

Analysis of site layout for

DAYLIGHT

DATE

DECEMBER 2023

ADDRESS

422 LEE HIGH ROAD,
LONDON, SE12 8RW



Table of Content

1. Introduction	3
2. Description of Proposed Development.....	3
3. Daylight Requirements.....	4
3.1. General Permitted Development Guidance.....	4
3.2. Regional Planning Policy	4
4. General.....	5
5. Daylight Methodology to Rooms within the Development.....	5
5.1. Illuminance Method.....	5
5.2. Daylight Factor Method	6
6. Daylight to Rooms within the Proposed Flat	7
7. Conclusion.....	7
References:	7
Proposed Plans.....	8
Appendix B	9
Proposed Internal Illuminance Factor.....	9
Detailed Internal Daylight Results.....	10

422 Lee High Road, London, SE12 8RW

Analysis of Site Layout with Regard to Daylight

1. Introduction

An application has been made for the conversion of commercial space Class E on 422 Lee High Road to a residential studio flat Class C3 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 assessment has been prepared to support the planning application for the proposed development.

The report assesses the proposals in regards to daylight 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 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 Proposed Development

The development is situated at 422 Lee High Road South East London, and is located within the administrative boundaries of the London Borough of Lewisham

The proposal is for the conversion of the ground floor shop to residential use, to contain a studio flat.

The proposal is shown on the following floor plans by AJ Plans.

Existing Plans LHR.422.EX.01

Proposed Plans LHR.422.PR.01

3. Daylight 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 third 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.

4. General

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

Daylight to rooms within the development are analysed in this report.

5. Daylight Methodology to Rooms within the Development

The recommendations for the adequacy of interior daylight are given in Appendix C of the BRE Guide. The Guide makes reference 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 tabletop 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 roof lights. 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%

6. Daylight 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, 0.5 for walls & 0.7 for the ceilings
- Maintenance Factor: 0.92

All habitable rooms meet the BRE recommended targets for illuminance value.

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

7. Conclusion

There is no extension to the external envelope of the building and there is therefore no reduction to daylight or sunlight to nearby buildings or gardens.

The proposed flat has good windows. Daylight 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' 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

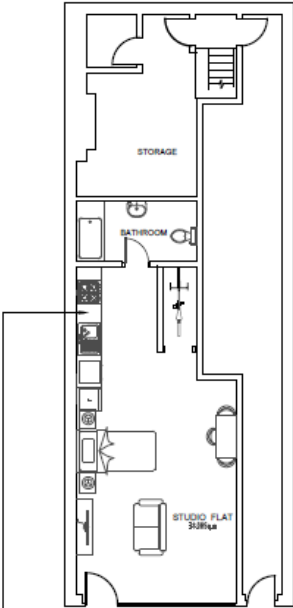
5th December 2023

References:

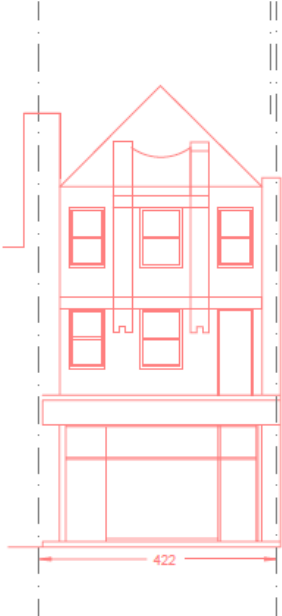
- I. Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice' published in 2022.
- II. General Permitted Development order part 3 class MA

Proposed Plans

PROPOSED




Ground Floor




Front Elevation


BESPOKE INTERNAL SEALABLE BIN CUPBOARD



General waste & recycling sacks to be placed outside on collection day



SCALE



aj plans
info@ajplans.co

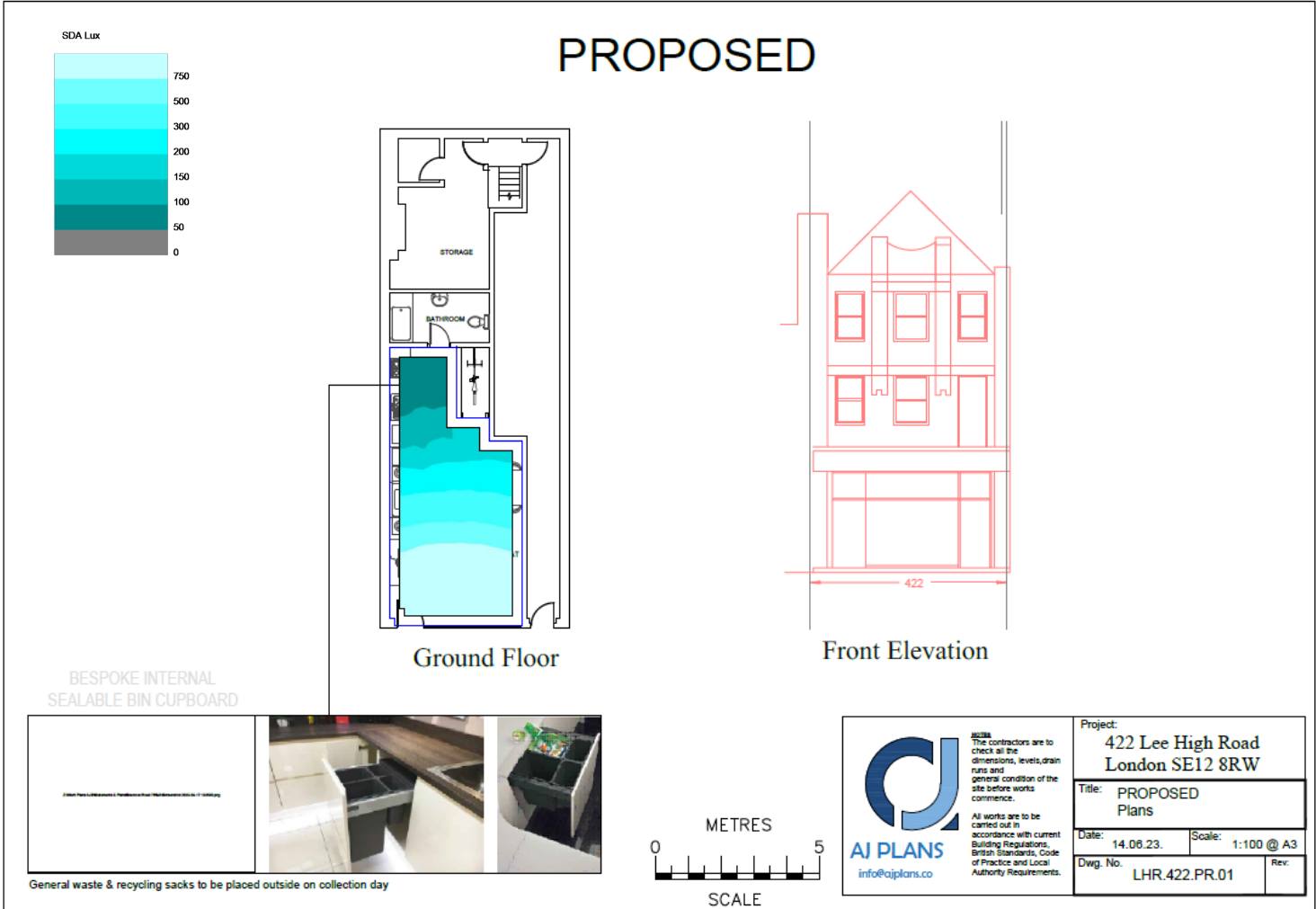
Scale: The contractors are to check all the dimensions, levels, drain runs and general condition of the site before works commence.

All works are to be carried out in accordance with current Building Regulations, British Standards, Code of Practice and Local Authority Requirements.

Project: 422 Lee High Road London SE12 8RW	
Title: PROPOSED Plans	
Date: 14.08.23.	Scale: 1:100 @ A3
Dwg. No. LHR.422.PR.01	Rev:

Appendix B

Proposed Internal Illuminance Factor



Detailed Internal Daylight Results

Project Name: 422 LEE HIGH ROAD, LONDON, SE12 8RW Project No.: 1 Report Title: SDA BS En17037 Analysis - Proposed Scheme Date of Analysis: 05/12/2023														
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	Criteria				Meets Criteria
										Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	
B1														
Ground	R1		Residential	Studio	29.00	21.86	373	15.67	72%	200	50%	50%	4380	YES

MORGAN

light assessors

T:07933 877 780

E: info@morganassessors.com

W: www.morganassessors.com

A: [28 Lemsford Close London N15 6BY](#)

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