

523 SEVEN SISTERS ROAD

LONDON N15 6EP

ANALYSIS

OF

SITE LAYOUT

FOR

DAYLIGHT AND SUNLIGHT

NOVEMBER 2022

BY

ASJ PLANS

OCC, BUILDING A

105 EADE ROAD

LONDON, N4 1TJ

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Permitted Development

523 Seven Sisters Road N15 6EP

Analysis of Site Layout with Regard to Daylight and Sunlight

1. Introduction

An application has been made for the conversion of a shop on 523 Seven Sisters Road to a residential flat under the terms of Part 3 Class MA of The Town and Country (General Permitted Development) (England) Order 2015 as amended.

Part 3 Class MA of the Order has the following conditions in respect to daylight:

MA.2.— (1) Development under Class MA is permitted subject to the following conditions.

(2) Before beginning development under Class MA, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to—

(f) the provision of adequate natural light in all habitable rooms of the dwellinghouses

This daylight and sunlight assessment has been prepared to support the planning application for the proposed development.

The report assesses the proposals in regards to daylight and sunlight matters within habitable rooms in the proposed building and its effects on the nearby buildings. The report concludes that the proposal is acceptable and in accordance with the planning policy requirements in relation to daylight and sunlight for the assessed rooms.

There is no existing specific National Planning Policy relating to the prospective impacts of developments on daylight and sunlight to their surrounding environment. However, the Building Research Establishment publication 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' is the established National guidance to aid the developer to prevent or minimise the impact of a new development on the existing buildings and on the availability of daylight within the new proposals. The BRE guide has been revised and published a third edition in June 2022. It has been developed in conjunction with daylight and sunlight recommendations in the BS EN 17037:2018.

The 2022 document is referred to as the 'BRE Guide' in this report.

2. Description of Development

The development is situated on Seven Sisters Road in the area of South Tottenham in North London and is located within the administrative boundaries of the London Borough of Haringey.

The existing building has a shop on the ground floor level with residential unit on the floors above.

The proposal is for the conversion of the commercial space to residential use, providing a studio flat.

The proposal is shown on the following floorplans by AJ Plans

Existing & Proposed Floor Plans SSR.523.EX.PR.201

Existing Elevations SSR.523.EX.202

3. Daylight and Sunlight Requirements

3.1. General Permitted Development Guidance

Part 3 Class MA of the Order has the following conditions in respect to daylight.

MA.2.— (1) Development under Class MA is permitted subject to the following conditions.

(2) Before beginning development under Class MA, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to—

(f) the provision of adequate natural light in all habitable rooms of the dwellinghouses

The meaning of adequate natural light in paragraph (f) is not further defined in the Order, but it is usually recognised in planning requirements of local authorities that the Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice second edition' published in 2022 is used for guidance.

This Guide is used throughout the London Boroughs and in the London Plan.

3.2. Regional Planning Policy

The Mayor of London Supplementary Planning Guidance Housing (2016) makes recommendations that the BRE Guide should be applied sensitively to higher density development in London, particularly in central and urban areas.

1.3.45 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.

1.3.46 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.

The SPG includes Standard 32 regarding direct sunlight

Standard 32 - 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

2.3.45 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 methodology¹⁴⁶ 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.

2.3.46 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.

2.3.47 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.

3.3. Local Planning Policy

Haringey Development Management DPD Adopted July 2017 provides guidance on the requirements for daylight and sunlight.

Policy DM1 D states:

Development proposals must ensure a high standard of privacy and amenity for the development's users and neighbours. The Council will support proposals that

(a) Provide appropriate sunlight, daylight and open aspects (including private amenity space where required) to all parts of the development and adjacent buildings and land;

(b) Provide an appropriate amount of privacy to their residents and neighbouring properties to avoid overlooking and loss of privacy detrimental to the amenity of neighbouring residents and the residents of the development;

Further Guidance is given in the accompanying Paragraphs 2.9 and 2.10 that state:

2.9 The Council recognises that amenity can be compromised in a number of ways through development such as detrimental loss of daylight and sunlight to existing and adjacent occupiers; loss of privacy and outlook due to the proximity and design of developments; harmful noise, odour, vibration and air pollution from existing and proposed developments (typically commercial activities and other activities such as rail); developments with the potential to endanger highway safety; and cause detrimental micro-climate effects. Buildings should therefore be compatible with their local environment and conditions.

2.10 The design and layout of buildings must enable sufficient sunlight and daylight to penetrate into and between buildings and ensure that adjoining land or properties are

protected from unacceptable overshadowing. The Building Research Establishment (BRE) provides guidance on site layout planning to achieve good sun-lighting and day-lighting (BRE Site Layout Planning for Daylight and Sunlight: a guide to good practice).

4. General

The outer envelope of the building is not being changed or extended. There will therefore be no adverse effect on nearby buildings or gardens.

Daylight to rooms within development area analysed in this report.

5. Daylight & Sunlight Methodology to Rooms within the Development

The BRE Group set out their interior daylight guidelines in Appendix C of the document. They refer to the British Standard Daylight in Buildings BS EN17037 and its UK National Annex which sets out two criteria for assessing interior daylight. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane.

5.1. Illuminance Method

This method involves using climatic data for the location of the site (via the use of an appropriate, typical or average year, 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.

The UK National Annex gives specific minimum recommendations for habitable rooms in dwellings in the United Kingdom. The National Annex therefore provides the UK guidance on minimum daylight provision in all UK dwellings.

The UK National Annex gives illuminance recommendations of:

- 100 lux in bedrooms
- 150 lux in living rooms
- 200 lux in kitchens.

These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK.

The BRE Guidelines state in paragraph C17 that:

“Where a room has a shared use, the highest target should apply. For example, in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend

time in their rooms during the day. Local authorities could use discretion here. For example, 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, as it may avoid small separate kitchens in a design."

5.2. Daylight Factor Method

This method involves the computation of the daylight factor at each calculation point on an assessment grid. 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. For spaces with side windows, equivalent daylight factor targets to achieve a target illuminance over at least half of the daylight hours in a year are based on the formula:

$$D = \text{Target illuminance} / \text{Median external diffuse horizontal illuminance} \times 100 (\%)$$

where the median external diffuse horizontal illuminance ($E_{v,d,med}$) is the illuminance from the sky on an unobstructed horizontal surface achieved for half of the yearly daylight hours at a particular location.

The table below shows the daylight factor targets to be achieved over at least 50% of the assessment grid in domestic habitable rooms with vertical and/or inclined daylight apertures. The UK National Annex gives alternative target values for rooms with diffusing horizontal rooflights. The recommendations are met if the median of the daylight factors calculated in a room meets or exceeds the specific target for room type and location.

Target daylight factors (DT) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures			
Location	DT for 100 lx (Bedroom)	DT for 150 lx (Living room)	DT for 200 lx (Kitchen)
St Peter (Jersey)	0.6%	0.9%	1.2%
London (Gatwick Airport)	0.7%	1.1%	1.4%
Birmingham	0.6%	0.9%	1.2%
Hemsby (Norfolk)	0.6%	0.9%	1.3%
Finningley (Yorkshire)	0.7%	1.0%	1.3%
Aughton (Lancashire)	0.7%	1.1%	1.4%
Belfast	0.7%	1.0%	1.4%
Leuchars (Fife)	0.7%	1.1%	1.4%

Oban	0.8%	1.1%	1.5%
Aberdeen	0.7%	1.1%	1.4%

5.3. Sunlight

For internal sunlight, the BRE Guidelines state in paragraph 3.1.15:

“In general, a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.”*

6. Daylight & Sunlight to Rooms within the Proposed Flat

The BRE and BS EN 17037 guidance allows for two alternative methods to assess daylight within new dwellings.

For this report we have assessed the proposed new accommodation to determine whether the internal spaces will be provided with adequate daylight by reference to **Target Illuminance (ET) Factor**. This method involves the computation of the illuminance level at each calculation point on an assessment grid.

The following reflectance, transmittance, and maintenance values have been used in the internal daylight calculations:

- Transmittance (T): 0.68
- Reflectance (R): 0.2 for floors, 0.7 for ceilings, and 0.5 for walls
- Maintenance Factor: 0.92

The full results of the internal daylight and sunlight analysis are included in Appendix B.

In daylight terms, all habitable rooms meet their target illuminance value.

In sunlight terms, all units meet the target sunlight exposure level.

7. Conclusion

There is no extension to the external envelope of the building and there is therefore no adverse effect to nearby buildings or gardens.

The proposed flat has good windows. Daylight and Sunlight to all rooms within the proposed flat is better than the recommendations of the Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice' published in 2022 and the normal planning requirements of London Boroughs and the London Plan.

The requirement of the Permitted Development Order for adequate natural light is satisfied for this development.

Harry Morgan

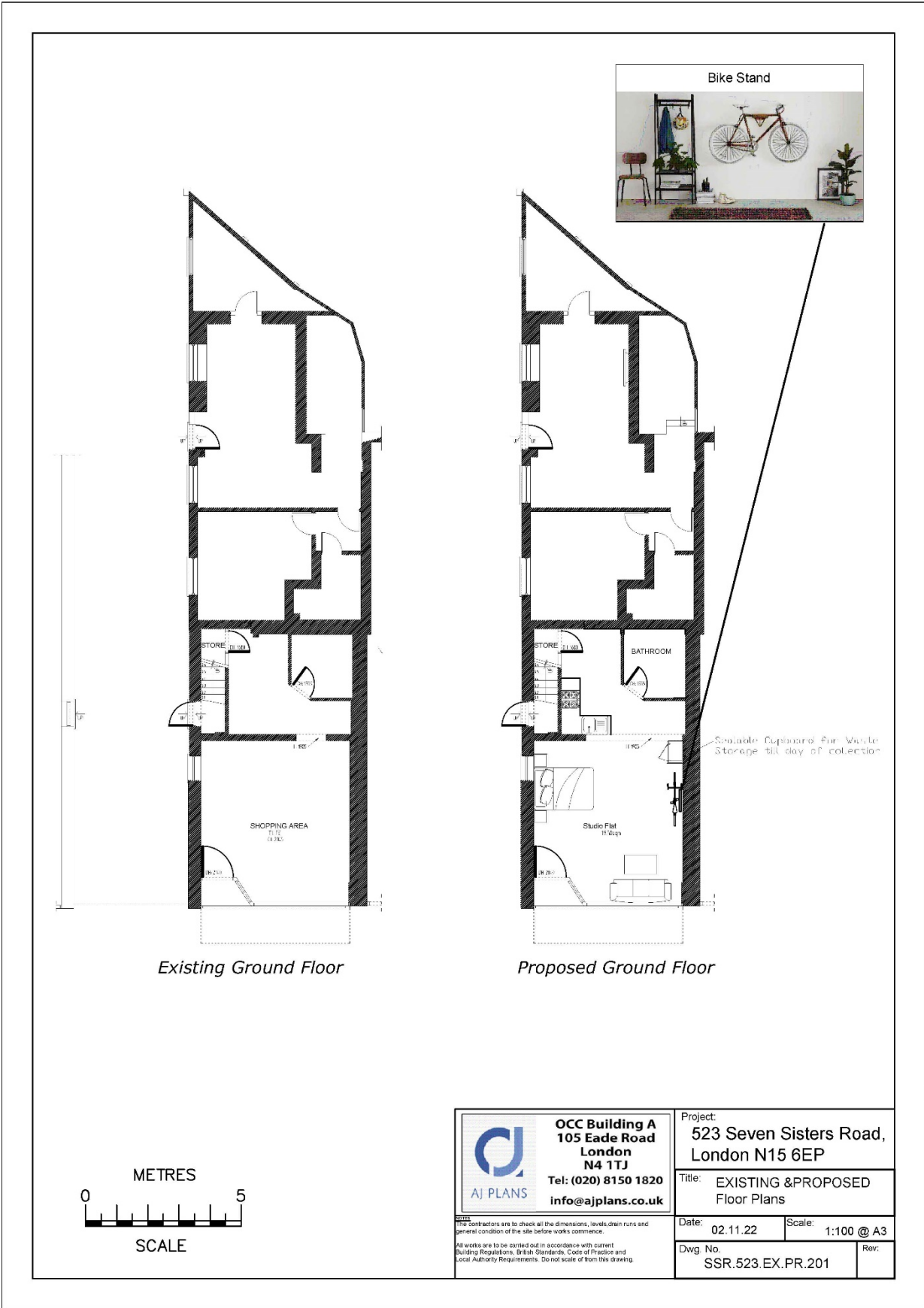
11th November 2022

References:

- i. Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice' published in 2022.
- ii. General Permitted Development order part 3 class MA
- iii. The Mayor of London Supplementary Planning Guidance Housing (2016)
- iv. Haringey Development DPD (Adopted July 2017)

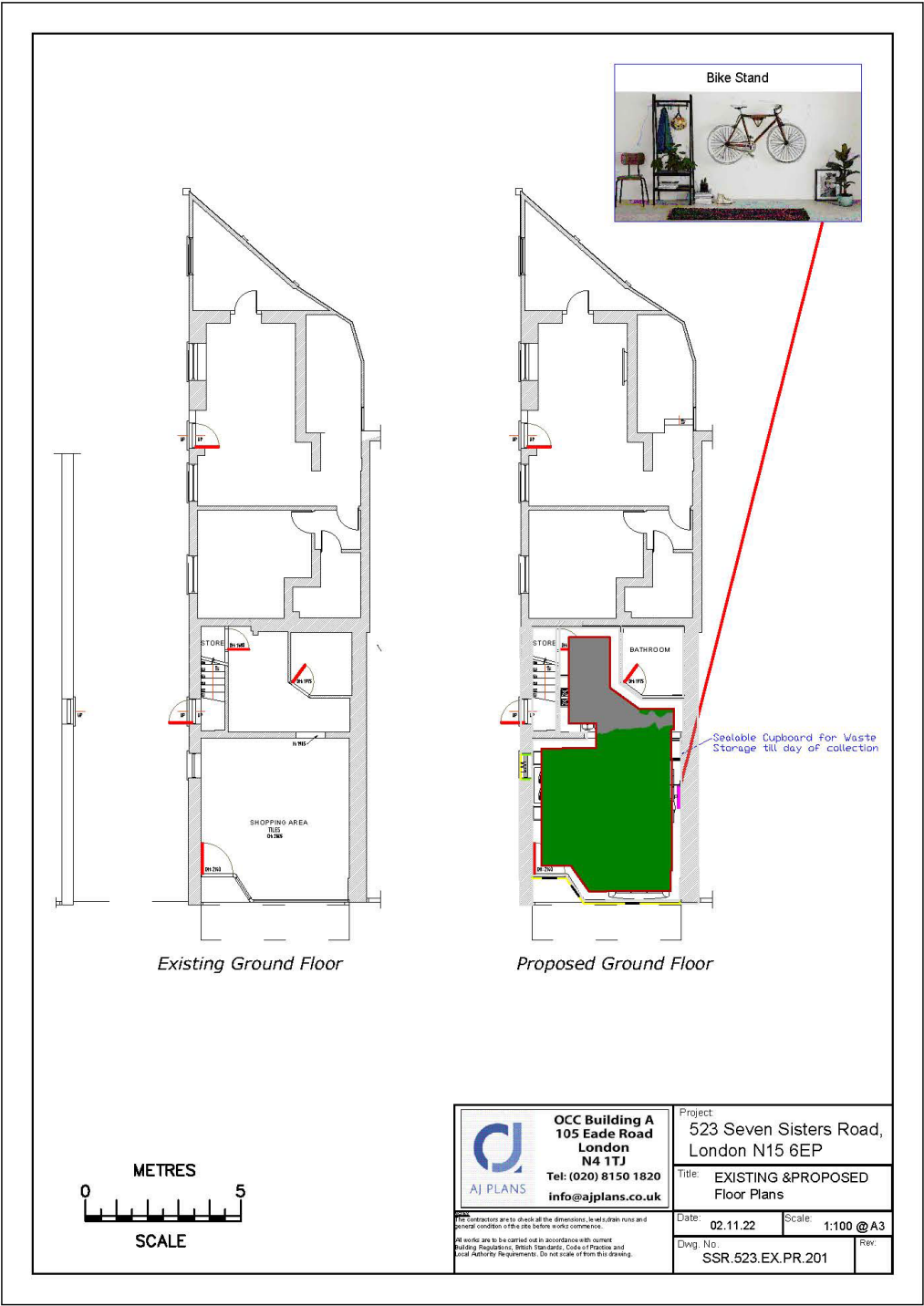
Appendix A

Existing and Proposed Floor Plan



Proposed Internal Illuminance Factor

- Above 200 Lux
- Below 200 Lux



Appendix B

Internal Daylight Results

Project Name: 523 Seven Sisters Road N15 6EP
 Project No.: 1
 Report Title: SDA BS En17037 Analysis - Proposed Scheme
 Date of Analysis: 10/11/2022

										Criteria				
Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	Meets Criteria
523 Seven Sisters Road														
Ground	Studio Flat	Flat 1	Residential	LKD	33.35	25.22	400	19.92	79%	200	50%	50%	4380	YES

Internal Sunlight Results

Project Name: 523 Seven Sisters Road N15 6EP
 Project No.: 1
 Report Title: Sunlight Exposure Analysis - Proposed Scheme <Report Title>
 Date: 10/11/2022

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
523 Seven Sisters Road								
Ground	Studio Flat	Flat 1	Residential	LKD	W1	217°	2	
					W2	127°	3.7	
					W3	181°	5.7	
					W4	127°	6.8	
							6.8	High