



62 Station Road, Hayes, UB3

Daylight and Sunlight Assessment

Job No: 6482

Issued: July, 2025

Issue No: 2

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1.0 Introduction

- 1.1 This daylight and sunlight assessment has been prepared in relation to a planning application for the development of the land at 62 Station Road, Hayes, UB3.
- 1.2 The report assesses the proposals in respect of daylight matters within habitable rooms in the proposed scheme, having regard to industry standard guidance.
- 1.3 The report concludes that the proposal is acceptable and in accordance with planning policy requirements in relation to daylight and sunlight for those rooms and gardens assessed.
- 1.4 There is no existing specific National Planning Policy relating to the prospective impacts of developments on daylight and sunlight on their surrounding environment.
- 1.5 However, the NPPF (Para 130(c)) does refer to daylight and sunlight in relation to density, encouraging Local Planning Authorities to take a flexible approach to applying policies and guidance relating to the impacts of proposals where they would otherwise inhibit making effective use of the site.
- 1.6 The BRE Report 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (3rd Edition, 2022) is the established National guidance to aid the developer to prevent and/or minimise the impact of a new development on the availability of daylight and sunlight in the environs of the site and the assessment of light within proposed new dwellings.
- 1.7 It refers in turn to the daylight and sunlight recommendations in BS EN 17037: 2018+A1:2021 (with UK Annex): 'Daylight in Buildings'
- 1.8 These reference documents are accepted as the authoritative works in the field on daylight, sunlight and overshadowing and the BRE guidance specifically referred to in many Local Authorities' planning policy guidance for daylighting.
- 1.9 The methodology therein has been used in numerous lighting analyses and the standards of permissible reduction in light are accepted as the industry standards.

2.0 Project Summary

- 2.1 The site is currently occupied by a two storey non-residential building.
- 2.2 The proposal involves the conversion of the 1st floor level to provide 6 residential dwellings.
- 2.3 The developer wishes to ensure that habitable rooms in the new dwellings will receive sufficient daylight for its intended use, in excess of the minimum values prescribed by BS EN 17037: 2018+A1:2021
- 2.4 In addition to daylight to all rooms the rooflight serving the living room, kitchen area of flat 2 has been assessed for sunlight to show that all flats will have at least one room which receives acceptable sunlight hours.
- 2.5 2D CAD drawings have been provided to us by the design team. These have been used to construct a 3D analysis model in order to assess the internal daylight levels within each room.
- 2.6 Computer simulation modelling has been used to produce the results, presented below.



Site Location

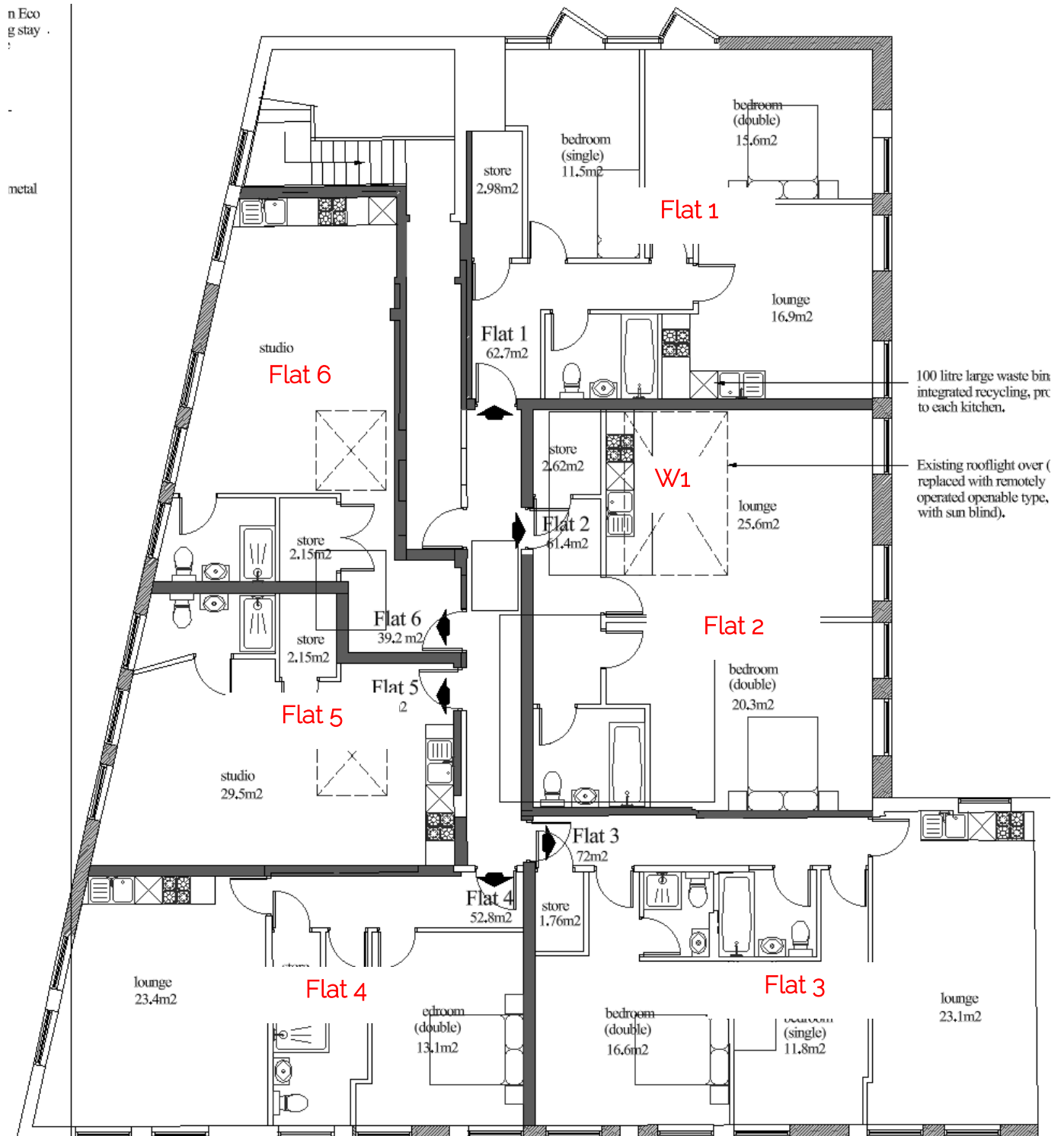
3.0 Methodology

- 3.1 The BRE and BS EN 17037 guidance allows for two alternative methods to assess daylight within new dwellings. This report uses the following method:
- Target Daylight Factor (DF_T)
- 3.2 The DF_T method is a complex and representative calculation to determine natural internal luminance.
- 3.3 It takes into account such factors as window size, number of windows available to the room, room size and layout, room surface reflectance, and the angle of visible sky reaching the window.
- 3.4 The calculations have assumed a white ceiling, cream walls and mid-grey carpet or wooden floor using reflectance values taken from the BS EN 170437 Guidance.
- 3.5 As this is a conversion scheme, it falls under the category of "hard to light" dwellings and therefore an alternative target can be used. The minimum DF_T values for various UK locations and room types are provided below:

Table C3 – Target daylight factors (DF_T) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures			
Location	DF_T for 100 lx (Bedroom)	DF_T for 150 lx (Living room)	DF_T 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%

- 3.6 It is deemed by the guidance that if the minimum DF_T criteria are met, then the occupiers of the dwelling will have sufficient daylight. As can be seen from the results below that all assessed habitable rooms meet and exceed the minimum levels of internal daylight.

4.0 Room Schedules



1st Floor as Proposed

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
1	Kitchen/Living	1.4%	82.3%	Yes
1	Bedroom 1	0.7%	95.4%	Yes
1	Bedroom 2	0.7%	74.2%	Yes
2	Kitchen/Living	1.4%	100.0%	Yes
2	Bedroom 1	0.7%	96.3%	Yes
3	Kitchen/Living	1.4%	89.5%	Yes
3	Bedroom 1	0.7%	97.0%	Yes
3	Bedroom 2	0.7%	90.4%	Yes
4	Kitchen/Living	1.4%	93.8%	Yes
4	Bedroom 1	0.7%	97.2%	Yes
5	Studio	1.4%	91.3%	Yes
6	Studio	1.4%	93.6%	Yes

6.0 Sunlight Exposure Test

- 6.1 Assessing sunlight within new dwellings is defined by the methodology contained in the BRE guidance and BS17037:2018
- 6.2 The SE_T is a detailed calculation that can help determine the amount of sunlight available to dwellings.
- 6.3 The Target Sunlight Exposure states that relevant habitable rooms should receive at least 1.5 hours of sunlight on March 21st.
- 6.4 Only rooms which are served by windows which face within 90° of south need to be assessed.
- 6.5 The BRE guidance also states that living rooms (and conservatories) are the rooms where sunlight is most valued, and of lesser importance in bedrooms and kitchens.
- 6.6 It is deemed by the guidance that if the minimum criteria are met, then the occupiers of the dwelling will have sufficient sunlight.
- 6.7 As can be seen from the results below that all assessed windows meet the BRE guidance values for sunlight on March 21st

Sunlight Exposure – March 21 st			
Window	Target Sunlight Exposure	Actual Sunlight Exposure	Meets Standards?
1	1.5 hours	6.4	Yes

7.0 Conclusions

- 7.1 The proposed development of the site located at 62 Station Road, Hayes, UB3 has been assessed for internal daylight levels using the Target Daylight Factor (DF_T) test as prescribed by the BRE guidance and BS EN 17037:2018.
- 7.2 The design team has endeavoured to ensure that the proposed habitable rooms have levels of natural light in excess of the minimum standards prescribed by the standards.
- 7.3 All rooms have at least one window which faces within 90 degrees of south or where this isn't the case has a rooflight which achieves the minimum sunlight exposure test set out in the BRE guidelines.
- 7.4 This has been successfully achieved, as demonstrated by the positive results presented within this report.
- 7.5 The assessed rooms meet the recommendations using the DF_T test.
- 7.6 This means the future occupants will enjoy a well-lit environment, with reduced reliance on artificial lighting.
- 7.7 It is therefore the conclusion of this report that the proposals meet the guidance levels for daylight and are therefore acceptable in planning terms.



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