

ABA

CONSULTING LTD

404 Wilbraham Road

Daylight Impact Assessment Report

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This document requires the following approvals.

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Distribution

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Disclaimer

This daylight impact assessment report has been prepared solely for the purpose of evaluating the internal daylight performance within the neighbouring property in relation to the UK National Annex to the British Standard daylight factors. The analysis and results are based on the design information, drawings, and data provided at the time of assessment. Any subsequent changes to the design, layout, or surrounding conditions may affect the validity of this assessment.

This document is submitted as part of the planning process and is intended solely for use by the local planning authority and the client. It should not be relied upon by any other party without prior written consent from the author. While reasonable care has been taken to ensure the accuracy of the information and analysis, no guarantee or warranty is provided as to the future performance or actual conditions experienced on site, as these may vary due to factors beyond the scope of this assessment. The findings demonstrate compliance with the relevant guidance on daylight factors under the stated assumptions. No liability is accepted for any use of this report other than for its intended purpose.

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1.0 Introduction

1.1 Background

ABA Consulting Ltd are appointed by Simon James Arq Ltd to undertake a Daylight Impact Assessment for the proposed development at 404 Wilbraham Road, Manchester. The assessment is to support the planning application for the Proposed Development.

The Proposed Development is a 3-stotery residential block located adjacent to existing residential properties.

New developments have the potential to cause shading, thus significantly reducing the amount of daylight into existing nearby properties. As a result, a daylight impact assessment was undertaken to consider the likely effects of the Proposed Development against the nearby properties.

1.2 Site Location

The Application Site is situated on 404 Wilbraham Road, Manchester. The National Grid Reference (NGR): 382081, 394028.



Figure 1 – Google map image of the Proposed Development location on Wilbraham Road

2.0 Assessment Guidelines

The latest European Standard on daylight is BS EN 17037:2018 “Daylight in buildings”. Following a review of this by a dedicated commission of UK experts, the British Standard Institution appended a UK National Annex which noted that the new recommendations “may not be achievable for some buildings, particularly dwellings” and specifically mentions dwellings in a dense urban area or with tall trees outside.

The annex goes on to suggest lower recommended light levels for dwellings, in line with those of the previous version of the British Standard, BS8206-2:2008.

BS EN 17037 includes four criteria: daylighting, views, sunlight access and glare. Daylighting is considered relevant for this development and therefore solely discussed within this impact assessment report.

The Daylight Factor method noted in BS EN 17037 as one of the methodologies for appraising daylight, has been used in this assessment.

Daylight factor (DF) is defined as the ratio of interior illuminance (E_i) due to the light received from a sky, to available outdoor illuminance (E_H) on a horizontal plane due to an unobstructed hemisphere of this sky.

$$DF = (E_i \text{ indoor illuminance, at a given point} / E_H \text{ outdoor illuminance}) \times 100\%$$

The Daylight Factor does provide a method for making a quantitative assessment of the daylight that will be achieved internally.

The table below shows the recommended target indoor illuminance and target daylight factors for typical rooms in dwellings located in the Northwest region of the Country. The daylight factor is based on the median outdoor diffuse illuminance of 14,200 lux at Aughton, Lancashire.

Room Type	Target Indoor Illuminance	Target Daylight Factor
Bedroom	100 lux	0.7%
Living Room	150 lux	1.1%
Kitchen	200 lux	1.4%

Table 1: BS EN 17037 UK National Annex recommended target illuminance and daylight factors

The recommendations are met if the daylight factors calculated in a room meets or exceeds the specific target for room type.

3.0 Nearest Sensitive Properties

An evaluation of the properties adjacent to the Proposed Development was carried out. These are properties that could be adversely affected by shadowing from the Proposed Development, which could result in inadequate daylight into the properties. The outcome of the evaluation suggests that No. 406 Wilbraham Road could be impacted by the Proposed Development.



Figure 2: Sensitive property

No. 406 Wilbraham Road is a mixed-use multi-storey property with commercial accommodation at ground floor and residential apartments on the first and second floors. The East elevation (side alley) rooms of the building has been identified as potentially sensitive to daylight due to the windows facing the Proposed Development.



Figure 3: Side Alley Elevation

According to the internal layouts obtained from the planning portal, Windows 1 and 2 lead to living rooms on the first floor. Windows 3 and 4 lead to bedrooms on the second floor.

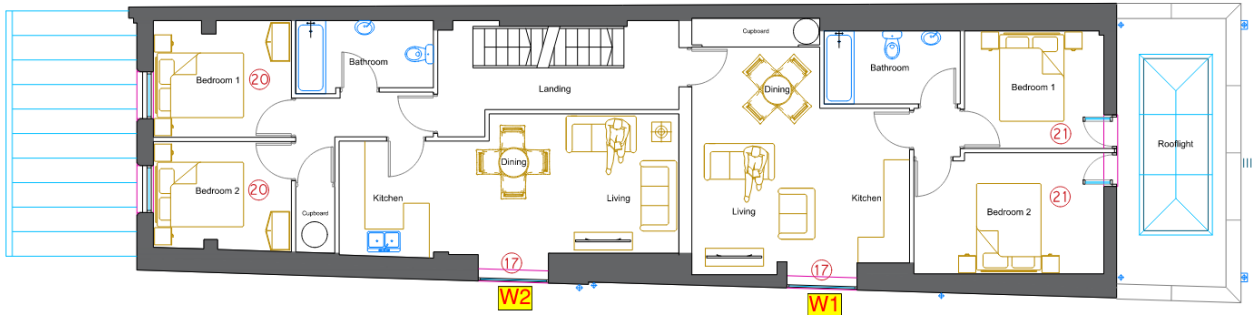


Figure 4: Existing building first floor internal layout

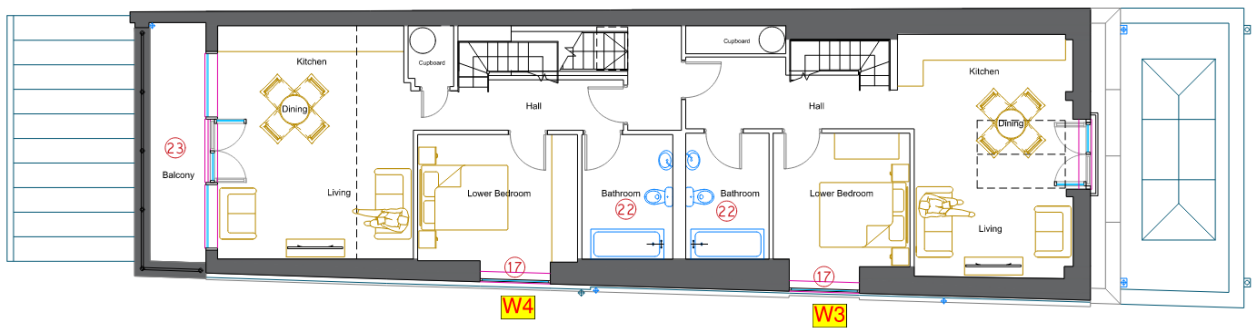


Figure 5: Existing building second floor internal layout

4.0 Methodology

The Daylight Factor assessment included the establishment of Pre-Development and Post Development daylight factors using computer modelling in Dialux Evo Software. DIALux is an independent lighting software package capable of calculating daylight and artificial lighting scenes in exterior and interior scenarios. The software is commonly used throughout the UK.

The three-dimensional representation of the proposed development has been modelled using the drawings prepared by Simon James Arq Ltd, received in April 2026. The three-dimensional representation of the existing nearby property has been modelled using the drawings obtained from the Council's Planning Portal, in April 2026. These have been placed in the context of their surrounding which have been modelled from survey information, OS and site photographs. This allows for a precise model, which in turn ensures that analysis accurately represents the amount of daylight available to the building façades, internal and external spaces, considering all the surrounding obstructions and orientation.

The modelling inputs also included the following assumptions:

- Surface reflectance: Interior walls – 0.86; Ceiling – 0.84; Floors – 0.2
- Assessment grid: 850mm from finished floor level
- Glazing light transmittance: 90%

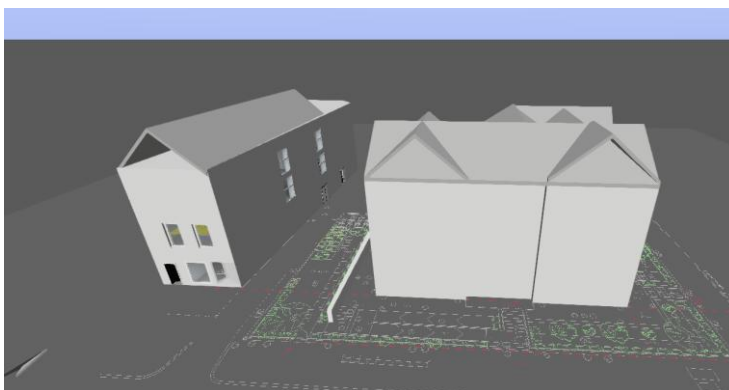


Figure 6: Front view - DIALux Evo 3D model of the existing and Proposed Development

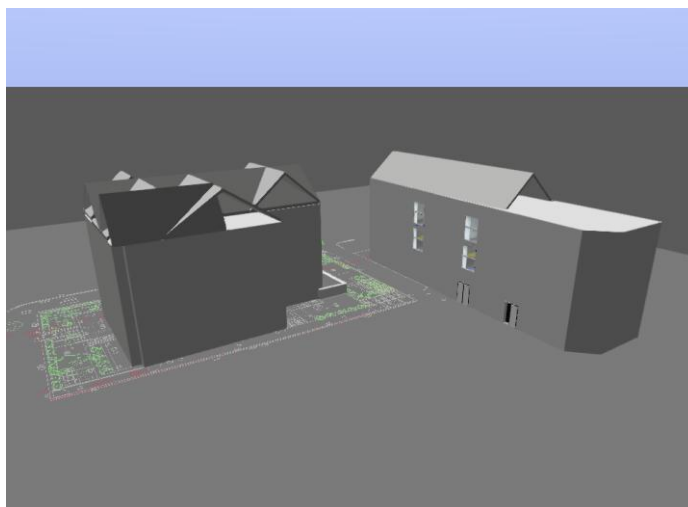


Figure 7: Rear view - DIALux Evo 3D model of the existing and Proposed Development

5.0 Daylighting Assessment

An assessment of the daylight factor within the affected internal spaces of the existing nearby property was carried out to determine the impact of the Proposed Development. The following sub-sections provide the results of the pre-development and post-development daylight factor calculations.

5.1 Window 1 – Living Room

The table below shows the results of the calculated pre-development and post-development daylight factor calculations for Window 1 – Living Room.

Sensitive Window/ Room	Target daylight factor	Pre-development daylight factor	Post-development daylight factor
Window 1 (Living Room)	1.1%	1.67%	1.36%

Table 2: Window 1 Living Room daylight factor results



Figure 8 – Window 1 Living room pre-development daylight factor model image

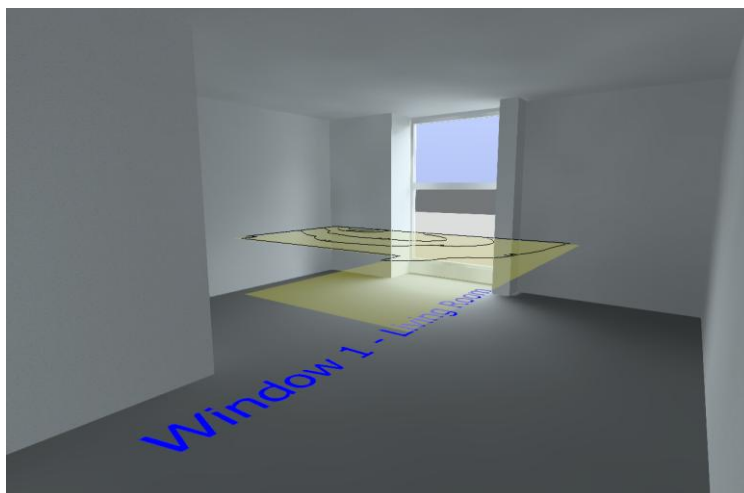


Figure 9 – Window 1 Living room post-development daylight factor model image

The post-development assessment indicates that Window 1 living room in the adjacent property comfortably exceeds the UK National Annex recommended target for daylight factor.

5.2 Window 2 – Living Room

The table below shows the results of the calculated pre-development and post-development daylight factor calculations for Window 2 – Living Room.

Sensitive Window/ Room	Target daylight factor	Pre-development daylight factor	Post-development daylight factor
Window 2 (Living Room)	1.1%	2.06%	1.54%

Table 3: Window 2 Living Room daylight factor results

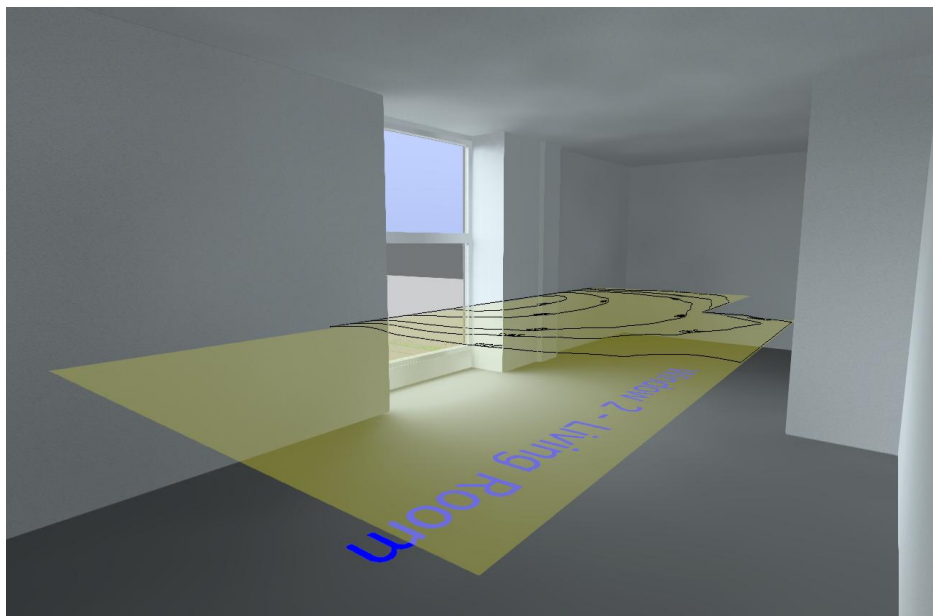


Figure 10 – Window 2 Living room pre-development daylight factor model image

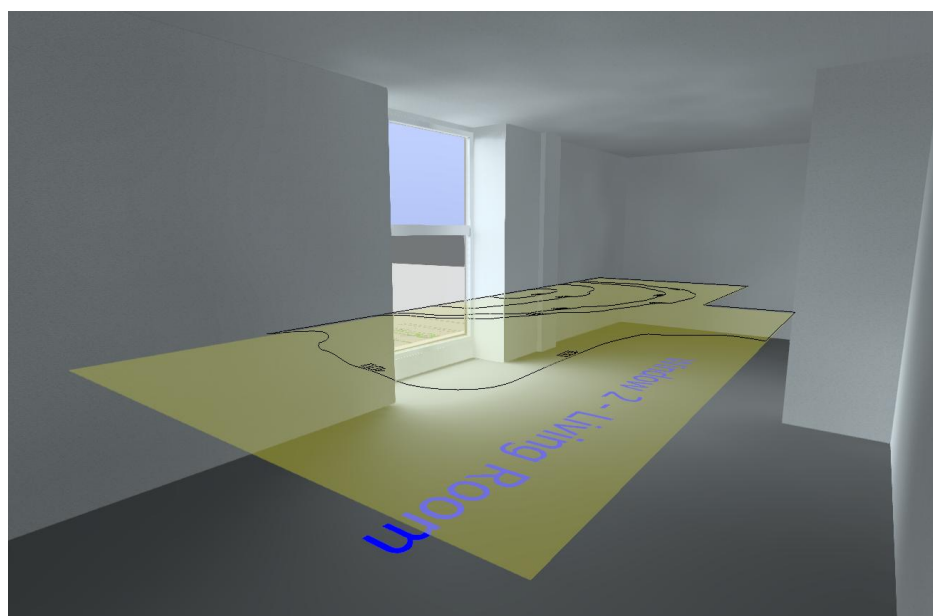


Figure 11 – Window 2 Living room post-development daylight factor model image

The post-development assessment indicates that Window 2 living room in the adjacent property comfortably exceeds the UK National Annex recommended target for daylight factor.

5.3 Window 3 – Bedroom

The table below shows the results of the calculated pre-development and post-development daylight factor calculations for Window 3 – Bedroom.

Sensitive Window/ Room	Target daylight factor	Pre-development daylight factor	Post-development daylight factor
Window 3 (Bedroom)	0.7%	3.34%	3.01%

Table 4: Window 3 Bedroom daylight factor results

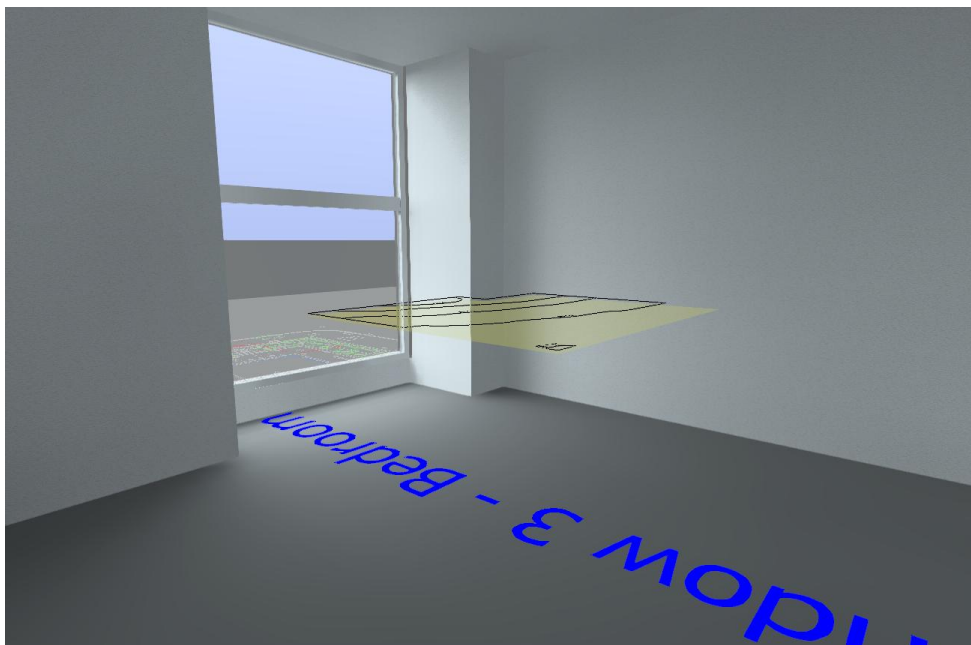


Figure 12 – Window 3 Bedroom pre-development daylight factor model image

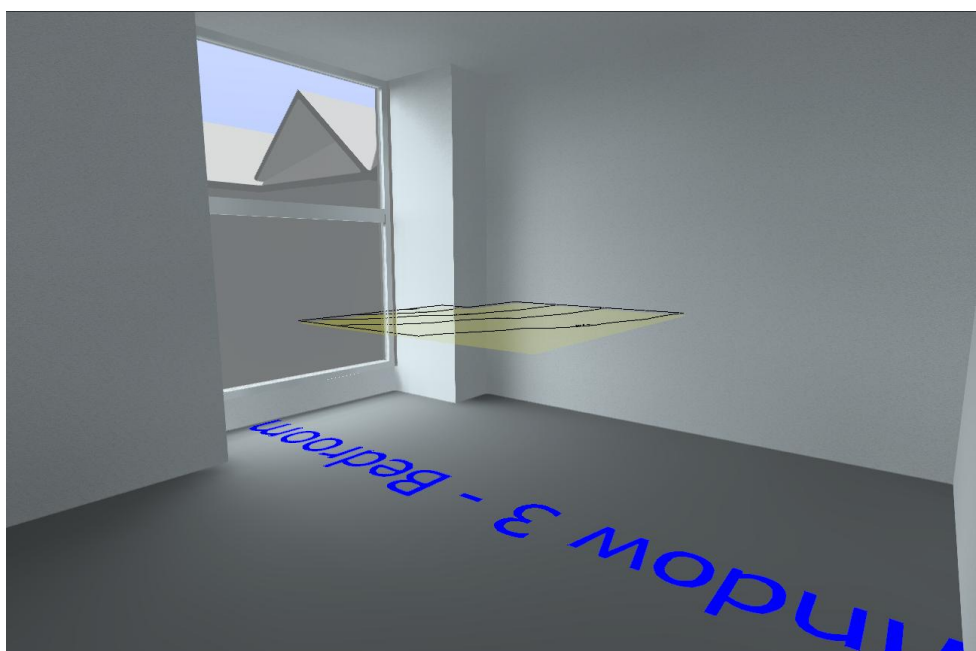


Figure 13 – Window 3 Bedroom post-development daylight factor model image

The post-development assessment indicates that Window 3 bedroom in the adjacent property comfortably exceeds the UK National Annex recommended target for daylight factor.

5.4 Window 4 – Bedroom

The table below shows the results of the calculated pre-development and post-development daylight factor calculations for Window 4 – Bedroom.

Sensitive Window/ Room	Target daylight factor	Pre-development daylight factor	Post-development daylight factor
Window 4 (Bedroom)	0.7%	3.34%	2.77%

Table 5: Window 4 Bedroom daylight factor results

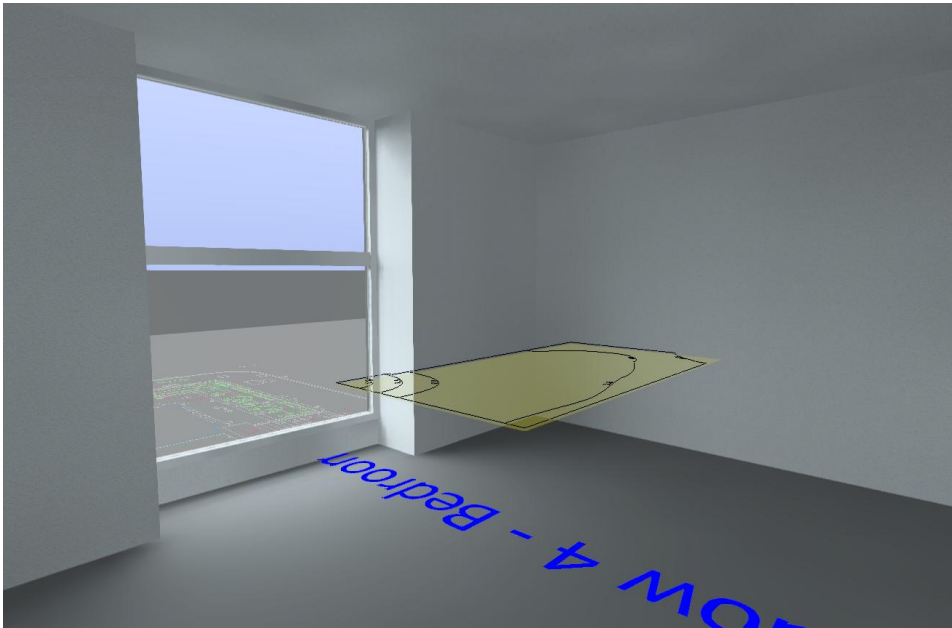


Figure 14 – Window 4 Bedroom pre-development daylight factor model image

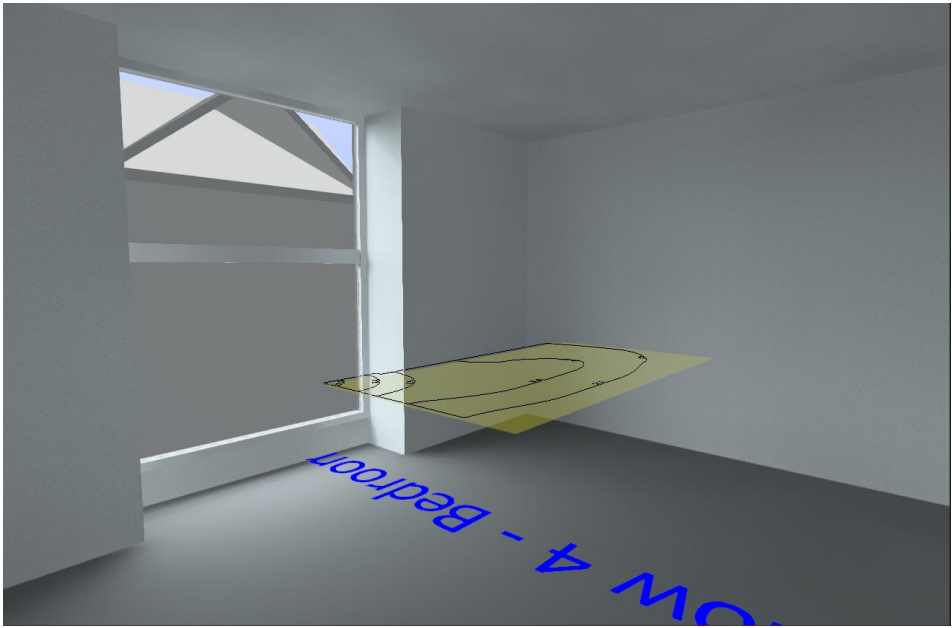


Figure 15 – Window 4 Bedroom post-development daylight factor model image

The post-development assessment indicates that Window 4 bedroom in the adjacent property comfortably exceeds the UK National Annex recommended target for daylight factor.

6.0 Conclusion

ABA Consulting Ltd was appointed by Simon James Arq Ltd to undertake a Daylight Impact Assessment in support of the Planning application for the proposed residential development at 404 Wilbraham Road, Manchester.

New developments have the potential to cause shading, thus significantly reducing the amount of daylight into existing nearby properties. As a result, a daylight impact assessment was undertaken to consider the likely effects of the Proposed Development against the nearby property at 406 Wilbraham Road.

A 3D model of the Proposed Development and existing nearby property was developed using Dialux Evo software. This software was used to assess the Daylight Factor as noted in BS EN 17037 as one of the methodologies for appraising daylight.

The below table provides a summary of the results of the calculated pre-development and post-development daylight factor within the habitable rooms at the nearby property.

Sensitive Window/ Room	UK National Annex to BS EN 17037 recommended Target daylight factor	Calculated Pre-development daylight factor	Calculated Post-development daylight factor
Window 1 (Living Room)	1.1%	1.67%	1.36%
Window 2 (Living Room)	1.1%	2.06%	1.54%
Window 3 (Bedroom)	0.7%	3.34%	3.01%
Window 4 (Bedroom)	0.7%	3.34%	2.77%

Table 6: Summary of pre-development and post development daylight factors within 406 Wilbraham Road

The assessment indicates that the windows/ rooms in the neighbouring property comfortably meet and exceed the recommended target daylight in the UK National Annex to BS EN 17037.

Overall, the proposed development is expected to have a negligible impact on daylight levels in the assessed neighbouring property.