial properties and hotels are deemed to have a greater reliance on supplementary electric lighting and are therefore not included in this assessment. For the purposes of this assessment, only habitable rooms within residential properties surrounding the site have been assessed.

The BRE Guidance suggests that the assessment of sunlight is generally applied to all main living rooms and conservatories. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

Regarding overshadowing, the BRE Report suggests that the following open spaces should be checked:

- Gardens, usually the main back garden of a house;
- Parks and playing fields;
- Children's playgrounds;
- Outdoor swimming pools and paddling pools;
- Sitting out areas such as those between non-domestic buildings and in public squares; and
- Focal points for views such as a group of monuments or fountains.

3.1.3. BRE Daylight Criteria

To determine the impact on daylight to windows, diffuse daylight of an existing building may be affected by a proposed development if either:

- The Vertical Sky Component (VSC) measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value; or
- The area of the working plane which can receive direct skylight is reduced to less than 0.8 times its former value.

It should be noted that determining the area of the working plane which can receive direct light from the sky (which is often referred to as the No-Sky Line or NSL) is seen as an additional assessment, rather than as an alternative to VSC. However, since plotting the NSL requires knowledge of the room geometry, which is not usually available during an impact assessment, it is not always possible to calculate the NSL since the use of too many assumptions would make the results meaningless and unreliable.

3.1.4. BRE Sunlight Criteria

To determine the impact on sunlight on windows, direct sunlight to existing windows may be affected by a Proposed Development if at the centre of a window:

- Receives less than 25% of Annual Probable Sunlight Hours (APSH) throughout the whole year, or less than 5% APSH between 21st September and 21st March;

- Receives less than 0.8 times its former APSH during either period; and
- Has a reduction in sunlight over the whole year of greater than 4% APSH.

It should be noted that loss of sunlight to windows only needs to be assessed if the window faces within 90° of due south.

The BRE Guidance is explicit that sunlight in living rooms is much more important than to bedrooms or kitchens. The guidance is clear that all window of habitable rooms facing within 90° of due south (regardless of use) should be assessed, as it is still important to ensure impacts to bedrooms and kitchens are minimised, but any impacts to these room uses would be less significant.

3.1.5. BRE Overshadowing Criteria

For a garden or outdoor amenity space to be considered well sunlit, at least 50% of the garden or amenity space must receive at least two hours of direct sunlight on the 21st March. If this cannot be achieved, providing that the area overshadowed with the Proposed Development in place would be greater than 0.8 times the existing level of shadowing, it is considered that no effect on overshadowing would occur.

3.1.6. BRE Significance Criteria

The BRE Guidance indicates that if the reduction in daylight or sunlight as a consequence of the impact of a development fails to meet the guidelines, the impact could be considered significant.

However, the BRE Guidance makes note that the guidance represents “Best Practice Guidance” and transgressions from the numerical guidelines within the Guidance does not necessarily mean that the development’s impact would be significant or unacceptable. The BRE Report states: “*The advice given (in the report) is not mandatory and guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in layout design.*”

It should be noted that the numerical targets set out in the main text of the BRE Guidelines have been derived from a low-density suburban housing model of well-spaced two-storey houses, hence the VSC target of 27%, which is equivalent to an obstruction of 25°. This is why reference is made to the circumstances for setting alternative numerical targets in Appendix F of the Guidelines where the nature of an area is dense or higher rise.

Whilst the thresholds contained within the Guidance are an important indicator when determining the impact magnitude and the significance of an impact, the BRE Guidance suggests that professional judgement should be used and the assessment of the impact should rely on a range of factors.

Whilst the threshold of noticeability has a numerical threshold, the method to describe the magnitude of the impact is less rigid and relies on judgement and the consideration of various factors. Appendix H of the BRE Guidance provides guidance on how this can be described. **Table 3.1** shows the impact descriptors on individual receptors.

Table 3.1: Impact Descriptor

Criteria	Impact Descriptor
<p>Where the decrease in daylight or sunlight fails to meet the guidelines, and one or more of the following scenarios apply:</p> <ul style="list-style-type: none"> • a large number of windows or a large area of open space is affected; • the loss of light is substantially outside the guidelines; • all windows in a particular property are affected; • the affected building or outdoor space has a particularly strong requirement for light, e.g. a living room in a dwelling or a children's playground. 	Major Adverse
<p>Where the decrease in daylight or sunlight fails to meet the guidelines, and one or more of the scenarios to describe a Minor Adverse Impact applies, and one or more of the scenarios to describe a Major Adverse Impact applies.</p>	Moderate Adverse
<p>Where the decrease in daylight or sunlight fails to meet the guidelines, and one or more of the following scenarios apply:</p> <ul style="list-style-type: none"> • only a small number of windows or limited area of open space is affected; • the loss of light is only just outside the guidelines; • an affected room has other sources of light; • the affected building or outdoor space has a low-level requirement for light. 	Minor Adverse
<p>Where the increase/decrease in daylight or sunlight fully meets the guidelines and if there is an increase in daylight or sunlight, the increase is "tiny".</p>	Negligible
<p>Where the increase in daylight or sunlight is small and/or the number of affected windows or area of open space affected is small.</p>	Minor Beneficial
<p>Where the increase in daylight or sunlight is moderate and/or the number of affected windows or area of open space affected is moderate.</p>	Moderate Beneficial
<p>Where the increase in daylight or sunlight is large and/or the number of affected windows or area of open space affected is large.</p>	Major Beneficial

Source: Adapted from Appendix H of the BRE Guidance

3.1.7. BRE Guidance on Internal Daylight

The BRE report contains guidance on how to design developments, whilst retaining good levels of daylight. As well as advice, the report contains a methodology to assess levels of daylight and contains criteria to determine whether a development is well daylight. However, the report does state that the guidelines are not mandatory, but should be considered a guide to help rather than constrain the designer.

The 2022 Third Edition of the BRE Guidance replaces the 2011 Second Edition which used the Average Daylight Factor (ADF) as the accepted methodology for measuring daylight availability in a room. It describes the ratio of outside illuminance over inside illuminance, expressed as a percentage. The higher the ADF the more natural light is available in the room. Rooms with an ADF of 2% give us a feeling of being daylight.

The new BRE Guidance incorporates the new methodology and design targets contained within BS EN 17037 and specifically the UK National Annex. It provides two methods for assessing internal daylight. The first method is the "*Illuminance Method*", which considers the amount of illuminance (in Lux) across the room, taking into account Climate Based Daylight Modelling (CBDM). The second, less complicated and computation intensive method, is the "*Daylight Factor Method*", which requires a target daylight factor to be exceeded over half of the room (for more detail of the methodology, see **Section 3.2**).

The new assessment methodology replaces the previous Average Daylight Factor (ADF) and No-Sky Line (NSL) tests from the 2011 Second Edition of the BRE Guidance. The ADF test was used to assess the average level of light across a whole room, whereas the NSL test was used to determine how evenly the daylight was distributed. The new "*Illuminance Method*" and "*Daylight Factor Method*", instead of looking at the average daylight factor, considers the median level of daylight across a room, effectively replacing both ADF and NSL with a single test. As a consequence, it is not possible to directly convert ADF to either the "*Illuminance Method*" or "*Daylight Factor Method*". In most instances, the new methodology is a more stringent test and a higher ADF would be required to achieve the recommendations within the Third Edition of the BRE Guidance.

Table 3.2 provides an overview of the daylight criteria as recommended by Appendix C of the BRE Guidance, which itself is taken from the UK National Annex of BS EN 17037. A UK National Annex gives specific minimum recommendations for habitable rooms in dwellings in the United Kingdom. The BRE Guidance notes: "*these are intended for 'hard to light' dwellings, for example in basements or with significant external obstructions or with tall trees outside, or for existing buildings being refurbished or converted into dwellings. The National Annex therefore provides the UK guidance on minimum daylight provision in all UK dwellings*".

Table 3.2: BRE Report (2022) Internal Daylight Criteria

Room Type	Method 1: Daylight Factor Method	Method 2: Illuminance Method
	Target Daylight Factors D_T % ^{Note 1} ^{Note 2}	Target Illuminance E_T Lux ^{Note 1}
Bedroom	0.7	100
Living Room	1.1	150
Kitchen	1.4	200

Note 1: For both Methods, criteria must be achieved over 50% of the working plane (0.85m above the ground)

Note 2: The Target Daylight Factor varies with latitude – the values present above are for Gatwick Airport, representative of southern England.

3.2. BS EN 17037:2018: Daylight in buildings

The new European Standard for Daylighting, *BS EN 17037:2018: Daylight in buildings*, which was published in 2018 and adopted in 2019, proposes new Europe-wide standard on daylighting. The new standard recommends specifies minimum levels of daylight as follows :

- An illuminance level of at least 300 lux over at least 50 % of the space for at least half of the daylight hours in the year; and
- An illuminance level of at least 100 lux over 95 % of the space for at least half of the daylight hours in the year.

However, it has been identified that this increased requirement will be particularly problematic when designing for daylight in denser urban areas such as London and other densely populated towns and cities, where daylight availability for existing buildings is lower than the new standard proposed. Consequently, a UK specific National Annex has been added to BS EN 17037:2018, which proposes lower target values for different room types (the European wide guidance does not differentiate between room types). It should be noted that the UK specific National Annex identifies different illuminance in rooms depending on geographical latitude; therefore different criteria may apply in different parts of the country.

BS EN 17037 provides two separate methodologies for determining internal daylight and provides minimum standards for each:

- **Method 1 – Daylight Factor Method** – this method is based on the computation of the Daylight Factor (D_T) at each calculation point on an assessment grid and is based on ensuring that a specific daylight factor is achieved over a specified fraction of the reference plane. The daylight factor is the illuminance at a point on the reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. The CIE standard overcast sky is used, and the ratio is usually expressed as a percentage. Since the calculation uses an overcast sky model, the daylight factor is independent of orientation and location.
- **Method 2: The Illuminance Method** – this method is based on a target illuminance (E_T) from daylight to be achieved over specified fractions of the reference plane for at least half of the daylight hours in a typical year. Method 2 uses Climate Based Daylight Modelling (CBDM) which uses climatic data for the location of the site using a weather file within the daylight modelling software to calculate the illuminance from daylight at each point on an assessment grid on the reference plane for a typical year.

BS EN 17037 notes that either method can be employed to demonstrate adequate daylight. These can be used interchangeably – the standard does not require adherence to both criteria, only one of the methods.

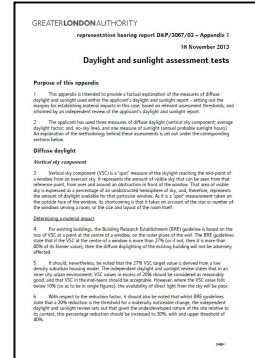


3.3. Representation Hearing Report D&P/3067/03 – Daylight & Sunlight Assessment Test (2013)

The BRE Guidance notes that the VSC at the centre of a window should be at least 27%; however, this target was derived from a low density housing model. It has been often stated that this should not therefore be applied equally in all situations. In connection with the development of Holy Trinity Primary School, Dalston in 2013 (planning application 2013/0457 to the London Borough of Hackney), the Greater London Authority conducted an independent review of daylight and sunlight methodologies (Greater London Authority - Representation Hearing Report D&P/3067/03 - Daylight and Sunlight Assessment Tests).

The Hearing Report stated that *"the independent daylight and sunlight review states that in an inner city urban environment, VSC values in excess of 20% should be considered as reasonably good, and that VSC in the mid-teens should be acceptable. However, where the VSC value falls below 10% (so as to be in single figures), the availability of direct light from the sky will be poor"*.

The Hearing Report also notes that flexibility can be applied to determining the impact. In underdeveloped sites, 0.7 times or more the existing VSC may be a more appropriate criterion.



4. ASSESSMENT OF IMPACTS

This section summarises the impact of the proposed development on levels of daylight and sunlight on surrounding windows, as well as the overshadowing of gardens and outdoor amenity space.

4.1. Identification of Receptors

Based on the plans of the development, a number of windows that could be affected have been identified. The properties of interest can be seen in the site plan in **Figure 1.1**.

The main properties of interest are:

- 525 Finchley Road (windows 1 to 20); and
- Parsifal House, 521 Finchley Road (windows 21 to 35).

4.2. Computer Model

For the purposes of the assessment, a three-dimensional computer model was constructed both with and without the proposed development in place. At this site, Hawkins Environmental were provided with planning drawings of both the proposed and existing site layout, including elevations, plans and sections, in order to model the existing and proposed site layouts.

In addition, information collected from the Local Planning Authority's planning archive have also been used, in the construction of the three-dimensional model. Ordnance Survey information (including Lidar data in relation to building heights) has also been used to construct the three-dimensional computer model.

Wherever possible, survey information has been utilised to add information to the model; however, where details were not present in the survey information, professional judgement has been used to estimate information where necessary.

Drawing No. **H3783_1 to H3783_10** (found in the supporting document "*H3783 - Kings Court, 523 Finchley Road Daylight Assessment Drawings v1*") which summarises the daylight/sunlight model, including views of the model from multiple directions, both with and without the proposed development, as well as diagrams showing the locations of the windows under consideration in Drawing No. **H3783_11 to H3783_12**.

4.3. Daylight Assessment

Based on the plans of the site and the positions of the closest buildings, it is possible to calculate the vertical sky component for the residential buildings, for both with and without the proposed development using a Waldram Diagram.

The methodology for calculating the VSC using the Waldram Diagrams is detailed within Appendix B of the Building Research Establishment (BRE) report, "*Site layout planning for daylight and sunlight – A guide to good practice*" Third Edition 2022 by PJ Littlefair, S King, G Howlett, C Ticleanu and A Longfield.

The Waldram Diagram dates back to 1923 and consists of a grid of squares, each representing an equal portion of available daylight. Upon the grid, it is possible to draw projections of obstructions as seen from a reference point, plotted with reference to the azimuth angles and altitude angles measured from a reference

point. The area of the diagram un-observed equates to the VSC. If the Waldram Diagram is totally un-observed by obstructions, this represents the maximum possible VSC of 39.6%. The diagram has been designed in such a way that vertical edges remain vertical in projection, but horizontal edges follow the so-called “droop” lines in order to take the cosine law of illumination and the non-uniform luminance of the sky into account. The Waldram Diagram method is a more complex method than the skylight indicator method also described in the BRE report. However, it tends to be more accurate and less open to interpretation and error.

Sample Waldram Diagrams can be seen in Drawing No. **H3783_13**. **Appendix 2** summarises the results of the daylight assessment.

The results show that with the exception of five windows, at all other windows, whilst there is a small reduction in daylight to some of the windows, the proposed level of daylight will either exceed 27% VSC, or where it does not exceed 27% VSC, the proposed level of daylight would be greater than 0.8 times the existing. Therefore, the reduction in daylight is unlikely to be noticeable and therefore the impact of the proposed development on levels of daylight is considered to be “negligible”.

With regards to window 4, based on historic planning records for 525 Finchley Road, it is understood that this window serves a bedroom in the top floor flat. Whilst this is the only window serving this room, this dwelling benefits from other windows that are unaffected and very well lit due to their top floor location. With this in mind, under the guidance contained within Appendix I of the BRE Report and replicated in **Table 3.1** of this report, it could be considered that the proposed development would have a “minor adverse” impact to a single flat at 525 Finchley Road with regards to daylight.

It should be noted that Hawkins Environmental prepared a daylight/sunlight impact assessment in 2020 ref H3128 – DS – v2) in respect of a prior approval application (ref: 2022/0138/P) for a single storey roof extension on the same property. The 2020 report showed the same impact as the two storey extension, i.e. the proposed development would have a “minor adverse” impact to a single flat at 525 Finchley Road with regards to daylight. It should be noted that the Planning Officer agreed that this “minor adverse” impact was acceptable within the context of the site and therefore, it should be considered that the impact of this revised scheme should also be considered acceptable.

The historic records note that windows 9 and 10 serve bathrooms; therefore, the impact is considered to be of no consequence.

With regards to windows 21 and 22, based on historic planning records for 521 Finchley Road, it is understood that these windows are secondary windows, which each room served by a windows unaffected by the proposed development. Consequently, it is considered that this impact would be insignificant at 521 Finchley Road.

It is important to note that the February 2019 version of the NPPF now specifically mentions daylight/sunlight in national planning policy. The NPPF states that:

“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...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 a consequence, the NPPF acknowledges that whilst impacts should always be minimised as far as reasonably possible, other considerations should take priority over impacts on daylight and sunlight. Therefore, providing that development is not considered to be an over intensification of the site and is considered to be an efficient use of the land, within the context of national planning policy, some minor impacts could be considered acceptable.

4.4. Sunlight Assessment

In order to assess the impact of a development on the levels of sunlight, the APSH has been calculated for those windows which face within 90° of due south and hence fall within the BRE Sunlight criteria.

According to the BRE Report, direct sunlight on an existing window may be affected by a proposed development if the centre of a window receives less than 25% of Annual Probable Sunlight Hours (APSH), or less than 5% APSH between 21st September and 21st March; **and** receives less than 0.8 times its former APSH during either period; **and** has a reduction in sunlight over the whole year of greater than 4% APSH.

Appendix 2 details the results of the Annual Probable Sunlight Hours (APSH) calculations for the windows under consideration, with sample Sunlight Indicator Diagrams replicated in Drawing No. **H3783_14**.

It can be seen from the results in **Appendix 2** that of the 35 windows assessed in relation to sunlight, 2 do not fully meet the recommendations contained within the BRE Guidance in relation to sunlight. One of these windows (window 10) has been noted to serve a bathroom and therefore the impact is considered to be of no consequence. However, with regards to window 4, as previously noted, this window serves a bedroom in the top floor flat. Whilst this is the only window serving this room, this dwelling benefits from other windows that are unaffected and which receive good levels of sunlight. With this in mind, under the guidance contained within Appendix I of the BRE Report and replicated in **Table 3.1** of this report, it could be considered that the proposed development would have a “minor adverse” impact to a single flat at 525 Finchley Road with regards to sunlight.

4.5. Overshadowing Assessment

This section summarises the overshadowing impacts of the proposed development on gardens and outdoor amenity space. In order to assess the effects of overshadowing on gardens and outdoor amenity space, a three-dimensional model of the development and surrounding buildings has been constructed and the shadows caused by the building on the 21st of March has been assessed. The 21st of March is utilised because the day and night-time periods are of equal length. Furthermore, the 21st of March has been chosen as it is the Spring Equinox and is considered to be the first day of the year when the ability to enjoy one’s garden or amenity space is important. Drawing No. **H3783_15** to **H3783_34** shows the results of the overshadowing assessment on the 21st of March for the existing and proposed site layout.

The Third Edition of the BRE Report, published in 2022, requires at least 50% of the garden should be capable of receiving at least two full hours of direct sunlight on the 21st of March. If this cannot be achieved, providing that the area overshadowed was greater than 0.8 times its former value, no impact would have occurred.

Drawing No. **H3783_35** shows the extent of overshadowing to outdoor amenity space with the existing site layout and Drawing No. **H3783_36** shows the extent of overshadowing to outdoor amenity space with the proposed site layout. The areas marked in yellow receive direct sunlight for at least two hours on the 21st March. Drawing No. **H3783_37** shows the areas where additional shading has occurred. On **H3783_37** the areas marked in red are the areas where additional shading has occurred. **Appendix 2** shows the results of the analysis. The analysis shows that on the 21st of March, whilst there is a small reduction in the amount outdoor amenity space that receives direct sunlight, over at least half of the area will continue to receive direct sunlight and therefore, any impact upon this amenity space is considered to be insignificant.

5. INTERIOR DAYLIGHTING CALCULATIONS

5.1. Overview

The following section summarises an internal daylight assessment to determine whether they meet the best practice guidelines on internal daylighting.

5.2. Overview

The following section summarises an internal daylight assessment to determine whether they meet the best practice guidelines on internal daylighting.

5.3. Modelling

For the purposes of the assessment, a three-dimensional computer model was constructed of the proposed development. The model was constructed using Sketchup Pro 2022. At this site, Hawkins Environmental have used a variety of data sources to construct the computer model. The information used includes plans and elevations of the proposed development as provided by the client. In addition, information collected from historic publicly available planning records have been used, in connection with Ordnance Survey information (including Lidar data in relation to building heights). Wherever possible, survey information from either public records or provided by the client and their agents are utilised to add information to the model; however, where details were not present in the survey information, professional judgement has been used to estimate information where necessary

Drawing No. **H3783_1** to **H3783_10** (found in the supporting document “*H3783 - Kings Court, 523 Finchley Road Daylight Assessment Drawings v1*”) summarises the daylight/sunlight model, including views of the model from multiple directions, both with and without the proposed development,

To calculate the level of daylight within the proposed dwellings, the model has been analysed using the MBS Software suite of daylight tools. MBS Software provide daylight analysis software for over 90% of daylighting consultancies in the UK. MBS Software provides a sophisticated tool for daylight analysis which uses ray-tracing techniques to produce a physically accurate representation of light distribution. It is able to take into account complex site geometry, shading surfaces, the differing reflectance of materials, as well as localised sky conditions via meteorological files for Climate Based Daylight Modelling (CBDMM). The MBS Software is able to calculate the “*Illuminance Method*” in contained within BS EN 17037 and the BRE Guidance, which is often referred to as Spatial Daylight Autonomy (sDA).

For the daylight simulations, the rooms have been modelled as per the proposals, including window locations, room layouts and window sizes. The calculations were performed in accordance with the Third Edition of the BRE Guidance. The default model parameters used in the calculations can be seen in **Table 5.1**.

Table 5.1: Parameters used in the Daylight Calculations

Parameter	Value
Working Plane Height	0.85m
Floor Reflectance	20%
Wall Reflectance	50%
Ceiling Reflectance	70%
Exterior Walls and Obstructions Reflectance	20%
Grid Size	0.3m
Glazing Transmissivity	68%
Glazing Multiplier	0.9
Maintenance Factor (M)	96%
Assessment Grid	0.3m from Walls
Tregenza Subdivisions	2
Climate File	London Gatwick (5.15 Longitude; -0.18 Latitude)

Drawing No. **H3783_38** to **H3783_41** (found in the supporting document “H3783 - Kings Court, 523 Finchley Road Daylight Assessment Drawings v1”) shows the daylight contours for the rooms under consideration.

Table 5.2 shows the results of the daylight modelling using the “*Illuminance Method*” contained within BS EN 17037 and the BRE Guidance, for each of the habitable rooms under consideration.

Table 5.2: Results of the Daylight Modelling

Room Description	Room Use	BRE 2022: Illuminance Method			
		Target Median Illumin.	Median Illumin.	Area Meeting Required Illumin.	Meets BRE 2022 & EN BS 17037?
Flat 12 - Fourth Fl - R1	Studio	200	439	93%	YES
Flat 13 - Fourth Fl - R1	Studio	200	395	78%	YES
Flat 14 - Fourth Fl - R1	Studio	200	333	65%	YES
Flat 15 - Fifth F - R1	Studio	200	508	98%	YES
Flat 15 - Fifth Fl - R2	LKD	200	755	100%	YES
Flat 15 - Fifth Fl - R3	Bedroom	100	549	100%	YES
Flat 15 - Fifth Fl - R4	Bedroom	100	106	55%	YES
Flat 15 - Fifth Fl - R5	Bedroom	100	230	94%	YES

5.4. Results and Analysis

The results of the calculations can be seen in **Table 4.2**. The results show that of the 8 habitable rooms assessed, all of the rooms meet the minimum recommendations contained within the UK National Annex of EN BS 17037 and the BRE Guidance. Therefore, the proposed accommodation is considered to be well lit.

6. CONCLUSIONS

A daylight/sunlight assessment has been carried out in accordance with The Building Research Establishment (BRE) report, *“Site layout planning for daylight and sunlight – A guide to good practice”* by PJ Littlefair, S King, G Howlett, C Ticleanu and A Longfield (Third Edition – 2022), which summarises the impacts of the proposed development at 523 Finchley Road on the surrounding properties potential to receive daylight and sunlight.

The results of the assessment demonstrate that under the guidance contained within Appendix I of the BRE Report, it is considered that the proposed development will have a *“negligible”* to surrounding dwellings.

The results of the assessment demonstrate that there will be a reduction in daylight to a window at 525 Finchley Road which will not fully satisfy the BRE recommendations on the impact on daylight in relation to neighbouring properties. However, in accordance with the BRE Guidance, it is considered that this magnitude of impact could be considered acceptable given that this window is located *“unusually close to the site boundary and taking more than their fair share of light”*. The BRE Report suggests that development should not be penalised in this situation and consequently, the location of the affected window in relation to the site boundary should be a major consideration when determining whether an impact would be significant. It should also be noted that Hawkins Environmental prepared a daylight/sunlight impact assessment in 2020 (ref H3128 – DS – v2) in respect of a prior approval application (ref: 2022/0138/P) for a single storey roof extension on the same property. The 2020 report showed the same impact as the two storey extension, i.e. the proposed development would have a *“minor adverse”* impact to a single flat at 525 Finchley Road with regards to daylight. It should be noted that the Planning Officer agreed that this *“minor adverse”* impact was acceptable within the context of the site and therefore, it should be considered that the impact of this revised scheme should also be considered acceptable.

It is important to note that the BRE Guidance represents *“Best Practice Guidance”*; any deviation from the numerical guidelines within the report does not necessarily mean that the development’s impact will be unacceptable, nor that planning permission should be refused. The BRE report states that *“The advice given (in the report) is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in layout design”*. The guidance goes on to say that the guideline values are purely advisory and alternative target values could be used and agreed with the Local Planning Authority based on special requirements, such as its location.

Furthermore, the NFFP notes that *“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...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)”*. Consequently, given that the impact is considered minor, provided that the development is making optimal use of the land, in line with the density recommended by the local

planning authority, any loss of daylight could be considered acceptable under the new National Planning Policy Framework.

Appendix 1 Glossary of Lighting Terms

Appendix 1: Glossary of Daylighting Terms

From the BRE Guidance (2022)

Illuminance	A measure of the amount of light falling on a surface, usually measured in lux.
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.
Minimum target illuminance (E_{tm})	Illuminance from daylight that should be achieved for at least half of annual daylight hours across 95% of the reference plane in spaces with vertical and/or inclined daylight apertures.
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. Thus a 1% D would mean that the indoor illuminance at that point in the space would be one hundredth the outdoor unobstructed horizontal illuminance.
Target daylight factor	Daylight factor value equivalent to the target illuminance to be exceeded for more than half of annual daylight hours over a specified fraction of the reference plane within a daylit space.
Minimum target daylight factor	Daylight factor value equivalent to the minimum target illuminance to be exceeded for more than half of annual daylight hours over 95% of the reference plane within spaces with vertical and/or inclined daylight apertures.
CIE standard overcast sky	<p>A completely overcast sky for which the ratio of its luminance L_γ at an angle of elevation γ above the horizontal to the luminance L_z at the zenith is given by:</p> $L_\gamma = L_z \frac{(1 + 2 \sin \gamma)}{3}$ <p>A CIE standard overcast sky is darkest at the horizon and brightest at the zenith (vertically overhead).</p>
Daylight, natural light	Combined skylight and sunlight.
No sky line	The outline on the working plane of the area from which no sky can be seen.
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.
Annual probable sunlight hours	The long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account).
Sky factor	This is used in rights to light calculations. It is the 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 the 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.
Vertical sky component (VSC)	This is a measure of the amount of light reaching a window. It is the ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.
Reference plane or 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 houses and factories, 0.7 m above the floor in offices.
Assessment grid	Grid of calculation points on the reference plane that is used to calculate daylight factor or illuminance from daylight. Also known as calculation grid.
(Solar) irradiance	A measure of the amount of solar radiation (including infrared and ultraviolet radiation as well as daylight) falling on a surface. Usually measured in Watts per square metre.

Appendix 2 Results of the BRE Analysis

Daylight Impact Assessment Results

Window Ref	Window ID	Vertical Sky Component %			Meets BRE Guide?	Window Orientation
		Existing	Proposed	Ratio*		
525 Finchley Road - Third Floor - W1	1	31.95	25.62	0.80	YES	130°
525 Finchley Road - Third Floor - W2	2	25.09	24.47	0.98	YES	220°
525 Finchley Road - Third Floor - W3	3	34.39	33.35	0.97	YES	220°
525 Finchley Road - Third Floor - W4	4	34.19	9.55	0.28	NO	130°
525 Finchley Road - Second Floor - W1	5	23.91	19.57	0.82	YES	130°
525 Finchley Road - Second Floor - W2	6	21.55	21.07	0.98	YES	220°
525 Finchley Road - Second Floor - W3	7	26.24	25.62	0.98	YES	220°
525 Finchley Road - Second Floor - W4	8	29.17	28.38	0.97	YES	220°
525 Finchley Road - Second Floor - W5	9	8.61	5.21	0.61	NO	130°
525 Finchley Road - Second Floor - W6	10	10.60	5.92	0.56	NO	130°
525 Finchley Road - First Floor - W1	11	17.88	15.40	0.86	YES	130°
525 Finchley Road - First Floor - W2	12	22.27	22.09	0.99	YES	220°
525 Finchley Road - First Floor - W3	13	24.83	24.64	0.99	YES	220°

Window Ref	Window ID	Vertical Sky Component %			Meets BRE Guide?	Window Orientation
		Existing	Proposed	Ratio*		
525 Finchley Road - First Floor - W4	14	2.90	2.86	0.99	YES	130°
525 Finchley Road - First Floor - W5	15	3.70	3.42	0.92	YES	130°
525 Finchley Road - Ground Floor - W1	16	14.05	12.95	0.92	YES	130°
525 Finchley Road - Ground Floor - W2	17	20.01	19.92	1.00	YES	220°
525 Finchley Road - Ground Floor - W3	18	22.21	22.12	1.00	YES	220°
525 Finchley Road - Ground Floor - W4	19	1.87	1.86	0.99	YES	130°
525 Finchley Road - Ground Floor - W5	20	2.64	2.63	1.00	YES	130°
521 Finchley Road - Third Floor - W1	21	16.85	5.30	0.31	NO	309°N
521 Finchley Road - Third Floor - W2	22	17.45	5.27	0.30	NO	309°N
521 Finchley Road - Third Floor - W3	23	36.43	34.75	0.95	YES	219°
521 Finchley Road - Third Floor - W4	24	36.62	35.22	0.96	YES	219°
521 Finchley Road - Third Floor - W5	25	28.64	27.71	0.97	YES	219°
521 Finchley Road - Second Floor - W1	26	3.99	3.33	0.83	YES	309°N
521 Finchley Road - Second Floor - W2	27	3.62	3.07	0.85	YES	309°N

Window Ref	Window ID	Vertical Sky Component %			Meets BRE Guide?	Window Orientation
		Existing	Proposed	Ratio*		
521 Finchley Road - Second Floor - W3	28	31.59	30.88	0.98	YES	219°
521 Finchley Road - Second Floor - W4	29	30.41	29.65	0.98	YES	219°
521 Finchley Road - Second Floor - W5	30	23.37	22.78	0.97	YES	219°
521 Finchley Road - First Floor - W1	31	2.08	1.99	0.96	YES	309°N
521 Finchley Road - First Floor - W2	32	1.69	1.69	1.00	YES	309°N
521 Finchley Road - First Floor - W3	33	28.58	28.28	0.99	YES	219°
521 Finchley Road - First Floor - W4	34	27.36	27.00	0.99	YES	219°
521 Finchley Road - First Floor - W5	35	21.63	21.30	0.98	YES	219°

*= Ratio of proposed levels compared to existing levels

Sunlight Impact Assessment Results

Window Ref	ID	Annual Probable Sunlight Hours %				Winter Probable Sunlight Hours %			
		Existing	Proposed	Ratio*	Meets BRE Guide?	Existing	Proposed	Ratio*	Meets BRE Guide?
525 Finchley Road - Third Floor - W1	1	61	50	0.82	YES	24	18	0.75	YES
525 Finchley Road - Third Floor - W2	2	56	53	0.95	YES	24	21	0.88	YES
525 Finchley Road - Third Floor - W3	3	67	60	0.9	YES	25	20	0.8	YES
525 Finchley Road - Third Floor - W4	4	66	21	0.32	NO	21	7	0.33	YES
525 Finchley Road - Second Floor - W1	5	53	42	0.79	YES	20	18	0.90	YES
525 Finchley Road - Second Floor - W2	6	49	43	0.88	YES	20	18	0.90	YES
525 Finchley Road - Second Floor - W3	7	54	48	0.89	YES	19	18	0.95	YES
525 Finchley Road - Second Floor - W4	8	56	48	0.86	YES	19	18	0.95	YES
525 Finchley Road - Second Floor - W5	9	16	14	0.88	YES	4	4	1.00	YES
525 Finchley Road - Second Floor - W6	10	17	11	0.65	NO	3	3	1.00	YES
525 Finchley Road - First Floor - W1	11	45	39	0.87	YES	17	17	1.00	YES
525 Finchley Road - First Floor - W2	12	46	42	0.91	YES	16	16	1.00	YES

Window Ref	ID	Annual Probable Sunlight Hours %				Winter Probable Sunlight Hours %			
		Existing	Proposed	Ratio*	Meets BRE Guide?	Existing	Proposed	Ratio*	Meets BRE Guide?
525 Finchley Road - First Floor - W3	13	45	43	0.96	YES	15	15	1.00	YES
525 Finchley Road - First Floor - W4	14	10	10	1.00	YES	3	3	1.00	YES
525 Finchley Road - First Floor - W5	15	6	6	1.00	YES	1	1	1.00	YES
525 Finchley Road - Ground Floor - W1	16	36	33	0.92	YES	14	14	1.00	YES
525 Finchley Road - Ground Floor - W2	17	41	39	0.95	YES	15	15	1.00	YES
525 Finchley Road - Ground Floor - W3	18	38	37	0.97	YES	13	13	1.00	YES
525 Finchley Road - Ground Floor - W4	19	9	9	1.00	YES	2	2	1.00	YES
525 Finchley Road - Ground Floor - W5	20	5	5	1.00	YES	1	1	1.00	YES
521 Finchley Road - Third Floor - W1	21	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - Third Floor - W2	22	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - Third Floor - W3	23	67	67	1.00	YES	23	23	1.00	YES
521 Finchley Road - Third Floor - W4	24	70	69	0.99	YES	23	23	1.00	YES
521 Finchley Road - Third Floor - W5	25	45	45	1.00	YES	9	9	1.00	YES

Window Ref	ID	Annual Probable Sunlight Hours %				Winter Probable Sunlight Hours %			
		Existing	Proposed	Ratio*	Meets BRE Guide?	Existing	Proposed	Ratio*	Meets BRE Guide?
521 Finchley Road - Second Floor - W1	26	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - Second Floor - W2	27	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - Second Floor - W3	28	53	53	1.00	YES	18	18	1.00	YES
521 Finchley Road - Second Floor - W4	29	47	47	1.00	YES	15	15	1.00	YES
521 Finchley Road - Second Floor - W5	30	32	32	1.00	YES	9	9	1.00	YES
521 Finchley Road - First Floor - W1	31	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - First Floor - W2	32	Sunlight Assessment Not Required – Does Not Face Within 90° of Due South							
521 Finchley Road - First Floor - W3	33	44	44	1.00	YES	16	16	1.00	YES
521 Finchley Road - First Floor - W4	34	41	41	1.00	YES	14	14	1.00	YES
521 Finchley Road - First Floor - W5	35	30	30	1.00	YES	8	8	1.00	YES

*= Ratio of proposed levels compared to existing levels

Overshadowing Impact Assessment Results

Receptor	Percentage of the Garden/Outdoor Amenity Space Which Receives Direct Sunlight for at Least Two Hours on the 21 st March			
	Existing	Proposed	Ratio*	Meets BRE Guide?
521 Finchley Road	85%	85%	1.00	YES
525 Finchley Road	92%	92%	1.00	YES

*= Ratio of proposed levels compared to existing levels