Daylight, Sunlight & Overshadowing Report

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PROJECT:

WHITE BEAR YARD
144A CLERKENWELL RD
LONDON
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CLIENT:

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information

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Executive Summary

Hilson Moran has been commissioned by The Senator Group to undertake a daylight, sunlight and overshadowing assessment to support the planning application of the proposed re-development of the existing building associated with White Bear Yard, hereafter named 'Proposed Development', located on Back Hill in the London Borough of Camden.

The re-development consists in proposed provision of a reconfigured entrance, internal reconfiguration and extension of third floor to provide additional office floorspace at 144 A Clerkenwell Road.

This report describes the effect of the proposed development on the daylight, sunlight and overshadowing to habitable rooms and open spaces in adjacent existing and cumulative developments to the application site.

The Building Research Establishment's (BRE) *'Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice'* (Littlefair, 2011) was used to establish the extent to which the proposed development meets current best practice guidelines. In cases where the proposed development is likely to cause a reduction of daylight and sunlight to key receptors in the surrounding area, the results were compared against the criteria.

While the BRE benchmarks are widely used, these criteria should not be seen as an instrument of planning policy. As stated in the BRE Guide:

'…The guide is intended for building designers and their clients, consultants and planning officials. The advice given here 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 site layout design.'

The effect of the Proposed Development on the sunlight and daylight availability to windows and open spaces of neighbouring properties is assessed. Full details are provided in Appendix 1.

The results show that the majority of receptors tested will not experience significant reduction on the daylight and sunlight levels. The proposed extension is considered to have localised negligible or 'minor adverse' effect on the majority of these receptors.

Reduction of daylight and sunlight levels have been observed that at receptors of 1-10 Summers Street primarily. The extension of White Bear Yard development can induce noticeable reduction on the daylight and the sunlight, some of these windows will not receive any sunlight at all after the construction of the new roof top extension.

Generally, the design team has worked with Hilson Moran to minimize the level of impact on the surrounding properties. Several design iterations were undertaken and the massing proposed was considerably reduced however, given the proximity of the surrounding properties as it is commonly found in Central London, any additional massing proposed in on top of the 3rd floor of 144A Clerkenwell Road will have a noticeable impact on the adjacent dwelling.

Given the comparative nature of the BRE criteria, when existing daylight levels are low it is more difficult for a proposed development to comply with the criteria, as even an absolute reduction of only 1% VSC (from a VSC of 5% to a VSC of 4%) would not comply with the criteria.

Furthermore, the Camden Planning Guidance states that:

> *"While we strongly support the aims of the BRE methodology for assessing sunlight and daylight we will consider the outcomes of the assessments flexibility where appropriate, taking into account site specific circumstances and context. For example, to enable new development to respect the existing layout and form in some historic areas, it may be necessary to consider exceptions to the recommendations cited in the BRE guidance."*

Given the nature of the context and the massing proposed, it is reasonable to assume that a degree of flexibility can be applied to the outcome of the assessment in line with the CPG, therefore no further mitigation measure is required.

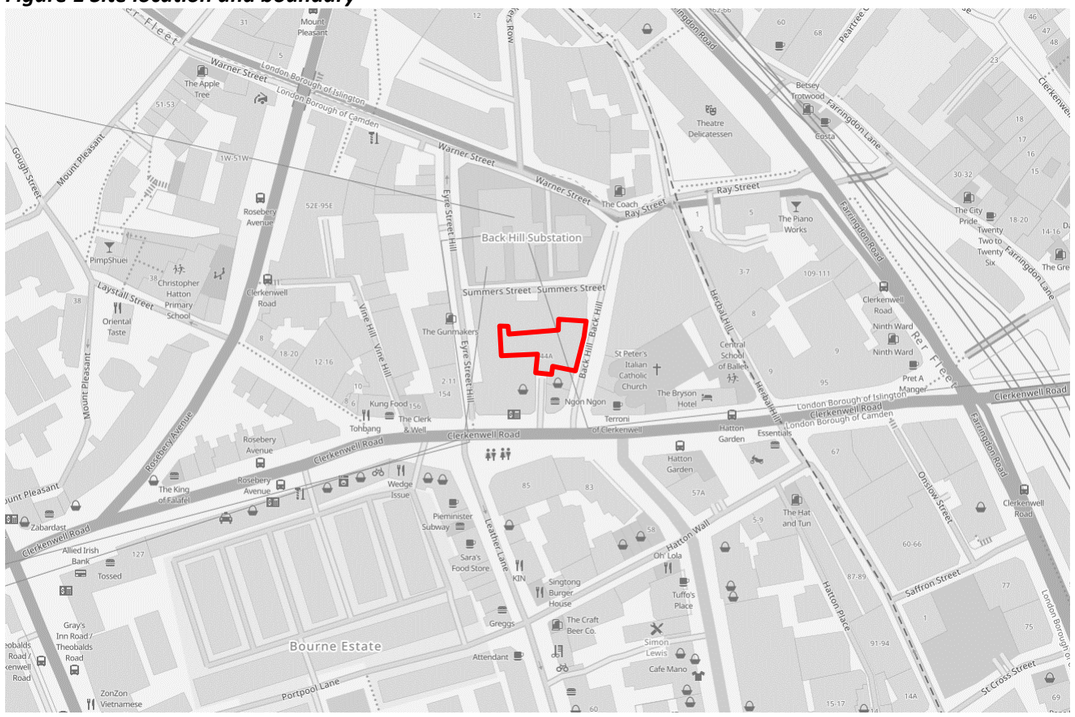
1. Introduction

Hilson Moran has been commissioned by The Senator Group to undertake a daylight, sunlight and overshadowing assessment to support the planning application of the proposed re-development of the existing building associated with White Bear Yard, hereafter named 'Proposed Development', located on Back Hill in the London Borough of Camden.

The re-development consists in the proposed provision of a reconfigured entrance, internal reconfiguration and extension of third floor to provide additional office floorspace at 144 A Clerkenwell Road.

The effect of the Proposed Development on the sunlight and daylight availability to windows and open spaces of neighbouring properties is assessed. Full details are provided in Appendix 1.

Figure 1 Site location and boundary



2. Planning policy and Guidance

2.1. Legislative Framework

There is no applicable legislation of relevance to this assessment.

2.2. National Planning Policy

NATIONAL PLANNING POLICY FRAMEWORK-FEBRUARY 2019[1]

Policy 123 – Achieving appropriate densities- states that:

- *"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.*

2.3. Regional Planning Policy

THE LONDON PLAN: SPATIAL DEVELOPMENT STRATEGY FOR GREATER LONDON (2011)[2] - REVISED JAN 2017

The London Plan: Spatial Development Strategy for Greater London (2011) (the London Plan) contains general comments about enhancing the environment, open spaces (both public and private) and impacts on the microclimate.

In relation to daylight and sunlight impacts, the relevant sections are given below:

Policy 7.6 states that:

- *"Buildings and structures should not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and microclimate"*

Policy 7.7 states that:

- *"Tall buildings should not affect adversely their surroundings in terms of microclimate, wind turbulence, overshadowing…. "*

DRAFT LONDON PLAN [3]– DECEMBER 2017

Published in December 2017, the new London plan focuses on a design led, evidence based and contextual approach to density. Daylight is mainly mentioned in Policy D4 housing quality and standards:

- *'F — The design of development should provide sufficient daylight and sunlight to new housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space'.*

2.4. Local Panning Policy

CAMDEN LOCAL PLAN- JULY 2017[4]

Policy A1 States that:

- *"The Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes unacceptable harm to amenity". "We will seek to ensure that the amenity of communities, occupiers and neighbours is protected…*and *the factors we will consider include…sunlight, daylight and overshadowing".*

At paragraph 6.5, the new Camden local plan states that:

- *"To assess whether acceptable levels of daylight and sunlight are available to habitable, outdoor amenity and open spaces, the Council will take into account the most recent guidance published by the Building Research Establishment (currently the Building Research Establishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011)."*

2.5. Guidance

BUILDING RESEARCH ESTABLISHMENT (BRE), SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT, A GUIDE TO GOOD PRACTICE (LITTLEFAIR, 2011)[5]

The BRE Guide provides criteria and methods that are detailed below for calculating the effect of the proposed development on the daylight and sunlight availability to surrounding properties. These guidelines were first published in 1991, and superseded the document 'Sunlight and Daylight Planning Criteria and Design of Buildings' (Department of the Environment, 1971). The second and latest edition of the BRE Guide was released in 2011.

The BRE Guide includes advice on how to achieve good daylighting and sunlighting both within buildings and open spaces in new developments. It also covers guidance to safeguard daylight and sunlight of existing buildings nearby and the protection of daylighting of adjoining land for future development.

Whilst the BRE Guide provides numerical guidelines for daylight, sunlight and overshadowing, these criteria should not be seen as absolute targets since, as the document states, the intention of the Guide is to help rather than constrain the designer. The Guide is not an instrument of planning policy, therefore, whilst the methods given are technically robust, some level of flexibility should be applied given the context and constraints of the site.

[1] Ministry of Housing, Communities & Local Government (February 2019), 'National Planning Policy Framework'.
[2] GLA (January2017), 'The London Plan, The Spatial Development Strategy for Greater London'.
[3] GLA (December 2017), 'The London Plan, The Spatial Development Strategy for Greater London', Draft for public consultation.
[4] Camden Council (July 2017) 'Camden Local Plan'.
[5] Littlefair, P. (2011), Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice, IHS BRE Press, Watford. (BR209)

CAMDEN PLANNING GUIDANCE- MARCH 2018[6]

The Camden Planning Guidance (CPG) consists in a series of documents to support the delivery Camden Local plan adopted in 2017. Section 3 of CPG for Amenity has a section on daylight impact, where it states that:

- *"The Council notes the intentions of the BRE document is to provide advice to developers and decision makers and therefore it should be regarded as a guide rather than policy."*
- *While we strongly support the aims of the BRE methodology for assessing sunlight and daylight we will consider the outcomes of the assessments flexibility where appropriate, taking into account site specific circumstances and context. For example, to enable new development to respect the existing layout and form in some historic areas, it may be necessary to consider exceptions to the recommendations cited in the BRE guidance."*

3. Methodology & Assessment Criteria

The methodology adopted for the study follows that set out in BRE Guide which gives criteria and methods for calculating daylight and sunlight.

The BRE Guide uses a set of parameters to quantify the potential light loss level: Vertical Sky Component (VSC), Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) for surrounding buildings. The Guide uses sun hours on the 21st March to quantify the sunlight levels in open spaces.

3.1. Vertical Sky Component (VSC)

The VSC calculation is the ratio of the direct sky illuminance falling at the centre of a window, to the simultaneous horizontal illuminance under an unobstructed sky. The standard CIE (Commission Internationale d'Éclairage) Overcast Sky is used and the ratio is expressed as a percentage. The maximum VSC value is close to 39.6% for a completely unobstructed vertical wall.

The BRE Guide sets out two guidelines for the VSC:

- If the VSC at the centre of the existing window exceeds 27% with the new development in place, then enough sky light should still be reaching the existing window; and
- If the VSC with the new development in place is both less than 27% and less than 0.8 times its former value, then the reduction in light to the window is likely to be noticeable. This means that a reduction in the VSC value of up to 20% its former value would be acceptable and thus, the effect would be considered negligible.

3.2. Probable Sunlight Hours (PSH)

Access to sunlight is measured on the windows to habitable rooms facing within 90° of due south. The PSH calculation method measures the proportion of the window assessed that is sunlit for a period of time. In new developments, each dwelling should have at least one main living room within 90° of due south to receive a reasonable amount of sunlight. The BRE Guide recommends that the PSH is calculated for the whole year, and for the winter months (21 September to 21 March).

If the window reference point can receive more than 25% of APSH, including at least 5% of winter probable sunlight hours (WPSH) during the winter months between 21 September and 21 March, then the room should still receive enough sunlight and the effect will therefore, be negligible. However, if the available sunlight hours are both less than the amount given above and less than 0.8 times their former value, either over the whole year or during the winter months (21 September to 21 March), then the occupants of the existing building will notice the loss of sunlight.

3.3. Significance Criteria

The primary purpose of the daylight and sunlight assessment is to determine the likely loss of light to adjacent buildings resulting from the construction of the proposed development. Therefore, in these cases, the proposed development is identified as the potential source of impact.

The study quantifies the likely daylight and sunlight availability to the receptors identified and derives the resulting ratio of impact. The potential effects are:

- Noticeable reductions in daylight that are likely to make the rooms identified to appear gloomier, and electric lighting will be needed more often. This may result in a minor to major negative effect depending on the sensitivity of the receptor;
- Noticeable reductions in sunlight to the windows identified that will make the room appear colder and less pleasant. This may result in a minor to major negative effect depending on the sensitivity of the receptor;
- Noticeable increase in daylight thus improving the visual comfort qualities of rooms identified. This would result in a moderate to major beneficial effect depending on the sensitivity of the receptor; and
- Noticeable increase in sunlight to the windows identified that will make the rooms benefit from direct solar gains for longer, thus making the rooms appear warmer and more pleasant. This would result in a moderate to major beneficial effect depending on the sensitivity of the receptor.

3.4. Receptors for Daylight

The scoping of impacts has considered the guidance contained in the BRE Guide.

Paragraph 2.2.2 of the BRE Guide states that the guidelines for daylight impacts are primarily for residential properties, where daylight is deemed to be required, including:

- Living rooms;
- Kitchens; and
- Bedrooms.

Paragraph 2.2.2 of the BRE Guide affirm also that the guidelines may also be applied to non-domestic buildings which have a reasonable expectation of daylight such as:

- Schools;
- Hospitals;
- Hotels/Hostels;
- Small workshops and some offices

[6] Camden Council (March 2017) 'Camden Planning Guidance'.

3.5. Receptors for Sunlight

Paragraph 3.1.2 of the BRE Guide states that the main requirement for sunlight is on housing, particularly living rooms and conservatories whereas it is viewed as less important in bedrooms and kitchens.

In the absence of detailed internal layout information for the surrounding developments, all windows of residential properties facing within 90° of due south will be included within the assessment of effects. . Paragraph 3.1.3 of the BRE Guide further states that sunlight is also valued in non-domestic buildings. However, this requirement will vary according to the type of non-domestic building, the aims of the occupants and the extent to which the occupants can control their environment.

3.6. Receptors for Overshadowing

Paragraph 3.3.3 of the BRE Guide states that the guidance is also concerned with the availability of sunlight in open space such as:

- Gardens (usually the back garden);
- Parks/playing fields;
- Children playgrounds;
- Outdoor swimming pools;
- Sitting out areas such as public squares; and
- Focal points for views.

3.7. Magnitude of Impact

The BRE Guide provides DSO criteria using absolute values, but it does not provide criteria for determining the impact magnitude. The compliance criteria for the effects on the surrounding developments are detailed in the section below, alongside how the impact magnitude has been determined using professional judgement.

The BRE criteria have been used to assess the likely levels of daylight and sunlight to habitable rooms in the surrounding properties. Compliance with the BRE Guide is achieved if the levels of daylight/sunlight within the identified receptors of the surrounding properties are equal to or greater than the absolute values established by the Guide.

Compliance with the BRE Guide is also achieved for the identified receptors of the surrounding properties if the ratio of impact between the baseline and proposed scenarios is 0.80 or higher, i.e. the reduction in daylight or sunlight hours is 20% or less. An additional criterion of overall annual loss for APSH values also needs to be satisfied to comply with the recommended BRE guidelines.

A negligible magnitude of change is established if compliance with the BRE criteria is met.

For the affected receptors that lie below the recommended BRE guidelines, the impact magnitude has been classified using professional judgement depending on the ratio of impact between the baseline (existing) and proposed scenarios. The criteria used for determining the impact magnitude for the VSC, APSH and WPSH results has been detailed below in Tables 2, 3 and 4.

VSC Values	Ratio of change	Magnitude of impact
VSC ≥ 27%	≥ 0.8	Negligible
VSC ≥ 27%	< 0.8	Negligible
VSC < 27%	> 0.8	Negligible
VSC < 27%	0.7 – 0.8	Minor
VSC < 27%	0.6 – 0.7	Moderate
VSC < 27%	< 0.6	Major

Table 1 Impact Magnitude for Vertical Sky Component Results

APSH Values	Ratio of change	Magnitude of impact
APSH ≥ 25%	≥0.8	Negligible
APSH ≥ 25%	<0.8	Negligible
APSH < 25%	>0.8	Negligible
APSH < 25%	>0.7	Minor
APSH < 25%	0.6 – 0.7	Moderate
APSH < 25%	< 0.6	Major

Table 2 Impact Magnitude for Annual Probable Sunlight Hours Results

WPSH Values	Ratio of change	Magnitude of impact
WPSH ≥ 5%	≥0.8	Negligible
WPSH ≥ 5%	<0.8	Negligible
WPSH < 5%	>0.8	Negligible
WPSH < 5%	0.7 – 0.8	Minor
WPSH < 5%	0.6 – 0.7	Moderate
WPSH < 5%	< 0.6	Major

Table 3 Impact Magnitude for Winter Probable Sunlight Hours Results

3.7.1. Receptor Sensitivity/Value

A sensitivity rating has been developed using professional judgement based on the BRE Guide, which is described below in Table 4 and categorised into high, medium and low based on the function or use of the space being assessed. This rating is indicative and there will be occasions where the sensitivity may be interpreted differently on a site by site basis.

Receptor Sensitivity/ Value	Description
High	Habitable rooms such as living rooms, kitchens and bedrooms within residential developments generally require good levels of daylight to render them more enjoyable and adequate to their function. Windows to such spaces are classified as having high sensitivity to daylight.
High	Windows of residential dwellings have been classified as having high sensitivity to sunlight, particularly for living rooms and conservatories. In the absence of internal layout information of the surrounding residential developments, all windows facing within 90◦ of due south have been classified as having a high sensitivity to sunlight as a 'worst case' scenario.
High	Residential back garden spaces have been assigned a high sensitivity to sunlight.
Moderate	Non- domestic buildings where the occupants have a reasonable expectation of daylight have been classified as having a medium sensitivity to daylight.
Low	The windows of the surrounding non-domestic buildings have been classified as having a low sensitivity to sunlight.

Table 4 Sensitivity/Value of Daylight, Sunlight & Overshadowing Receptors

3.8. Significance of Effects on Daylight, Sunlight & Overshadowing

In the absence of published guidance, a matrix for determining the significance of effects has been developed (Table 5) taking into account the sensitivity of the receptor and the impact magnitude; only those effects that are Major are considered to be 'significant'.

Magnitude	Sensitivity		
	High	**Moderate**	**Low**
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

Table 5 Significance Matrix for Daylight, Sunlight and Overshadowing

3.9. Limitations and Assumptions

All calculations have been based on a z map model provided by the Architect as well as the 3D model prepared by MBS following their site survey and scanning of the surrounding existing receptors.

The accuracy of the model, and hence the validity of any findings, are governed by the assumptions made, and the resolution of the model's geometry.

In the absence of information regarding the internal layouts of the surrounding buildings, it was assumed that all the windows on the assessed buildings are located in habitable rooms (i.e. bedrooms, living rooms etc., for residential developments or office spaces, hotel rooms etc., for commercial buildings). However it is likely that a number of the windows may include circulation space.

The effect of existing trees and hedges has not been included in the modelling of effects.

4. Assessment Modelling

4.1. Scope of the Assessment

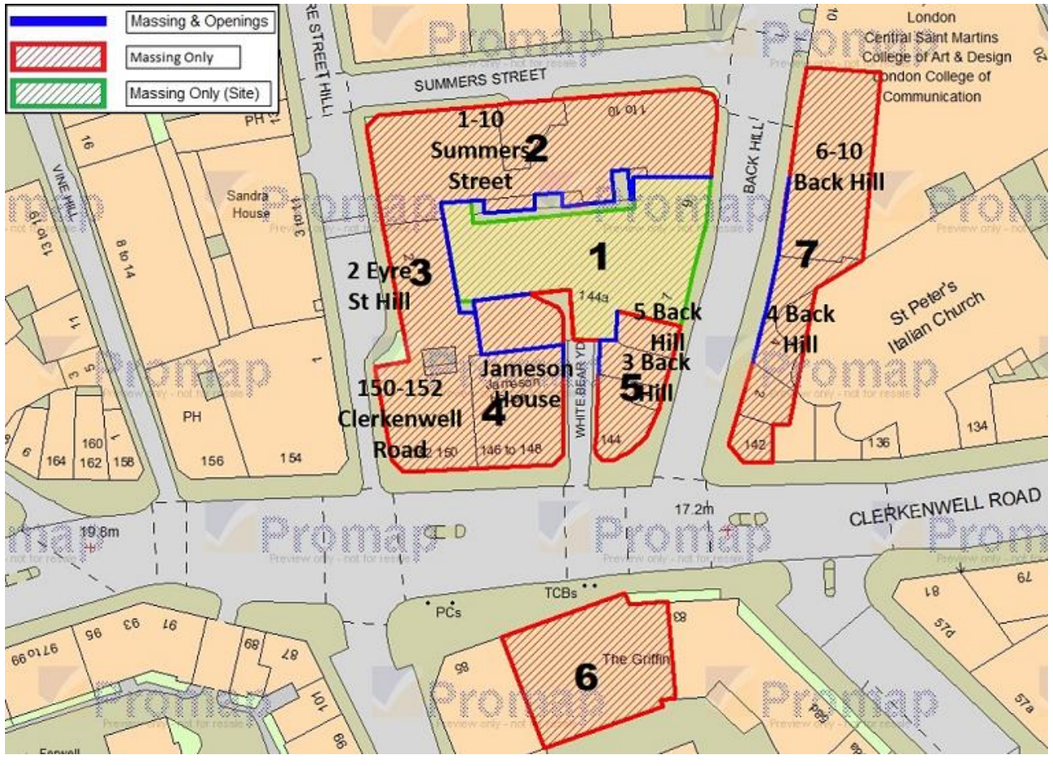
The purpose of the study is to determine the effect of the proposed Development on the daylight and sunlight availability to windows of the surrounding developments.

4.2. Extent of the Study Area

The study area modelled for this analysis includes the site and the surrounding properties likely to be affected by the proposed development – these are illustrated in Figure 2 and listed in Table 6.

Note that there are no amenity areas/public spaces identified to be assessed against the overshadowing criteria in the proximity of the application site.

Figure 2 Buildings identified for the assessment



No.	Building Reference	Assumed use	Sensitivity
1	Existing/Proposed development	N/A	N/A
2	1-10 Summers Street	Residential	High
3	2 Eyre St Hill	Educational	Medium
4	150-152 Clerkenwell Road	Educational	Medium
4	Jameson House	Office	Low
5	3 Back Hill	Residential	High
5	5 Back Hill	Residential	High
7	4 Back Hill	Residential	High
7	6-10 Back Hill	Residential	High

Table 6 Buildings and uses identified for the assessment

4.2.1. Method of Data Collection

The baseline and proposed conditions at the site and the surrounding areas were established from the following:

- 3D model of the existing buildings provided by MBS Survey Software Ltd on 11th December, 2017;
- Floor plan and elevations drawings of the Proposed Development provided by Cassidy & Ashton Architects on 4th March, 2019; and
- Information on the building uses and on the habitable rooms location of 1-10 Summer Street provided by Cassidy & Ashton Architects.

The baseline and proposed scenarios assessed for the purposes of this study are illustrated below.

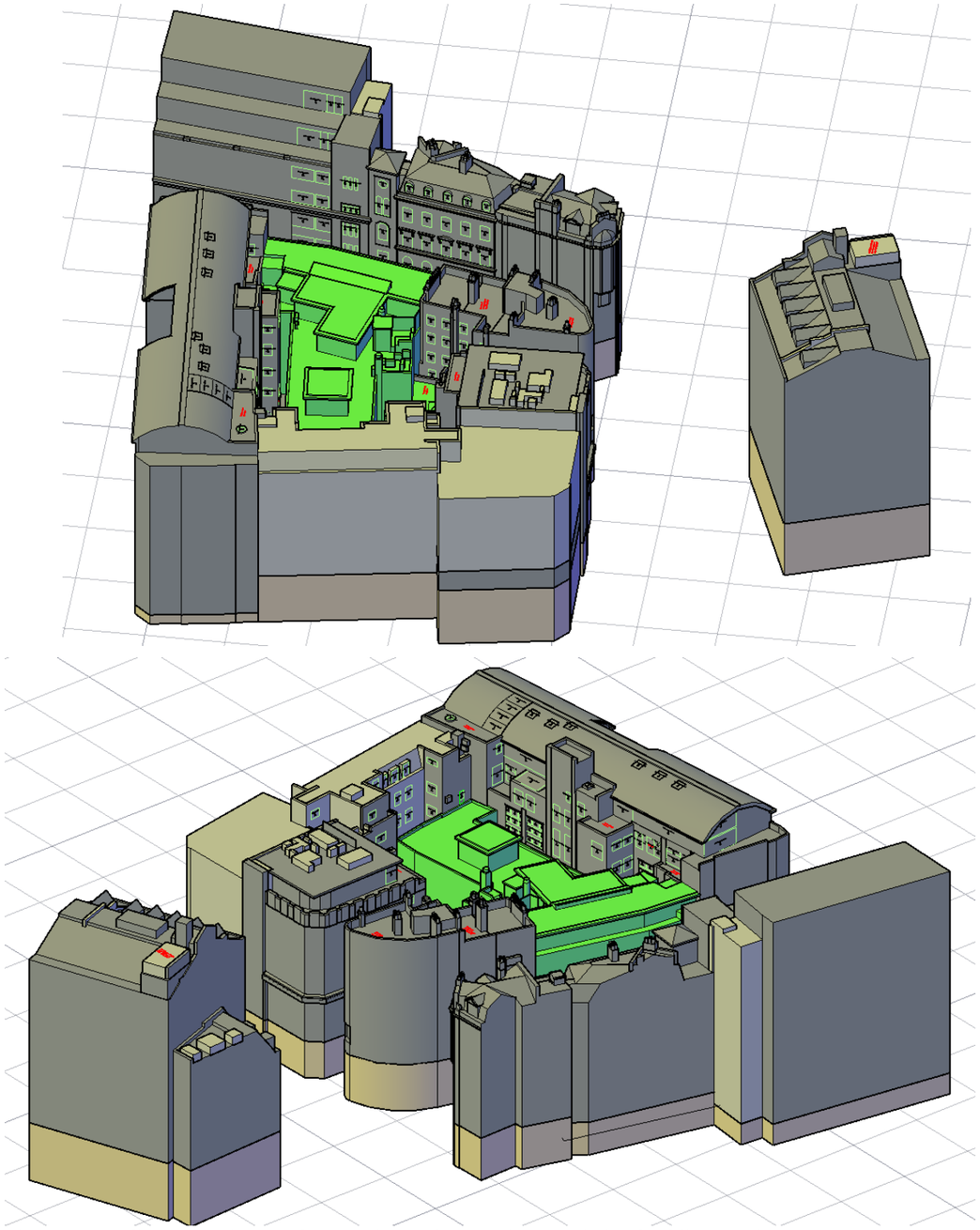


Figure 3 Baseline scenario, South-West & South-East views (existing building on site in green)

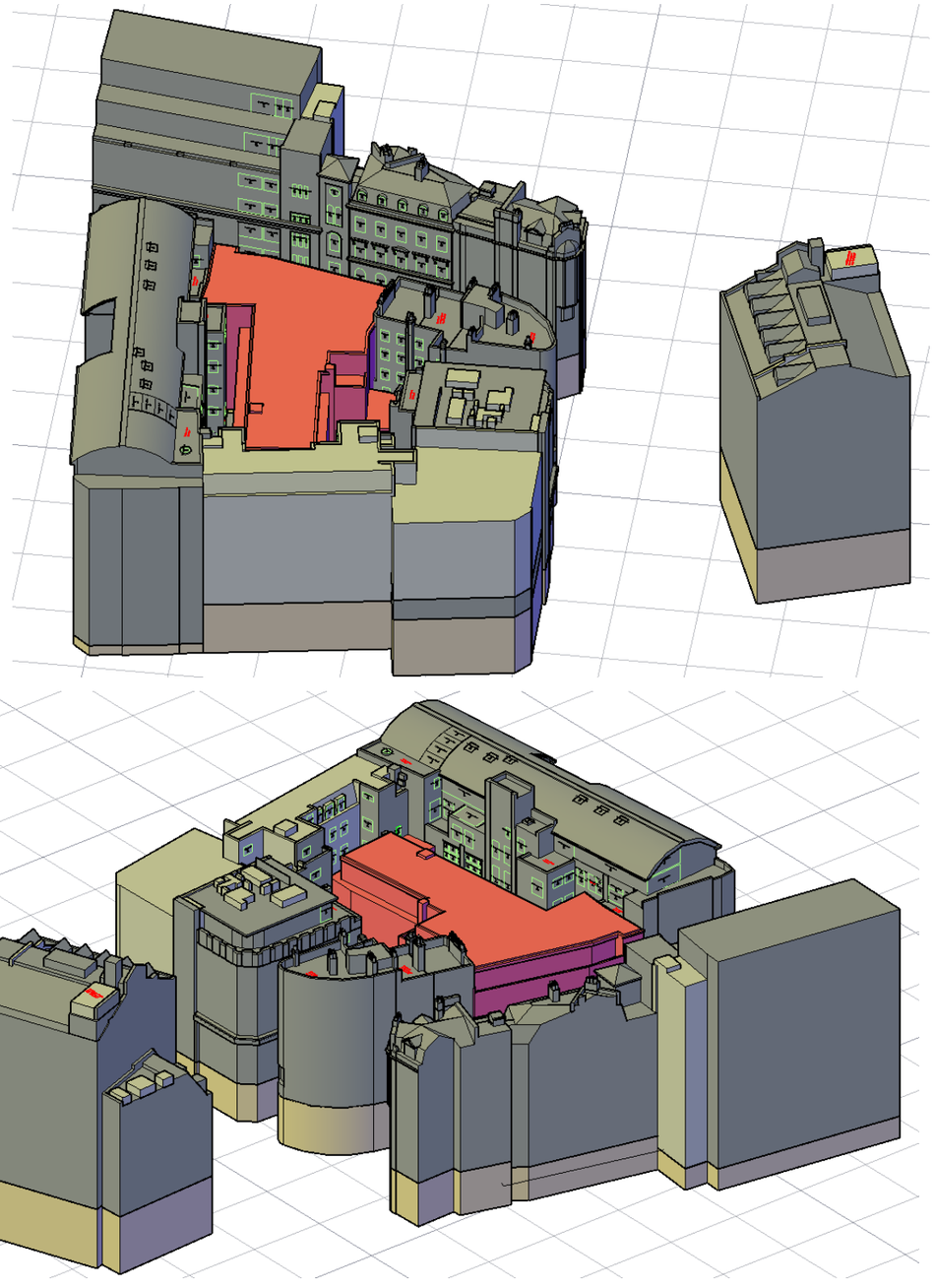


Figure 4 Proposed scenario, South-West & South-East views (proposed building on site in red)

5. Impact assessment

5.1. Impact on Daylight Levels in the Surrounding Area

A summary of the Vertical Sky Component results is provided in Table 7 and the corresponding magnitude of impact in Table 8. A complete set of results are reported in Appendix 1 of this report.

Location	Total Assessed	No. of Receptors	BRE Compliance Criteria
1-10 Summers Street	78	50	Above
		28	Below
2 Eyre St Hill	42	35	Above
		7	Below
150-152 Clerkenwell Road	6	6	Above
		0	Below
Jameson House	35	35	Above
		0	Below
3 Back Hill	22	20	Above
		2	Below
4 Back Hill	31	31	Above
		0	Below
5 Back Hill	9	6	Above
		3	Below
6-10 Back Hill	29	29	Above
		0	Below

Table 7 Vertical Sky Component results

Location	Total Receptors faced by the development	No. of receptors	Magnitude of change
1-10 Summers Street	78	50	Negligible
		11	Minor
		7	Moderate
		10	Major
2 Eyre St Hill	42	35	Negligible
		5	Minor
		2	Moderate
		0	Major
150-152 Clerkenwell Road	6	6	Negligible
		0	Minor
		0	Moderate
		0	Major
Jameson House	35	35	Negligible
		0	Minor
		0	Moderate
		0	Major
3 Back Hill	22	20	Negligible
		1	Minor
		0	Moderate
		1	Major
4 Back Hill	31	31	Negligible
		0	Minor
		0	Moderate
		0	Major
5 Back Hill	9	6	Negligible
		2	Minor
		1	Moderate
		0	Major
6-10 Back Hill	29	29	Negligible
		0	Minor
		0	Moderate
		0	Major

Table 8 Vertical Sky Component Impact Magnitude

The assessment has indicated that the Proposed Development has a **negligible effect** on the daylight receptors of the following developments:

- 150-152 Clerkenwell Road;
- Jameson House;
- 4 Back Hill; and
- 6-10 Back Hill.

Localised effects have been identified on the remaining surrounding developments and the significance of these effects has been discussed in detail below:

- The assessment has indicated that of the 78 receptors tested for 1-10 Summers Street, there is a major magnitude of change for 10 receptors, a moderate magnitude of change for 7 receptors and a minor magnitude of change for 11 receptors. Consequently, it is believed that there is likely to be a major adverse effect for the 11 receptors having the greatest reduction in daylight and that can lead the occupants to observe a significant loss of light and rooms to appear darker.
- The assessment has indicated that of the 42 receptors tested for 2 Eyre St Hill, there is a minor magnitude of change for 5 receptors and a moderate magnitude of change for 2 receptors, where a maximum VSC reduction of 27% is calculated. Overall, there is likely to be a localised minor adverse effect on the daylight receptors of 2 Eyre St Hill.

- The assessment has indicated that of the 22 receptors tested for 3 Back Hill, there is a minor magnitude of change for 1 receptor, and a moderate magnitude of change for 1 receptor.

Generally, the design team has worked with Hilson Moran to minimize the level of impact on the surrounding properties. Several design iterations were undertaken and the massing proposed was considerably reduced however, given the proximity of the surrounding properties, any additional massing proposed on top of the 3rd floor of 144A Clerkenwell Road will have a noticeable impact on the adjacent dwellings.

It also worth mentioning that the baseline scenario daylight levels of the surrounding properties are low: overall 28 out of 252 receptors have a VSC value smaller than 5%, which means, as explained in the BRE Guidance that *'It is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.'*

Given the comparative nature of the BRE criteria, when existing daylight levels are low it is more difficult for a proposed development to comply with the criteria, as even an absolute reduction of only 1% VSC (from a VSC of 5% to a VSC of 4%) would not comply with the criteria.

5.2. Impact on Sunlight Levels in the Surrounding Area

The sunlight assessment has been conducted for receptors of residential developments facing within 90° of due south. A summary of the APSH results is provided in Table 9 and the corresponding magnitude of impact in Table 10. A further summary of the WPSH results has been provided in Table 11 and their corresponding magnitude of impact in Table 12. A complete set of results are reported in Appendix 1 of this report.

Location	Total Assessed	No. of Receptors	BRE Compliance Criteria
1-10 Summers Street	67	50	Above
		17	Below
2 Eyre St Hill	10	9	Above
		1	Below

Table 9 Annual Probable Sunlight Hours Results

Location	Total Receptors faced by the development	No. of receptors	Magnitude of change
1-10 Summers Street	67	50	Negligible
		1	Minor
		7	Moderate
		9	Major
2 Eyre St Hillr	10	9	Negligible
		0	Minor
		1	Moderate
		0	Major

Table 10 Annual Probable Sunlight Hours Impact Magnitude

Location	Total Assessed	No. of Receptors	BRE Compliance Criteria
1-10 Summers Street	67	56	Above
		11	Below
2 Eyre St Hill	10	9	Above
		1	Below

Table 11 Winter Probable Sunlight Hours Results

Location	Total Receptors faced by the development	No. of receptors	Magnitude of change
1-10 Summers Street	67	56	Negligible
		0	Minor
		0	Moderate
		11	Major
Eyre St Hill	10	9	Negligible
		0	Minor
		0	Moderate
		1	Major

Table 12 Winter Probable Sunlight Hours Impact Magnitude

The following surrounding buildings don't comprise of any receptors facing within 90° of due south, therefore no PSH results are generated for them:

- 150 – 152 Clerkenwell Road
- Jameson House
- 3 Back Hill
- 4 Back Hill
- 5 Back Hill
- 6 – 10 Back Hill

Localised effects have been identified on the remaining surrounding developments and the significance of these effects has been discussed in detail below:

- The assessment has indicated that of the 67 receptors tested for 1-10 Summers Street, there is a major magnitude of change for 9 receptors in an annual basis and a major magnitude of change for 20 receptors in a winter basis. Furthermore, there is a moderate magnitude of change for 7 receptors annually and a minor magnitude of change for 1 receptor. Overall, there is likely to be a major adverse effect on a significant amount of sunlight receptors of 1-10 Summers Street, the majority of which are located on the third floor. Additionally, results showed that a few of them can experience a reduction greater than 90% which can make the loss of sunlight highly noticeable by the occupants.

- The assessment has indicated that of the 10 receptors tested for 2 Eyre Street Hill, there is a moderate magnitude of change for 1 receptor in an annual basis and a major magnitude of change

for 1 receptor on a winter basis. Therefore, there is likely to be a localised major to moderate adverse effect throughout the year which can become major during wintertime. Nonetheless, given the fact that there is only one receptor failing the criteria and considering there are solely 2 hours during winter that it might experience the major adverse effect, it can be argued that the overall effect is negligible.

6. Conclusions

Hilson Moran has been commissioned by The Senator Group to undertake a daylight, sunlight and overshadowing assessment to support the planning application of the proposed re-development of the existing building associated with 144A Clerkenwell Road, located on Back Hill in the London Borough of Camden.

The re-development consist in proposed provision of a reconfigured entrance, internal reconfiguration and extension of third floor to provide additional office floorspace at 144 A Clerkenwell Road.

The effect of the Proposed Development on the sunlight and daylight availability to windows and open spaces of neighbouring properties is assessed. Full details are provided in Appendix 1.

The results show that the majority of receptors tested will not experience significant reduction on the daylight and sunlight levels. The proposed extension is considered to have localised negligible or 'minor adverse' effect on the majority of these receptors.

Reduction of daylight and sunlight levels have been observed that at receptors of 1-10 Summers Street primarily. The extension of White Bear Yard development can induce noticeable reduction on the daylight and the sunlight, some of these windows will not receive any sunlight at all after the construction of the new roof top extension.

Generally, the design team has worked with Hilson Moran to minimize the level of impact on the surrounding properties. Several design iterations were undertaken and the massing proposed was considerably reduced however, given the proximity of the surrounding properties, any additional massing proposed in on top of the 3rd floor of 144A Clerkenwell Road is likely to result in a negative impact on the adjacent dwelling.

Given the comparative nature of the BRE criteria, when existing daylight levels are low it is more difficult for a proposed development to comply with the criteria, as even an absolute reduction of only 1% VSC (from a VSC of 5% to a VSC of 4%) would not comply with the criteria.

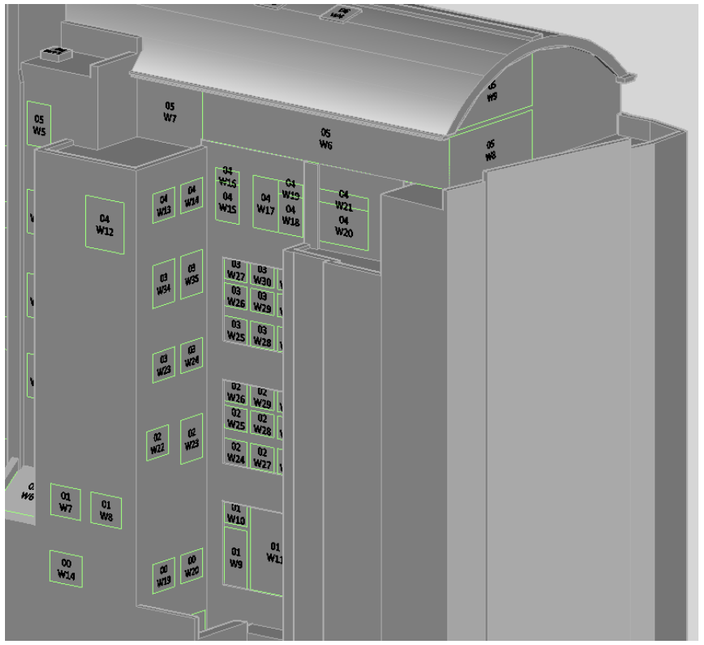
Furthermore, the Camden Planning Guidance[6] states that:

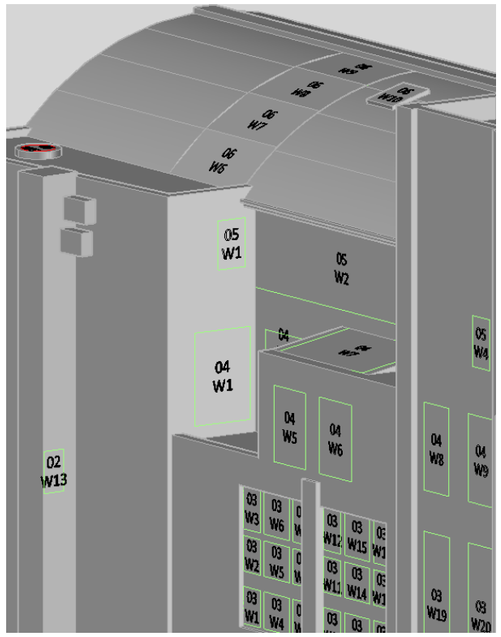
> *"While we strongly support the aims of the BRE methodology for assessing sunlight and daylight we will consider the outcomes of the assessments flexibility where appropriate, taking into account site specific circumstances and context. For example, to enable new development to respect the existing layout and form in some historic areas, it may be necessary to consider exceptions to the recommendations cited in the BRE guidance."*

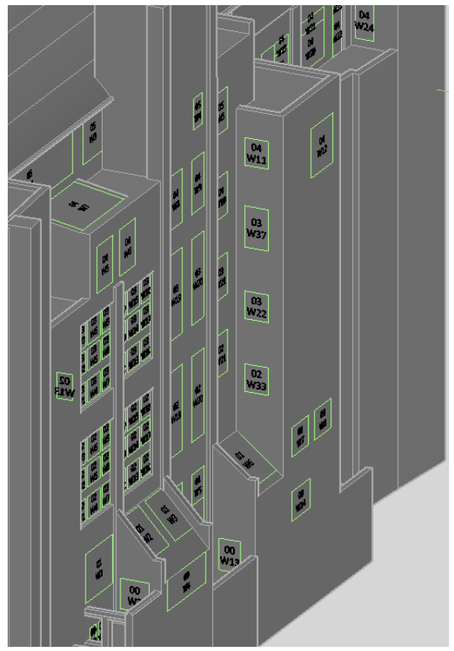
Given the nature of the context and the massing proposed, it reasonable to assume that a degree of flexibility can be applied to the outcome of the assessment in line with the CPG, therefore no further mitigation is required.

Appendix 1 Detailed Daylight and Sunlight Results

1-10 Summers Street







Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W2	Existing	6.11	0.72	NO	175°	14	0.64	NO	0	0.00	YES
	Proposed	4.46				9			0		
W3	Existing	8.41	0.65	NO	175°	23	0.60	NO	0	0.00	YES
	Proposed	5.49				14			0		
W5	Existing	6.90	0.86	YES	175°	14	0.85	YES	0	0.00	YES
	Proposed	6.00				12			0		
W6	Existing	9.40	0.80	YES	175°	26	0.69	NO	0	0.00	YES
	Proposed	7.55				18			0		
W8	Existing	5.95	0.93	YES	175°	9	0.88	YES	0	0.00	YES
	Proposed	5.54				8			0		
W9	Existing	8.50	0.83	YES	175°	19	0.84	YES	0	0.00	YES
	Proposed	7.11				16			0		
W11	Existing	7.08	0.90	YES	175°	16	0.75	YES	0	0.00	YES
	Proposed	6.40				12			0		
W12	Existing	9.79	0.81	YES	175°	26	0.69	NO	0	0.00	YES
	Proposed	7.93				18			0		

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W14	Existing	7.69	0.90	YES	175°	16	0.81	YES	0	0.00	YES
	Proposed	6.96				13			0		
W15	Existing	10.28	0.80	YES	175°	27	0.70	NO	0	0.00	YES
	Proposed	8.32				19			0		
W17	Existing	7.47	0.89	YES	175°	15	0.66	NO	0	0.00	YES
	Proposed	6.69				10			0		
W18	Existing	10.16	0.79	NO	175°	26	0.65	NO	0	0.00	YES
	Proposed	8.11				17			0		
W23	Existing	2.02	0.39	NO	85°N		*North*			*North*	
	Proposed	0.80									
W25	Existing	4.00	0.45	NO	175°	7	0.28	NO	0	0.00	YES
	Proposed	1.81				2			0		
W26	Existing	4.93	0.38	NO	175°	9	0.33	NO	0	0.00	YES
	Proposed	1.91				3			0		
W28	Existing	3.54	0.52	NO	175°	7	0.42	YES	0	0.00	YES
	Proposed	1.85				3			0		
W29	Existing	4.19	0.46	NO	175°	9	0.55	YES	0	0.00	YES
	Proposed	1.96				5			0		
W31	Existing	0.55	0.61	NO	175°	0	0.00	YES	0	0.00	YES
	Proposed	0.34				0			0		
W32	Existing	0.36	0.55	NO	175°	0	0.00	YES	0	0.00	YES
	Proposed	0.20				0			0		

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W2	Existing	23.69	0.78	NO	175°	55	0.89	YES	12	0.66	YES
	Proposed	18.59				49			8		
W3	Existing	25.84	0.88	YES	175°	63	0.90	YES	19	0.68	YES
	Proposed	22.90				57			13		
W5	Existing	24.29	0.79	NO	175°	58	0.87	YES	12	0.66	YES
	Proposed	19.27				51			8		
W6	Existing	26.64	0.88	YES	175°	66	0.90	YES	19	0.68	YES
	Proposed	23.62				60			13		
W8	Existing	22.25	0.78	NO	175°	47	0.89	YES	10	0.60	YES
	Proposed	17.55				42			6		
W9	Existing	25.03	0.88	YES	175°	56	0.94	YES	17	0.82	YES
	Proposed	14.04				37			0		
W11	Existing	23.83	0.79	NO	175°	56	0.87	YES	11	0.63	YES
	Proposed	19.04				49			7		
W12	Existing	26.81	0.87	YES	175°	65	0.89	YES	20	0.70	YES

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
	Proposed	23.57				58			14		
W14	Existing	25.13	0.80	YES	175°	64	0.82	YES	14	0.50	YES
	Proposed	20.33				53			7		
W15	Existing	28.23	0.88	YES	175°	70	0.90	YES	18	0.66	YES
	Proposed	24.86				63			12		
W17	Existing	25.02	0.80	YES	175°	61	0.80	YES	14	0.42	YES
	Proposed	20.02				49			6		
W18	Existing	28.27	0.87	YES	175°	66	0.87	YES	19	0.63	YES
	Proposed	24.70				58			12		
W23	Existing	6.74	0.47	NO	85°N		*North*			*North*	
	Proposed	3.21									
W24	Existing	6.27	0.55	NO	85°N		*North*			*North*	
	Proposed	3.46									
W26	Existing	16.52	0.65	NO	175°	36	0.27	NO	8	0.00	NO
	Proposed	10.81				10			0		
W27	Existing	19.34	0.71	NO	175°	44	0.36	NO	13	0.23	NO
	Proposed	13.84				16			3		
W29	Existing	16.96	0.58	NO	175°	31	0.25	NO	7	0.00	NO
	Proposed	9.92				8			0		
W30	Existing	22.10	0.58	NO	175°	44	0.22	NO	15	0.13	NO
	Proposed	12.86				10			2		
W32	Existing	12.91	0.29	NO	175°	24	0.08	NO	4	0.00	NO
	Proposed	3.76				2			0		
W33	Existing	19.90	0.30	NO	175°	38	0.10	NO	13	0.00	NO
	Proposed	6.09				4			0		
W34	Existing	17.45	0.67	NO	85°N		*North*			*North*	
	Proposed	11.84									
W35	Existing	15.01	0.69	NO	85°N		*North*			*North*	
	Proposed	10.46									
W36	Existing	9.56	0.36	NO	265°	24	0.00	NO	7	0.00	NO
	Proposed	3.45				0			0		

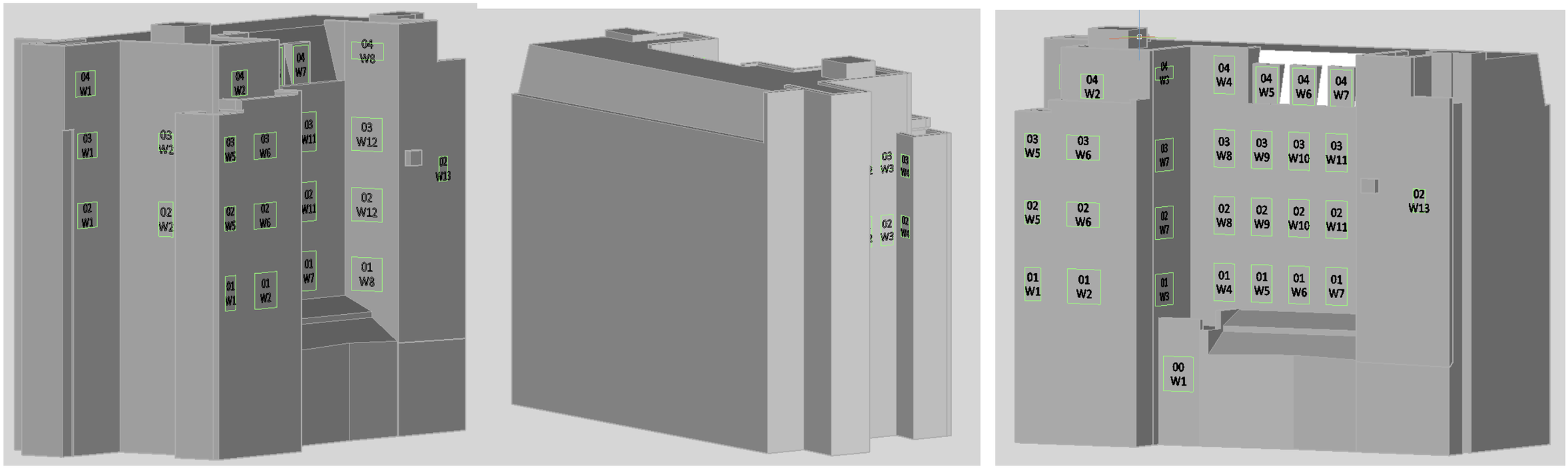
Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	16.95	1.00	YES	85°N		*North*			*North*	
	Proposed	16.95									
W2	Existing	22.41	1.00	YES	175°	45	1.00	YES	17	1.00	YES
	Proposed	22.41				45			17		
W3	Existing	24.75	1.00	YES	175°	48	1.00	YES	18	1.00	YES
	Proposed	24.75				48			18		

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W7	Existing	59.48	1.00	YES	175° Inc	76	1.00	YES	27	1.00	YES
	Proposed	59.48				76			27		
W11	Existing	19.31	1.00	YES	265°	42	0.97	YES	14	0.92	YES
	Proposed	19.31				41			13		
W13	Existing	24.32	1.00	YES	85°N		*North*			*North*	
	Proposed	24.32									
W14	Existing	18.79	1.00	YES	85°N		*North*			*North*	
	Proposed	18.79									
W15	Existing	24.79	1.00	YES	175°	53	0.84	YES	16	0.68	YES
	Proposed	24.79				45			11		
W16	Existing	29.32	1.00	YES	175°	65	1.00	YES	19	1.00	YES
	Proposed	29.32				65			19		
W17	Existing	32.13	1.00	YES	175°	72	0.70	YES	21	0.38	YES
	Proposed	32.13				51			8		
W18	Existing	32.94	1.00	YES	175°	74	0.50	YES	23	0.04	NO
	Proposed	32.94				37			1		
W19	Existing	34.63	1.00	YES	175°	77	0.84	YES	25	0.52	YES
	Proposed	34.63				65			13		
W20	Existing	33.52	1.00	YES	175°	73	0.57	YES	24	0.00	NO
	Proposed	33.54				42			0		
W21	Existing	35.09	1.00	YES	175°	78	0.92	YES	25	0.76	YES
	Proposed	35.09				72			19		
W22	Existing	26.96	1.00	YES	175°	55	0.54	YES	21	0.00	NO
	Proposed	26.96				30			0		
W23	Existing	30.00	1.00	YES	175°	63	0.90	YES	23	0.73	YES
	Proposed	30.00				57			17		
W24	Existing	16.91	1.00	YES	266°	42	0.45	NO	15	0.00	NO
	Proposed	16.91				19			0		

Fifth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	21.16	1.00	YES	85°N		*North*			*North*	
	Proposed	21.16									
W2	Existing	32.23	1.00	YES	175°	71	1.00	YES	27	1.00	YES
	Proposed	32.23				71			27		
W3	Existing	21.26	1.00	YES	175°	47	1.00	YES	20	1.00	YES
	Proposed	21.26				47			20		
W6	Existing	33.01	1.00	YES	175°	78	1.00	YES	29	1.00	YES
	Proposed	33.01				78			29		
W7	Existing	28.48	1.00	YES	175°	62	1.00	YES	23	1.00	YES

	Proposed	28.48				62			23		
W8	Existing	33.93	1.00	YES	85°N		*North*			*North*	
	Proposed	33.93									
W9	Existing	35.19	1.00	YES	85°N		*North*			*North*	
	Proposed	35.19									
Sixth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	98.76	1.00	YES	175° Inc	98	1.00	YES	28	1.00	YES
	Proposed	98.76				98			28		
W2	Existing	97.84	1.00	YES	175° Inc	98	1.00	YES	28	1.00	YES
	Proposed	97.84				98			28		
W3	Existing	98.20	1.00	YES	175° Inc	99	1.00	YES	29	1.00	YES
	Proposed	98.20				99			29		
W4	Existing	98.29	1.00	YES	175° Inc	99	1.00	YES	29	1.00	YES
	Proposed	98.29				99			29		
W5	Existing	97.46	1.00	YES	90° Hz	99	1.00	YES	30	1.00	YES
	Proposed	97.46				99			30		
W6	Existing	81.06	1.00	YES	175° Inc	97	1.00	YES	30	1.00	YES
	Proposed	81.06				97			30		
W7	Existing	89.32	1.00	YES	175° Inc	98	1.00	YES	30	1.00	YES
	Proposed	89.32				98			30		
W8	Existing	95.53	1.00	YES	175° Inc	98	1.00	YES	30	1.00	YES
	Proposed	95.53				98			30		
W9	Existing	98.59	1.00	YES	175° Inc	98	1.00	YES	30	1.00	YES
	Proposed	98.59				98			30		

2 Eyre St Hill



Ground floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	5.53	0.92	YES	80°N		*North*			*North*	
	Proposed	5.13									

First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	16.39	0.89	YES	80°N		*North*			*North*	
	Proposed	14.67									
W2	Existing	19.70	0.85	YES	80°N		*North*			*North*	
	Proposed	16.82									
W3	Existing	6.25	0.83	YES	350°N		*North*			*North*	
	Proposed	5.19									
W4	Existing	11.23	0.84	YES	80°N		*North*			*North*	
	Proposed	9.52									
W5	Existing	9.71	0.79	NO	80°N		*North*			*North*	
	Proposed	7.74									

First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W6	Existing	9.08	0.79	NO	80°N		*North*			*North*	
	Proposed	7.24									
W7	Existing	8.56	0.80	YES	80°N		*North*			*North*	
	Proposed	6.86									
W8	Existing	5.05	0.99	YES	171°	6	0.83	YES	0	0.00	YES
	Proposed	5.03				5			0		

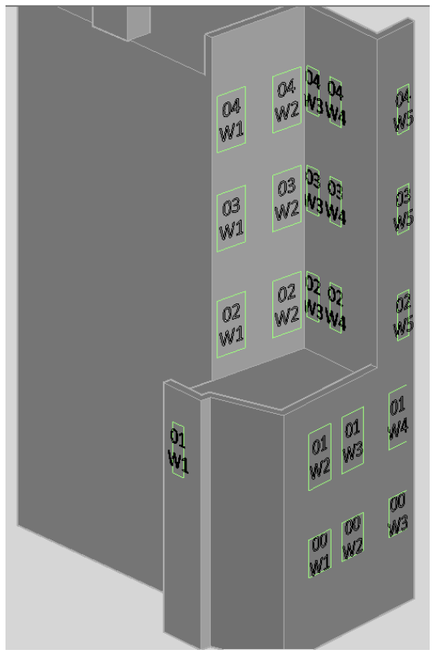
Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	7.64	1.00	YES	83°N		*North*			*North*	
	Proposed	7.64									
W2	Existing	4.76	1.00	YES	170°	7	1.00	YES	0	0.00	YES
	Proposed	4.76				7			0		
W3	Existing	4.02	1.00	YES	170°	6	1.00	YES	0	0.00	YES
	Proposed	4.02				6			0		
W4	Existing	3.01	1.00	YES	266°	4	1.00	YES	0	0.00	YES
	Proposed	3.01				4			0		
W5	Existing	21.12	0.99	YES	80°N		*North*			*North*	
	Proposed	21.03									
W6	Existing	26.11	0.96	YES	80°N		*North*			*North*	
	Proposed	25.15									
W7	Existing	15.66	0.77	NO	350°N		*North*			*North*	
	Proposed	12.11									
W8	Existing	19.81	0.82	YES	80°N		*North*			*North*	
	Proposed	16.33									
W9	Existing	23.80	0.74	NO	80°N		*North*			*North*	
	Proposed	17.78									
W10	Existing	24.96	0.68	NO	80°N		*North*			*North*	
	Proposed	17.10									
W11	Existing	23.64	0.67	NO	80°N		*North*			*North*	
	Proposed	15.89									
W12	Existing	15.23	0.71	NO	171°	38	0.60	NO	5	0.40	NO
	Proposed	10.86				23			2		
W13	Existing	21.43	0.89	YES	81°N		*North*			*North*	
	Proposed	19.20									

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	17.36	1.00	YES	83°N		*North*			*North*	
	Proposed	17.36									
W2	Existing	18.08	1.00	YES	170°	32	1.00	YES	8	1.00	YES
	Proposed	18.08				32			8		
W3	Existing	14.92	1.00	YES	170°	29	1.00	YES	9	1.00	YES
	Proposed	14.92				29			9		
W4	Existing	9.34	1.00	YES	266°	20	1.00	YES	4	1.00	YES
	Proposed	9.34				20			4		
W5	Existing	28.02	1.00	YES	80°N		*North*			*North*	
	Proposed	28.02									
W6	Existing	31.65	1.00	YES	80°N		*North*			*North*	
	Proposed	31.65									
W7	Existing	21.49	1.00	YES	350°N		*North*			*North*	
	Proposed	21.49									
W8	Existing	23.56	1.00	YES	80°N		*North*			*North*	
	Proposed	23.56									
W9	Existing	28.44	1.00	YES	80°N		*North*			*North*	
	Proposed	28.44									
W10	Existing	29.66	1.00	YES	80°N		*North*			*North*	
	Proposed	29.66									
W11	Existing	27.97	1.00	YES	80°N		*North*			*North*	
	Proposed	27.97									
W12	Existing	21.15	0.99	YES	171°	48	1.00	YES	10	1.00	YES
	Proposed	21.05				48			10		

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	30.40	1.00	YES	83°N		*North*			*North*	
	Proposed	30.40									
W2	Existing	35.90	1.00	YES	80°N		*North*			*North*	
	Proposed	35.90									
W3	Existing	32.89	1.00	YES	350°N		*North*			*North*	
	Proposed	32.89									
W4	Existing	32.18	1.00	YES	80°N		*North*			*North*	
	Proposed	32.18									
W5	Existing	32.60	1.00	YES	80°N		*North*			*North*	
	Proposed	32.60									
W6	Existing	34.66	1.00	YES	80°N		*North*			*North*	
	Proposed	34.66									

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W7	Existing	33.35	1.00	YES	80°N		*North*			*North*	
	Proposed	33.35									
W8	Existing	34.33	1.00	YES	171°	81	1.00	YES	24	1.00	YES
	Proposed	34.33				81			24		

3 Back Hill



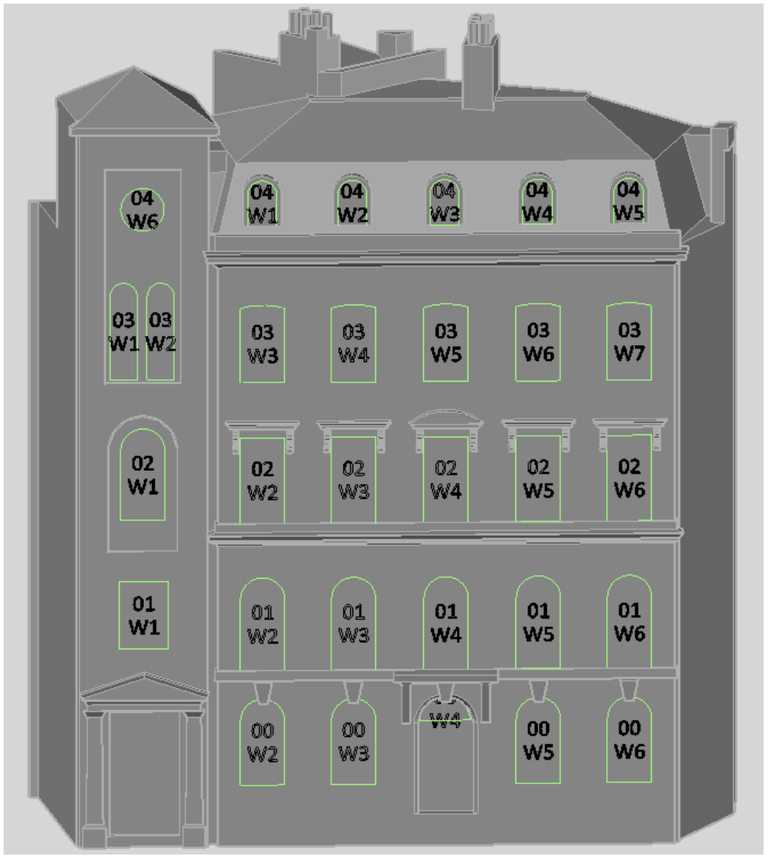
First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	5.95	0.72	NO	273°N		*North*			*North*	
	Proposed	4.30									
W2	Existing	5.84	0.85	YES	273°N		*North*			*North*	
	Proposed	4.97									
W3	Existing	4.31	0.90	YES	273°N		*North*			*North*	
	Proposed	3.91									

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	1.41	0.54	NO	17°N		*North*			*North*	
	Proposed	0.77									
W2	Existing	10.33	0.92	YES	273°N		*North*			*North*	
	Proposed	9.55									
W3	Existing	8.94	0.92	YES	273°N		*North*			*North*	
	Proposed	8.23									
W4	Existing	4.77	0.89	YES	273°N		*North*			*North*	
	Proposed	4.29									
Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	13.32	0.95	YES	283°N		*North*			*North*	
	Proposed	12.78									
W2	Existing	11.87	0.94	YES	283°N		*North*			*North*	
	Proposed	11.23									
W3	Existing	9.30	0.86	YES	17°N		*North*			*North*	
	Proposed	8.06									
W4	Existing	11.17	0.86	YES	17°N		*North*			*North*	
	Proposed	9.69									
W5	Existing	8.68	0.96	YES	273°N		*North*			*North*	
	Proposed	8.40									

fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	18.43	0.97	YES	283°N		*North*			*North*	
	Proposed	17.93									
W2	Existing	15.21	0.97	YES	283°N		*North*			*North*	
	Proposed	14.90									
W3	Existing	12.57	0.94	YES	17°N		*North*			*North*	
	Proposed	11.82									
W4	Existing	15.93	0.92	YES	17°N		*North*			*North*	
	Proposed	14.79									
W5	Existing	12.05	0.99	YES	273°N		*North*			*North*	
	Proposed	12.02									

Fith floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	24.37	1.00	YES	283°N		*North*			*North*	
	Proposed	24.37									
W2	Existing	18.89	1.00	YES	283°N		*North*			*North*	
	Proposed	18.89									
W3	Existing	15.35	1.00	YES	17°N		*North*			*North*	
	Proposed	15.35									
W4	Existing	21.00	1.00	YES	17°N		*North*			*North*	
	Proposed	21.00									
W5	Existing	17.85	1.00	YES	273°N		*North*			*North*	
	Proposed	17.85									

4 Back Hill



Ground floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	0.00	0.00	YES	283°N		*North*			*North*	
	Proposed	0.00									
W2	Existing	12.92	1.02	YES	283°N		*North*			*North*	
	Proposed	13.20									
W3	Existing	12.55	1.02	YES	283°N		*North*			*North*	
	Proposed	12.82									
W4	Existing	0.02	2.00	YES	283°N		*North*			*North*	
	Proposed	0.04									
W5	Existing	12.54	1.01	YES	283°N		*North*			*North*	
	Proposed	12.76									
W6	Existing	12.90	1.01	YES	283°N		*North*			*North*	
	Proposed	13.08									

First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	17.79	1.00	YES	283°N		*North*			*North*	
	Proposed	17.96									
W2	Existing	16.90	1.01	YES	283°N		*North*			*North*	
	Proposed	17.09									
W3	Existing	16.73	1.01	YES	283°N		*North*			*North*	
	Proposed	16.92									
W4	Existing	16.63	1.01	YES	283°N		*North*			*North*	
	Proposed	16.81									
W5	Existing	16.55	1.00	YES	283°N		*North*			*North*	
	Proposed	16.70									
W6	Existing	16.54	1.00	YES	283°N		*North*			*North*	
	Proposed	16.67									

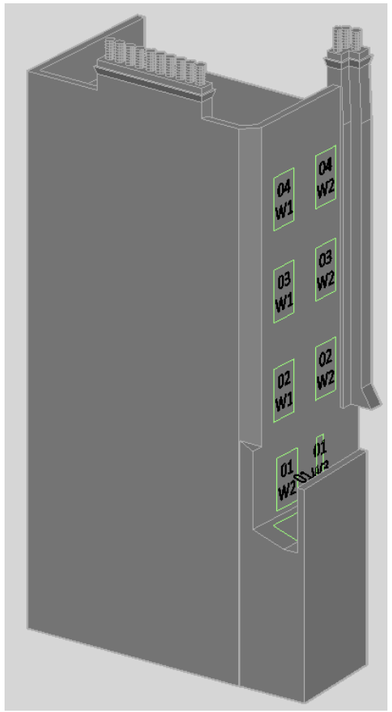
Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	24.50	0.99	YES	283°N		*North*			*North*	
	Proposed	24.39									
W2	Existing	23.65	0.99	YES	283°N		*North*			*North*	
	Proposed	23.57									
W3	Existing	23.50	0.99	YES	283°N		*North*			*North*	
	Proposed	23.42									
W4	Existing	23.31	0.99	YES	283°N		*North*			*North*	
	Proposed	23.23									

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W5	Existing	23.09	0.99	YES	283°N		*North*			*North*	
	Proposed	23.03									
W6	Existing	22.85	0.99	YES	283°N		*North*			*North*	
	Proposed	22.80									

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	31.29	0.99	YES	283°N		*North*			*North*	
	Proposed	31.12									
W2	Existing	31.38	0.99	YES	283°N		*North*			*North*	
	Proposed	31.21									
W3	Existing	30.90	0.99	YES	283°N		*North*			*North*	
	Proposed	30.65									
W4	Existing	30.79	0.99	YES	283°N		*North*			*North*	
	Proposed	30.55									
W5	Existing	30.64	0.99	YES	283°N		*North*			*North*	
	Proposed	30.43									
W6	Existing	30.42	0.99	YES	283°N		*North*			*North*	
	Proposed	30.25									
W7	Existing	30.12	0.99	YES	283°N		*North*			*North*	
	Proposed	30.01									

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	34.58	1.00	YES	283°N		*North*			*North*	
	Proposed	34.58									
W2	Existing	35.64	1.00	YES	283°N		*North*			*North*	
	Proposed	35.64									
W3	Existing	35.79	1.00	YES	283°N		*North*			*North*	
	Proposed	35.79									
W4	Existing	35.80	1.00	YES	283°N		*North*			*North*	
	Proposed	35.80									
W5	Existing	35.77	1.00	YES	283°N		*North*			*North*	
	Proposed	35.77									
W6	Existing	34.64	1.00	YES	283°N		*North*			*North*	
	Proposed	34.64									

5 Back Hill



First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	0.00	0.00	YES	283°N		*North*			*North*	
	Proposed	0.00									
W2	Existing	7.62	0.76	NO	283°N		*North*			*North*	
	Proposed	5.84									
W3	Existing	4.75	0.65	NO	283°N		*North*			*North*	
	Proposed	3.11									

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	10.75	0.89	YES	283°N		*North*			*North*	
	Proposed	9.63									
W2	Existing	13.63	0.90	YES	283°N		*North*			*North*	
	Proposed	12.40									

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	18.37	0.79	NO	283°N		*North*			*North*	
	Proposed	14.54									
W2	Existing	20.98	0.89	YES	283°N		*North*			*North*	
	Proposed	18.88									

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	29.74	0.85	YES	283°N		*North*			*North*	
	Proposed	25.41									
W2	Existing	28.47	0.98	YES	283°N		*North*			*North*	
	Proposed	28.01									

6-10 Back Hill

First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	17.50	0.99	YES	279°N		*North*			*North*	
	Proposed	17.46									
W2	Existing	17.34	1.00	YES	279°N		*North*			*North*	
	Proposed	17.36									
W3	Existing	16.15	1.00	YES	279°N		*North*			*North*	
	Proposed	16.25									
W4	Existing	16.72	1.00	YES	279°N		*North*			*North*	
	Proposed	16.83									
W5	Existing	16.52	1.00	YES	279°N		*North*			*North*	
	Proposed	16.66									
W6	Existing	14.05	1.01	YES	279°N		*North*			*North*	
	Proposed	14.20									
W7	Existing	14.61	1.01	YES	279°N		*North*			*North*	
	Proposed	14.77									
W8	Existing	14.41	1.01	YES	279°N		*North*			*North*	
	Proposed	14.58									

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	21.95	0.99	YES	279°N		*North*			*North*	
	Proposed	21.75									
W2	Existing	22.18	0.99	YES	279°N		*North*			*North*	
	Proposed	22.05									
W3	Existing	21.91	0.99	YES	279°N		*North*			*North*	
	Proposed	21.85									
W4	Existing	22.41	0.99	YES	279°N		*North*			*North*	
	Proposed	22.36									
W5	Existing	22.31	0.99	YES	279°N		*North*			*North*	
	Proposed	22.25									

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	28.87	0.99	YES	279°N		*North*			*North*	
	Proposed	28.61									
W2	Existing	29.27	0.99	YES	279°N		*North*			*North*	
	Proposed	29.00									
W3	Existing	27.72	0.99	YES	279°N		*North*			*North*	
	Proposed	27.47									

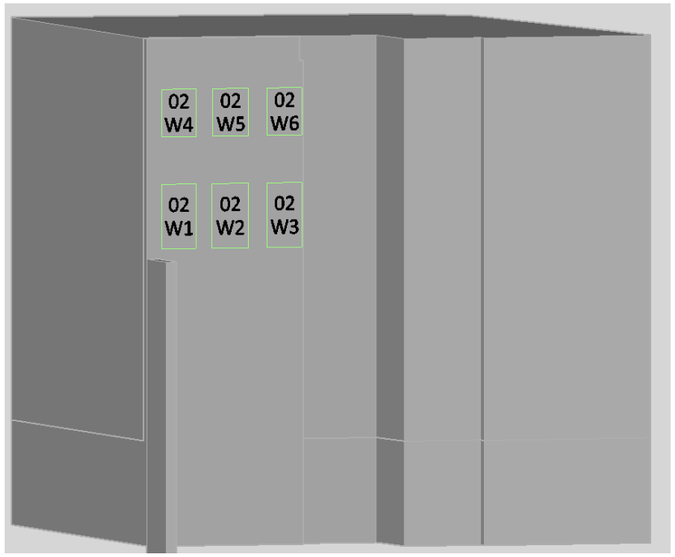
Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W4	Existing	28.24	0.99	YES	279°N		*North*			*North*	
	Proposed	27.99									
W5	Existing	28.05	0.99	YES	279°N		*North*			*North*	
	Proposed	27.80									

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	33.72	1.00	YES	279°N		*North*			*North*	
	Proposed	33.72									
W2	Existing	33.94	1.00	YES	279°N		*North*			*North*	
	Proposed	33.94									
W3	Existing	34.25	1.00	YES	279°N		*North*			*North*	
	Proposed	34.25									
W4	Existing	34.30	1.00	YES	279°N		*North*			*North*	
	Proposed	34.30									
W5	Existing	34.34	1.00	YES	279°N		*North*			*North*	
	Proposed	34.34									

Fifth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	36.15	1.00	YES	279°N		*North*			*North*	
	Proposed	36.15									
W2	Existing	25.83	1.00	YES	279°N		*North*			*North*	
	Proposed	25.83									
W3	Existing	31.69	1.00	YES	279°N		*North*			*North*	
	Proposed	31.69									

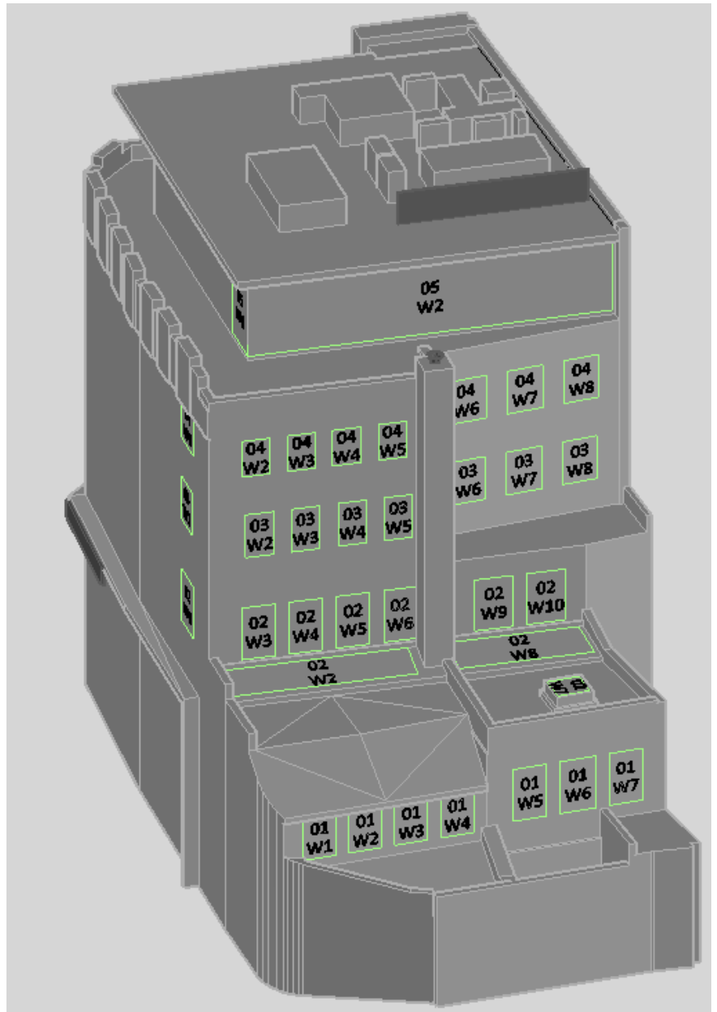
Sixth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	39.36	1.00	YES	279°N		*North*			*North*	
	Proposed	39.36									
W2	Existing	39.33	1.00	YES	279°N		*North*			*North*	
	Proposed	39.33									
W3	Existing	39.34	1.00	YES	279°N		*North*			*North*	
	Proposed	39.34									

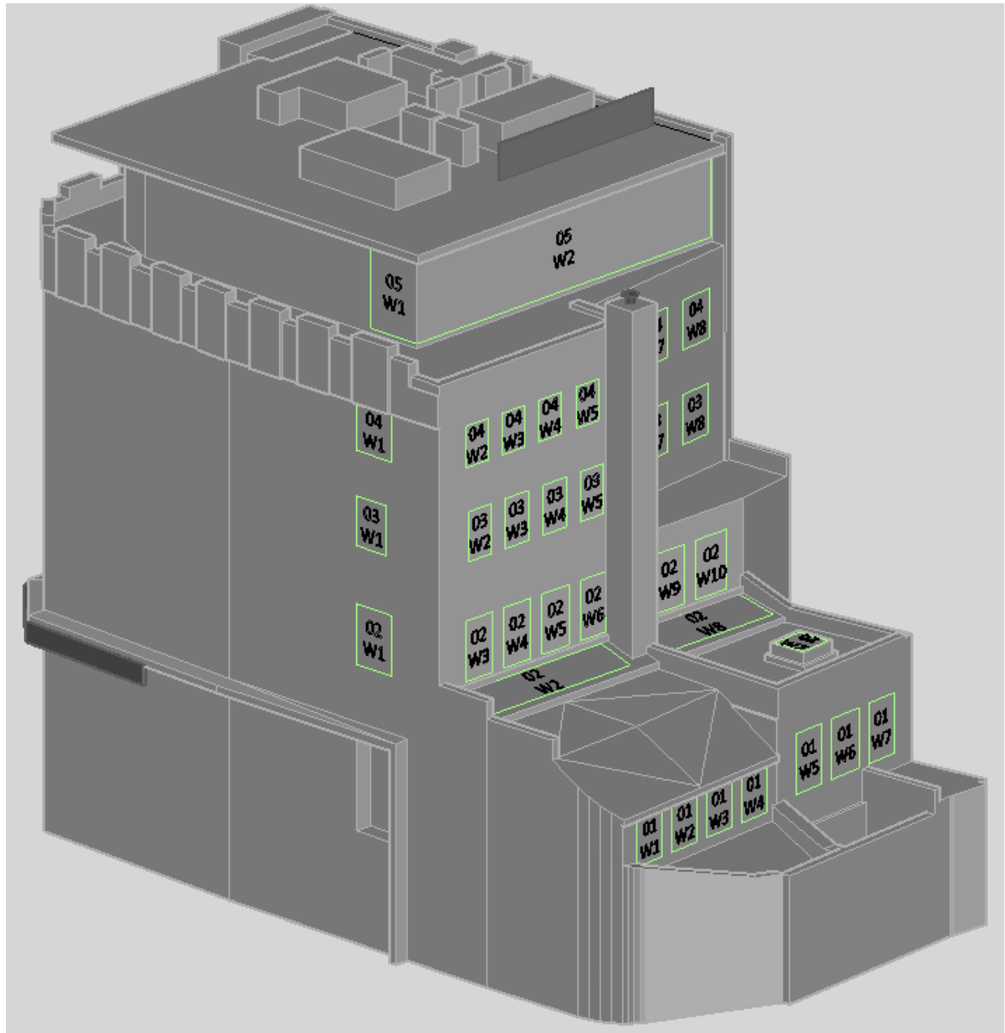
150-152 Cleckernwell Rd



Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	5.14	0.99	YES	352°N		*North*			*North*	
	Proposed	5.12									
W2	Existing	3.81	1.00	YES	352°N		*North*			*North*	
	Proposed	3.81									
W3	Existing	2.94	1.00	YES	352°N		*North*			*North*	
	Proposed	2.94									
W4	Existing	10.74	1.00	YES	352°N		*North*			*North*	
	Proposed	10.74									
W5	Existing	8.52	1.00	YES	352°N		*North*			*North*	
	Proposed	8.52									
W6	Existing	6.28	1.00	YES	352°N		*North*			*North*	
	Proposed	6.28									

Jameson house





First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	1.66	0.86	YES	355°N		*North*			*North*	
	Proposed	1.43									
W2	Existing	1.87	0.86	YES	355°N		*North*			*North*	

First floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
	Proposed	1.61									
W3	Existing	2.01	0.86	YES	355°N		*North*			*North*	
	Proposed	1.74									
W4	Existing	2.09	0.86	YES	355°N		*North*			*North*	
	Proposed	1.81									
W5	Existing	2.58	0.86	YES	355°N		*North*			*North*	
	Proposed	2.24									
W6	Existing	2.53	0.86	YES	355°N		*North*			*North*	
	Proposed	2.20									
W7	Existing	2.31	0.86	YES	355°N		*North*			*North*	
	Proposed	2.00									

Second floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	10.23	0.94	YES	89°N		*North*			*North*	
	Proposed	9.68									
W2	Existing	41.97	0.90	YES	359°N		*North*			*North*	
	Proposed	38.10									
W3	Existing	19.64	0.86	YES	359°N		*North*			*North*	
	Proposed	17.07									
W4	Existing	20.07	0.86	YES	359°N		*North*			*North*	
	Proposed	17.36									
W5	Existing	19.99	0.85	YES	359°N		*North*			*North*	
	Proposed	17.08									
W6	Existing	16.16	0.83	YES	359°N		*North*			*North*	
	Proposed	13.42									
W7	Existing	41.53	0.88	YES	86°N		*North*			*North*	
	Proposed	36.90									
W8	Existing	35.38	0.88	YES	359°N		*North*			*North*	
	Proposed	31.43									
W9	Existing	16.10	0.81	YES	359°N		*North*			*North*	
	Proposed	13.15									
W10	Existing	15.53	0.81	YES	359°N		*North*			*North*	
	Proposed	12.60									

Third floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	17.69	0.97	YES	89°N		*North*			*North*	

	Proposed	17.26									
W2	Existing	26.61	0.97	YES	359°N		*North*			*North*	
	Proposed	25.98									
W3	Existing	26.37	0.98	YES	359°N		*North*			*North*	
	Proposed	25.91									
W4	Existing	25.64	0.98	YES	359°N		*North*			*North*	
	Proposed	25.27									
W5	Existing	20.68	0.98	YES	359°N		*North*			*North*	
	Proposed	20.38									
W6	Existing	15.20	1.00	YES	352°N		*North*			*North*	
	Proposed	15.20									
W7	Existing	16.51	0.99	YES	352°N		*North*			*North*	
	Proposed	16.50									
W8	Existing	11.78	0.99	YES	352°N		*North*			*North*	
	Proposed	11.74									

Fourth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	26.58	0.99	YES	89°N		*North*			*North*	
	Proposed	26.56									
W2	Existing	30.70	1.00	YES	359°N		*North*			*North*	
	Proposed	30.72									
W3	Existing	30.41	1.00	YES	359°N		*North*			*North*	
	Proposed	30.41									
W4	Existing	29.62	1.00	YES	359°N		*North*			*North*	
	Proposed	29.62									
W5	Existing	24.90	1.00	YES	359°N		*North*			*North*	
	Proposed	24.90									
W6	Existing	20.72	1.00	YES	352°N		*North*			*North*	
	Proposed	20.72									
W7	Existing	22.75	1.00	YES	352°N		*North*			*North*	
	Proposed	22.75									
W8	Existing	17.00	1.00	YES	352°N		*North*			*North*	
	Proposed	17.00									

Fifth floor											
Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
W1	Existing	34.09	1.00	YES	89°N		*North*			*North*	
	Proposed	34.09									
W2	Existing	31.23	1.00	YES	359°N		*North*			*North*	
	Proposed	31.23									