



Green Code Architecture

SUNLIGHT & DAYLIGHT REPORT

4 Antil Road_N15 4AS

Project No. FL102

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I. INTRODUCTION

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The study aims to record and analyse the results for the following:

- The expected daylight levels within the living and bedroom areas of each house type and selected apartments indicate the expected daylight levels throughout the proposed development.
- The quality of amenity space, being provided as part of the development, about sunlight.
- Any potential overshadowing impacts the proposed development may have on properties adjacent to the site. The daylight, sunlight to adjoining residential and assisted care use properties have been considered with reference to the BRE guidance, 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice BR209' 2022 Edition (BRE Guidance).

II. THE SITE, PROPOSAL AND SURROUNDING BUILDINGS

The property at 4 Antil Road, London, N15 4AS is a two-story terraced property, mostly residential under the use class of C3 which is in the Haringey London Borough Council.



Pic. 1 Location Plan

The proposal has been designed to accompany all the design regulations and SPD guidelines given by the local authorities.

The surrounding area is mainly residential in character and formed by similar terrace houses that have a form of visual unity when viewed from the front, with the front parapet walls and butterfly roof profiles when seen from the rear. The finishes of the front façade of the terrace houses are a mix of both rendered and brick.

The location of the subject site (No. 4) is next to the last property of the terrace house, which is externally finished in bricks. The northern and southern sides of the site are 6 Antill Road and 2 Antill Road adjoining houses. There is a timber-fenced boundary to the side and rear side gardens of the house. in Antil Road



Pic. 2 Immediate context



Pic. 3 Policy Map / Block Plan



Pic. 4 Front Elevation & adjoining properties



Pics. 5 & 6 Side and Rear View

III. POLICY, GUIDANCE AND METHOD OF ASSESSMENT

To ensure that sunlight and daylight levels are maximized for the proposed new residential development, several key design issues were analysed during the concept design stages.

BUILDING MATERIAL SELECTION

The selection of materials plays an important role in ambient daylight levels. The building façades have been carefully selected to promote a sense of brightness and light. This will ensure light is reflected throughout the development.

GLAZING-TO-WALL RATIO

The primary function of the glazing-to-wall ratio is to maximize daylight within the space while reducing solar gains within the proposed development. The other advantage in conjunction with appropriate materials is that the lighter surfaced, reflective materials used externally, the more ambient daylight will be reflected in the surrounding areas. Extensive analysis was completed on subject development to ensure glazed openings were maximized to promote access to daylight levels.

BRE GUIDELINES

The daylight, sunlight to adjoining residential and assisted care use properties have been considered with reference to the BRE guidance, 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice BR209' 2022 Edition (BRE Guidance).

The BRE Guidance 2022 Edition in its own introduction advises that

"it is intended for building designers and their clients, consultants, and planning officials. The advice given is not mandatory and the guidance should not be seen as an instrument of planning policy. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances, the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings..."

It is important to recognize that daylight, sunlight assessments are one of many considerations that form part of a planning application.

The BRE suggested target criteria should not be considered as a pass, fail criteria in any way.

Given that the BRE Guidance was primarily designed for new housing schemes, two stories high in a suburban context and not with a (dense) urban environment in mind, greater flexibility can be applied. Where the assessments have been undertaken in a (dense) urban context or an area designated for much-needed housing, regeneration, and growth, it should be recognized that not meeting the BRE Guidance does not equate to unacceptable in planning terms.

The BRE Guidance suggests four methods for calculating daylight. The Vertical Sky Component (VSC) and No-Sky Line contour (NSL) are considered appropriate for assessing daylight to existing buildings. Recommendations for daylight in new buildings are given in BS EN 17037 "Daylight in Buildings". Daylight provision in new rooms may be checked using either of the methods in BS EN 17037 "Daylight in Buildings", direct prediction of Illuminance levels using hourly climate data, or the use of the Daylight Factor. Both are measures of the overall amount of daylight in a space.

As per the BRE Guidelines, it is important to safeguard the daylight in nearby buildings, from a proposed development, where a reasonable expectation of daylight is required.

The flow matrix below outlines the criteria to be assessed, as per the BRE Guidelines, to ascertain any potential impact on adjacent buildings from the proposed development.

As per the flow matrix, the BRE and BS8206 guidelines provide four main methods for assessing daylight availability.

AVERAGE DAYLIGHT FACTOR

The final method of calculation is the Average Daylight Factor (ADF). This is a more detailed and thus more accurate method which considers not only the amount of sky visible from the vertical face of the window but also the window size, room size and room use. Where dimensions for the room to be assessed are available, this is the best method of assessment, but even where they are not, it provides a very informative result. It gives guidance as to the qualitative and quantitative change in daylight and is related to the British Standard BS 8206 Part II.

This step is only utilized for assessing the impact on adjacent properties where compliance is not achieved using the VSC analysis. The properties selected for VSC have shown compliance under the VSC method and therefore this step was not required.

AREAS REQUIRING ASSESSMENT

2.2.2 of the BRE Guidance suggests:

"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices."

In terms of assessing residential dwellings, the BRE Guidance goes further to suggest that habitable rooms with a reasonable expectation of daylight will include living rooms, dining rooms and kitchens however, 2.2.10 of the BRE Guidance advises

"bedrooms should also be analysed although they are less important".

DAYLIGHT TO EXISTING BUILDINGS

The methodology for plotting the Vertical Sky Component (VSC) assessment is set out in Appendix C of the BRE Guidance. This method measures the amount of skylight that is visible at a specific point on the outside of a property, typically a window, which is directly related to the amount of daylight that can be received at the specific point. When undertaking the VSC test for a window, the specific point is at the centre of the window horizontally and vertically. The VSC calculation does not consider the size of the window being tested nor the size of the room that the window serves. As the VSC assessment is on the outside face of the window it does not measure light inside the room only “potential” conditions in the room. It is therefore important to take this into consideration when reviewing any VSC assessment results.

The methodology for plotting the No-Sky Line is set out at Appendix D of the BRE Guidance. The No-Sky Line divides those areas of the working plane which can receive direct skylight, from those which cannot. It indicates how good the distribution of daylight is in a room. Areas beyond the No-Sky Line will generally look gloomy. The NSL method of assessment calculates the distribution of daylight within the room by determining the area of the “working plane” which can and cannot see the sky. The working plane according to the BRE Guidance is set at 0.85m for a residential property.

For buildings that are located adjacent new development, the BRE Guidance suggests that there will be a ‘noticeable’ impact to daylight, if either, its windows achieve a VSC below 27% and have existing levels of sky visibility reduced to less than 0.80 times their former value, or the level of NSL within a room are reduced to less than 0.80 times their former value. It is important to recognise that the BRE Guidance sets out recommended guidelines and reference to ‘noticeable’ does not necessarily equate to unacceptable in planning terms. Therefore, the numerical values generated by the BRE Guidance should be weighed in the overall planning balance.

When considering existing daylight values using the VSC or NSL methods of assessment, it is important to recognise that a small reduction in real terms can potentially manifest itself as a large relative impact. This is because the calculations work as a percentage reduction. Therefore, where existing levels of sky visibility are high in the existing condition (for example, where a neighbouring property faces an underutilised site coming forward as a development opportunity), reductions in VSC or NSL may in theory be

a transgression of the BRE Guidance. Even with the proposed development in place, the daylight to the window or the room behind may still be considered adequate.

METHODOLOGY FOR COMPLIANCE

The Building Research Establishment (BRE) has set out in their handbook "Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice", 3rd edition 2022, guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings. This document states that it is also intended to be used in conjunction with the interior daylight recommendations found within the British Standard BS EN 17037 and the Applications Manual on Window Design of the Chartered Institution of Buildings Services Engineers (CIBSE).

The first step in the methodology is to determine the key sensitive existing receptors that windows may be affected by due to the proposed development. Using the simple geometry, it will be determined whether the daylight to the existing buildings and amenity spaces is adversely affected and this will be carried out using a BRE-compliant

SUNLIGHT

The assessment of sunlight to existing buildings is undertaken using Annual Probable Sunlight Hours (APSH). This assessment calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months throughout the year.

3.2.3 of the BRE Guidance advises

"to assess loss of sunlight to an existing building it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. Normally loss of sunlight need not be analysed to kitchens and bedrooms, except for bedrooms that also comprise a living space, for example a bed sitting room in an old people's home..."

The BRE Guidance 3.2.6 goes on to advise

"if a room can receive more than one quarter of Annual Probable Sunlight Hours (APSH), including at least 5% of APSH in the winter months between 21 September and 21 March, then it should still receive enough sunlight. Also, if the overall annual loss of APSH is 4% of less, the loss of sunlight is small..."

3.2.7 of the BRE Guidance advises

"any reduction in sunlight access below these levels should be kept to a minimum. If the available sunlight hours are both less than the amount above and less than 0.80 times their former value, either over the whole year or just in the winter months (21 September to 21 March), and the overall annual loss is greater than 4% of APSH, then the occupants of the existing building will notice the loss of sunlight; the room may appear colder and less cheerful and pleasant..."

3.2.10 of the BRE Guidance advises

"in certain situations care needs to be taken in applying these guidelines. For example, if the proposed new development is one of a number of successive extensions to the same building then the total impact on sunlight due to all the extensions should be assessed. On the other hand, if the existing building stands unusually close to the common boundary with the new development, or has a large balcony or overhang above the window, then a greater reduction in sunlight access may be unavoidable. The guidelines are purely advisory. Planning authorities may wish to use a different criteria based on their requirements for sunlight in particular types of development in particular areas. Sometimes a larger reduction in sunlight may be necessary if new development is to match the height and proportion of existing buildings nearby".

SUNLIGHT TO GARDENS AND OPEN SPACES

3.3.3 of the BRE Guidance advises

"the availability of sunlight should be checked for all open spaces where it will be required. This would normally include:

- *Gardens such as the main back garden of a house of communal gardens including courtyards and roof terraces;*
- *Parks and playing fields;*
- *Children's playgrounds..."*

The BRE goes on to advise at paragraph 3.3.4

"each of the spaces will have different sun lighting requirements and it is difficult to suggest a hard and fast rule. However, it is clear that the worst situation is to have significant areas on which the sun only shines for a limited period over a large part of the year. The equinox (21 March) can be chosen as a date for assessment here."

Paragraph 3.3.8 advises

"locations that can and cannot receive two or more hours of sunlight on 21 March may be found using specialist software.... Sunlight at an altitude of ten degrees or less does not count, because it is likely to be blocked by low-level planting anyway. In working out a total area to be considered, driveways and hardstandings for cars should be left out. Around housing, front gardens that are relatively small and visible from public

footpaths should be omitted; only the main back gardens should be analysed. Each individual garden or each dwelling in a block should be considered separately".

3.3.10 of the BRE Guidance goes on to advise fences and walls cast deeper shade than trees and their positions can often be predicted. As a guide, shadows of walls or opaque fences greater than 1.5m high should be included in the calculation. Where low fences or walls are intended – or railings or trellises that let through sunlight – no calculation of shadows is necessary.

The BRE Guidance at 3.3.11 advises

"the above guidance applies to new gardens and amenity areas and to existing ones that are affected by new developments. If an existing garden or outdoor space is already heavily obstructed then any further loss of sunlight should be kept to a minimum. In this poorly sunlit case, if as a result of new development the area can receive two hours of direct sunlight on 21 March is reduced to less than 0.80 times its former size, then this further loss of light is significant. The garden or amenity area will tend to look more heavily overshadowed."

INTERIOR DAYLIGHT WITHIN DEVELOPMENT

Appendix C of the BRE Guidance summarises the recommendations in BS EN 17037 and explains how the relevant quantities can be calculated. The illuminance recommendations are based around the illuminance that would be met or exceeded over half of the room, over half of daylight hours over the year.

The alternative recommendation is based on calculating the Daylight Factor that would be exceeded over half of the room (this is not the same as the Average Daylight Factor used in the previous standard, BS8206 part 2). The recommended Daylight Factor values are location specific..." BS EN 17037 gives a range of recommendations for "high", "medium" and minimum" daylight provision. The National Annex A of BS EN 17037 gives minimum values for housing, in living rooms, kitchens and bedrooms. These are minimum recommended values for locations where a predominantly daylight appearance is not achievable; for example, in basement rooms or with significant external obstructions (perhaps in a dense urban area or with tall trees outside), or existing buildings being converted in to dwellings. Achieving higher Daylight Factor values will give improved daylight provision. However, interiors with very high daylight levels (for example where a daylight illuminance of 500 lux is exceeded over half the room for more than half of their daylight hours) sometimes has problems with summertime overheating or excessive heat loss in winter.

Appendix C of the BRE Guidance advises on how to calculate illuminance and the Daylight Factor. They depend on room reflectance, so having light-coloured room surfaces will increase them, provided these can be kept clean. In calculations, realistic surface reflection should be used to take account of maintenance and the lower reflectance of doors and furniture. Appendix C gives recommended values; the reflectance used in the calculation should be stated, and the finishes should be specified in the design of the building. The calculations should include potential future obstructions if other buildings are planned to be constructed nearby.

BS EN 17037 gives three levels of recommendation for daylight provision in interior spaces: minimum, medium, and high. For compliance with the standard, a daylight space should achieve the minimum level of recommendation.

ILLUMINANCE METHOD

According to Appendix C of the BRE Guidance this method involves using climatic data for the location of the site to calculate the illuminance from daylight and each point on an assessment grid on the reference plane and at least hourly intervals for a typical year. Target illuminance should be achieved across at least half of the reference plane in a daylight space for at least half of the daylight hours. Another target illuminance should also be achieved across 95% of the reference plane for at least half of the daylight hours; this is the minimum target illuminance to be achieved towards the back of the room.

Table C1 of the BRE Guidance gives these target illuminances for side lit rooms. The minimum target level of recommendations for half the assessment grid being 300 lux and the target illuminance for 95% of the assessment grid is 100 lux.

DAYLIGHT FACTOR METHOD

According to Appendix C of the BRE Guidance 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 of 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. BS EN 17037 gives equivalent Daylight Factor targets (D) for each capital in Europe. For London the target Daylight Factor for a bedroom is 0.7%, for a living room, the target is 1.1% and for a kitchen the suggested target is 1.4%.

Floor spaces with side-lit 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:

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

The median external diffuse horizontal illuminance is the illuminance from the sky on an unobstructed horizontal surface achieved for half of the yearly daylight hours at a particular location. Table C2 of the BRE Guidance gives Daylight Factor targets for side-lit rooms in London. The suggested target Daylight Factors (D) for London comprising a minimum level of recommendation for Daylight Factor D for half the assessment grid as being 2.1% and the target Daylight Factor D for 95% of the assessment grid is suggested as 0.7%. The BRE Guidance at Appendix C advises the recommendations for side-lit rooms are met if both target Daylight Factors (the median Daylight Factor over 50% of the reference plane, and the minimum Daylight Factor over 95% of the reference plane) are achieved.

The BRE Guidance at Appendix C also advises that UK National Annex gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 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 Guidance continues to advise 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.

The methodologies described above should include all the room surfaces, and any surface outside the room that could affect the light received. Surface reflectance values where they have not been measured or specified, default values are given at Table C4 of the BRE Guidance. In the absence of specifics we have used the default values set out in the BRE

Guidance including the suggested default glazing transmission factors and maintenance factors. The assessment grid, normally 0.85m from the floor level, sometimes described as the working plane height, should exclude, according to Appendix C of the BRE Guidance, a band of 0.3m for residential dwellings and to avoid excluding parts of the room that are used by the occupants. Professional judgment should be used in cases with irregular shaped spaces or rooms with corridor or annex areas.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2021

The National Planning Policy Framework at paragraph 125 paragraph c) states

"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 (as long as the resulting scheme would provide acceptable living standards)."

LONDON PLAN 2021

The London Plan was published on 2nd March 2021. Relevant, selected extracts from the London Plan as set out below:

"GG2 Making the best use of land"

"To create successful sustainable mixed-use places that make best use of land, those involved in planning and development must:

B Prioritise sites which are well-connected by existing or planned public transport

C Proactively explore the potential to intensify the use of land to support additional homes and workspaces, promoting higher density development, particularly in locations that are well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling."

"G4 – Delivering the homes Londoners need" To create a housing market that works better for all Londoners, those involved in planning and development must:-

A Ensure that more homes are delivered.

C Create mixed and inclusive communities with good quality homes that meet high standards of design and provide for identified needs, including for specialist housing."

Policy D3 Optimising site capacity through the design-led approach
The design-led approach

"A All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations.

B Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure and amenities..... Where these locations have existing areas of high density buildings, expansion of the areas should be positively considered by Boroughs where appropriate.

C In other areas, incremental densification should be actively encouraged by Boroughs to achieve a change in densities in the most appropriate way. This should be interpreted in the context of Policy H2 Small sites."

Policy H1 – Increasing Housing Supply

"A Table 4.1 sets the 10-year targets for net housing completions that each local planning authority should plan for. Boroughs must include these targets in their development plan documents.

B To ensure that 10-year housing targets are achieved, Boroughs should:- (1) Prepare delivery-focussed development plans which:

(a) Allocate and appropriate range in number of sites that are suitable for residential and mixed-use development and intensification.

(b) Encourage development of other appropriate windfall sites not identified in Development Plans through the Plan period, especially from the sources of supply listed in B2.

(c) Enable the delivery of housing capacity identified in Opportunity Areas, working closely with the GLA.

(2) Optimise the potential for housing delivery on all suitable and available brownfield sites through their Development Plans and planning decisions, especially the following sources of capacity:- (a) Sites with existing or planned Public Transport Access Levels (PTALs) 3-6 or which are located within 800 metre distance of a station or a town centre boundary.

(b) Mixed-use redevelopment of car parks and low-density retail parks and supermarkets.

(c) Housing intensification on other appropriate low-density sites in commercial, leisure and infrastructure uses.

(d) The redevelopment of surplus utilities and public sector owned sites.

(e) Small sites (C Policy H2 Small Sites)

C Boroughs should proactively use brownfield registers and permission in principle to increase planning certainty for those wishing to build new homes.

F On sites that are allocated for residential and mix-use development there is a general presumption against single use low-density retail and leisure parks. These developments should be designed to provide a mix of uses including housing on the same site in order to make the best use of land available for development.

METHOD OF ASSESSMENT SUMMARY

It can be difficult to meet the recommended daylight, sunlight criteria set out in the BRE guidelines where there is strong demand for accommodation of all types and where high-density development is encouraged by local and national planning policies.

The London Plan 2021 is clear about making the best use of land and promoting provision of residential and assisted care accommodation homes.

Where adjoining residential properties with single-aspect windows face directly or obliquely to the site, it should also be considered whether the adjoining neighbouring building is a good neighbour taking no more than its fair share of daylight, sunlight. In a typical urban context, there are often circumstances whereby the adjoining residential buildings can be considered a “bad neighbour” with subsequent habitable rooms overlooking very low massing on a site as existing thereby enjoying unusually high levels of daylight, sunlight in the existing situation. As a result, where development comes forward, areas of non-compliance with the BRE Guidance are likely given that BRE formulas are based upon a ratio reduction between existing and proposed.

The adjoining habitable rooms may experience unusually high daylight, sunlight levels as existing over an under-used site. The proposed massing may well seek to emulate the adjoining massing or exceed the bulk/massing of adjoining properties. The ratio reductions suggested by the BRE guidance in such circumstances would not be met. However, the daylight, sunlight results with the proposed development in place can still be considered acceptable.

The BRE provides guidance and as such does not have a pass/fail criteria. The BRE guidance in its own introduction advises that:

“it is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the guidance should not be seen as an instrument of planning policy. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. In an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.”

However, as mentioned above, areas of non-compliance do not equate to unacceptable. There is no pass/fail criteria associated with the BRE Guidance and the guidance should be interpreted flexibly.

It can be considered that the resultant levels of daylight, sunlight, with the proposed development in place can be commensurate with daylight, sunlight reductions accepted and or experienced to similar refurbishment, extensions, development elsewhere within the Borough.

IV. DATA SOURCES OF INFORMATION

We have visited site, taken photographs to familiarise ourselves with the potential issues, undertaken research via the Local Authority Planning Portal and based our assessment upon the following information:

F-LINE DESIGNS drawings pack

- A100 - Site location plan and block plans 1:1250 @ A3
- A101 - Existing and proposed Block plans 1:200 @ A3
- A102 - Existing and proposed Ground floor plans 1:100 @ A3
- A103 - Existing & proposed First floor and second floor plans 1:100 @ A3
- A104 - Existing and proposed Roof plans 1:100 @ A3
- A205 - Existing and proposed elevations 1:100 @ A3
- A206 - Existing and proposed elevations 1:100 @ A3
- A307 - Existing and proposed Sections 1:100 @ A3

V. DAYLIGHT, SUNLIGHT TO NEIGHBOURING PROPERTIES

We have undertaken our assessment of the neighbouring properties taking into consideration the cumulative implications for no.2 and no.6 Antill Road. However, it can be seen from the proposed design that no. 2 Antill Road will not be affected by the proposed single-storey and double-story extension.

Having considered that we will focus on no.6 Antill Road where the concern about the impact must be analysed.

Daylight

We have undertaken a VSC assessment of the internal layouts of 6 Antill Road. We have obtained the drawings on the Planning Portal. Based upon those, it appears that with the modest extensions in place, there is compliance with the BRE guidance. The NSL assessments demonstrate compliance with the BRE guidance (appendix 5).

Based upon the information we have been given, VSC and NSL methods of assessment meet or exceed the BRE guidance with the proposed massing in place.

Sunlight

In relation to 6 Antill Road, there is compliance with the BRE guidance to the rooms at Ground floor. This property meets and exceeds the guidance criteria with the proposed extensions in place.

VI. INTERNAL DAYLIGHT ASSESSMENT

We have undertaken an internal daylight assessment of the proposed habitable rooms. We have used Average Daylight Factor (ADF) as set out in the BRE Guidance. The results of our assessment are attached at Appendix 5.

VII. OVERSHADOWING ASSESSMENT

We have undertaken an overshadow assessment of the private amenity space located at no.6 Antill road, it can be seen below that the existing building and the boundary fence already affect the neighbour's amenity space, and the proposed extension will not increase in negative way the garden.



Existing



Proposed

In summary, the adjoining private amenity spaces are not materially impacted by the proposed extensions in place.

Please refer Appendix 6.

VIII. CONCLUSIONS

The proposed development has been evaluated and analysed to determine the following:

- The expected daylight levels within the living and bedroom areas of selected houses indicate the expected daylight levels throughout the proposed development.
- The quality of amenity space, being provided as part of the development, about sunlight.
- Any potential overshadowing impact that the proposed development may have on properties adjacent to the site;
- Calculations and methodology used are by BRE Guidelines for daylight and sunlight and based on the British Research Establishments "Site Layout Planning for Daylight and Sunlight: A Good Practice Guide" by PJ Littlefair, 2011 Second Edition, however, the following should be reiterated as previously outlines; "The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. It aims to help rather than constrain the designer. Although it gives numeral guidelines these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design".
- The BRE does not have a pass/fail criteria.

The BRE guidance in its own introduction advises that:

"It is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the guidance should not be seen as an instrument of planning policy. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is one of many factors inside layout design... a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."

IX. APPENDICES

APPENDIX 1 – Site Plan



APPENDIX 2 – Existing and proposed massing

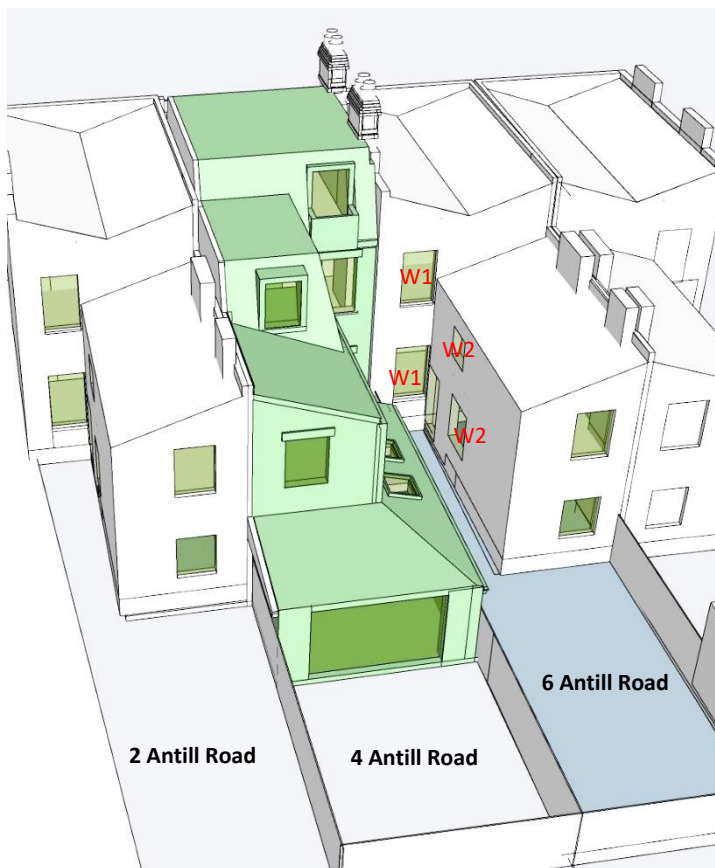


Pic. 7 Existing massing



Pic. 8 Proposed massing

APPENDIX 3 – Window Maps



APPENDIX 4 – VSC, APSH Tables

VSC – 4 Antill Road

Building Name	Floor Name	Window Name	Traffic Light Id	VSC Proposed	Meets BRE Criteria	Window Orientation	Calculation Date	Version
4 Antill Road	First	W1	36	39.41	YES	79°N	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	First	W4	40	28.29	YES	79°N	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Ground	W1	33	38.64	YES	79°N	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Ground	W2	34	76.21	YES	349°N Inc	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Ground	W3	35	71.27	YES	349°N Inc	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Ground	W4	39	20.37	NO	79°N	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Second	W1	41	35.74	YES	79°N	14/07/2023 17:31:24	6.0.0.11
4 Antill Road	Second	W2	42	39.5	YES	78°N	14/07/2023 17:31:24	6.0.0.11

APSH – 4 Antill Road

Building Name	Floor Name	Window Name	Traffic Light Id	Window Orientation	Annual Pr	Meets BRE Criteria	Winter Pr	Meets BRE Criteria	Calculation Date	Version
4 Antill Road	First	W1	36	79°N	46	YES	12	YES	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	First	W4	40	79°N	9	NO	5	YES	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Ground	W1	33	79°N	40	YES	10	YES	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Ground	W2	34	349°N Inc	29	YES	2	NO	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Ground	W3	35	349°N Inc	15	NO	0	NO	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Ground	W4	39	79°N	1	NO	0	NO	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Second	W1	41	79°N	38	YES	5	YES	14/07/2023 17:31:29	6.0.0.11
4 Antill Road	Second	W2	42	78°N	44	YES	11	YES	14/07/2023 17:31:29	6.0.0.11

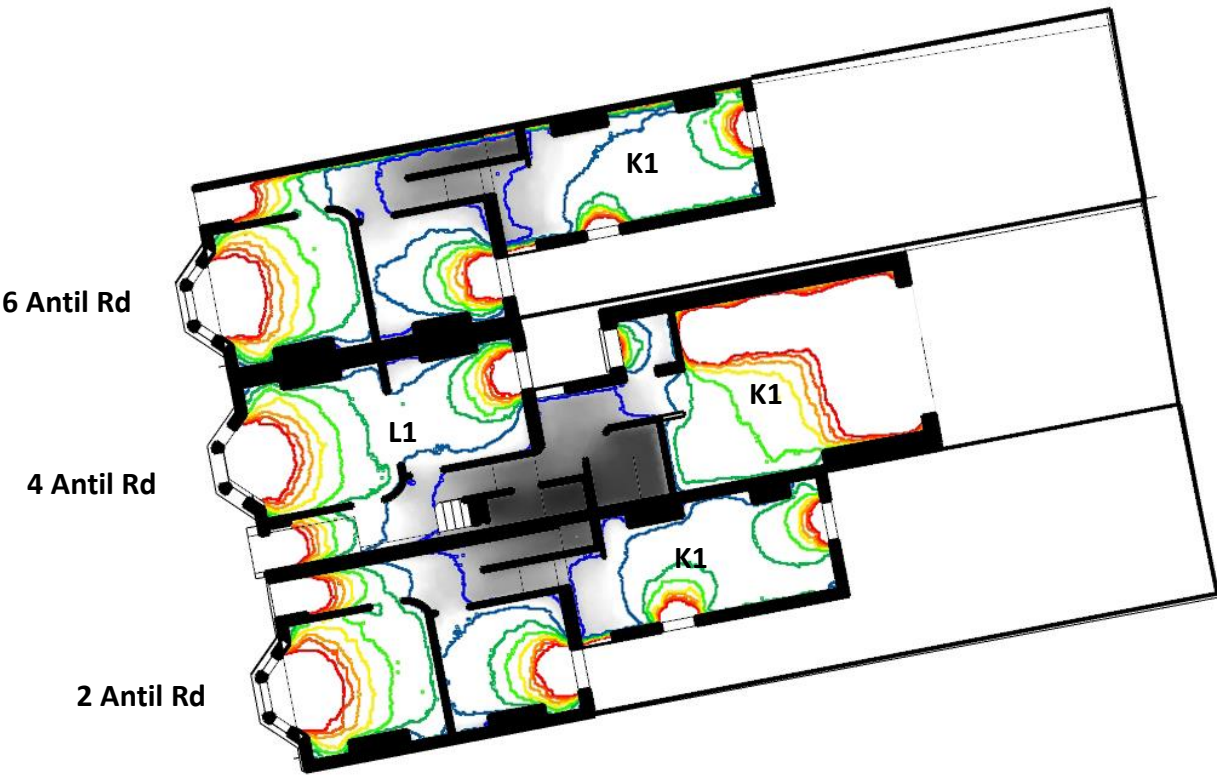
VSC – Neighbouring

Building Name	Floor Name	Window Name	Traffic Light Id	VSC Existing	VSC Proposed	Pr/Ex	Meets BRE Criteria	Window Orientation	Calculation Date	Version
2 Antill Road	First	W1	17	39.53	39.53	1	YES	79°N	14/07/2023 18:03:04	6.0.0.11
2 Antill Road	Ground	W1	16	39.52	35.33	0.89	YES	79°N	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	First	W1	22	37.81	36.13	0.96	YES	79°N	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	First	W2	23	23.53	19.25	0.82	YES	169°	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	First	W3	24	39.61	39.61	1	YES	79°N	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	Ground	W1	25	32.35	31.05	0.96	YES	79°N	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	Ground	W2	29	14.22	11.69	0.82	YES	169°	14/07/2023 18:03:04	6.0.0.11
6 Antill Road	Ground	W3	27	39.59	38.91	0.98	YES	79°N	14/07/2023 18:03:04	6.0.0.11

APSH – Neighbouring

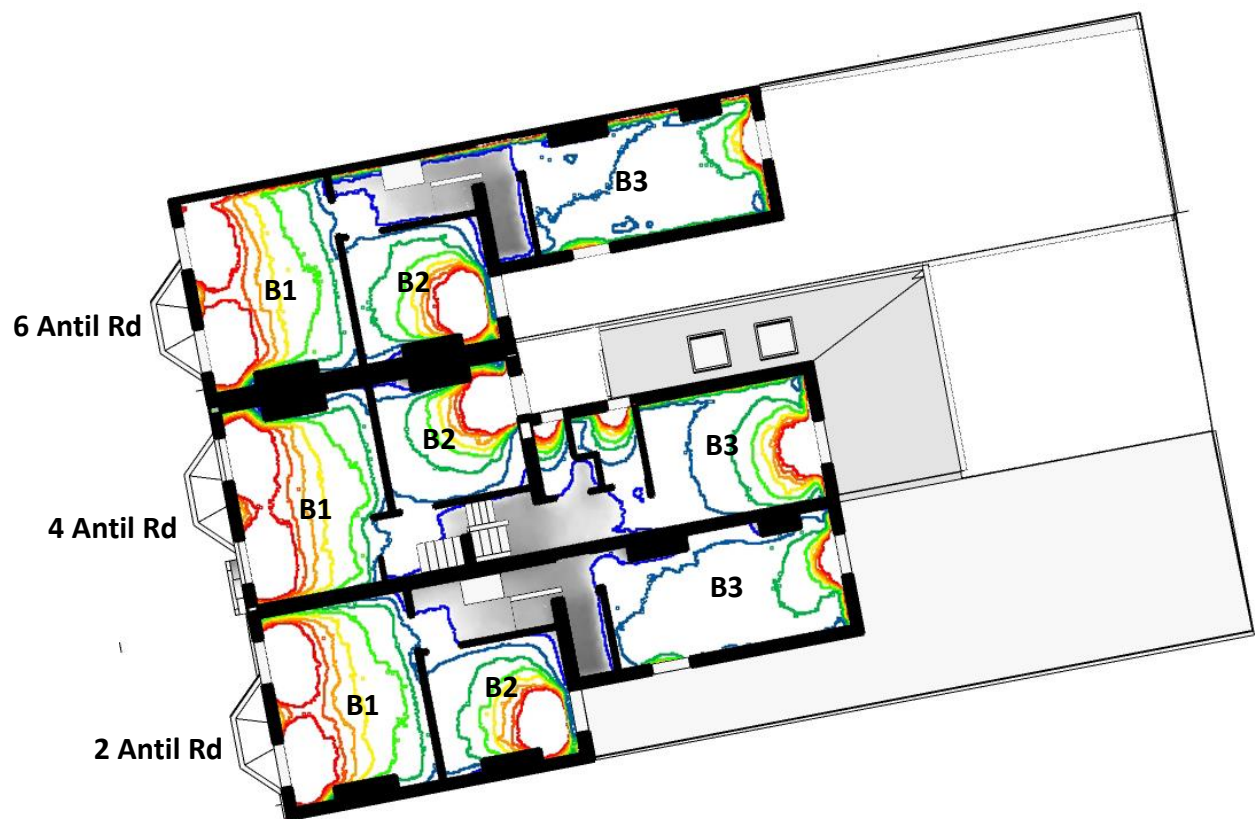
Building Name	Floor Name	Window Name	Traffic Light Id	Window Orientation	Annual Ex	Annual Pr	Pr/Ex	Meets BRE Criteria	Winter Ex	Winter Pr	Pr/Ex	Meets BRE Criteria	Calculation Date	Version
2 Antill Road	First	W1	17	79°N	46	46	North	North	12	12	North	North	14/07/2023 18:03:10	6.0.0.11
2 Antill Road	Ground	W1	16	79°N	46	46	North	North	12	12	North	North	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	First	W1	22	79°N	40	34	North	North	8	2	North	North	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	First	W2	23	169°	56	50	0.89	YES	10	6	0.6	YES	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	First	W3	24	79°N	46	46	North	North	12	12	North	North	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	Ground	W1	25	79°N	24	19	North	North	0	0	North	North	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	Ground	W2	29	169°	40	34	0.85	YES	9	5	0.5	YES	14/07/2023 18:03:10	6.0.0.11
6 Antill Road	Ground	W3	27	79°N	46	46	North	North	12	12	North	North	14/07/2023 18:03:10	6.0.0.11

APPENDIX 5 – NSL Results and Plans



Minimum values to archive compliance:
Kitchen 2.0
Living 1.5
Bedroom 1.0

2 Antill Road – Ground Floor Plan	4 Antill Road – Ground Floor Plan		6 Antill Road – Ground Floor Plan
K1	L1	K1	K1
Kitchen	Living Room / Dining	Kitchen	Kitchen
2.3	2.4	4.9	2.7
ok	ok	ok	ok



2 Antill Road – First Floor Plan		
B1	B2	B3
Bedroom	Bedroom	Bedroom
4.2	3.3	2.4
ok	ok	ok

Minimum values to archive compliance:

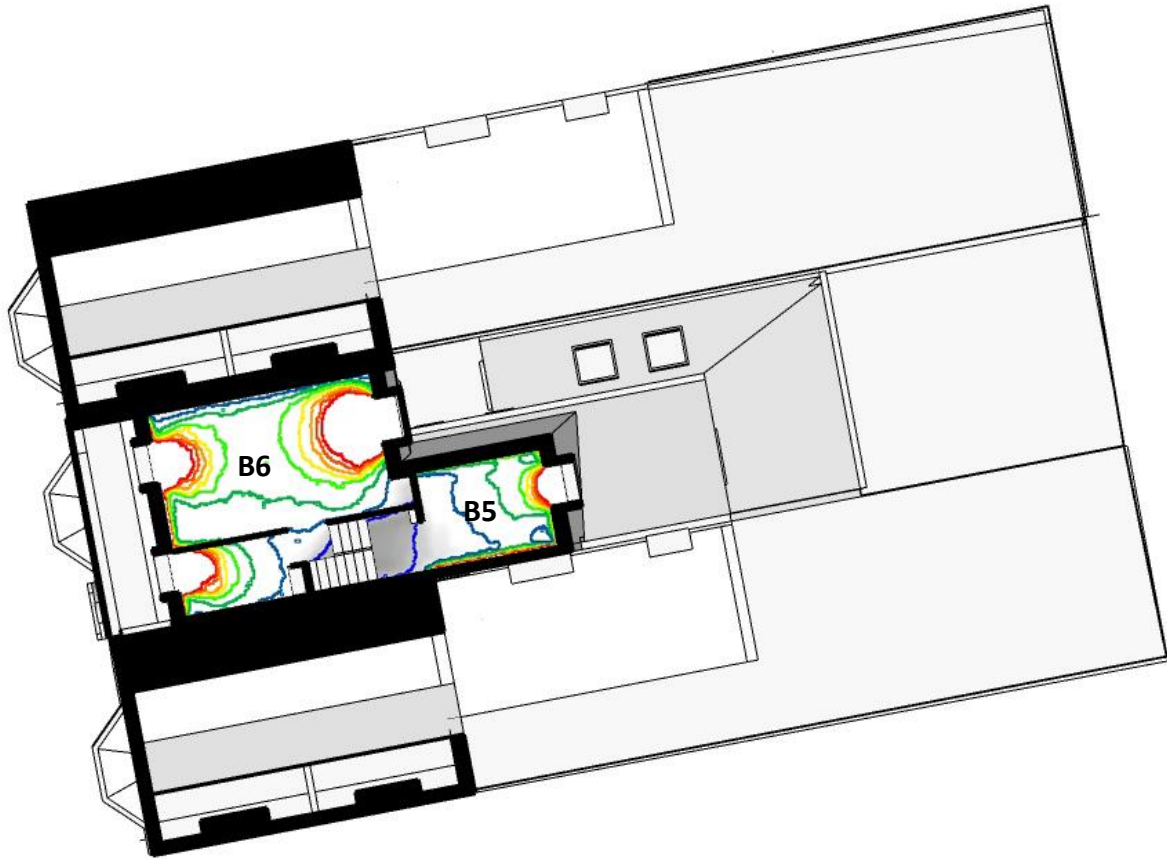
Kitchen 2.0

Living 1.5

Bedroom 1.0

4 Antill Road – First Floor Plan		
B1	B2	B3
Bedroom	Bedroom	Bedroom
4.2	3.3	2.5
ok	ok	ok

6 Antill Road – First Floor Plan		
B1	B2	B3
Bedroom	Bedroom	Bedroom
4.2	3.8	2.3
ok	ok	ok



Minimum values to archive compliance:

Kitchen 2.0

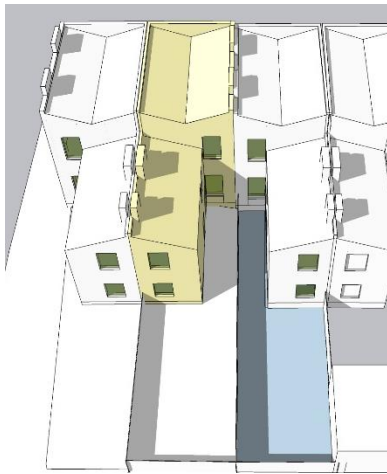
Living 1.5

Bedroom 1.0

4 Antill Road – Second floor	
B5	B6
Bedroom	Bedroom
2.1	3.5
ok	ok

APPENDIX 6 – Overshadowing Results, March 21st

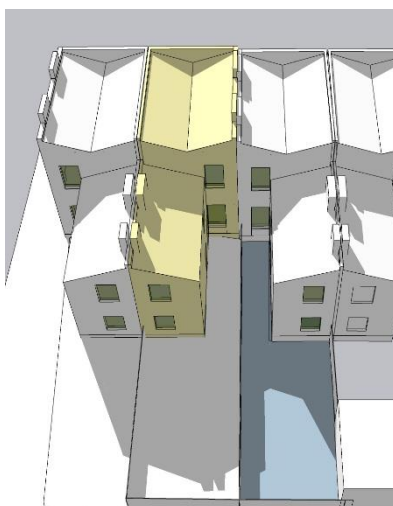
EXISTING



10am



1pm



3pm

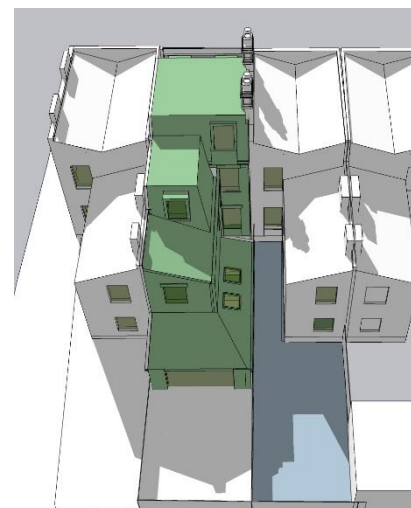
PROPOSED



10am



1pm



3pm

Overshadowing Results, September 21st

EXISTING



10am

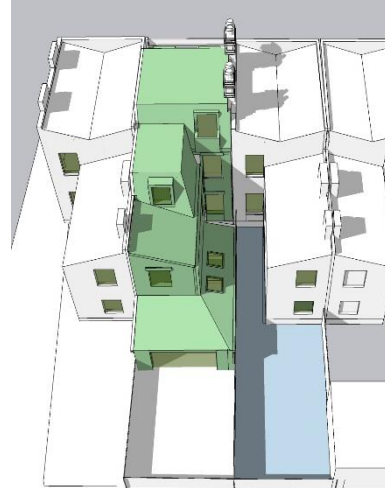


1pm



3pm

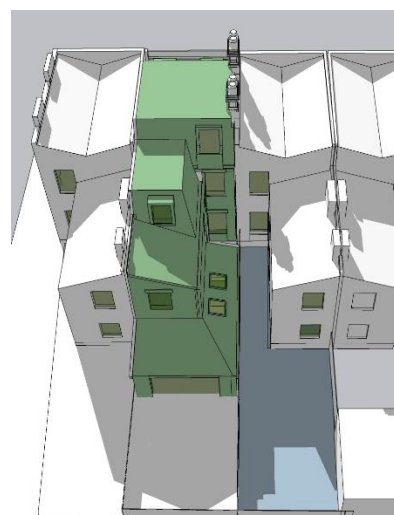
PROPOSED



10am



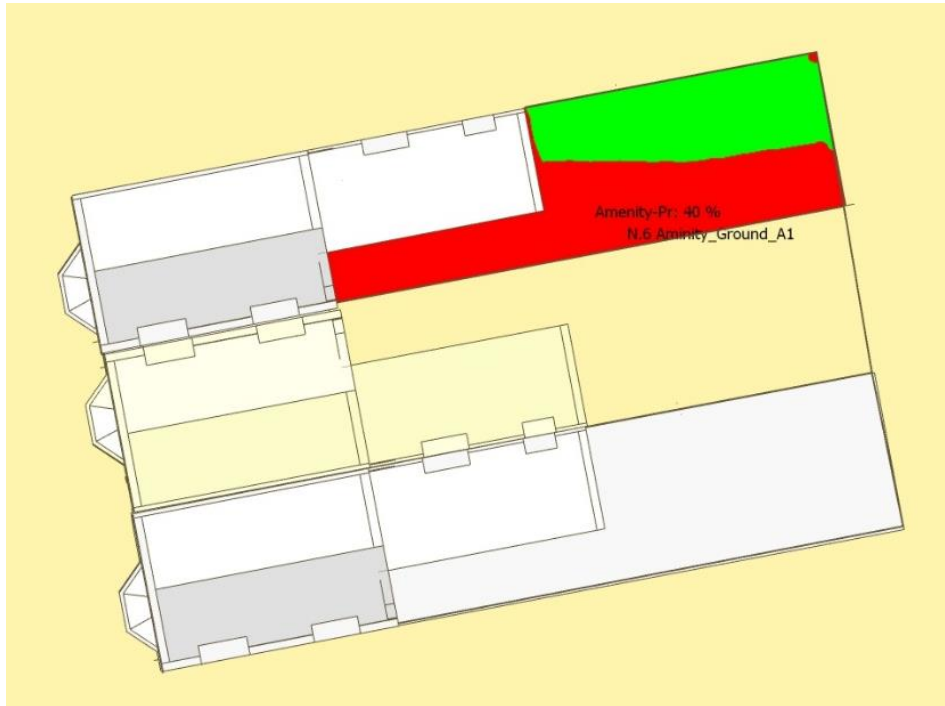
1pm



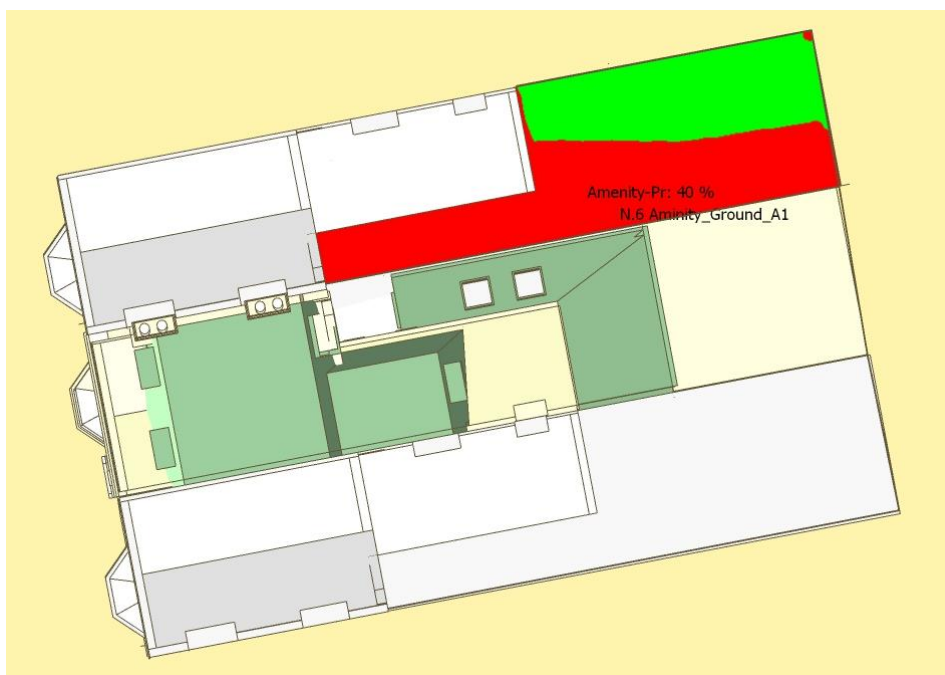
3pm

Overshadowing tables

Building Name	Floor Name	Amenity Name	Amenity Area	Lit Area Ex	Lit Area Pr	Existing %	Proposed %	Pr/Ex	Meets BRE Criteria	Calculation Date	Version
6 Antill Road	Ground	A1	56.24333	22.33966	22.33966	40%	40%	1	No	25/07/2023 11:26:02	6.0.0.12



Existing



Proposed