

Proposed Residential Development, Mount St. Mary's, Dundrum Road, Dublin 14

Daylight and Sunlight Assessment Report
Applicant: Dún Laoghaire-Rathdown County Council

"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." - BR 209

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The following report has been prepared by 3D Design Bureau (3DDB). 3DDB have over 7 years experience in producing daylight and sunlight assessments for large scale planning applications and are recognised as experts in the field. This report has been reviewed and overseen by Nicholas Polley and Richard Dalton. Nicholas is CEO of 3D Design Bureau and is a qualified Building Services Engineer (B.Sc.(Eng) Dip Eng) with over 25 years experience in the industry. Richard is Associate Director of 3DDB and has a bachelors degree in Building Information Modelling (BIM) with over 20 years experience in the industry.

1.0 Executive Summary

1.1 Summary of Assessment

3D Design Bureau (3DDB) were commissioned to carry out a daylight and sunlight assessment, along with an accompanying shadow study for the proposed residential development at Mount St. Mary's, Dundrum Road, Dublin 14.

The proposed application was developed in collaboration with Dun Laoghaire-Rathdown County Council (DLRCC). An extant permission for a Strategic Housing Development (ABP-31013821) is currently in place for the site, which encompasses a larger area than the subject application, and includes the demolition of the existing buildings to the north. The proposed development, outlined in Figure 1.1 below, is located within the southern portion of the area covered by the grant, and consists of three blocks: two 6-storey apartment buildings and one 2-storey duplex block, collectively providing a total of 129 no. residential units.

Assessments have been broken down into the following two main categories, 'Impact Assessment' and 'Scheme Performance', of which there are subcategories as summarised below:

Impact Assessment

Following advice within the BRE Guidelines, the surrounding context was carefully considered to identify all properties and amenity spaces that may potentially experience an impact. As per the BRE Guidelines, an assessment has been conducted to determine if the proposed development would likely have an adverse effect on nearby properties. Since no such occurrences were identified, no further quantitative assessment is required for this report.

A more detailed explanation of the criterion applied can be found in section "4.1 Impact Assessment, Window Selection Criteria" on page 12.

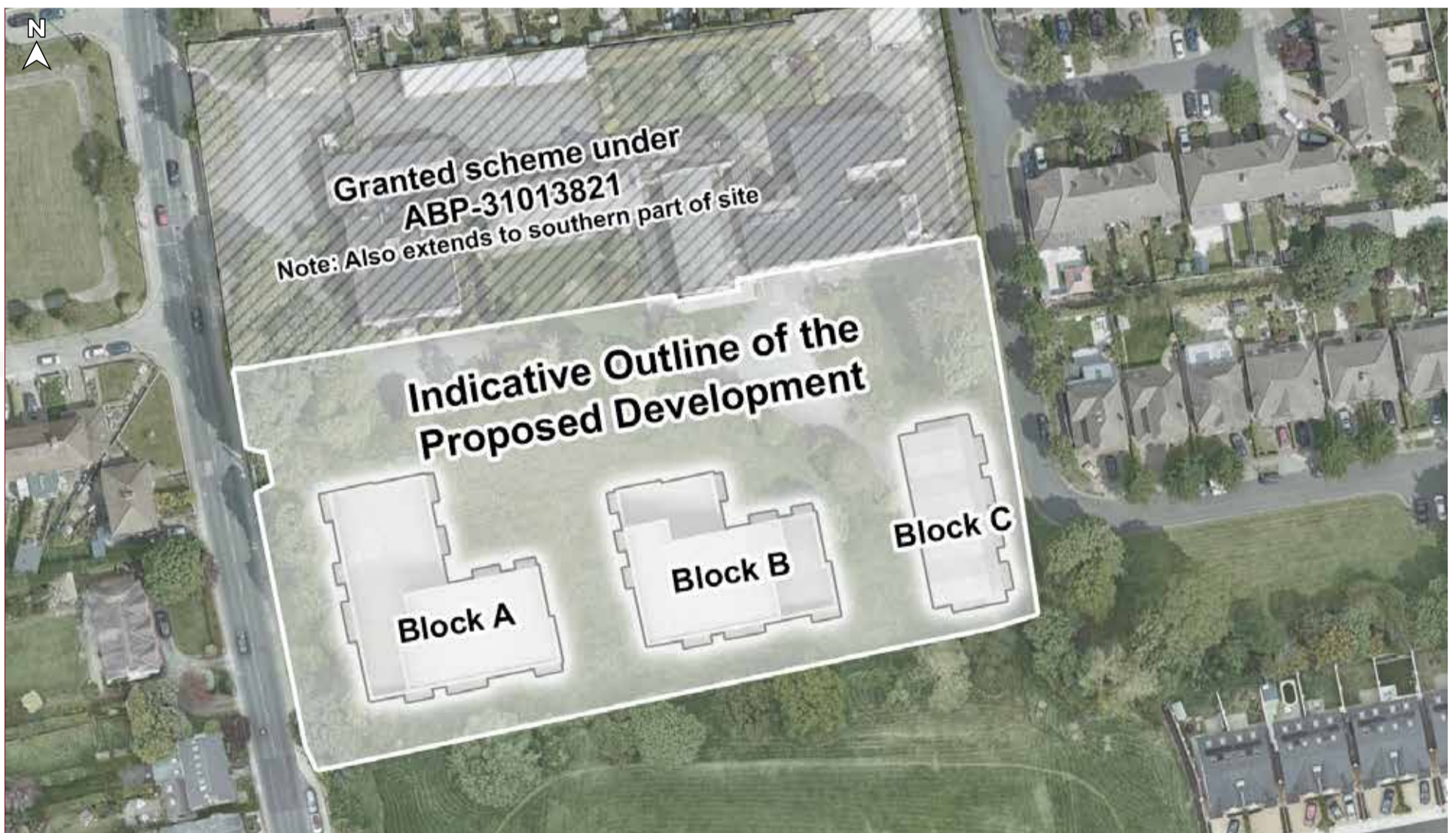


Figure 1.1: Indicative outline of the proposed development.

Scheme Performance

Daylight access for the habitable rooms of the three proposed blocks (shown in Figure 1.1) has been assessed through a Spatial Daylight Autonomy (SDA) study. Sunlight access for the same rooms has been quantified through a Sunlight Exposure (SE) assessment. A Sun On Ground (SOG) study has also been carried out to indicate the level of sunlight on March 21st in the proposed external amenity spaces. The results of these scheme performance assessments, which are in accordance with the BRE Guidelines, can be found in section A.0 on page 25. These results are summarised in section 1.2 and explained in section "5.1 Spatial Daylight Autonomy (SDA)" on page 18.

Supplementary scheme performance studies have also been carried out. These include an SDA assessment under the I.S. EN 17037 criterion, and a No Sky Line (NSL) study within proposed habitable rooms. The results of the supplementary scheme performance assessments can be found in section C.0 on page 67.

1.2 Scheme Performance Results Overview: Spatial Daylight Autonomy (SDA):

Spatial Daylight Autonomy (SDA) BRE 209 Criteria	
Unit Count	129
Rooms Assessed	319
Without Trees	
Compliant	309
Non-compliant	10
Compliance Rate	c. 97%
With Trees (Proposed and Existing Trees)	
Compliant	305
Non-compliant	14
Compliance Rate	c. 96%

Note: It is the expert opinion of 3DDB that the appropriate criteria for SDA assessments are that of the BRE Guidelines (BRE 209)

Sunlight Exposure (SE):

Sunlight Exposure (SE)	
Units Assessed	129
SE with trees as opaque objects	
Non-Compliant	29
Minimum	36
Medium	8
High	56
Compliance Rate	c. 78%
SE without deciduous trees	
Non-Compliant	28
Minimum	26
Medium	8
High	67
Compliance Rate	c. 78%

Sun On Ground (SOG) in proposed amenity areas:

Sun On Ground (SOG) in proposed amenity areas	
Areas Assessed	7
Areas meeting the guidelines	6
Areas not meeting the guidelines	1
Compliance Rate*	c. 86%

* Compliance rates stated for the SOG assessment are based on the public and communal open spaces only.

1.3 Supplementary Assessment Results Overview

Spatial Daylight Autonomy (SDA) under I.S. EN 17037 Criterion:

Spatial Daylight Autonomy (SDA) under I.S. EN 17037 Criterion	
Unit Count	129
Rooms Assessed	319
Without Trees	
Compliant	268
Non-compliant	51
Compliance Rate	c. 84%
With Trees (Proposed and Existing Trees)	
Compliant	227
Non-compliant	92
Compliance Rate	c. 71%

Note: The study under the I.S. EN 17037 criterion should be considered a supplementary assessment. It is the expert opinion of 3DDB that the appropriate criteria are that of the BRE Guidelines (BRE 209)

No Sky Line (NSL):

No Sky Line (NSL):	
Unit Count	129
Rooms Assessed	319
Yes	297
No	22
Compliance Rate*	c. 93%

* As the BRE Guidelines do not provide a recommended minimum for NSL in proposed developments, compliance rates for NSL are calculated using a criteria applied by 3DDB.

2.0 Guidelines / Standards

Overview

Neither the British Standard, European Standard, British Annex to the European Standard nor the BRE Guidelines (BR 209) set out rigid standards or limits. They are all considered advisory documents. The BRE Guide is preceded by the following very clear statement as to how the design advice contained therein should be used:

“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.”

That the recommendations of the BRE Guidelines are not suitable for rigid application to all developments in all contexts, is of particular importance in the context of national and local policies for the consolidation and densification of urban areas or when assessing applications for highly constrained sites (e.g. lands in close proximity or immediately to the south of residential lands). A compromise may have to be made concerning daylight and sunlight compliance to achieve national or local planning objectives.

It is the expert opinion of 3D Design Bureau, that the BRE Guidelines (BR 209) are the most appropriate guiding document for daylight and sunlight assessment. For daylight within proposed developments, a supplementary study has also been carried out under the criteria of *I.S. EN 17037*. The rationale for this opinion is outlined below.

Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities. (2023)

In July 2023, the Department of Housing, Planning and Local Government published an updated guidance document for new apartments, *Sustainable Urban Housing: Design Standards for New Apartments*. This document makes reference to, *EN 17037:2018: Daylight in Buildings* (the European Standard), *BS EN 17037:2018: Daylight in Buildings* (the UK National Annex to the European Standard) and to the 3rd edition of Building Research Establishment's *Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice* (BR 209 2022).

Paragraph 6.7 of the 2023 apartment guidelines states:

“Where an applicant cannot fully meet all of the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, which planning authorities should apply their discretion in accepting taking account of its assessment of specific. This may arise due to a design constraints [sic] associated with the site or location and the balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.”

As such, this report identifies where daylight and sunlight recommendations have and have not been achieved. Rationale and compensatory design solutions are the remits of the planning consultant and/or the project architect, these will also be included in this report when possible.

Note: Section 3.2 of the Urban Development and Building Height Guidelines 2018, provides similar guidance as above. However, it should be noted that at the time of publication of the *Urban Development and Building Height Guidelines (2018)*, BR 209 was in the 2nd edition, first published in 2011. Since then, a 3rd edition of BR 209 has been published (June 2022) and the 2nd edition has been withdrawn. BR 209 no longer references *BS 8206-2:2008*, which has also been withdrawn. The standard used as reference in BR 209 edition 3 is *BS EN 17037*.

BR 209 - Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice (2022)

This document will be referred to as the *BRE Guidelines*, the *BRE Guide* or *BR 209* in this report.

At the time of writing this report, the BRE Guidelines are in the third edition (BR 209). The BRE Guidelines set out recommendations for appropriate levels of daylight and sunlight within a proposed development, as well as providing guidance on impacts arising from a proposed development to surrounding properties and amenity areas.

Upon publication of the 3rd Edition of the BR 209 (2022), the 2nd edition (2011) has been withdrawn. Among the updates from the 2nd to the 3rd edition are some changes in the recommended metrics to use for carrying out scheme performance assessments.

Daylight within proposed developments was previously assessed under the 2011 guidelines using an ‘Average Daylight Factor’ assessment (ADF). This has been replaced with a ‘target illuminance assessment’, also known as a ‘Spatial Daylight Autonomy’ assessment (SDA).

Sunlight within proposed developments was previously assessed under the 2011 guidelines using an ‘Annual / Winter Probable Sunlight Hours’ assessment (APSH/WPSH). This has been replaced with a ‘Sunlight Exposure’ assessment (SE). However, APSH/WPSH is still recommended for sunlight impact assessments.

As such, no ADF or APSH/WPSH assessment will be included as part of a scheme performance assessment under the updated guidelines.

Details of the criteria for new metrics, and all other relevant metrics, can be found in the methodology section on Page 12 of this report.

It is the expert opinion of 3D Design Bureau that the BRE Guidelines are the most appropriate guiding document for assessing daylight potential within a proposed development. The rationale for this opinion is outlined in the Dublin City Council development plan (2022-2028), which states:

“Prior to 2018, Ireland had no standard for daylight. In 2018, the National Standards Authority of Ireland adopted EN 17037 to directly become IS EN 17037. It is important to note that no amendments were made to this document and unlike BS EN 317037, it does not contain a national annex. It offers only a single target for new buildings (there are no space by space targets – e.g. a kitchen would have the same target as a warehouse or office). It does not offer guidance on how new developments will impact on surrounding existing environments. These limitations make it unsuitable for use in planning policy or during planning applications. BR 209 must still be used for this purpose.”

Whilst BRE Guidelines draws reference from BS EN 17037, there are some subtle differences between BR 209 and BS EN 17037. For the purposes of this report, the BRE Guidelines (BR 209) is considered the appropriate reference document.

EN 17037:2018: Daylight in Buildings (2018)

EN 17037 is a European Standard that provides recommendations for daylight within spaces. (Emphasis added)

EN 17037:2018 recommends that 300 lux should be received across 50% of a hypothetical reference plane of any room for half of the daylight hours of the year, with no less than 100 lux received across 95% of the reference plane. No distinction is made for the function of the room for target lux levels within this standard.

It is the opinion of 3D Design Bureau that these target values are less appropriate for proposed residential developments than the recommendations made in the BRE Guidelines, which apply room-specific target values for appropriate LUX levels.

Recommendations made in EN 17037 regarding Sunlight Exposure for proposed developments have been incorporated into the BRE Guidelines. As such, Sunlight Exposure is deemed the appropriate assessment for sunlight within habitable rooms of the proposed development.

EN 17037 also makes recommendations related to glare and quality of view out. These aspects are not addressed in this report as these assessments have less relevance in a residential context where occupants have the freedom to move about in order to improve level of glare or alter the view out.

I.S. EN 17037:2018 Daylight in Buildings (2018)

I.S. EN 17037 is a direct adoption of the European Standard *EN 17037:2018* that provides recommendations for daylight within spaces.

The target values given within *I.S. EN 17037* are directly adopted from *EN 17037*. As such, there are no room-specific recommendations for daylight. Because of these limitations, it is the expert opinion of 3D Design Bureau, that the recommendations made in the *BRE Guidelines* are more appropriate to use than those within *I.S. EN 17037*.

Regardless, a supplementary SDA study has been carried out on the proposed development using the criterion of *I.S. EN 17037*, with compliance rates stated. However, this should be considered a supplementary study.

BS EN 17037:2018: Daylight in Buildings (2018)

BS EN 17037 is the British Annex to the European Standard (see above). The British Annex acknowledges that a rigid application of the European Standard “may not be achievable”. It states “... *it is the opinion of the UK committee that the recommendations for daylight provision in a space [...] may not be achievable for some buildings, particularly dwellings.*”

In BS EN 17037, daylight recommendations differ depending on the function of a room. Target lux levels are applied across 50% of the reference plane of a room for half of the daylight hours. The target lux levels are:

- 200 Lux for kitchens
- 150 Lux for living rooms
- 100 Lux for bedrooms

No minimum is stated to be achieved across 95% of the working plane. If a space has dual purposes it is advised that the higher target value should be applied.

The Compact Growth Guidelines (2024)

The Compact Growth Guidelines offers guidance on compact growth principles as a means to promote sustainable development, efficient land use, and infrastructure while minimizing sprawl and environmental degradation, contributing to sustainable urban growth, enhance liveability and support broader planning objectives.

In regard to daylight, section 5.3.7 states:

“The provision of acceptable levels of daylight in new residential developments is an important planning consideration, in the interests of ensuring a high quality living environment for future residents. It is also important to safeguard against a detrimental impact on the amenity of other sensitive occupiers of adjacent properties.

(...)

(b) In cases where a technical assessment of daylight performance is considered by the planning authority to be necessary regard should be had to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings IS EN17037:2018, UK National Annex BS EN17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context.

In drawing conclusions in relation to daylight performance, planning authorities must weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximise daylight provision, against the location of the site and the general presumption in favour of increased scales of urban residential development. Poor performance may arise due to design constraints associated with the site or location and there is a need to balance that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.”

The Compact Growth Guidelines should be applied within statutory development plans and during the consideration of individual planning applications. Flexibility in interpretation allows planning authorities to tailor recommendations to specific local contexts and planning objectives.

Dun Laoghaire-Rathdown County Development Plan (2022-2028)

The guidance provided in the Dun Laoghaire-Rathdown County Development Plan 2022-2028 (DLR) references the 2nd Edition of the BRE guidelines (BR 209).

Section 12.3.4.2 of the DLR Development Plan states:

“Development shall be guided by the principles of Site Layout Planning for Daylight and Sunlight, A guide to good practice (Building Research Establishment Report, 2011) and/or any updated, or subsequent guidance, in this regard.”

The DLR Development Plan allows for consideration of any updated or subsequent guidance and, therefore, the 3rd edition of the BRE guidelines (BR 209), which was released in 2022 after the publication of the DLR Development Plan, is considered as the primary document.

Summary

According to the aforementioned guiding documents, the following assessments are typically conducted for a daylight and sunlight study, depending on the specific requirements of the project.

Performance of the Proposed Development

Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) on all relevant windows: APSH and WPSH are no longer recommended for scheme performance assessments under BR 209. They have been replaced with Sunlight Exposure (SE). When conducting a scheme performance assessment for sunlight in the habitable rooms of the proposed development, Sunlight Exposure is the relevant metric. An APSH/WPSH assessment will not be carried out in the scheme performance assessment of the proposed development.

Sunlight on Ground (SOG) in all amenity spaces: A SOG assessment will be carried out, where appropriate, for the amenity spaces of the proposed development.

Average Daylight Factor (ADF) in all habitable rooms: BR 209 (2022) states that ADF is no longer recommended as a relevant method of assessment. ADF has been replaced with a target illuminance assessment. (See below). As such, no ADF assessment will be carried out on the proposed development.

No Sky Line (NSL) in all habitable rooms: An NSL assessment will be conducted for the habitable rooms of the proposed development as a supplementary study as part of a scheme performance assessment.

Target Illuminance in all habitable rooms: A target illuminance assessment, also known as a Spatial Daylight Autonomy (SDA) assessment, has replaced ADF as the relevant metric for assessing daylight within proposed habitable spaces. The two recommended methodologies for this assessment are detailed in section 4.3.1 on page 15. In a scheme performance assessment, the SDA will be calculated for the habitable rooms of the proposed development.

Impact on the Surrounding Properties

Vertical Sky Component (VSC) on all relevant surrounding windows: A VSC impact assessment will be conducted, where appropriate, on the relevant surrounding windows determined by the BRE decision chart as illustrated in Figure 4.2 on page 12.

Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) on all relevant surrounding windows: An APSH/WPSH impact assessment will be conducted, where appropriate, on the relevant surrounding windows/rooms that have an orientation within 90° of due south.

Sunlight on Ground (SOG) in all surrounding amenity spaces: A SOG impact assessment will be carried out, where appropriate, on the neighbouring gardens/ amenity spaces located within close proximity and to the north of the subject site.

3.0 Glossary

3.1 Terms and Definitions

Below is a list of daylight and sunlight terminology that may be used in this report depending on the assessments carried out.

Skylight

Non directional ambient light cast from the sky and environment.

Sunlight

Direct parallel rays of light emitted from the sun.

Daylight

Combined skylight and sunlight.

Overcast sky model

A completely overcast sky model, used for daylight calculation.

Cloudless sky model

A completely cloudless sky model, used for sunlight exposure calculation.

Model State

The model state is a term used to describe the configuration of the digital model used to run analysis. Model states will typically reflect a baseline state and a proposed or cumulative state. For a definition of the model states used in the analysis carried out in this report, please refer to "Preparing the analytical model" on page 13.

Vertical Sky Component (VSC)

Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from an overcast sky model, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.

Annual Probable Sunlight Hours (APSH) / Winter Probable Sunlight Hours (WPSH)

Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) are a measure of sunlight that a given window may expect over a year period (1 Jan - 31 Dec), or the winter period (21 Sep - 21 Mar) respectively.

North facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will receive sunlight only at certain times of the day. Taking this into account, the BRE Guidelines suggest that windows with an orientation within 90 degrees of due south should be assessed.

Sun On Ground (SOG)

Assessment of what portion of a garden or amenity space is capable of receiving 2 hours or more of direct sunlight on March 21st.

Sunlight Exposure (SE)

The number of hours of direct sunlight a room can expect to receive on a given date between February 1st and March 21st at a determined point on the windows.

Spatial Daylight Autonomy (SDA)

Spatial Daylight Autonomy assesses whether a space receives sufficient daylight on a working plane during standard operating hours on an annual basis. For compliance, the target value is achieved across 50% of the working plane for half of the occupied period.

No Sky Line (NSL)

The no sky line divides points on the working plane which can and cannot see the sky.

Working plane

Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 850 mm above the floor in houses and factories, 700 mm above the floor in offices. The plane is offset 300mm from the room boundaries under BR 209 criteria, and 500mm from the room boundaries under I.S. EN 17037 criteria.

LKD

Living / Kitchen / Dining room.

BRE Target Value

When assessing the effect a proposed development would have on a neighbouring property, a target value will be applied. This applied target value is generated as per the criteria set out for each study in the BRE Guidelines.

Alternative Target Value

It could be appropriate to use alternative target values when conducting assessment of effect on existing properties. If such instances occur the rationale will be clearly explained and the instances where the alternative target values have been applied will be clearly identified.

Level of BRE Compliance

Each table in the study that has a column identified as "Level of BRE Compliance", identifies how an assessed instance performs in relation to the appropriate target value. If the instance is in compliance with the recommendations as made in the BRE Guidelines the value will be expressed as "BRE Compliant". If the instance does not meet the criteria as set out in the BRE Guidelines a percentage will be expressed to determine the level of compliance with the recommendation. This value determines the definition of effect.

LUX

Lux is a standardised unit of measurement of light level intensity. A measurement of 1 lux is equal to the illumination of a one metre square surface that is one metre away from a single candle.

3.2 Definition of Effects

The BRE Guidelines state that:

“Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space. The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.”

As such, planning authorities should consider a range of localised factors when making decisions. The terminology suggested in the BRE Guidelines is as listed below, whilst the assessment of impact should depend on a combination of factors. The BRE Guidelines also state:

“Where a new development affects a number of existing buildings or open spaces, the clearest approach is usually to assess the impact on each one separately. It is also clearer to assess skylight and sunlight impacts separately.”

Taking this advice, 3DDB have categorised the level of effect on each window/room/open space on an individual basis. In quantifying the levels of effect, 3DDB have assigned numerical values to the levels of compliance with the BRE recommendations. By applying a numerical logic to the terminology used in defining the levels of effect there is no ambiguity regarding how the levels of effect have been categorised within this report.

The list of definitions given below is taken from ‘Appendix H: Environmental impact assessment’ of the BR 209 with a clear indication of how they have been applied in the context of this report.

Negligible

For the purposes of this Sunlight and Daylight Assessment Report a ‘*Negligible*’ level of effect will be stated if the level of effect is within the criteria as recommended in the BRE Guidelines and the applied target value has been achieved.

Minor Adverse

For the purposes of this Sunlight and Daylight Assessment Report, a ‘*Minor Adverse*’ level of effect will be stated if the level of effect is marginally outside of the criteria as stated in the BRE Guidelines. Typically a ‘*Minor Adverse*’ level of effect will be applied if the level of daylight or sunlight is reduced to equal or greater than 80% and less than 100% of the applied target value.

Moderate Adverse

For the purposes of this Sunlight and Daylight Assessment Report, a ‘*Moderate Adverse*’ level of effect will be stated if the level of daylight or sunlight is reduced to equal or greater than 50% and less than 80% of the applied target value. ‘*Moderate Adverse*’ levels of effect are quite typical in instances where a proposed development is planned on an under-developed plot of land.

Major Adverse

An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. For the purposes of this Sunlight and Daylight Assessment Report a ‘*Major Adverse*’ level of effect will be stated if the proposed development reduces the availability of daylight or sunlight of a neighbouring property to significantly below a baseline level. A ‘*Major Adverse*’ level of effect will be stated if the level of daylight or sunlight is reduced to less than 50% of the applied target value.

Beneficial Impact

In relation to sunlight or daylight access, it is conceivable that a proposed development could yield positive effects on the neighbouring properties. In such circumstances the development would typically involve a reduction to the size or scale of built form (e.g. such as the demolition of a building or the removal of a large belt of evergreen trees, which might result in an increase in light access). Where such improvements occur, a ‘*Beneficial Impact*’ will only be stated if the ratio of change is greater than 1.20 (an improvement of 20%). Should less perceptible improvements occur a ‘*Negligible*’ level of effect will be stated.

Not Applicable (n.a.)

In instances where a baseline value is particularly low, levels of effects can appear exaggerated. To mitigate such occurrences, if the baseline value in the VSC, APSh/WPSH or SOG studies is below 1%, 3DDB have categorised the level of effect as n.a. (not applicable).

Averaged Windows (-)

If it can be determined or reasonably assumed that multiple windows are servicing the same room, each window will be assessed and a weighted average will be calculated. In such instances the level of effect for the room will be stated, but the level of effect for the individual windows contributing towards the average will be left blank in the table. This will be indicated in the tables with the dash symbol. (-)

3.3 Definition of Levels of Sunlight Exposure

For interiors, access to sunlight can be quantified. BR 209 recommends that a space should receive a minimum of 1.5 hours of direct sunlight on a selected date between 1 February and 21 March with cloudless conditions. It is suggested that 21 March (equinox) be used. The medium level of recommendation is three hours and the high level of recommendation four hours. For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion.

Level of Sunlight Exposure:

The level of sunlight exposure will be stated for each assessed room in the tables under section “A.3 Sunlight Exposure (SE) in Proposed Units” on page 47. Below is a list of the terms used to categorise the levels of sunlight exposure:

Below Minimum

Sunlight exposure will be categorised as ‘below minimum’ if the potential sunlight for the assessed room is less than 1.5 hours on March 21st. Note: the recommendation is that a room within a proposed unit is capable of receiving 1.5 hours of direct sunlight on March 21st. If an individual room does not achieve this recommendation, it does not mean that the unit is non compliant.

Minimum

A ‘minimum’ level of sunlight exposure will be stated if the potential sunlight for the assessed room is between 1.5 hours and 3 hours on March 21st.

Medium

A ‘medium’ level of sunlight exposure will be stated if the potential sunlight for the assessed room is between 3 hours and 4 hours on March 21st.

High

A ‘high’ level of sunlight exposure will be stated if the potential sunlight for the assessed room is greater than 4 hours on March 21st.

Unit Compliance:

In addition to the level of sunlight exposure expressed for each room, compliance will be stated on a unit-by-unit basis. A proposed unit is considered to be compliant if any habitable room within the unit is capable of receiving at least 1.5 hours of sunlight on the assessment date.

Non-Compliant

If no habitable rooms within a proposed unit can receive 1.5 hours of sunlight on the assessment date, the unit will be categorised as ‘Non-Compliant’.

Compliant

If at least one habitable room within a proposed unit can receive 1.5 hours or more of sunlight on the assessment date, the unit will be categorised as ‘Compliant’.

Typically unit compliance will be stated for the best performing room per unit only, with lesser performing rooms indicated with a dash (-). However, if more than one room in a given unit is considered to be the best performing room (i.e. they have the same number of SE hours on March 21st), then the unit compliance column will be populated in the first instance only.

4.0 Methodology

4.1 Impact Assessment, Window Selection Criteria

To determine the properties to be included in the impact assessment, the decision chart taken from the BRE Guidelines has been followed, as shown in Figure 4.2.

Accordingly, all properties within a distance of three times the height of the proposed development, as illustrated in Figure 4.1, have been considered for impact assessment.

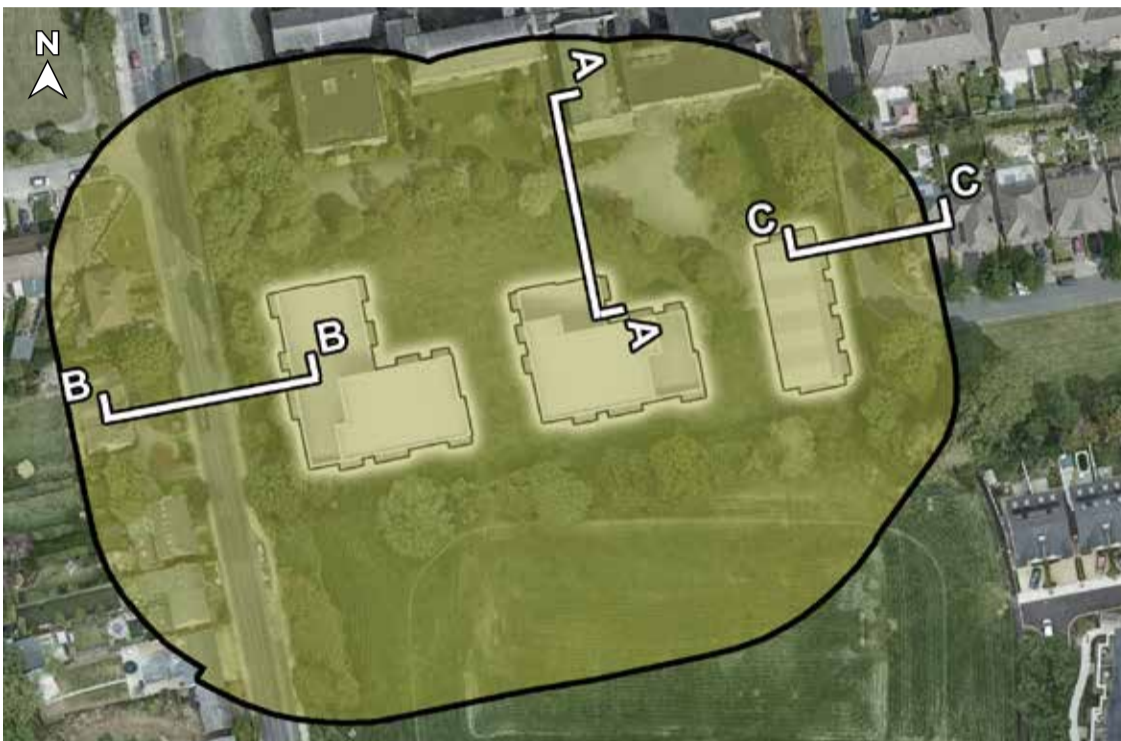


Figure 4.1: Properties within three times the height of the proposed development

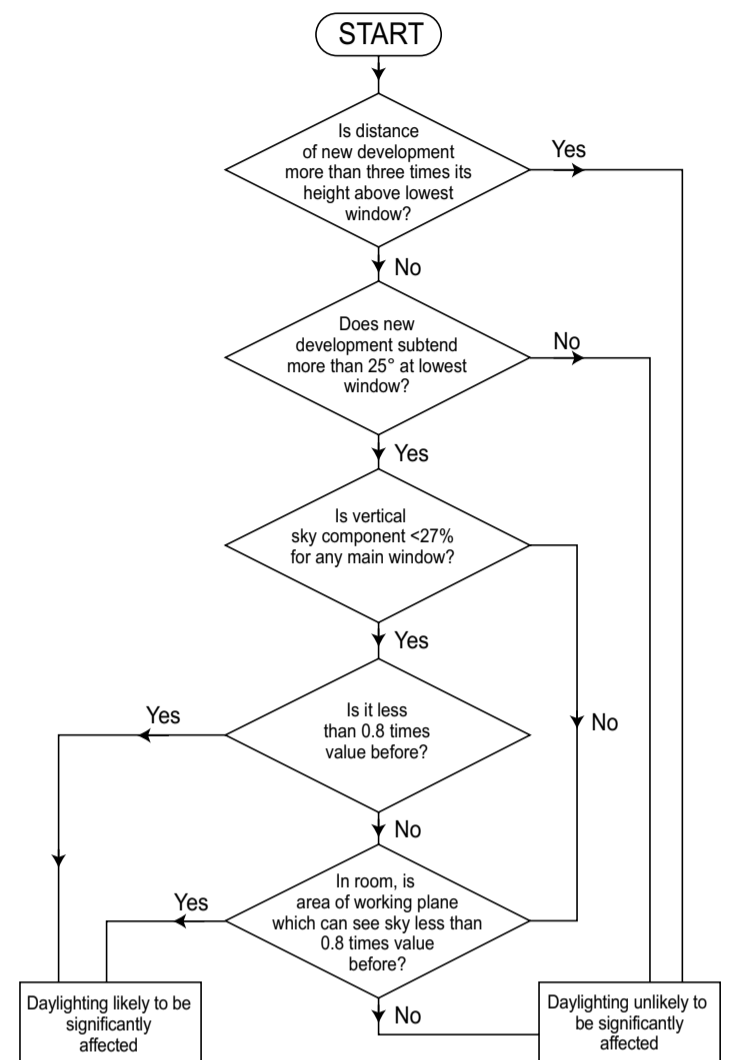


Figure 4.2: VSC decision chart, taken from BR 209.

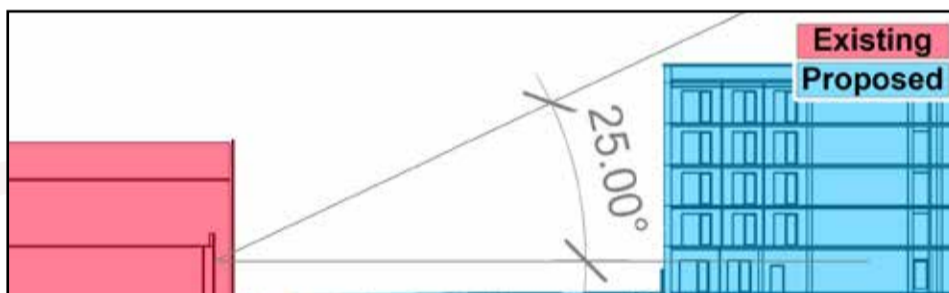


Figure 4.3: Section A-A taken through Mount St Mary's

As per the BRE Guidelines, a perpendicular section has been drawn from the main window wall of the potentially affected properties to determine if the proposed development subtends an angle of more than 25° at the lowest window.

If the proposed development subtends 25° in this section, then a VSC assessment should be conducted. However, if the proposed development does not subtend 25° in a perpendicular section, daylight is unlikely to be significantly affected and no further assessment is needed.

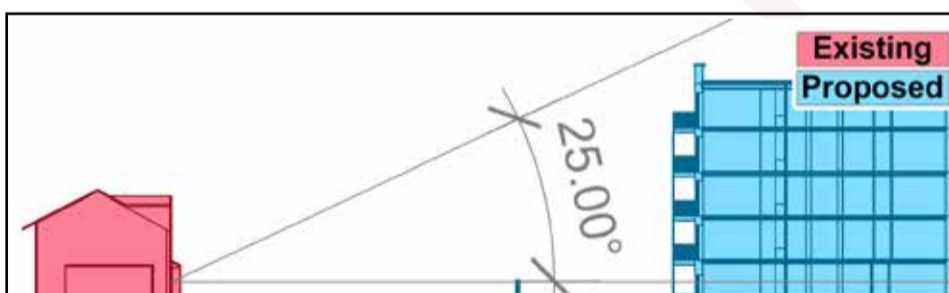


Figure 4.4: Section B-B taken through Chandos

Figures 4.3, 4.4 and 4.5 show perpendicular sections taken through Mount Saint Mary's, Chandos and #68 Churchfields respectively, which all provide examples of where an existing window is within 3 times the height of the proposed development but the proposed development does not subtend 25° when measured in a perpendicular section.

Since no property in the surrounding context has the proposed development subtending 25° in a perpendicular section, no further quantitative assessment was necessitated.

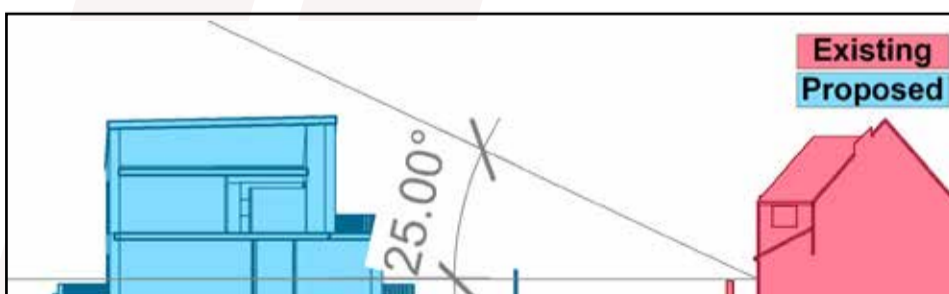


Figure 4.5: Section C-C taken through #68 Churchfields

Note: In some cases, 3DDB may test windows that are close to meeting the criteria for further assessment, taking into account some tolerance in the placement of existing windows within the model. Section A-A (Figure 4.3) shows a windows at Mount Saint Mary's that is close to meeting the 25° criteria and, therefore, could be included in a quantitative assessment. However, since the windows at this location do not serve habitable spaces, they would not require assessment regardless.

4.2 Preparing the analytical model

4.2.1 Building the Model States

The project architect, Reddy A+U, supplied 3DDB with 3D models of the proposed apartment blocks from which a 3D analytical model was created. Landscape drawings were issued by RMDA Landscape Architects. A combination of survey information, aerial photography, available online photography and/or ordnance survey information were used to model the surrounding context and assessed buildings. **Note:** as the information gathered from online sources is not as accurate as surveyed information, a reasonable tolerance should be allowed to the placement of windows, boundary treatments and the results generated.

Baseline model state

As illustrated in Figure 4.6, the baseline model state reflects the existing environment. It includes the surrounding context and the subject site in their current standing. Existing trees were placed using photogrammetry information, with assumptions made regarding exact size, position and species.

The BRE Guidelines recommend that impact assessments should be carried out if any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal. This criterion has been used to ensure all windows that could potentially sustain an adverse level of effect have been included in the model. Since no property in the surrounding context meets this criterion, no impact assessment was carried out, and this model state was therefore not utilised for any quantitative assessments.



Figure 4.6: Model view of the baseline model state

Proposed model state

As illustrated in Figure 4.7, the proposed model state reflects the subject site if the development is built as proposed. This includes proposed landscaping on the subject site and the demolition of existing structures, etc. Proposed buildings have been positioned in their location on the subject site with relevant surrounding context included. Proposed trees have been placed according to the information provided by the landscape architect regarding size, position and species.

All of the above information was subsequently used to prepare a digital analytical model in software specifically designed for daylight and sunlight analysis.

Relevant weather and climatic data has been obtained for this report using a localised EnergyPlus Weather File (IRL_Dublin.039690_IWEC.epw).



Figure 4.7: Model view of the proposed model state

4.2.2 Trees

It is generally not possible to accurately represent trees in a digital 3D model as the size and shape will differ greatly from tree to tree. When modelling trees for this assessment assumptions have been made and tree geometry has been simplified.

For the purpose of the analysis carried out in this report, the position and size of existing trees have been estimated using photogrammetry information. The shape of the trees have been simplified and the species of each tree has been assumed. Simplified models of proposed trees within the development have also been included according to the information provided by the landscape architect.

BR 209 provides guidance on how trees should be treated depending on the study being carried out, as summarised below:

Sun On Ground (SOG)

The BRE Guidelines states that when assessing the impact of buildings on sunlight in gardens:

"...trees and shrubs are not normally included in the calculation unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes. This is partly because the dappled shade of a tree is more pleasant than the deep shadow of a building (this applies especially to deciduous trees)."

As such, deciduous trees have not been included in the calculation of SOG, unless there is a dense belt present or a group of trees specifically planned as a windbreak or for privacy purposes. Evergreen trees are included in the SOG assessment.

Sunlight Exposure (SE)

The BRE Guidelines state that as deciduous trees would not be in full leaf on the recommended assessment date (March 21st), sunlight would be expected to penetrate deciduous trees. However, as trees have so many variables, it is impossible to accurately represent how they would affect sunlight at a given time. The suggested methodology (BR 209) to allow for this is to run the sunlight exposure study in two states. Once with trees as opaque objects and secondly without deciduous trees in the assessment model. This gives a range of potential sunlight hours.

Spatial Daylight Autonomy (SDA)

BR 209 recommends when assessing daylight in a proposed building, it is appropriate to run the assessment with trees represented over the course of the whole year. Light transmittance values for the modelled trees are varied to account for summer and winter foliage.

Taking average values from *BRE Digest 350*, a light transmittance value of 60% has been applied to deciduous trees during the portion of year where a bare branch tree condition is most likely (from the 6th of October to the 24th of April). Representative of summer months, a light transmittance value of 20% has been applied to deciduous trees during the portion of year where a full leaf tree condition is most likely (from the 24th of April to the 6th of October).

A light transmittance value of 20% has been applied to evergreen trees throughout the year.

Units have also been assessed without trees to give an understanding of how the architecture performs should trees not be factored into the calculation.

I.S. EN 17037 does not give any guidance on how trees should be represented. For the purpose of this report, the SDA calculation under the I.S. EN 17037 criteria has been carried out with trees represented in the same manner as the BR 209 assessment. Units have also been assessed without trees to give an understanding of how the architecture performs should trees not be factored into the calculation.

No Sky Line (NSL)

Because some sky can usually be seen through a tree canopy, deciduous trees have not been included in the No Sky Line assessment model. Evergreen trees may be included in this assessment, particularly if there is a dense belt or group planned for windbreak or for privacy purposes.

Shadow Study

The hourly renderings of the shadow study have been generated with evergreen trees represented as opaque objects, where applicable, and without deciduous trees. This method best represents the methodology used for the impact assessment and allows for a better understanding of potential shadows cast by the proposed development through the tree canopy.

4.3 Quantitative Scheme Performance Assessment Overview

4.3.1 Spatial Daylight Autonomy in Proposed Habitable Rooms (SDA)

Since the publication of the 3rd edition of the BRE Guidelines (BR 209 - 2022), Spatial Daylight Autonomy (SDA) is the recommended metric for assessing daylight access within a proposed development. Spatial Daylight Autonomy replaces Average Daylight Factor (ADF) in this regard, which was the recommended metric under the 2nd edition of the BRE Guidelines (BR 209 - 2011).

Spatial Daylight Autonomy assesses whether a room receives sufficient daylight on a working plane during standard operating hours on an annual basis. A given target value should be achieved across 50% of the working plane for half of the daylight hours.

There are two methods for calculating SDA:

- **Calculation method using illuminance level:** This requires the use of a detailed daylight calculation method where hourly (or sub-hourly) internal daylight illuminance values for a typical year are computed using hourly (or sub-hourly) sky and sun conditions derived from climate data appropriate to the site. This calculation method determines daylight provision directly from simulated illuminance values on the reference plane. The illuminance value of at least half the required area of the space should equal or exceed the target values.
- **Calculation method using daylight factor:** The daylight factor method assumes a constant ratio between internal and external illuminance. The daylight factors in the space shall be calculated by any reliable method that is based on the ISO 15469:2004 standard overcast sky (TYPE 1 or TYPE 16). Daylight factors are to be predicted across grid of points on a plane 0.85m above the floor of the space. The daylight factor of at least half the required area of the space should equal or exceed the target values.

It is the opinion of 3DDB that the calculation method using illuminance level better represents a real-world scenario as it accounts for the quality of daylight based on orientation. As such, the illuminance methodology has been adopted for all SDA assessments in this report using a localised EnergyPlus Weather File (IRL_Dublin.039690_IWEC.epw) to apply the relevant climate information.

In terms of housing, *BR 209* provides target SDA values to be received across at least 50% of the working plane for at least half the daylight hours. The target values differ based on the function of the room assessed:

- 200 Lux for kitchens
- 150 Lux for living rooms
- 100 Lux for bedrooms

Where rooms serve more than one function, the higher SDA target value should be taken.

Under I.S. EN 17037 at least 50% of the working plane should receive above 300 lux for at least half the daylight hours, with 95% of the working plane receiving above 100 Lux for all rooms. The target SDA values do not vary depending on the room function under this criteria.

This study has assessed the Spatial Daylight Autonomy (SDA) received in the habitable rooms of the proposed development under the BR 209 criterion. The SDA of the proposed development has been calculated under the I.S. EN 17037 criterion as part of a supplementary assessment.

Defining Rooms

Definition of rooms has been taken directly from the architectural drawings supplied by the project architect.

In accordance with the BRE Guidelines circulation spaces, corridors, bathrooms etc. have not been assessed.

Indication of the assessed space in each room is provided in the floor plans that correspond to the SDA results in the appendix section "Proposed Apartment Floor Plans" on page 25.

Working Plane

The calculation of SDA is carried out on a hypothetical working plane which lies 850 mm from the finished floor level in residential units and 700 mm in academic and office spaces.

In the BR 209 study the working plane is offset 300 mm from the room boundaries. Under the I.S. EN 17037 criteria the working plane is offset 500 mm from the room boundaries. The working plane has a grid density of c. 300 mm.

Material Palette

Following consultation with the design team, material values used for SDA calculations are as per the table below:

Object	Material	Reflectance	Object	Material	Reflectance Transmittance
Exterior walls	Standard Brick	0.3	Interior Walls	Pastel paint	0.70
	Light Brick	0.4	Interior Ceiling	White paint	0.8
	Dark Brick	0.15	Interior Floor	Light timber	0.4
	Render	0.6	Miscellaneous	Miscellaneous	0.5
	Concrete	0.4	Glass	Double glazing	0.68
Ground cover	Paving	0.4		Maintenance factor	0.91
	Tarmac	0.2		Glass adjusted for maintenance	0.62
	Grass	0.2		Frosted glass	0.5

Project Assessment

The results for the study on SDA can be found in the appendix results section A.2 on page 38.

Analysis of the results can be found in section 5.1 on page 18.

The results of the supplementary SDA study under the I.S. EN 17037 criterion can be found in section C.0 on page 67.

4.3.2 Sunlight Exposure in Proposed Habitable Rooms (SE)

Since the publication of the 3rd edition of the BRE Guidelines (BR 209 - 2022), Sunlight Exposure (SE) is the recommended metric for assessing sunlight access within a proposed development. Sunlight Exposure replaces APSH/WPSH in this regard, which was the recommended metric under the 2nd edition of the BRE Guidelines (BR 209 - 2011).

Sunlight exposure (SE) is a measure of sunlight that a given window may expect to receive on a given date between the 1st of February and the 21st of March. The BRE guidelines suggest that March 21st (equinox) is used as the assessment date.

In the presence of trees, SE results have been generated, both with deciduous trees as opaque objects and without the inclusion of deciduous trees, in accordance with the BRE Guidelines. Evergreen trees have been included as opaque objects, where applicable, in both states.

The level of sunlight exposure is categorised as follows:

• 1.5 Hours - Minimum • 3 Hours - Medium • 4 Hours - High

The recommendation for dwellings is that at least one habitable room, preferably a main living room, should receive at least the minimum criterion. Should no room within a given unit meet the recommended minimum level of sunlight exposure, it will be stated as non-compliant.

Sunlight exposure is carried out on habitable rooms within a proposed development. The assessment point for windows is 1.2m above the finished floor level, or 0.3m above the sill level (which ever is higher). If a room has multiple windows, the amount of sunlight received by each can be added together provided they occur at different times and sunlight hours are not double counted.

The criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met. As such, it is not always possible to achieve full compliance, especially in developments that contain single aspect units.

Project Assessment

The results for the study on sunlight exposure can be found in the appendix results section A.3 on page 47, with analysis of the results in section 5.2 on page 20.

4.3.3 Sun On Ground in Proposed Outdoor Amenity Areas (SOG)

The BRE Guidelines recommend that for a garden or amenity area to appear adequately sunlit throughout the year, at least half of it should receive at least two hours of sunlight on March 21st.

March 21st, also known as the spring equinox, is chosen as the assessment date as daytime and night-time are of approximately equal duration on this date.

The analytical model for SOG assessment in proposed amenity areas includes evergreen trees, where applicable, as per the BRE Guidelines. Typically deciduous trees will not be included unless there is a particularly dense belt.

A quantitative SOG assessment has been carried out on the areas as indicated by the project architect. The shadow study and false colour plans allow for a qualitative assessment for all other areas.

The portion of each assessed space capable of receiving 2 hours of direct sunlight on March 21st has been calculated individually. These areas can be combined to give the development average where appropriate.

Project Assessment

The levels of sunlighting to proposed amenity areas, as indicated by the architect, have been assessed. However, it should be noted that the numbering of these spaces in the Daylight and Sunlight Assessment Report has been assigned by 3DDB specifically for the purposes of this report. If other consultants are referencing these spaces in their own reports, it is unlikely they will be numbered the same.

The results for the study on sun on ground in the proposed outdoor amenity areas (including a visual representation in the form of 2-hour false colour plans) can be found in the appendix results section A.4 on page 56, with analysis of the results in section 5.3 on page 21.

4.3.4 No Sky Line in Proposed Habitable Rooms (NSL)

The no sky line divides the areas of the working plane which can receive direct skylight, from those which cannot. It indicates the distribution of direct daylight within a room.

The BRE Guidelines recommend the No Sky Line study as an appropriate metric for an impact assessment to daylight, but only where room layouts are known.

“The calculation can only be carried out where room layouts are known. Using estimated room layouts is likely to give inaccurate results and is not recommended.”

All advice regarding NSL in the BRE Guidelines is in relation to impact assessments. NSL is not mentioned in the BRE section regarding daylight in new developments. Nevertheless, an NSL assessment was carried out on the proposed development as a supplementary study as it is requested in the DCC Development Plan 2022-2028 (Section 5.1, Appendix 16). Although the proposed development is not located within Dublin City, the NSL study has been included to provide consistency across 3DDB daylight and sunlight assessments.

As the BRE Guidelines does not give advice on target NSL values for proposed rooms, no compliance rate has been stated. However a no skyline of 80% could be considered an appropriate figure given that the BRE Guidelines state that supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line.

The results of the supplementary NSL study can be found in section C.0 on page 67.

4.4 Qualitative Assessment - Shadow Study

A shadow study has been carried out to allow a qualitative comparison between the relevant model states, as outlined in section 4.2 on page 13. This visual representation of the shadows cast by the proposed development can be found in the hourly shadow diagrams in the appendix results section B.0 on page 58.

Hourly renderings have been shown from sunrise to sunset on the following dates in 2024:

- Spring equinox: March 21st Sunrise 6:32 | Sunset 18:32. (GMT)
- Summer solstice: June 21st. Sunrise 5:04 | Sunset 21:49. (BST)
- Winter solstice: December 21st Sunrise 8:45 | Sunset 16:00. (GMT)

The shadow study has been generated using the same model states as described in section 4.2.1. In certain cases, assumptions or estimations may have been made when modelling elements of the surrounding context and/or proposed site details when creating the various model states. Therefore, it is advisable for a reasonable tolerance to be applied when interpreting shadows in the qualitative assessment.

The hourly renderings of the shadow study will be generated without deciduous trees and with evergreen trees, where applicable, represented as opaque objects when present in the model states.

Note: The spring equinox (March 21st) and autumn equinox (21st September) yield similar shadows, albeit with a one hour difference as daylight saving time (BST) would be in effect. Only the spring equinox was included in the shadow study images in accordance with the BRE Guidelines.

5.0 Analysis of Scheme Performance Results

5.1 Spatial Daylight Autonomy (SDA)

This study has assessed the Spatial Daylight Autonomy (SDA) received in all habitable rooms within the 3 no. proposed blocks, both with and without trees. This has ensured that a clear understanding has been obtained regarding the daylight performance of the proposed development.

This proposed development consists of 129 no. units, which makes up approximately 319 no. habitable rooms.

Under the criteria as set out in the BR 209 considering trees, the SDA value in 305 no. habitable rooms meets or exceeds the appropriate target values. This gives a circa compliance rate of 96%.

The additional SDA assessment that does not include trees has shown a slightly higher compliance rate of c. 97%, indicating that trees, both existing and proposed, do not significantly affect the compliance rate. The 4 no. rooms affected by trees are located on the ground and first floors of Blocks A and B, specifically the LKDs of units BA-00-05, BB-00-09, BB-01-02, and BB-01-03 (shown in Figure 5.1 below). All of these rooms fall slightly short of the recommended minimum value of 50%, with SDA values ranging from 45% to 47%.

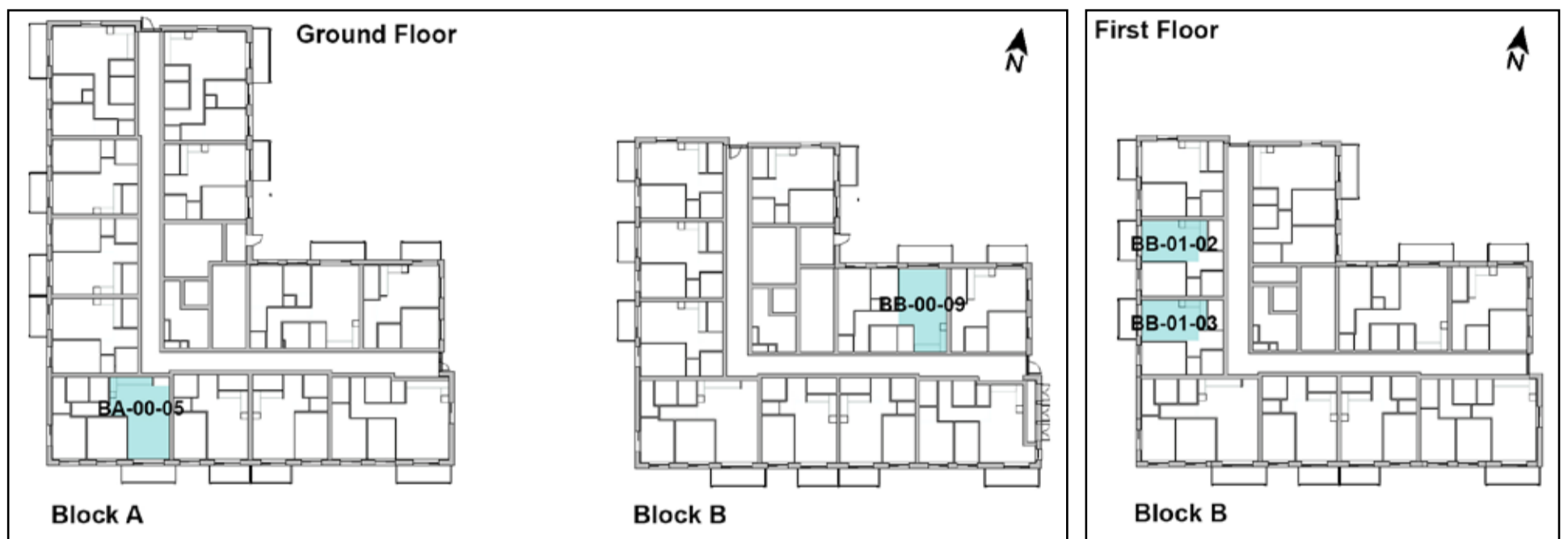


Figure 5.1: Indication of the rooms affected by trees on ground floor (R) and first floor (L) of Blocks A and B.

In the no-tree study, the SDA values for the 6 no. non-compliant rooms within Blocks A and B, range from 42% to 49%, showing that these rooms, while below the recommendations, are fairly close to the target. The 4 no. non-compliant LKDs on the ground-floor units within Block C (Figure 5.2 below) present SDA values ranging from 28% to 34%.

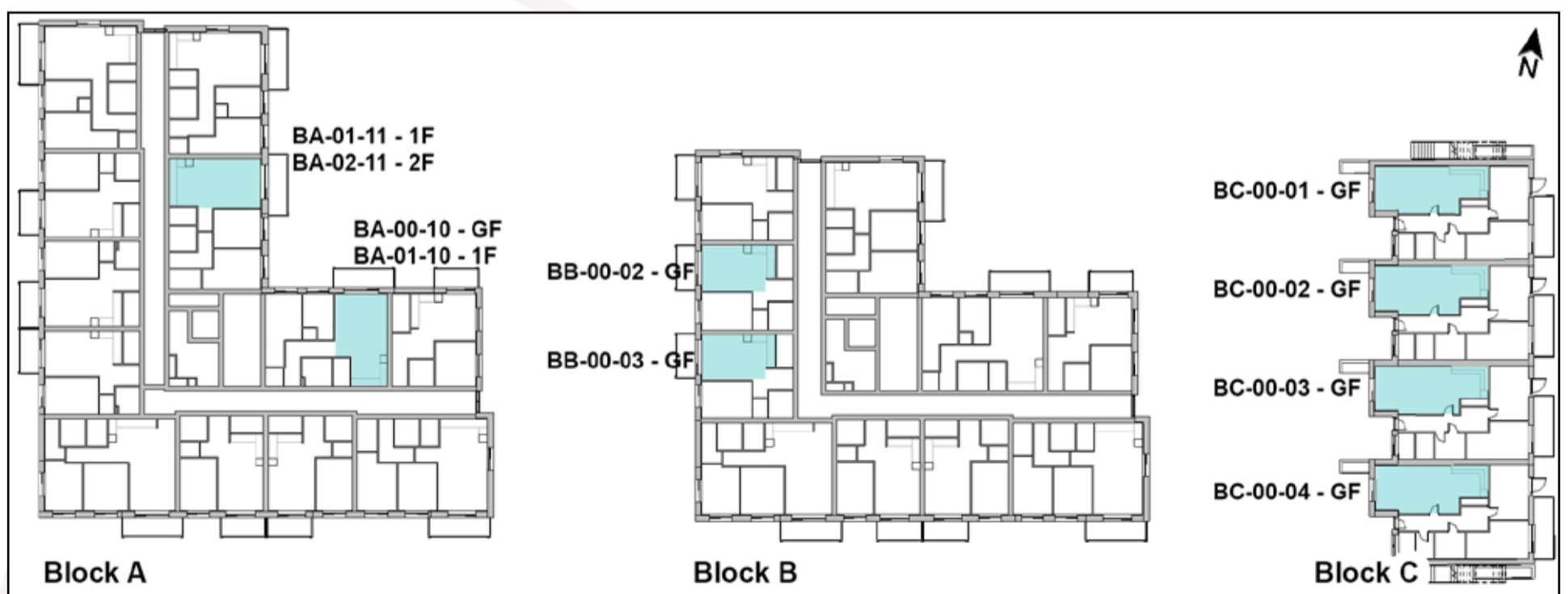


Figure 5.2: Indication of the non-compliant rooms in the 'no-tree' state across ground to second floor.

With trees factored into the calculations, 50% of the non-compliant rooms still achieve SDA values above 40%. While the remaining rooms present lower SDA values, it is opinion of 3DDB that the impact of trees on SDA should not be considered a major cause of concern. Whilst trees can contribute towards a reduction of daylight in units they also reduce the risk of potential heat gain and can be considered to provide a favourable outlook for occupants.

I.S. EN 17037 sets out more onerous recommendations for SDA. As such, the number of habitable rooms achieving compliance under this standard is 227 in the assessment that includes trees. This gives a reduced circa compliance rate of c. 71%. The additional SDA assessment, under this standard, that does not include trees has shown a compliance rate of c. 84%.

In cases where rooms comply with the criteria of BR 209 but do not meet the criteria of I.S. EN 17037, it is the recommendation of 3D Design Bureau that these rooms will appear adequately daylight. This recommendation is based on the fact that BR 209 provides room-specific criteria, unlike I.S. EN 17037. BR 209 considers the varying daylight requirements for different room types, which I.S. EN 17037 does not account for.

With regards to internal daylighting, Section 6.7 of the Sustainable Urban Housing: Design Standards for New Apartments July 2023, states the following:

“Where an applicant cannot fully meet all of the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, which planning authorities should apply their discretion in accepting taking account of its assessment of specific. This may arise due to a design constraints [sic] associated with the site or location and the balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.”

Based on the above statements, compensatory design solutions have been provided by the project architect where rooms do not achieve the daylight provision targets as set out in the BRE Guidelines.

The following list indicates all units that do not achieve the recommended level of daylight with regards to BR 209 and the compensatory design solution for each:

- BA-00-05: Marginally below minimum when trees are accounted for (48%), 10% larger than minimum floor area, 2.5m ceiling height, screened terrace with 1m planted buffer zone for increased privacy and higher level of amenity.
- BA-00-10: 10% larger than minimum floor area, 2.5m ceiling height, facing public open space, screened terrace with 1m planted buffer zone for increased privacy and higher level of amenity.
- BA-01-10: 10% larger than minimum floor area, 2.5m ceiling height, facing public open space
- BA-01-11: 2.5m ceiling height, view of the public open space
- BA-02-11: 2.5m ceiling height, view of the public open space
- BB-00-02: 2.5m ceiling height, screened terrace with 1m planted buffer zone for increased privacy and higher level of amenity.
- BB-00-03: 2.5m ceiling height, screened terrace with 1m planted buffer zone for increased privacy and higher level of amenity.
- BB-00-09: Marginally below minimum when trees are accounted for (46%), 10% larger than minimum floor area, 2.5m ceiling height, facing public open space, screened terrace with 1m planted buffer zone for increased privacy and higher level of amenity.
- BB-01-02: Marginally below minimum when trees are accounted for (47%), 2.5m ceiling height.
- BB-01-03: Marginally below minimum when trees are accounted for (45%), 2.5m ceiling height.
- BC-00-01: 10% larger than minimum floor area, 2.85m ceiling height, dual aspect (West and East), 2,475mm tall windows for deeper light penetration, inset balconies above the unit to prevent shading, selected materials and finishes to optimize light distribution.
- BC-00-02: 10% larger than minimum floor area, 2.85m ceiling height, dual aspect (West and East), 2,475mm tall windows for deeper light penetration, inset balconies above the unit to prevent shading, selected materials and finishes to optimize light distribution.
- BC-00-03: 10% larger than minimum floor area, 2.85m ceiling height, dual aspect (West and East), 2,475mm tall windows for deeper light penetration, inset balconies above the unit to prevent shading, selected materials and finishes to optimize light distribution.
- BC-00-04: 10% larger than minimum floor area, 2.85m ceiling height, dual aspect (West and East), 2,475mm tall windows for deeper light penetration, inset balconies above the unit to prevent shading, selected materials and finishes to optimize light distribution.

The rationale for all instances of non-compliance with the BR 209 criteria that can be attributed to the effect that trees have on daylight, is that the provision of trees is an important aspect of the proposed site design. Where trees affect daylight potential, a conscious decision has been made by the design team in balancing daylight provision with an appropriate level of foliage.

In conclusion, It is opinion of 3DDB that the achievement of c. 97% compliance rate under the ‘no tree’ model state demonstrates a thoughtful design approach to daylight considerations, especially as all the non-compliant rooms are only marginally below the minimum recommendations. When taking into account the presence of retained and proposed trees within the site, the slightly lower compliance rate of c. 96% should be considered a very favourable outcome.

The results for the study on SDA can be seen in section A.2 on page 38.

5.2 Sunlight Exposure (SE)

A sunlight exposure assessment has been carried out on all habitable rooms within the 3 no. proposed blocks. For these assessments, trees have been included in the analytical model as opaque objects. The assessments have been carried out in two states:

- All trees included in assessment model.
- Only evergreen trees included in the assessment model.

This approach is in accordance with the BRE Guidelines and reflects two extreme scenarios: the best case, where deciduous trees are excluded, and the worst case, where all trees are treated as opaque. In reality, no tree is entirely invisible or fully opaque, so the actual compliance rate will fall between the rates calculated for these two scenarios.

In total, 129 no. units have been assessed. Using the rationale explained in section 3.3 on page 11, the level of sunlight exposure for the assessed units is as follows:

In the assessment carried out with all trees considered as opaque objects, 56 no. units are considered *high*, 8 no. *medium*, 36 no. have reached the *minimum* recommendation with 29 units below the *minimum* recommendation.

When deciduous trees are not factored into the assessment model, 67 no. units are considered *high*, 8 no. *medium*, 26 no. have reached the *minimum* recommendation with 28 units below the *minimum* recommendation.

The SE assessment has shown that, in both the tree scenarios, the circa compliance rate for the assessed units, in accordance with the BRE Guidelines, is c. 78%. **Note:** For a unit to be compliant under BR 209, only one habitable room within the unit needs to meet the guideline values.

Whilst the criterion applies to rooms of all orientations, it should be noted that if a room faces significantly north of due east or west it is unlikely to be met. As such, it is not always possible to achieve full compliance, especially in developments that contain single aspect units.

Whilst the two calculations show different categorisations for the levels of sunlight exposure recorded, the number of units failing to meet the minimum requirements remains largely consistent across both scenarios. This indicates that, in general, the presence of trees does not contribute to the non-compliance of the units, which is primarily attributed to the orientation of the units and their positioning within the blocks. However, an exception has been identified in unit BC-00-02, where the presence of trees impacts compliance. Despite this, the overall compliance rate remains unchanged.

Figure 5.3 below highlights the units that do not meet the minimum sunlight exposure requirements across various levels. It can be observed that the units consistently falling short are the single-aspect, north-facing units in both Block A and Block B. In other instances, the non-compliant units are either single-aspect units facing east (Block A) or west (Block B), or north-facing, dual-aspect units.

For the units facing east and west, particularly at lower levels, sunlight is predominantly blocked by the other buildings on the site. However, this effect lessens at higher levels, where the same units meet the sunlight requirements due to reduced obstruction.

Additionally, in Block C, one unit (BC-00-02, which is indicated in Figure 5.3 below) falls below the recommended levels when deciduous trees are factored into the assessment.



Figure 5.3: Indication of the units that do not achieve the minimum SE requirements.

Therefore, the results of the SE assessment are in line with expectations and access to high levels of sunlight in such units should not be expected.

Finally, it should be noted that most of the non-compliant units have a favourable outlook, facing the landscaped amenity areas to the north. This could offer some compensation for the lower levels of sunlight exposure.

No recommendation is made regarding the performance of a development as a whole for SE performance within the BRE Guidelines. However, it is the opinion of 3DDB that the proposed development performs adequately in this regard.

The results for the study on SE in the habitable rooms of the proposed units can be seen in section A.3 on page 47.

5.3 Sun On Ground in Proposed Outdoor Amenity Areas

This study has assessed the level of sunlight on March 21st within the proposed amenity areas.

In total 7 no. spaces have been assessed. Two of these seven spaces include the public open space to the north of the 3no blocks and the play space within it. The remaining 5 no. areas are the communal open spaces which also include the 2 no. rooftops of Block B.

With the only exception of the communal open space of Block B on the ground floor level, all the outdoor amenity spaces provided to the scheme would meet the criteria as set out in the BRE Guidelines.

The communal open space on the ground floor of Block B is located directly north of the block, as the connecting roads on either side of the block prevented the placement of the space to the east and west, as per Block A and Block C. However, this underperforming space of Block B is compensated for by offering two rooftop communal areas, accessible to all residents. Both of these additional spaces achieve compliance. Moreover, when considering all communal spaces, cumulatively, in Block B (shown in Figure 5.4 below), the overall provision satisfies the required sunlight standards.

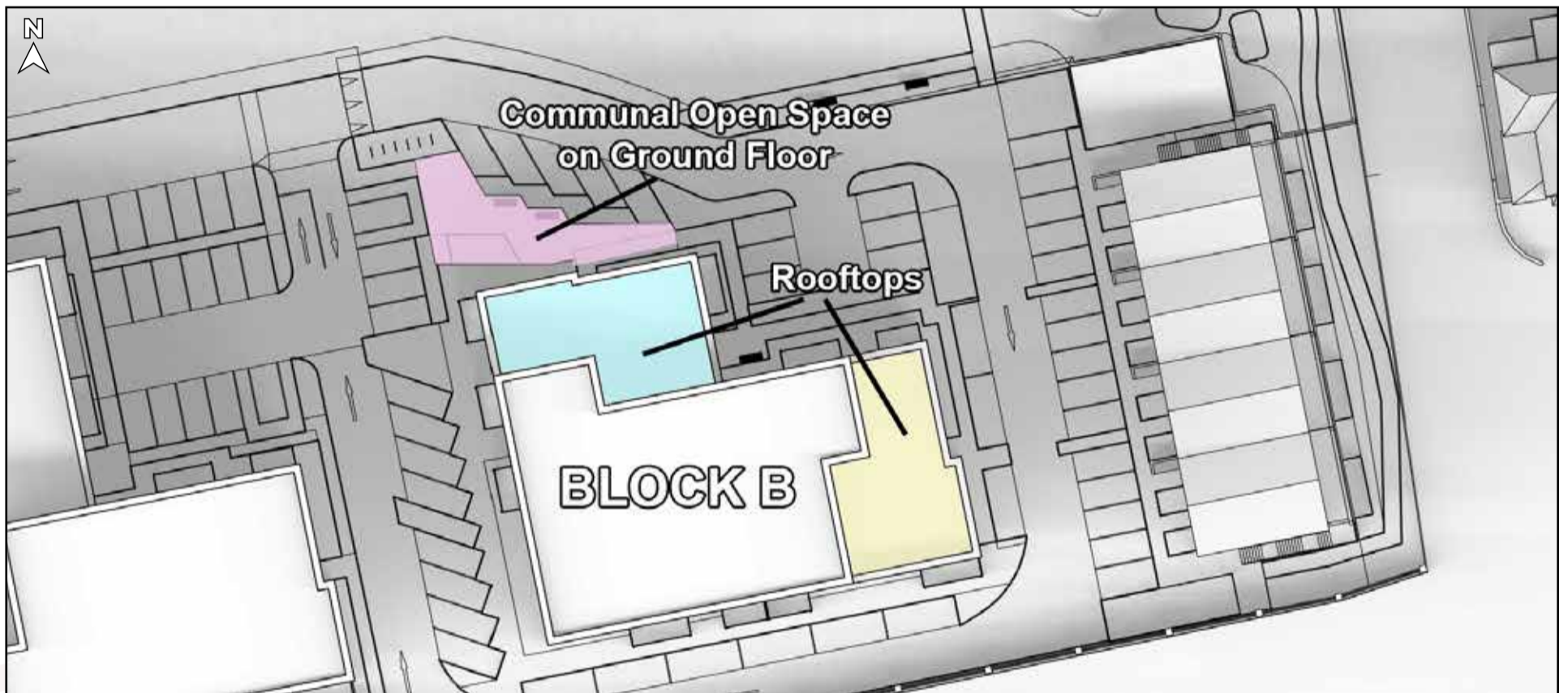


Figure 5.4: Communal Open Spaces of Block B

The results for the study on sunlighting in the proposed outdoor amenity spaces can be found in section A.4 on page 56.

A visual representation of these readings can be seen in the false colour plan in section A.4 and in the hourly shadow diagrams for March 21st in section B.1 on page 58 of the appendix section of this report.

6.0 Conclusion

3D Design Bureau (3DDB) were commissioned to carry out a daylight and sunlight assessment, along with an accompanying shadow study for the proposed residential development at Mount St. Mary's, Dundrum Road, Dublin 14.

The impact assessment for this report has been conducted in accordance with the decision chart outlined in the BRE Guidelines, identifying all properties and amenity spaces that could potentially experience an impact. Since no properties in the surrounding area were found likely to experience any adverse effects, a further quantitative assessment was deemed unnecessary. See section 4.1 on page 12 for full details on the assessment criteria.

The scheme performance assessment for this report has quantified the level of daylight and sunlight within the proposed development.

The SDA study with no trees included in the calculations has shown a compliance of c. 97%. When trees are factored in, the slightly lower compliance rate of c. 96% indicates that trees, both existing and proposed, do not considerably affect the overall daylight performance of the scheme. It is opinion of 3DDB that these results should be considered a very favourable outcome.

The Sunlight Exposure (SE) assessment has shown an acceptable level of compliance, with more than half of the 129 no. units achieving levels of sunlight categorised as *high*, when deciduous trees are not factored in. The non-compliance of some units is primarily to be attributed to their north-facing orientation or obstructions caused by the other blocks on the site, particularly at lower levels. However, the number of single-aspect, north-facing units is minimal, with only one unit in Blocks A and B across all levels. It is opinion of 3DDB that the compliance rate of c. 78% is in line with similar developments of this scale.

Finally, the results for Sun on Ground (SOG) show that, with one exception, all amenity areas receive compliant levels of sunlight. While the communal open space at the ground floor level of Block B does not meet the guidelines, this is mitigated by the compliance of rooftop communal spaces available to the block's residents. Additionally, all future residents of the scheme will have access to the public open space to the north of the site, which benefits from excellent levels of sunlight.

In conclusion, 3DDB are of the opinion that the scheme is performing very favourably from a daylight and sunlight point of view.

Appendix - Results



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Assessment criteria and detailed analysis of results can be found in the accompanying report.

A.0 Scheme Performance

A.1 Proposed Apartment Floor Plans

A.1.1 Proposed Apartment Floor Plans - Block A

Figure A.1: Block A - Site Location



Figure A.2: Block A - Ground Floor



Figure A.3: Block A - First Floor



Figure A.4: Block A - Second Floor



Figure A.5: Block A - Third Floor



Figure A.6: Block A - Fourth Floor



Figure A.7: Block A - Fifth Floor



A.1.2 Proposed Apartment Floor Plans - Block B



Figure A.10: Block B - First Floor



Figure A.11: Block B - Second Floor



Figure A.12: Block B - Third Floor



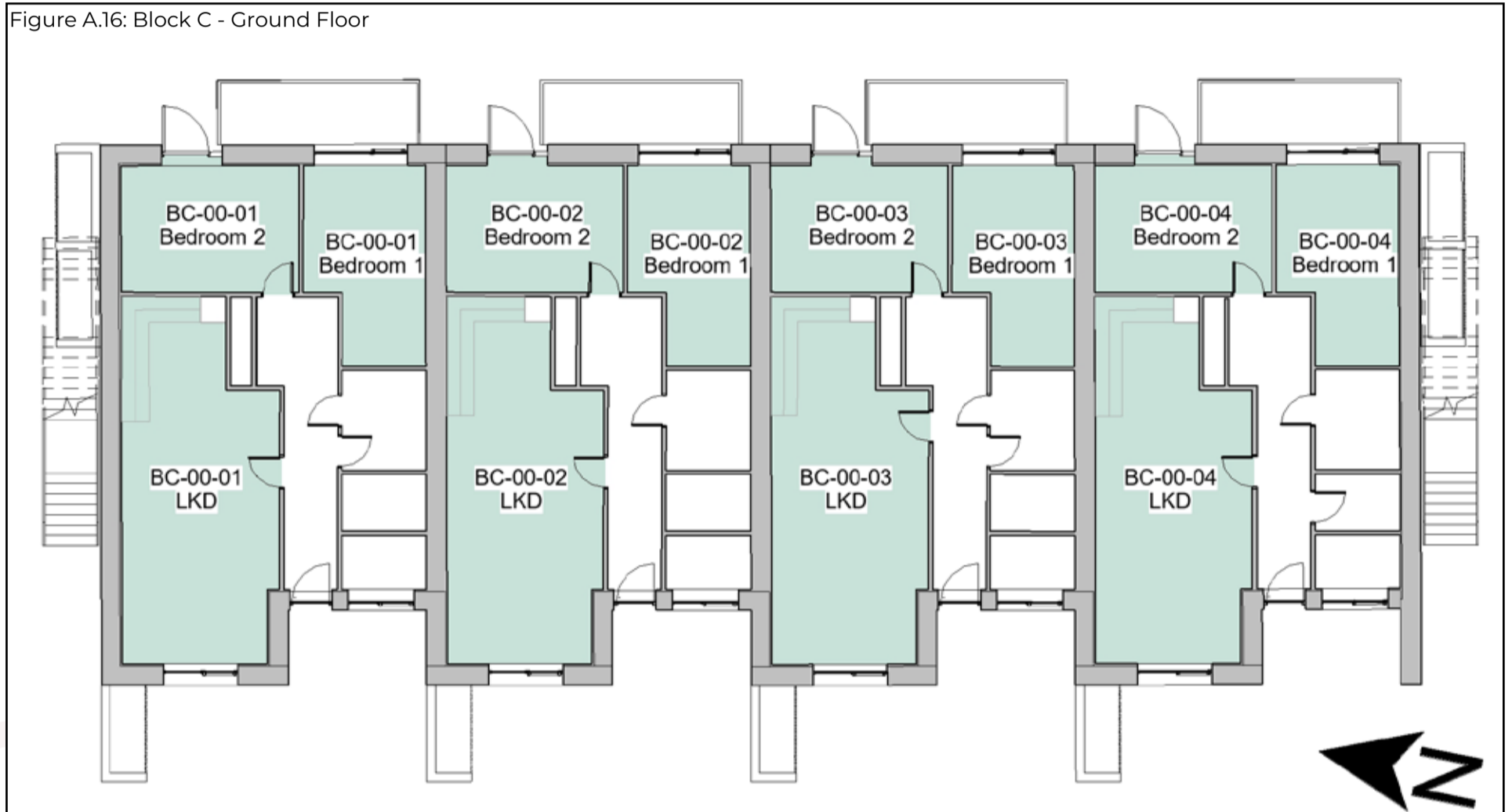
Figure A.13: Block B - Fourth Floor



Figure A.14: Block B - Fifth Floor



A.1.3 Proposed Apartment Floor Plans - Block C



A.2 Spatial Daylight Autonomy (SDA) in Proposed Units

Below is an example of the table used to describe the spatial daylight autonomy results in proposed units.

Table Example. A.2 - Scheme Performance SDA					
Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria
			Without Trees	With Trees	
A	B	C	D	E	F

A: Unit Number

This column identifies the assessed unit. All unit numbers are determined by the architect's drawings, unless otherwise stated.

B: Room Description

Room Description details which room in the unit has been assessed, e.g. bedroom, LKD, etc.

C: Target Lux

Under BR 209 the appropriate target lux levels to be achieved across 50% of the working plane of a room differ depending on the room type. Kitchens have a target lux of 200, living rooms have a target lux of 150 and bedrooms have a target lux of 100. In a room providing more than one function, such as an LKD, the higher target value should be taken i.e. 200 Lux.

D: % of area above target Lux (Without Trees)

BR 209 recommends target lux levels to be achieved across at least 50% of the working plane for at least half the daylight hours. The target values differ depending on the room function, 200 lux for Kitchens, 150 lux for Living Rooms or 100 lux for Bedrooms.

This column states percentage of the working plane of the assessed room that is capable of receiving more than the appropriate target lux for at least half the daylight hours with trees excluded from the analytical model. The figures shown in this column should be considered part of a supplementary study that helps identify if trees are having an effect on daylight within the proposed units.

E: % of area above target Lux (With Trees)

BR 209 recommends target lux levels to be achieved across at least 50% of the working plane for at least half the daylight hours. The target values differ depending on the room function, 200 lux for Kitchens, 150 lux for Living Rooms or 100 lux for Bedrooms.

This column states percentage of the working plane of the assessed room that is capable of receiving more than the appropriate target lux for at least half the daylight hours with the foliage of deciduous trees varied to account for summer and winter conditions, i.e. full leaf and bare branch.

F: Compliance with BR 209 Criteria

This column states if the assessed room achieves the recommended level of daylight as per BR 209 with consideration to the various tree states.

If the target lux level is achieved across more than 50% of the working plane, for half the daylight hours, both with and without trees, this column will state: *'Compliant'*.

If the target lux level is not achieved across more than 50% of the working plane, for half the daylight hours, both with and without trees, this column will state: *'Non-compliant'*.

If the target lux level is achieved across more than 50% of the working plane, for half the daylight hours, without trees but is not achieved with trees, this column will state: *'Trees affecting compliance'*.

Compliance rates will be stated for SDA, both with and without trees.

It should be noted that the figures displayed in the table of results have been rounded off. A manual calculation of these figures may yield a negligible difference and should not be considered an error.

A.2.1 SDA Results: Block A

Table No. A.2.1 - SDA Results: Block A					
Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BA-00-01	LKD	200	92%	79%	Compliant
BA-00-01	Bedroom 1	100	100%	100%	Compliant
BA-00-01	Bedroom 2	100	100%	100%	Compliant
BA-00-02	LKD	200	72%	54%	Compliant
BA-00-02	Bedroom	100	100%	100%	Compliant
BA-00-03	LKD	200	65%	56%	Compliant
BA-00-03	Bedroom	100	100%	100%	Compliant
BA-00-04	LKD	200	65%	58%	Compliant
BA-00-04	Bedroom	100	100%	100%	Compliant
BA-00-05	LKD	200	55%	46%	Trees affecting compliance
BA-00-05	Bedroom 1	100	100%	100%	Compliant
BA-00-05	Bedroom 2	100	100%	100%	Compliant
BA-00-06	LKD	200	65%	50%	Compliant
BA-00-06	Bedroom	100	100%	100%	Compliant
BA-00-07	LKD	200	69%	57%	Compliant
BA-00-07	Bedroom	100	100%	100%	Compliant
BA-00-08	LKD	200	93%	79%	Compliant
BA-00-08	Bedroom 1	100	100%	100%	Compliant
BA-00-08	Bedroom 2	100	100%	100%	Compliant
BA-00-09	LKD	200	61%	53%	Compliant
BA-00-09	Bedroom	100	100%	100%	Compliant
BA-00-10	LKD	200	46%	40%	Non-compliant
BA-00-10	Bedroom 1	100	100%	100%	Compliant
BA-00-10	Bedroom 2	100	100%	100%	Compliant
BA-00-11	LKD	200	57%	53%	Compliant
BA-00-11	Bedroom	100	100%	98%	Compliant
BA-00-12	LKD	200	88%	83%	Compliant
BA-00-12	Bedroom 1	100	100%	100%	Compliant
BA-00-12	Bedroom 2	100	100%	100%	Compliant
BA-01-01	LKD	200	97%	83%	Compliant
BA-01-01	Bedroom 1	100	100%	100%	Compliant
BA-01-01	Bedroom 2	100	100%	100%	Compliant
BA-01-02	LKD	200	76%	52%	Compliant
BA-01-02	Bedroom	100	100%	100%	Compliant
BA-01-03	LKD	200	72%	61%	Compliant
BA-01-03	Bedroom	100	100%	100%	Compliant
BA-01-04	LKD	200	73%	64%	Compliant
BA-01-04	Bedroom	100	100%	100%	Compliant
BA-01-05	LKD	200	73%	59%	Compliant
BA-01-05	Bedroom 1	100	100%	100%	Compliant
BA-01-05	Bedroom 2	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.2.1 - SDA Results: Block A

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BA-01-06	LKD	200	84%	60%	Compliant
BA-01-06	Bedroom	100	100%	100%	Compliant
BA-01-07	LKD	200	85%	60%	Compliant
BA-01-07	Bedroom	100	100%	100%	Compliant
BA-01-08	LKD	200	99%	97%	Compliant
BA-01-08	Bedroom 1	100	100%	100%	Compliant
BA-01-08	Bedroom 2	100	100%	100%	Compliant
BA-01-09	LKD	200	64%	57%	Compliant
BA-01-09	Bedroom	100	100%	100%	Compliant
BA-01-10	LKD	200	46%	41%	Non-compliant
BA-01-10	Bedroom 1	100	100%	100%	Compliant
BA-01-10	Bedroom 2	100	100%	100%	Compliant
BA-01-11	LKD	200	42%	39%	Non-compliant
BA-01-11	Bedroom 1	100	100%	100%	Compliant
BA-01-11	Bedroom 2	100	100%	100%	Compliant
BA-01-12	LKD	200	92%	87%	Compliant
BA-01-12	Bedroom 1	100	100%	100%	Compliant
BA-01-12	Bedroom 2	100	100%	100%	Compliant
BA-02-01	LKD	200	99%	84%	Compliant
BA-02-01	Bedroom 1	100	100%	100%	Compliant
BA-02-01	Bedroom 2	100	100%	100%	Compliant
BA-02-02	LKD	200	84%	50%	Compliant
BA-02-02	Bedroom	100	100%	100%	Compliant
BA-02-03	LKD	200	79%	66%	Compliant
BA-02-03	Bedroom	100	100%	100%	Compliant
BA-02-04	LKD	200	83%	70%	Compliant
BA-02-04	Bedroom	100	100%	100%	Compliant
BA-02-05	LKD	200	83%	64%	Compliant
BA-02-05	Bedroom 1	100	100%	100%	Compliant
BA-02-05	Bedroom 2	100	100%	100%	Compliant
BA-02-06	LKD	200	93%	60%	Compliant
BA-02-06	Bedroom	100	100%	100%	Compliant
BA-02-07	LKD	200	93%	61%	Compliant
BA-02-07	Bedroom	100	100%	100%	Compliant
BA-02-08	LKD	200	99%	99%	Compliant
BA-02-08	Bedroom 1	100	100%	100%	Compliant
BA-02-08	Bedroom 2	100	100%	100%	Compliant
BA-02-09	LKD	200	67%	63%	Compliant
BA-02-09	Bedroom	100	100%	100%	Compliant
BA-02-10	LKD	200	54%	50%	Compliant
BA-02-10	Bedroom 1	100	100%	100%	Compliant
BA-02-10	Bedroom 2	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.2.1 - SDA Results: Block A

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BA-02-11	LKD	200	49%	47%	Non-compliant
BA-02-11	Bedroom 1	100	100%	100%	Compliant
BA-02-11	Bedroom 2	100	100%	100%	Compliant
BA-02-12	LKD	200	94%	89%	Compliant
BA-02-12	Bedroom 1	100	100%	100%	Compliant
BA-02-12	Bedroom 2	100	100%	100%	Compliant
BA-03-01	LKD	200	99%	86%	Compliant
BA-03-01	Bedroom 1	100	100%	100%	Compliant
BA-03-01	Bedroom 2	100	100%	100%	Compliant
BA-03-02	LKD	200	90%	57%	Compliant
BA-03-02	Bedroom	100	100%	100%	Compliant
BA-03-03	LKD	200	83%	71%	Compliant
BA-03-03	Bedroom	100	100%	100%	Compliant
BA-03-04	LKD	200	86%	75%	Compliant
BA-03-04	Bedroom	100	100%	100%	Compliant
BA-03-05	LKD	200	86%	67%	Compliant
BA-03-05	Bedroom 1	100	100%	100%	Compliant
BA-03-05	Bedroom 2	100	100%	100%	Compliant
BA-03-06	LKD	200	93%	65%	Compliant
BA-03-06	Bedroom	100	100%	100%	Compliant
BA-03-07	LKD	200	94%	65%	Compliant
BA-03-07	Bedroom	100	100%	100%	Compliant
BA-03-08	LKD	200	100%	99%	Compliant
BA-03-08	Bedroom 1	100	100%	100%	Compliant
BA-03-08	Bedroom 2	100	100%	100%	Compliant
BA-03-09	LKD	200	73%	71%	Compliant
BA-03-09	Bedroom	100	100%	100%	Compliant
BA-03-10	LKD	200	64%	61%	Compliant
BA-03-10	Bedroom 1	100	100%	100%	Compliant
BA-03-10	Bedroom 2	100	100%	100%	Compliant
BA-03-11	LKD	200	56%	55%	Compliant
BA-03-11	Bedroom 1	100	100%	100%	Compliant
BA-03-11	Bedroom 2	100	100%	100%	Compliant
BA-03-12	LKD	200	95%	93%	Compliant
BA-03-12	Bedroom 1	100	100%	100%	Compliant
BA-03-12	Bedroom 2	100	100%	100%	Compliant
BA-04-01	LKD	200	100%	92%	Compliant
BA-04-01	Bedroom 1	100	100%	100%	Compliant
BA-04-01	Bedroom 2	100	100%	100%	Compliant
BA-04-02	LKD	200	98%	83%	Compliant
BA-04-02	Bedroom	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.2.1 - SDA Results: Block A

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BA-04-03	LKD	200	98%	95%	Compliant
BA-04-03	Bedroom	100	100%	100%	Compliant
BA-04-04	LKD	200	98%	97%	Compliant
BA-04-04	Bedroom	100	100%	100%	Compliant
BA-04-05	LKD	200	87%	76%	Compliant
BA-04-05	Bedroom 1	100	100%	100%	Compliant
BA-04-05	Bedroom 2	100	100%	100%	Compliant
BA-04-06	LKD	200	99%	91%	Compliant
BA-04-06	Bedroom	100	100%	100%	Compliant
BA-04-07	LKD	200	96%	76%	Compliant
BA-04-07	Bedroom	100	100%	100%	Compliant
BA-04-08	LKD	200	100%	100%	Compliant
BA-04-08	Bedroom 1	100	100%	100%	Compliant
BA-04-08	Bedroom 2	100	100%	100%	Compliant
BA-04-09	LKD	200	82%	82%	Compliant
BA-04-09	Bedroom	100	100%	100%	Compliant
BA-04-10	LKD	200	72%	70%	Compliant
BA-04-10	Bedroom 1	100	100%	100%	Compliant
BA-04-10	Bedroom 2	100	100%	100%	Compliant
BA-04-11	LKD	200	76%	76%	Compliant
BA-04-11	Bedroom 1	100	100%	100%	Compliant
BA-04-11	Bedroom 2	100	100%	100%	Compliant
BA-04-12	LKD	200	98%	97%	Compliant
BA-04-12	Bedroom 1	100	100%	100%	Compliant
BA-04-12	Bedroom 2	100	100%	100%	Compliant
BA-05-01	LKD	200	100%	100%	Compliant
BA-05-01	Bedroom 1	100	100%	100%	Compliant
BA-05-01	Bedroom 2	100	100%	100%	Compliant
BA-05-02	LKD	200	100%	99%	Compliant
BA-05-02	Bedroom	100	100%	100%	Compliant
BA-05-03	LKD	200	100%	100%	Compliant
BA-05-03	Bedroom 1	100	100%	100%	Compliant
BA-05-03	Bedroom 2	100	100%	100%	Compliant
BA-05-04	LKD	200	90%	90%	Compliant
BA-05-04	Bedroom	100	100%	100%	Compliant
BA-05-05	LKD	200	83%	82%	Compliant
BA-05-05	Bedroom 1	100	100%	100%	Compliant
BA-05-05	Bedroom 2	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

A.2.2 SDA Results: Block B

Table No. A.2.2 - SDA Results: Block B					
Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BB-00-01	LKD	200	84%	79%	Compliant
BB-00-01	Bedroom	100	100%	100%	Compliant
BB-00-02	LKD	200	46%	39%	Non-compliant
BB-00-02	Bedroom	100	100%	100%	Compliant
BB-00-03	LKD	200	44%	36%	Non-compliant
BB-00-03	Bedroom	100	100%	100%	Compliant
BB-00-04	LKD	200	70%	53%	Compliant
BB-00-04	Bedroom 1	100	100%	100%	Compliant
BB-00-04	Bedroom 2	100	100%	100%	Compliant
BB-00-05	LKD	200	81%	63%	Compliant
BB-00-05	Bedroom	100	100%	100%	Compliant
BB-00-06	LKD	200	81%	66%	Compliant
BB-00-06	Bedroom	100	100%	100%	Compliant
BB-00-07	LKD	200	75%	55%	Compliant
BB-00-07	Bedroom 1	100	100%	100%	Compliant
BB-00-07	Bedroom 2	100	100%	100%	Compliant
BB-00-08	LKD	200	70%	65%	Compliant
BB-00-08	Bedroom	100	100%	100%	Compliant
BB-00-09	LKD	200	57%	45%	Trees affecting compliance
BB-00-09	Bedroom 1	100	100%	99%	Compliant
BB-00-09	Bedroom 2	100	100%	100%	Compliant
BB-00-10	LKD	200	92%	79%	Compliant
BB-00-10	Bedroom	100	100%	100%	Compliant
BB-01-01	LKD	200	90%	85%	Compliant
BB-01-01	Bedroom	100	100%	100%	Compliant
BB-01-02	LKD	200	52%	47%	Trees affecting compliance
BB-01-02	Bedroom	100	100%	100%	Compliant
BB-01-03	LKD	200	50%	45%	Trees affecting compliance
BB-01-03	Bedroom	100	100%	100%	Compliant
BB-01-04	LKD	200	76%	54%	Compliant
BB-01-04	Bedroom 1	100	100%	100%	Compliant
BB-01-04	Bedroom 2	100	100%	100%	Compliant
BB-01-05	LKD	200	87%	58%	Compliant
BB-01-05	Bedroom	100	100%	100%	Compliant
BB-01-06	LKD	200	87%	60%	Compliant
BB-01-06	Bedroom	100	100%	100%	Compliant
BB-01-07	LKD	200	99%	98%	Compliant
BB-01-07	Bedroom 1	100	100%	100%	Compliant
BB-01-07	Bedroom 2	100	100%	100%	Compliant
BB-01-08	LKD	200	83%	80%	Compliant
BB-01-08	Bedroom	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.2.2 - SDA Results: Block B

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BB-01-09	LKD	200	61%	55%	Compliant
BB-01-09	Bedroom 1	100	100%	100%	Compliant
BB-01-09	Bedroom 2	100	100%	100%	Compliant
BB-01-10	LKD	200	86%	76%	Compliant
BB-01-10	Bedroom 1	100	100%	100%	Compliant
BB-01-10	Bedroom 2	100	100%	100%	Compliant
BB-02-01	LKD	200	94%	90%	Compliant
BB-02-01	Bedroom	100	100%	100%	Compliant
BB-02-02	LKD	200	62%	58%	Compliant
BB-02-02	Bedroom	100	100%	100%	Compliant
BB-02-03	LKD	200	58%	53%	Compliant
BB-02-03	Bedroom	100	100%	100%	Compliant
BB-02-04	LKD	200	83%	64%	Compliant
BB-02-04	Bedroom 1	100	100%	100%	Compliant
BB-02-04	Bedroom 2	100	100%	100%	Compliant
BB-02-05	LKD	200	92%	69%	Compliant
BB-02-05	Bedroom	100	100%	100%	Compliant
BB-02-06	LKD	200	93%	69%	Compliant
BB-02-06	Bedroom	100	100%	100%	Compliant
BB-02-07	LKD	200	100%	99%	Compliant
BB-02-07	Bedroom 1	100	100%	100%	Compliant
BB-02-07	Bedroom 2	100	100%	100%	Compliant
BB-02-08	LKD	200	87%	87%	Compliant
BB-02-08	Bedroom	100	100%	100%	Compliant
BB-02-09	LKD	200	69%	65%	Compliant
BB-02-09	Bedroom 1	100	100%	100%	Compliant
BB-02-09	Bedroom 2	100	100%	100%	Compliant
BB-02-10	LKD	200	93%	86%	Compliant
BB-02-10	Bedroom 1	100	100%	100%	Compliant
BB-02-10	Bedroom 2	100	100%	100%	Compliant
BB-03-01	LKD	200	97%	97%	Compliant
BB-03-01	Bedroom	100	100%	100%	Compliant
BB-03-02	LKD	200	69%	68%	Compliant
BB-03-02	Bedroom	100	100%	100%	Compliant
BB-03-03	LKD	200	65%	62%	Compliant
BB-03-03	Bedroom	100	100%	100%	Compliant
BB-03-04	LKD	200	86%	76%	Compliant
BB-03-04	Bedroom 1	100	100%	100%	Compliant
BB-03-04	Bedroom 2	100	100%	100%	Compliant
BB-03-05	LKD	200	93%	80%	Compliant
BB-03-05	Bedroom	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.2.2 - SDA Results: Block B

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BB-03-06	LKD	200	93%	79%	Compliant
BB-03-06	Bedroom	100	100%	100%	Compliant
BB-03-07	LKD	200	100%	99%	Compliant
BB-03-07	Bedroom 1	100	100%	100%	Compliant
BB-03-07	Bedroom 2	100	100%	100%	Compliant
BB-03-08	LKD	200	89%	88%	Compliant
BB-03-08	Bedroom	100	100%	100%	Compliant
BB-03-09	LKD	200	72%	71%	Compliant
BB-03-09	Bedroom 1	100	100%	100%	Compliant
BB-03-09	Bedroom 2	100	100%	100%	Compliant
BB-03-10	LKD	200	96%	92%	Compliant
BB-03-10	Bedroom 1	100	100%	100%	Compliant
BB-03-10	Bedroom 2	100	100%	100%	Compliant
BB-04-01	LKD	200	100%	100%	Compliant
BB-04-01	Bedroom	100	100%	100%	Compliant
BB-04-02	LKD	200	79%	78%	Compliant
BB-04-02	Bedroom	100	100%	100%	Compliant
BB-04-03	LKD	200	73%	72%	Compliant
BB-04-03	Bedroom	100	100%	100%	Compliant
BB-04-04	LKD	200	86%	85%	Compliant
BB-04-04	Bedroom 1	100	100%	100%	Compliant
BB-04-04	Bedroom 2	100	100%	100%	Compliant
BB-04-05	LKD	200	93%	92%	Compliant
BB-04-05	Bedroom	100	100%	100%	Compliant
BB-04-06	LKD	200	95%	92%	Compliant
BB-04-06	Bedroom	100	100%	100%	Compliant
BB-04-07	LKD	200	100%	100%	Compliant
BB-04-07	Bedroom 1	100	100%	100%	Compliant
BB-04-07	Bedroom 2	100	100%	100%	Compliant
BB-04-08	LKD	200	92%	91%	Compliant
BB-04-08	Bedroom	100	100%	100%	Compliant
BB-04-09	LKD	200	76%	75%	Compliant
BB-04-09	Bedroom 1	100	100%	100%	Compliant
BB-04-09	Bedroom 2	100	100%	100%	Compliant
BB-04-10	LKD	200	97%	97%	Compliant
BB-04-10	Bedroom 1	100	100%	100%	Compliant
BB-04-10	Bedroom 2	100	100%	100%	Compliant
BB-05-01	LKD	200	100%	100%	Compliant
BB-05-01	Bedroom	100	100%	100%	Compliant
BB-05-02	LKD	200	99%	99%	Compliant
BB-05-02	Bedroom	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BB-05-03	LKD	200	93%	93%	Compliant
BB-05-03	Bedroom 1	100	100%	100%	Compliant
BB-05-03	Bedroom 2	100	100%	100%	Compliant
BB-05-04	LKD	200	99%	99%	Compliant
BB-05-04	Bedroom	100	100%	100%	Compliant
BB-05-05	LKD	200	100%	100%	Compliant
BB-05-05	Bedroom	100	100%	100%	Compliant
BB-05-06	LKD	200	91%	88%	Compliant
BB-05-06	Bedroom 1	100	100%	100%	Compliant
BB-05-06	Bedroom 2	100	100%	100%	Compliant

A.2.3 SDA Results: Block C

Unit Number	Room Description	Target Lux*	% of area above target Lux* (recommendation >50%)		Compliance with BR 209 Criteria*
			Without Trees***	With Trees**	
BC-00-01	LKD	200	34%	31%	Non-compliant
BC-00-01	Bedroom 1	100	100%	100%	Compliant
BC-00-01	Bedroom 2	100	100%	98%	Compliant
BC-00-02	LKD	200	30%	27%	Non-compliant
BC-00-02	Bedroom 1	100	100%	100%	Compliant
BC-00-02	Bedroom 2	100	100%	100%	Compliant
BC-00-03	LKD	200	28%	24%	Non-compliant
BC-00-03	Bedroom 1	100	100%	100%	Compliant
BC-00-03	Bedroom 2	100	100%	100%	Compliant
BC-00-04	LKD	200	32%	27%	Non-compliant
BC-00-04	Bedroom 1	100	100%	100%	Compliant
BC-00-04	Bedroom 2	100	100%	99%	Compliant
BC-01-01	Kitchen	200	100%	100%	Compliant
BC-01-01	Living / Dining	150	100%	100%	Compliant
BC-01-01	Bedroom	100	100%	100%	Compliant
BC-01-02	Kitchen	200	100%	100%	Compliant
BC-01-02	Living / Dining	150	100%	100%	Compliant
BC-01-02	Bedroom	100	100%	100%	Compliant
BC-01-03	Kitchen	200	100%	100%	Compliant
BC-01-03	Living / Dining	150	100%	100%	Compliant
BC-01-03	Bedroom	100	100%	100%	Compliant
BC-01-04	Kitchen	200	100%	97%	Compliant
BC-01-04	Living / Dining	150	100%	100%	Compliant
BC-01-04	Bedroom	100	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15.

** Under the BR 209 study the SDA has been calculated with indicative trees represented accounting for annual foliage.

*** The SDA assessment without trees indicates the level of daylight within the proposed development when trees are not included in the analytical model. This study provides an understanding of how trees affect daylight within the proposed development.

The SDA circa compliance rates across the entire scheme can be found in section 5.1 on page 18.

For floor plans of the assessed units please refer to section A.1 on page 25.

A.3 Sunlight Exposure (SE) in Proposed Units

Below is an example of the table used to describe the SE performance of proposed habitable rooms.

Table Example. A.3 - Scheme Performance Sunlight Exposure							
Unit Number	Room Description	Deciduous Trees as Opaque Objects			Without Deciduous Trees		
		SE Hours on March 21st	Level of SE on March 21st	Unit compliance based on highest performing room	SE Hours on March 21st	Level of SE on March 21st	Unit compliance based on highest performing room
A	B	C	D	E	F	G	H

A: Unit Number

This column identifies the assessed unit. All unit numbers are determined by the architect's drawings, unless otherwise stated.

B: Room Description

Room Description details which room of the unit has been assessed, e.g. bedroom, living room, etc.

C: SE Hours on March 21st (Deciduous Trees as Opaque Objects)

This column will state the number of hours the assessed room can expect to receive on March 21st with the assessment carried out with deciduous trees as opaque objects.

D: Level of SE on March 21st (Deciduous Trees as Opaque Objects)

BR 209 recommends a minimum sunlight exposure of 1.5 hours for a proposed unit with preference given to main living rooms. BR 209 categorise sunlight exposure as minimum, medium and high, this column will categorise the level of sunlight exposure with deciduous trees as opaque objects based on the following:

- Less than 1.5 hours: *Below minimum*,
- Between 1.5 hours and 3 hours: *Minimum*
- Between 3 hours and 4 hours: *Medium*
- More than 4 hours: *High*

E: Unit compliance based on highest performing room (Deciduous Trees as Opaque Objects)

A proposed unit is considered to be compliant provided any habitable room within the unit is capable of receiving at least 1.5 hours of sunlight on the assessment date. This column will identify the highest performing room within a unit and state compliance for the associated unit based on that room with the assessment carried out with deciduous trees as opaque objects.

Typically unit compliance will be stated for the best performing room per unit only, with lesser performing rooms indicated with a dash (-).

F: SE Hours on March 21st (Without Deciduous Trees)

This column will state the number of hours the assessed room can expect to receive on March 21st with the assessment carried out without deciduous trees.

G: Level of SE on March 21st (Without Deciduous Trees)

BR 209 recommends a minimum sunlight exposure of 1.5 hours for a proposed unit with preference given to main living rooms. BR 209 categorise sunlight exposure as minimum, medium and high, this column will categorise the level of sunlight exposure without deciduous trees using the same criteria as the study with deciduous trees as opaque objects.

H: Unit compliance based on highest performing room (Without Deciduous Trees)

A proposed unit is considered to be compliant provided any habitable room within the unit is capable of receiving at least 1.5 hours of sunlight on March 21st. This column will identify the highest performing room within a unit and state compliance for the associated unit based on that room with the assessment carried out without deciduous trees. Typically only one room per unit will be populated in this column, with lesser performing rooms indicated with a dash (-).

It should be noted that the figures displayed in the table of results have been rounded off. A manual calculation of these figures may yield a negligible difference and should not be considered an error.

A.3.1 SE Results: Block A

Table No. A.3.1 - Sunlight Exposure Results: Block A							
Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BA-00-01	LKD	2.00	Minimum	Compliant	4.40	High	Compliant
BA-00-01	Bedroom 1	0.40	Below Minimum	-	4.10	High	-
BA-00-01	Bedroom 2	1.40	Below Minimum	-	4.20	High	-
BA-00-02	LKD	4.00	High	Compliant	4.20	High	Compliant
BA-00-02	Bedroom	1.40	Below Minimum	-	2.90	Minimum	-
BA-00-03	LKD	2.40	Minimum	-	2.90	Minimum	Compliant
BA-00-03	Bedroom	2.90	Minimum	Compliant	2.90	Minimum	-
BA-00-04	LKD	2.10	Minimum	Compliant	4.20	High	Compliant
BA-00-04	Bedroom	1.10	Below Minimum	-	4.10	High	-
BA-00-05	LKD	5.30	High	-	8.50	High	-
BA-00-05	Bedroom 1	5.90	High	Compliant	9.20	High	Compliant
BA-00-05	Bedroom 2	5.80	High	-	7.80	High	-
BA-00-06	LKD	4.10	High	-	7.20	High	Compliant
BA-00-06	Bedroom	4.20	High	Compliant	7.10	High	-
BA-00-07	LKD	3.90	Medium	-	7.40	High	-
BA-00-07	Bedroom	4.00	High	Compliant	7.50	High	Compliant
BA-00-08	LKD	6.00	High	Compliant	8.60	High	Compliant
BA-00-08	Bedroom 1	3.60	Medium	-	7.70	High	-
BA-00-08	Bedroom 2	4.10	High	-	8.00	High	-
BA-00-09	LKD	1.70	Minimum	-	1.70	Minimum	-
BA-00-09	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BA-00-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-00-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-00-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-00-11	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-00-11	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-00-12	LKD	0.20	Below Minimum	Non-Compliant	0.20	Below Minimum	Non-Compliant
BA-00-12	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-00-12	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-01	LKD	0.00	Below Minimum	-	2.80	Minimum	-
BA-01-01	Bedroom 1	1.40	Below Minimum	-	4.10	High	-
BA-01-01	Bedroom 2	1.70	Minimum	Compliant	4.20	High	Compliant
BA-01-02	LKD	2.00	Minimum	Compliant	4.00	High	Compliant
BA-01-02	Bedroom	0.20	Below Minimum	-	2.40	Minimum	-
BA-01-03	LKD	2.80	Minimum	Compliant	2.80	Minimum	Compliant
BA-01-03	Bedroom	2.60	Minimum	-	2.60	Minimum	-
BA-01-04	LKD	3.30	Medium	Compliant	4.40	High	Compliant
BA-01-04	Bedroom	1.50	Minimum	-	4.20	High	-
BA-01-05	LKD	4.30	High	-	7.50	High	-
BA-01-05	Bedroom 1	5.20	High	-	9.40	High	Compliant
BA-01-05	Bedroom 2	5.40	High	Compliant	7.80	High	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.1 - Sunlight Exposure Results: Block A

Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BA-01-06	LKD	4.00	High	Compliant	7.10	High	Compliant
BA-01-06	Bedroom	2.70	Minimum	-	5.50	High	-
BA-01-07	LKD	2.70	Minimum	-	5.90	High	-
BA-01-07	Bedroom	4.00	High	Compliant	6.40	High	Compliant
BA-01-08	LKD	6.90	High	Compliant	7.50	High	-
BA-01-08	Bedroom 1	5.60	High	-	7.70	High	-
BA-01-08	Bedroom 2	5.60	High	-	8.00	High	Compliant
BA-01-09	LKD	1.70	Minimum	-	1.70	Minimum	-
BA-01-09	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BA-01-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-01-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-11	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-01-11	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-11	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-12	LKD	0.60	Below Minimum	Non-Compliant	0.60	Below Minimum	Non-Compliant
BA-01-12	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-01-12	Bedroom 2	0.10	Below Minimum	-	0.10	Below Minimum	-
BA-02-01	LKD	0.00	Below Minimum	-	2.80	Minimum	-
BA-02-01	Bedroom 1	1.50	Minimum	Compliant	4.10	High	-
BA-02-01	Bedroom 2	0.70	Below Minimum	-	4.20	High	Compliant
BA-02-02	LKD	1.90	Minimum	Compliant	4.00	High	Compliant
BA-02-02	Bedroom	0.00	Below Minimum	-	2.40	Minimum	-
BA-02-03	LKD	2.80	Minimum	Compliant	2.80	Minimum	Compliant
BA-02-03	Bedroom	2.20	Minimum	-	2.60	Minimum	-
BA-02-04	LKD	4.40	High	Compliant	4.40	High	Compliant
BA-02-04	Bedroom	3.60	Medium	-	4.20	High	-
BA-02-05	LKD	5.10	High	-	7.50	High	-
BA-02-05	Bedroom 1	6.00	High	Compliant	9.40	High	Compliant
BA-02-05	Bedroom 2	5.80	High	-	7.80	High	-
BA-02-06	LKD	4.30	High	Compliant	7.10	High	Compliant
BA-02-06	Bedroom	3.00	Medium	-	5.50	High	-
BA-02-07	LKD	3.50	Medium	-	5.90	High	-
BA-02-07	Bedroom	4.60	High	Compliant	6.40	High	Compliant
BA-02-08	LKD	7.50	High	Compliant	7.50	High	-
BA-02-08	Bedroom 1	7.30	High	-	7.70	High	-
BA-02-08	Bedroom 2	6.80	High	-	8.00	High	Compliant
BA-02-09	LKD	1.70	Minimum	-	1.70	Minimum	-
BA-02-09	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BA-02-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-02-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-02-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.1 - Sunlight Exposure Results: Block A

Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BA-02-11	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-02-11	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-02-11	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-02-12	LKD	1.00	Below Minimum	Non-Compliant	1.00	Below Minimum	Non-Compliant
BA-02-12	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-02-12	Bedroom 2	0.40	Below Minimum	-	0.40	Below Minimum	-
BA-03-01	LKD	0.00	Below Minimum	-	2.80	Minimum	-
BA-03-01	Bedroom 1	2.70	Minimum	Compliant	4.20	High	Compliant
BA-03-01	Bedroom 2	2.50	Minimum	-	4.20	High	-
BA-03-02	LKD	2.50	Minimum	Compliant	4.40	High	Compliant
BA-03-02	Bedroom	0.00	Below Minimum	-	2.40	Minimum	-
BA-03-03	LKD	2.80	Minimum	Compliant	2.80	Minimum	Compliant
BA-03-03	Bedroom	2.20	Minimum	-	2.60	Minimum	-
BA-03-04	LKD	4.40	High	Compliant	4.40	High	Compliant
BA-03-04	Bedroom	4.20	High	-	4.20	High	-
BA-03-05	LKD	6.70	High	-	7.50	High	-
BA-03-05	Bedroom 1	7.20	High	Compliant	9.40	High	Compliant
BA-03-05	Bedroom 2	6.60	High	-	7.80	High	-
BA-03-06	LKD	7.20	High	Compliant	7.20	High	Compliant
BA-03-06	Bedroom	5.50	High	-	5.50	High	-
BA-03-07	LKD	5.90	High	-	5.90	High	-
BA-03-07	Bedroom	6.40	High	Compliant	6.40	High	Compliant
BA-03-08	LKD	7.50	High	-	7.50	High	-
BA-03-08	Bedroom 1	7.70	High	-	7.70	High	-
BA-03-08	Bedroom 2	8.00	High	Compliant	8.00	High	Compliant
BA-03-09	LKD	1.80	Minimum	-	1.80	Minimum	-
BA-03-09	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BA-03-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-03-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-03-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-03-11	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-03-11	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-03-11	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-03-12	LKD	1.70	Minimum	-	1.70	Minimum	-
BA-03-12	Bedroom 1	0.20	Below Minimum	-	0.20	Below Minimum	-
BA-03-12	Bedroom 2	2.10	Minimum	Compliant	2.10	Minimum	Compliant
BA-04-01	LKD	2.70	Minimum	-	4.70	High	Compliant
BA-04-01	Bedroom 1	4.20	High	Compliant	4.20	High	-
BA-04-01	Bedroom 2	3.40	Medium	-	4.20	High	-
BA-04-02	LKD	3.80	Medium	-	4.70	High	Compliant
BA-04-02	Bedroom	4.20	High	Compliant	4.20	High	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.1 - Sunlight Exposure Results: Block A

Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BA-04-03	LKD	4.70	High	Compliant	4.70	High	Compliant
BA-04-03	Bedroom	4.20	High	-	4.20	High	-
BA-04-04	LKD	4.70	High	Compliant	4.70	High	Compliant
BA-04-04	Bedroom	4.20	High	-	4.20	High	-
BA-04-05	LKD	7.50	High	-	7.50	High	-
BA-04-05	Bedroom 1	9.40	High	Compliant	9.40	High	Compliant
BA-04-05	Bedroom 2	7.80	High	-	7.80	High	-
BA-04-06	LKD	7.50	High	Compliant	7.50	High	Compliant
BA-04-06	Bedroom	5.80	High	-	5.80	High	-
BA-04-07	LKD	7.50	High	Compliant	7.50	High	Compliant
BA-04-07	Bedroom	6.40	High	-	6.40	High	-
BA-04-08	LKD	7.50	High	-	7.50	High	-
BA-04-08	Bedroom 1	7.70	High	-	7.70	High	-
BA-04-08	Bedroom 2	8.00	High	Compliant	8.00	High	Compliant
BA-04-09	LKD	2.50	Minimum	Compliant	2.50	Minimum	Compliant
BA-04-09	Bedroom	2.40	Minimum	-	2.40	Minimum	-
BA-04-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-04-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-04-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-04-11	LKD	0.50	Below Minimum	Non-Compliant	0.50	Below Minimum	Non-Compliant
BA-04-11	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-04-11	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-04-12	LKD	3.50	Medium	Compliant	3.50	Medium	Compliant
BA-04-12	Bedroom 1	2.90	Minimum	-	2.90	Minimum	-
BA-04-12	Bedroom 2	2.90	Minimum	-	2.90	Minimum	-
BA-05-01	LKD	9.40	High	Compliant	9.40	High	Compliant
BA-05-01	Bedroom 1	8.10	High	-	8.10	High	-
BA-05-01	Bedroom 2	8.10	High	-	8.10	High	-
BA-05-02	LKD	8.80	High	Compliant	8.80	High	Compliant
BA-05-02	Bedroom	8.00	High	-	8.00	High	-
BA-05-03	LKD	8.80	High	Compliant	8.80	High	Compliant
BA-05-03	Bedroom 1	8.00	High	-	8.00	High	-
BA-05-03	Bedroom 2	8.00	High	-	8.00	High	-
BA-05-04	LKD	2.90	Minimum	Compliant	2.90	Minimum	Compliant
BA-05-04	Bedroom	2.90	Minimum	-	2.90	Minimum	-
BA-05-05	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BA-05-05	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BA-05-05	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

A.3.2 SE Results: Block B

Table No. A.3.2 - Sunlight Exposure Results: Block B							
Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BB-00-01	LKD	1.10	Below Minimum	Non-Compliant	1.10	Below Minimum	Non-Compliant
BB-00-01	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-00-02	LKD	1.30	Below Minimum	Non-Compliant	1.30	Below Minimum	Non-Compliant
BB-00-02	Bedroom	0.30	Below Minimum	-	0.30	Below Minimum	-
BB-00-03	LKD	2.00	Minimum	-	2.00	Minimum	-
BB-00-03	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BB-00-04	LKD	4.40	High	-	8.50	High	-
BB-00-04	Bedroom 1	5.00	High	-	7.80	High	-
BB-00-04	Bedroom 2	5.50	High	Compliant	8.70	High	Compliant
BB-00-05	LKD	2.70	Minimum	-	7.20	High	Compliant
BB-00-05	Bedroom	3.10	Medium	Compliant	7.10	High	-
BB-00-06	LKD	3.00	Medium	-	7.40	High	-
BB-00-06	Bedroom	3.60	Medium	Compliant	7.50	High	Compliant
BB-00-07	LKD	5.30	High	Compliant	8.30	High	Compliant
BB-00-07	Bedroom 1	4.70	High	-	7.70	High	-
BB-00-07	Bedroom 2	4.50	High	-	8.00	High	-
BB-00-08	LKD	2.40	Minimum	Compliant	2.40	Minimum	Compliant
BB-00-08	Bedroom	2.00	Minimum	-	2.20	Minimum	-
BB-00-09	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-00-09	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-00-09	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-00-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-00-10	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-01	LKD	1.50	Minimum	Compliant	1.50	Minimum	Compliant
BB-01-01	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-02	LKD	1.10	Below Minimum	Non-Compliant	1.10	Below Minimum	Non-Compliant
BB-01-02	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-03	LKD	2.10	Minimum	Compliant	2.10	Minimum	Compliant
BB-01-03	Bedroom	2.00	Minimum	-	2.00	Minimum	-
BB-01-04	LKD	6.30	High	-	7.70	High	-
BB-01-04	Bedroom 1	6.20	High	-	7.80	High	-
BB-01-04	Bedroom 2	7.30	High	Compliant	8.70	High	Compliant
BB-01-05	LKD	5.50	High	Compliant	7.20	High	Compliant
BB-01-05	Bedroom	3.90	Medium	-	5.30	High	-
BB-01-06	LKD	4.10	High	-	5.90	High	-
BB-01-06	Bedroom	4.50	High	Compliant	6.40	High	Compliant
BB-01-07	LKD	6.30	High	-	7.50	High	-
BB-01-07	Bedroom 1	6.20	High	-	7.70	High	-
BB-01-07	Bedroom 2	6.40	High	Compliant	8.00	High	Compliant
BB-01-08	LKD	2.60	Minimum	-	2.90	Minimum	Compliant
BB-01-08	Bedroom	2.70	Minimum	Compliant	2.90	Minimum	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.2 - Sunlight Exposure Results: Block B

Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BB-01-09	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-01-09	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-09	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-01-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-01-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-02-01	LKD	2.10	Minimum	Compliant	2.10	Minimum	Compliant
BB-02-01	Bedroom	0.40	Below Minimum	-	0.40	Below Minimum	-
BB-02-02	LKD	1.30	Below Minimum	Non-Compliant	1.30	Below Minimum	Non-Compliant
BB-02-02	Bedroom	0.20	Below Minimum	-	0.20	Below Minimum	-
BB-02-03	LKD	2.10	Minimum	-	2.10	Minimum	-
BB-02-03	Bedroom	2.20	Minimum	Compliant	2.20	Minimum	Compliant
BB-02-04	LKD	7.00	High	-	7.70	High	-
BB-02-04	Bedroom 1	6.90	High	-	7.80	High	-
BB-02-04	Bedroom 2	8.10	High	Compliant	8.70	High	Compliant
BB-02-05	LKD	7.20	High	Compliant	7.20	High	Compliant
BB-02-05	Bedroom	4.90	High	-	5.30	High	-
BB-02-06	LKD	5.90	High	-	5.90	High	-
BB-02-06	Bedroom	6.40	High	Compliant	6.40	High	Compliant
BB-02-07	LKD	7.30	High	-	7.50	High	-
BB-02-07	Bedroom 1	7.60	High	-	7.70	High	-
BB-02-07	Bedroom 2	8.00	High	Compliant	8.00	High	Compliant
BB-02-08	LKD	2.80	Minimum	-	2.90	Minimum	Compliant
BB-02-08	Bedroom	2.90	Minimum	Compliant	2.90	Minimum	-
BB-02-09	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-02-09	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-02-09	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-02-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-02-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-02-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-03-01	LKD	4.00	High	Compliant	4.00	High	Compliant
BB-03-01	Bedroom	1.40	Below Minimum	-	1.40	Below Minimum	-
BB-03-02	LKD	2.10	Minimum	Compliant	2.10	Minimum	Compliant
BB-03-02	Bedroom	0.80	Below Minimum	-	0.80	Below Minimum	-
BB-03-03	LKD	2.70	Minimum	Compliant	2.70	Minimum	Compliant
BB-03-03	Bedroom	2.40	Minimum	-	2.40	Minimum	-
BB-03-04	LKD	7.70	High	-	7.70	High	-
BB-03-04	Bedroom 1	7.80	High	-	7.80	High	-
BB-03-04	Bedroom 2	8.80	High	Compliant	8.80	High	Compliant
BB-03-05	LKD	7.20	High	Compliant	7.20	High	Compliant
BB-03-05	Bedroom	5.30	High	-	5.30	High	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.2 - Sunlight Exposure Results: Block B

Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BB-03-06	LKD	5.90	High	-	5.90	High	-
BB-03-06	Bedroom	6.40	High	Compliant	6.40	High	Compliant
BB-03-07	LKD	7.50	High	-	7.50	High	-
BB-03-07	Bedroom 1	7.70	High	-	7.70	High	-
BB-03-07	Bedroom 2	8.00	High	Compliant	8.00	High	Compliant
BB-03-08	LKD	2.90	Minimum	Compliant	2.90	Minimum	Compliant
BB-03-08	Bedroom	2.90	Minimum	-	2.90	Minimum	-
BB-03-09	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-03-09	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-03-09	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-03-10	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-03-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-03-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-04-01	LKD	4.80	High	Compliant	4.80	High	Compliant
BB-04-01	Bedroom	2.80	Minimum	-	2.80	Minimum	-
BB-04-02	LKD	3.40	Medium	Compliant	3.40	Medium	Compliant
BB-04-02	Bedroom	1.80	Minimum	-	1.80	Minimum	-
BB-04-03	LKD	3.80	Medium	Compliant	3.80	Medium	Compliant
BB-04-03	Bedroom	3.30	Medium	-	3.30	Medium	-
BB-04-04	LKD	7.70	High	-	7.70	High	-
BB-04-04	Bedroom 1	7.80	High	-	7.80	High	-
BB-04-04	Bedroom 2	9.10	High	Compliant	9.10	High	Compliant
BB-04-05	LKD	7.20	High	Compliant	7.20	High	Compliant
BB-04-05	Bedroom	5.40	High	-	5.40	High	-
BB-04-06	LKD	5.90	High	-	5.90	High	-
BB-04-06	Bedroom	6.40	High	Compliant	6.40	High	Compliant
BB-04-07	LKD	8.80	High	Compliant	8.80	High	Compliant
BB-04-07	Bedroom 1	8.00	High	-	8.00	High	-
BB-04-07	Bedroom 2	8.00	High	-	8.00	High	-
BB-04-08	LKD	2.90	Minimum	Compliant	2.90	Minimum	Compliant
BB-04-08	Bedroom	2.90	Minimum	-	2.90	Minimum	-
BB-04-09	LKD	0.00	Below Minimum	Non-Compliant	0.00	Below Minimum	Non-Compliant
BB-04-09	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-04-09	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-04-10	LKD	0.60	Below Minimum	Non-Compliant	0.60	Below Minimum	Non-Compliant
BB-04-10	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-04-10	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-05-01	LKD	4.80	High	Compliant	4.80	High	Compliant
BB-05-01	Bedroom	4.20	High	-	4.20	High	-
BB-05-02	LKD	4.80	High	Compliant	4.80	High	Compliant
BB-05-02	Bedroom	4.20	High	-	4.20	High	-

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. A.3.2 - Sunlight Exposure Results: Block B							
Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BB-05-03	LKD	8.90	High	-	8.90	High	-
BB-05-03	Bedroom 1	9.40	High	Compliant	9.40	High	Compliant
BB-05-03	Bedroom 2	8.10	High	-	8.10	High	-
BB-05-04	LKD	8.50	High	Compliant	8.50	High	Compliant
BB-05-04	Bedroom	8.10	High	-	8.10	High	-
BB-05-05	LKD	8.10	High	-	8.10	High	-
BB-05-05	Bedroom	8.40	High	Compliant	8.40	High	Compliant
BB-05-06	LKD	3.20	Medium	Compliant	3.20	Medium	Compliant
BB-05-06	Bedroom 1	0.00	Below Minimum	-	0.00	Below Minimum	-
BB-05-06	Bedroom 2	0.00	Below Minimum	-	0.00	Below Minimum	-

A.3.3 SE Results: Block C

Table No. A.3.3 - Sunlight Exposure Results: Block C							
Unit Number	Room Description	Deciduous Trees as Opaque Objects*			Without Deciduous Trees*		
		SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**	SE Hours on March 21st	Level of SE on March 21st***	Unit compliance based on highest performing room**
BC-00-01	LKD	1.40	Below Minimum	-	1.40	Below Minimum	-
BC-00-01	Bedroom 1	2.10	Minimum	-	3.40	Medium	Compliant
BC-00-01	Bedroom 2	2.60	Minimum	Compliant	3.10	Medium	-
BC-00-02	LKD	1.30	Below Minimum	Non-Compliant	1.30	Below Minimum	-
BC-00-02	Bedroom 1	1.30	Below Minimum	-	3.50	Medium	Compliant
BC-00-02	Bedroom 2	1.20	Below Minimum	-	3.10	Medium	-
BC-00-03	LKD	2.10	Minimum	Compliant	2.10	Minimum	-
BC-00-03	Bedroom 1	0.10	Below Minimum	-	3.50	Medium	Compliant
BC-00-03	Bedroom 2	0.70	Below Minimum	-	3.10	Medium	-
BC-00-04	LKD	3.50	Medium	Compliant	3.50	Medium	Compliant
BC-00-04	Bedroom 1	0.00	Below Minimum	-	3.40	Medium	-
BC-00-04	Bedroom 2	0.00	Below Minimum	-	3.10	Medium	-
BC-01-01	Kitchen	1.60	Minimum	-	1.60	Minimum	-
BC-01-01	Living / Dining	2.10	Minimum	Compliant	2.10	Minimum	Compliant
BC-01-01	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BC-01-02	Kitchen	0.50	Below Minimum	-	1.60	Minimum	-
BC-01-02	Living / Dining	2.00	Minimum	Compliant	2.00	Minimum	Compliant
BC-01-02	Bedroom	0.00	Below Minimum	-	0.00	Below Minimum	-
BC-01-03	Kitchen	0.00	Below Minimum	-	1.60	Minimum	-
BC-01-03	Living / Dining	2.70	Minimum	Compliant	2.70	Minimum	Compliant
BC-01-03	Bedroom	0.40	Below Minimum	-	0.40	Below Minimum	-
BC-01-04	Kitchen	0.20	Below Minimum	-	1.60	Minimum	-
BC-01-04	Living / Dining	3.60	Medium	-	3.60	Medium	-
BC-01-04	Bedroom	7.70	High	Compliant	9.40	High	Compliant

* Rooms are tested with deciduous trees as opaque objects and without deciduous trees to account for the range of possible sunlight hours.
 ** The BRE Guidelines recommend that for a unit to be compliant any room within the unit should receive a minimum of 1.5 hours of direct sunlight on March 21st, preferably a main living room. The SE circa compliance rates can be found in section 5.2 on page 20.
 *** For the interpretation of levels of Sunlight Exposure please refer to "3.3 Definition of Levels of Sunlight Exposure" on page 11.
 For floor plans of the assessed units please refer to section A.1 on page 25.

A.4 Sun On Ground (SOG) in Proposed Outdoor Amenity Areas

Below is an example of the table used to describe SOG in proposed gardens and amenity spaces.

Table Example. A.4 - Scheme Performance SOG					
Assigned Area Number	Assessed Area	Area Capable of Receiving 2 Hours of Sunlight on March 21st	Recommended Minimum	Level of Compliance with BRE Guidelines	Meets BR 209 Criteria
A	B	C	D	E	F

A: Assigned Area Number

This column indicates the number that 3DDB have assigned to the assessed areas, which is included for the sole purpose of aiding in the identification of the corresponding space shown in the corresponding figure.

B: Assessed Area

This column identifies the assessed garden/amenity area.

C: Area Capable of Receiving 2 Hours of Sunlight on March 21st

The percentage of the proposed area that can receive more than 2 hours of sunlight on March 21st.

D: Recommended Minimum

The BRE Guidelines state that the percentage of a garden/amenity area that can receive more than 2 hours of sunlight on March 21st should be 50%. The target value for all spaces is set to 50%.

E: Level of Compliance with BRE Guidelines

This column states the compliance of the assessed space with the *BRE Target Value*. If the assessed garden or amenity area complies with the BRE Guidelines this cell will state "*BRE Compliant*". If the garden or amenity area does not meet the criteria as set out in the BRE Guidelines, a percentage of compliance with the *recommended minimum* will be stated.

F: Meets BR 209 Criteria

This column states if the assessed area achieves the recommended level of sunlight on March 21st as per BR 209.

It should be noted that the figures displayed in the table of results have been rounded off. A manual calculation of these figures may yield a negligible difference and should not be considered an error.

A.4.1 Sun On Ground in Proposed Outdoor Amenity Areas

Table No. A.4.1 - SOG in Proposed Outdoor Amenity Areas Results:

Assigned Area Number	Assessed Area	Area Capable of Receiving 2 Hours of Sunlight on March 21st	Recommended minimum	Level of Compliance with BRE Guidelines*	Meets BR 209 Criteria*
1	Communal Open Space (Block A)	95.84%	50.00%	BRE Compliant	Yes
2	Communal Open Space (Block B)	12.87%	50.00%	26%	No
3	Rooftop 1 (Block B)	54.11%	50.00%	BRE Compliant	Yes
4	Rooftop 2 (Block B)	90.27%	50.00%	BRE Compliant	Yes
-	All Communal Open Spaces (Block B)**	56.05%	50.00%	BRE Compliant	Yes
5	Communal Open Space (Block C)	100.00%	50.00%	BRE Compliant	Yes
6	Play Space	96.54%	50.00%	BRE Compliant	Yes

* The BRE Guidelines recommend that for a garden or amenity to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on March 21st.

** Average value has been calculated by considering all the communal open spaces of Block B as a singular area and calculating what portion of the spaces as a whole can receive at least two hours of sunlight on March 21st. The singular areas only were considered for the compliance rate.

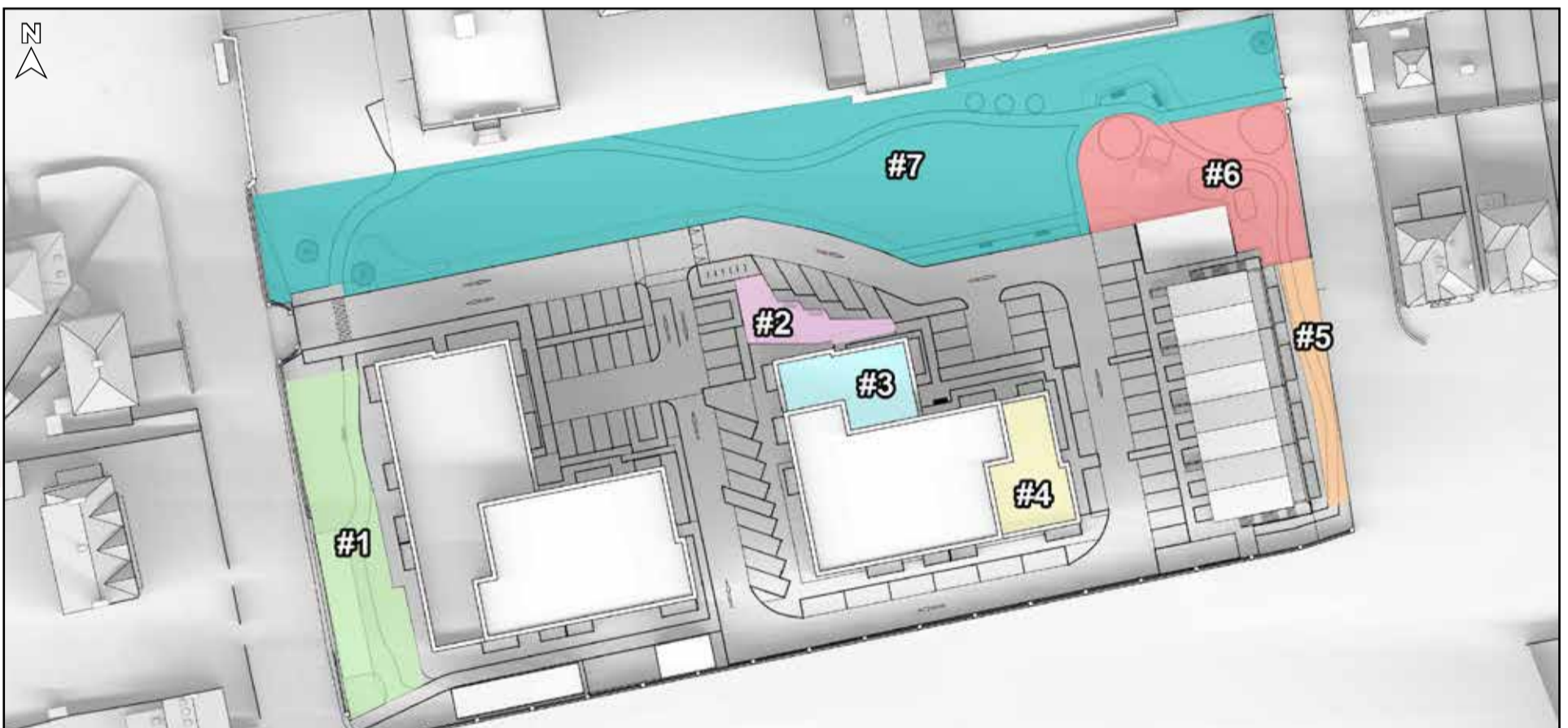


Figure A.18: Indication of the amenity areas that have been analysed

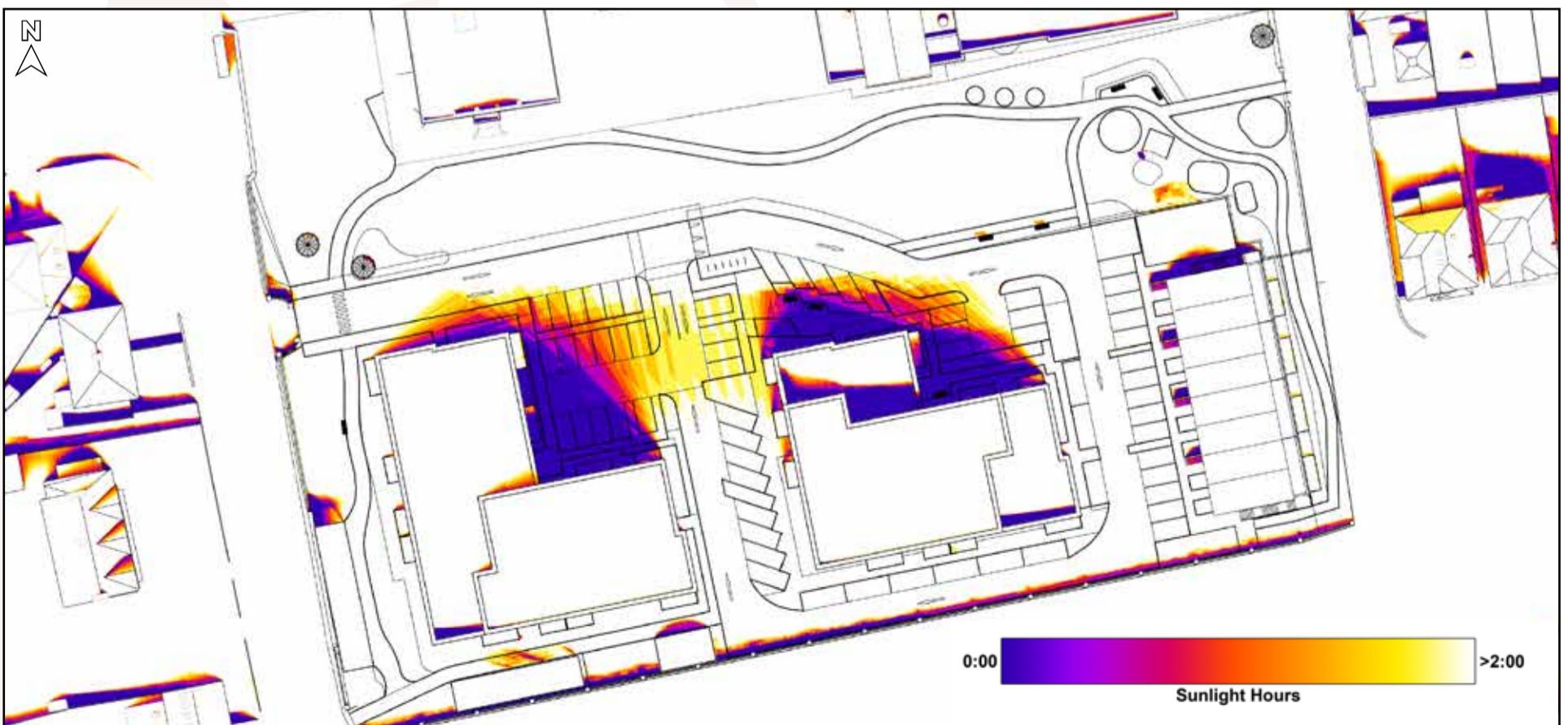
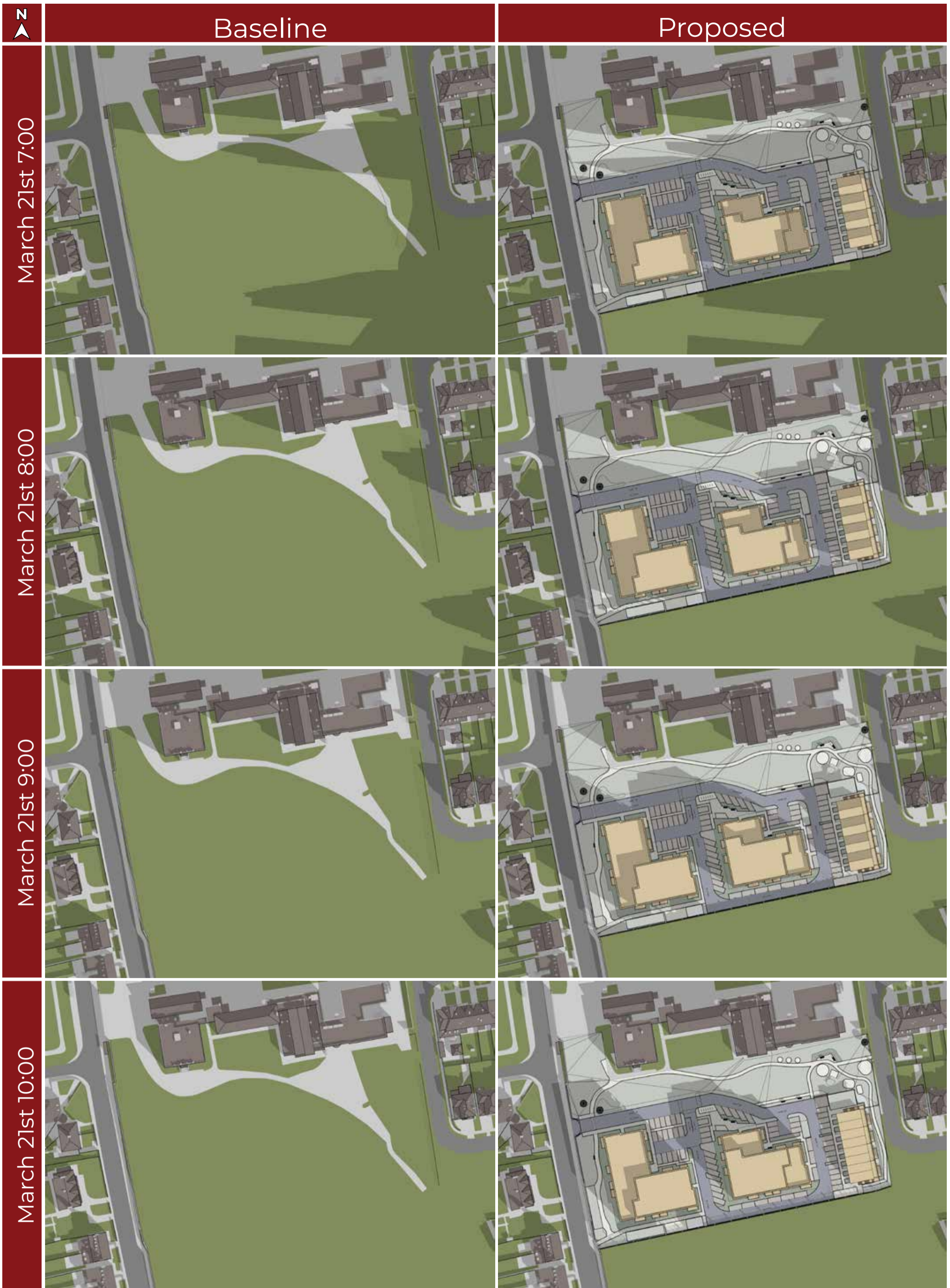

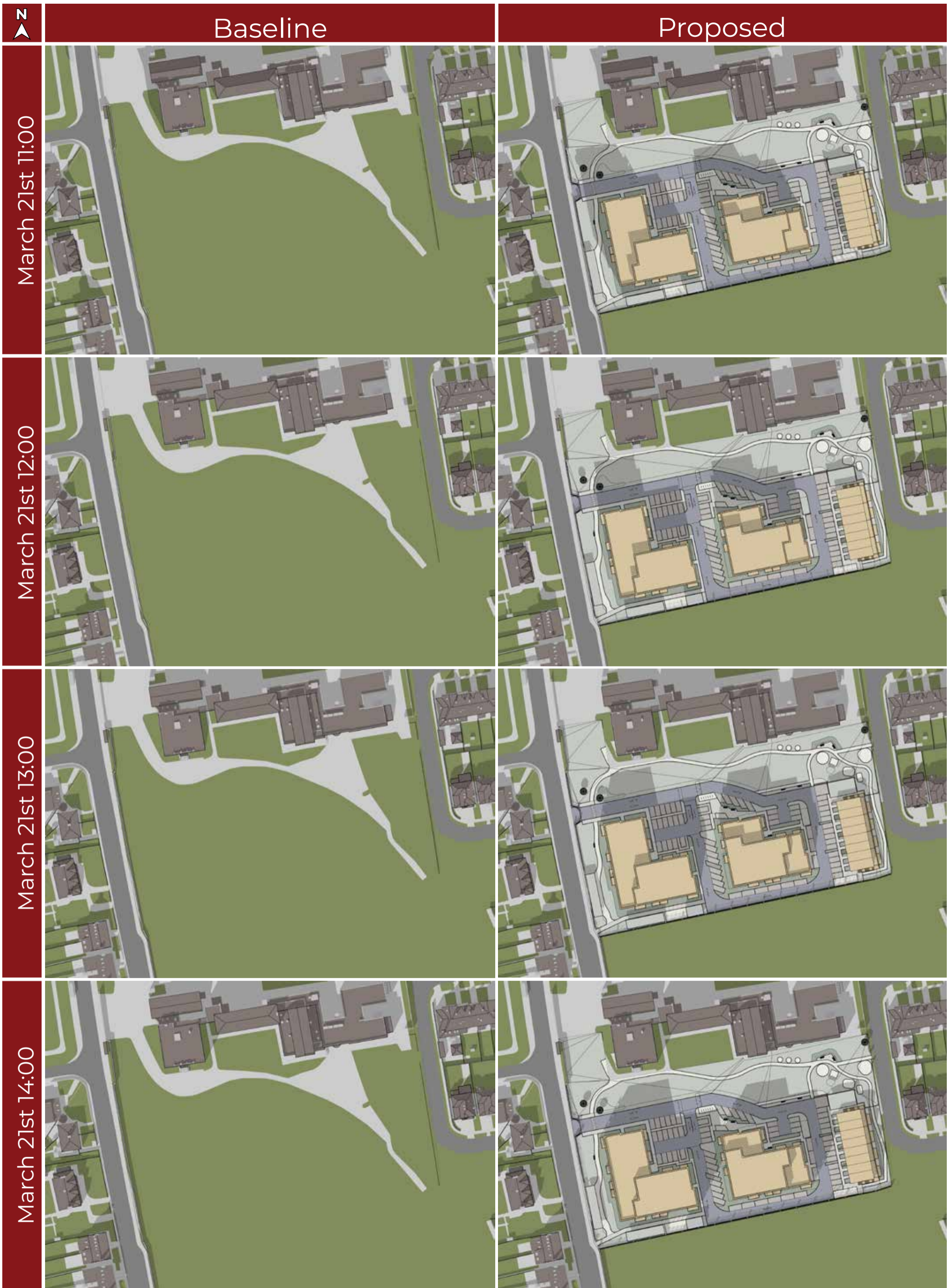


Figure A.19: Area capable of receiving 2 hours of sunlight on March 21st shown in white



B.0 B.1	Shadow Studies Shadow Study 21 March	Project: Proposed Residential Development, Mount St. Mary's, Dundrum Road, Dublin 14		Proposed
March 21st Sunrise 6:32 Sunset 18:32		Applicant: Dún Laoghaire-Rathdown County Council	 3D DESIGN BUREAU	



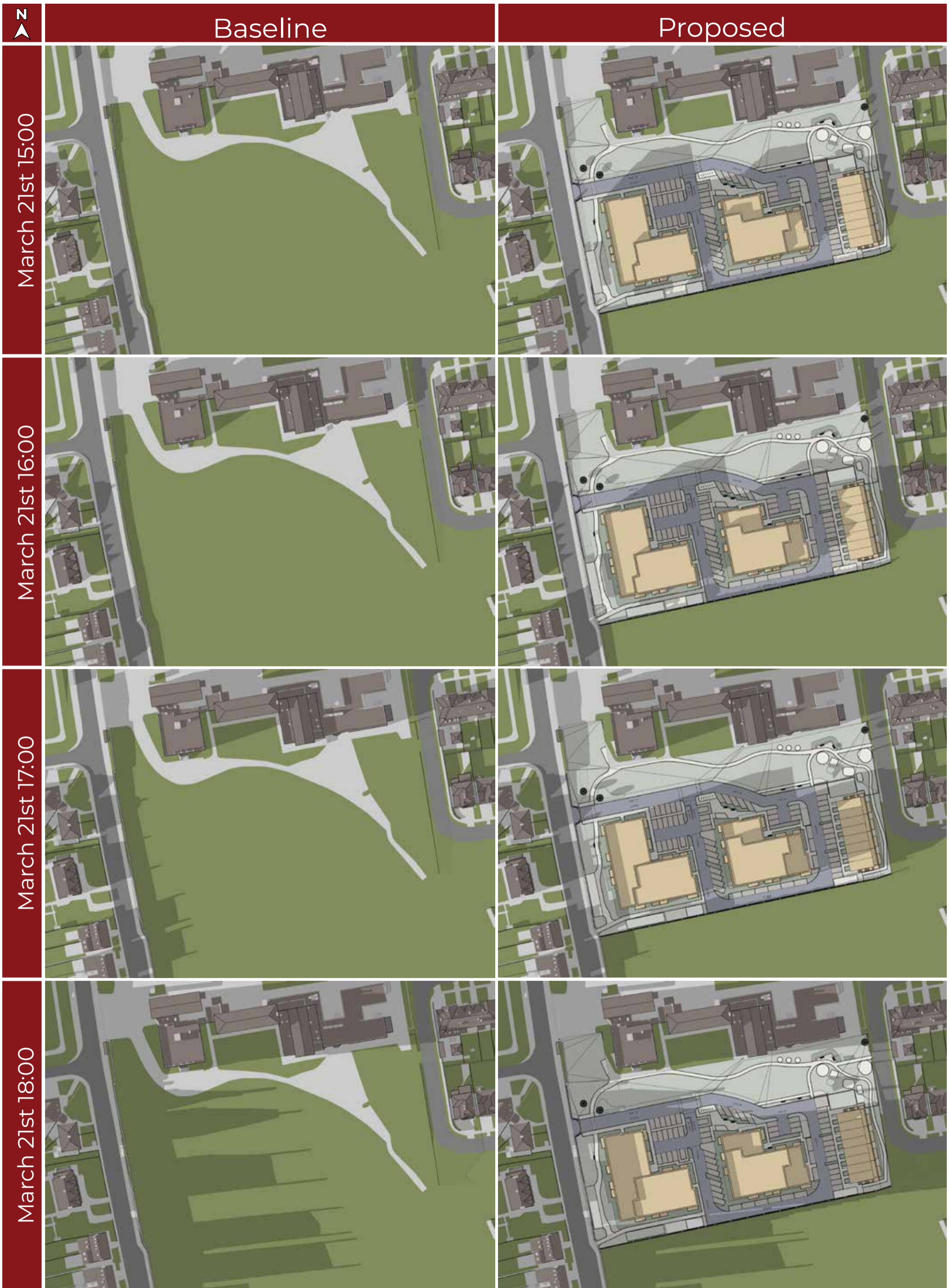
**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**

Proposed

**March 21st
Sunrise 6:32 | Sunset 18:32**

**Applicant: Dún Laoghaire-Rathdown County
Council**





**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**

Proposed

**March 21st
Sunrise 6:32 | Sunset 18:32**

**Applicant: Dún Laoghaire-Rathdown County
Council**





B.2 Shadow Study 21 June

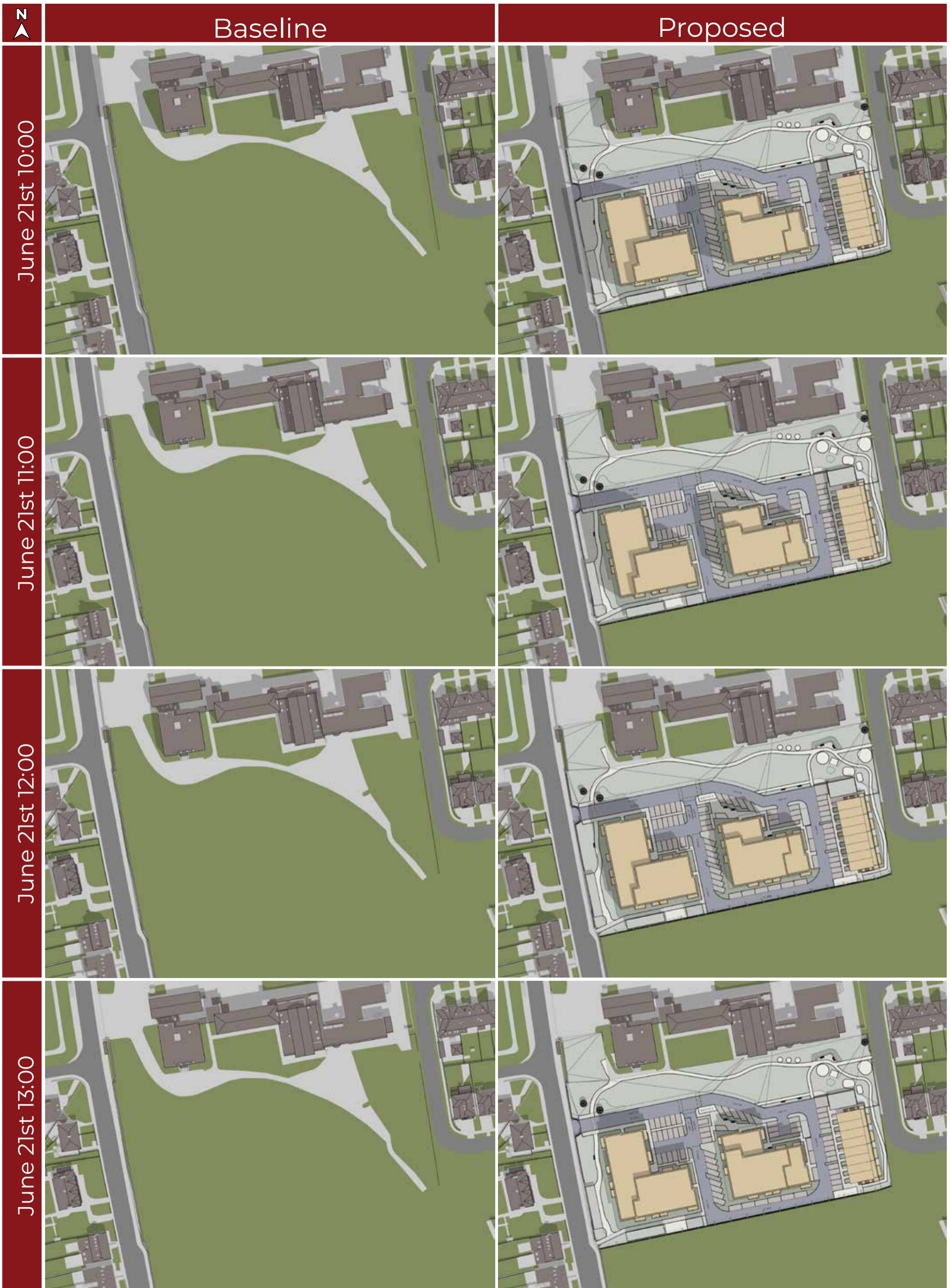
Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14

Proposed

June 21st
Sunrise 5:04 | Sunset 21:49

Applicant: Dún Laoghaire-Rathdown County
Council





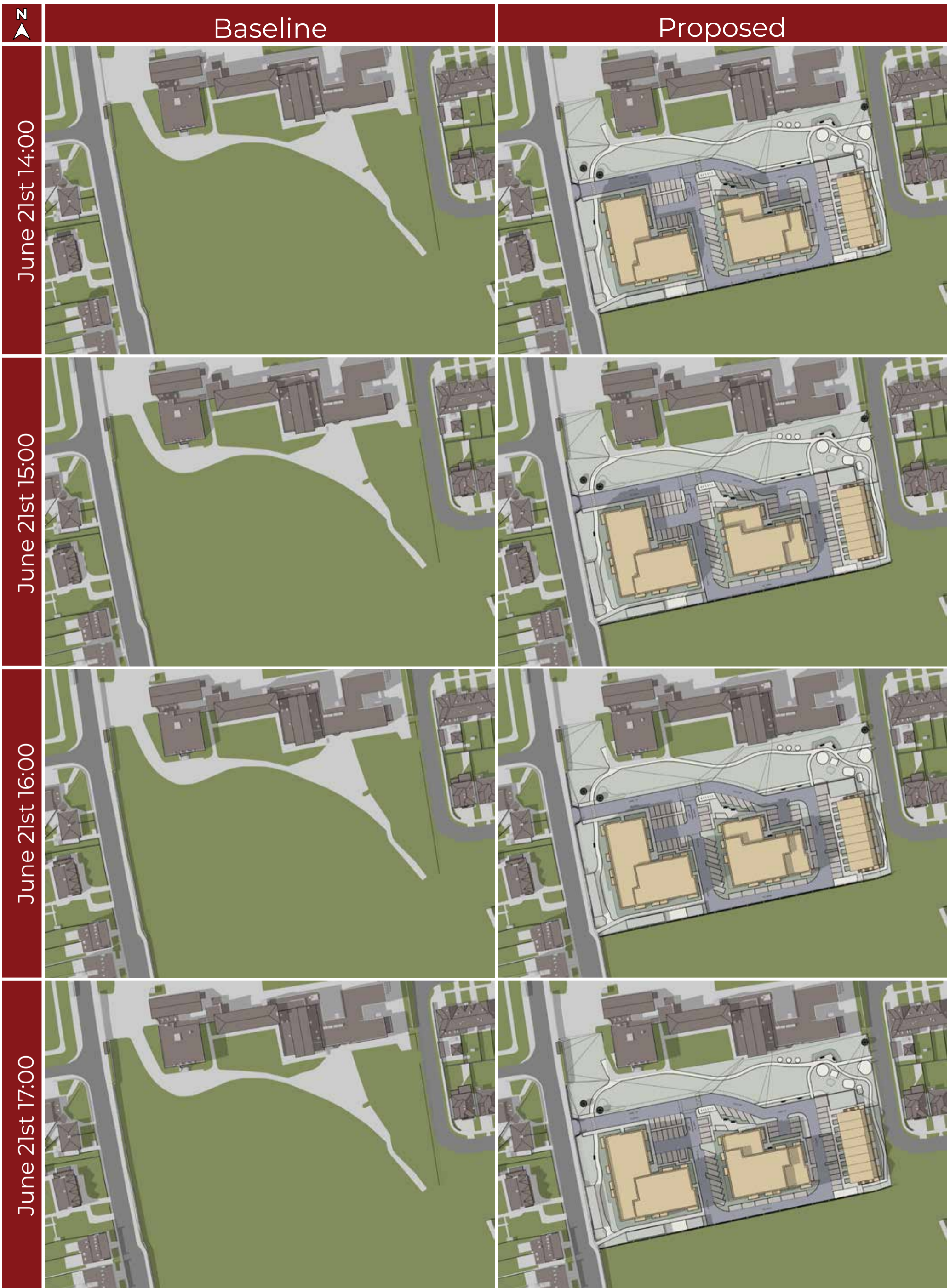
**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**

Proposed

**June 21st
Sunrise 5:04 | Sunset 21:49**

**Applicant: Dún Laoghaire-Rathdown County
Council**





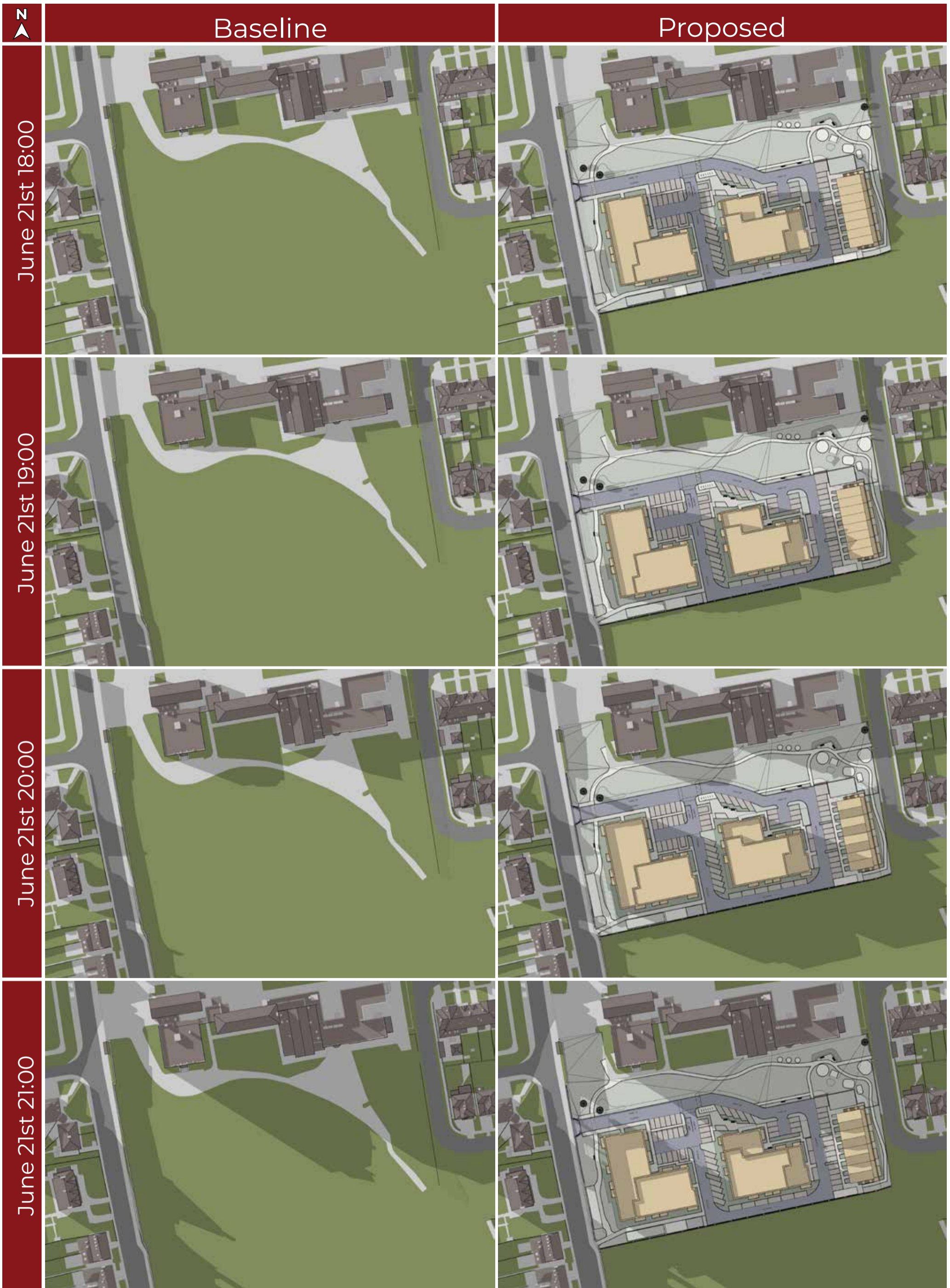
**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**

Proposed

**June 21st
Sunrise 5:04 | Sunset 21:49**

**Applicant: Dún Laoghaire-Rathdown County
Council**





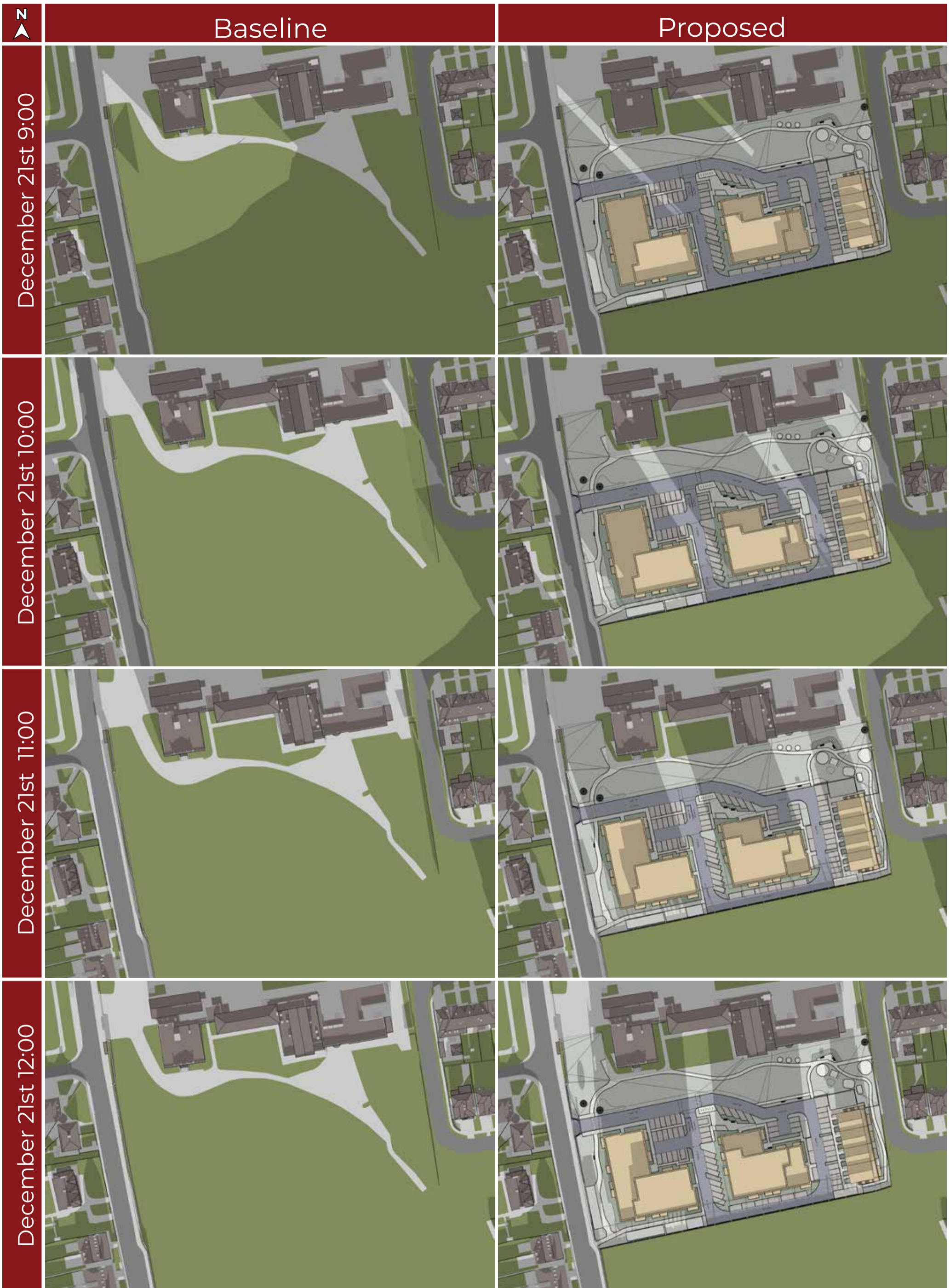
**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**


Proposed

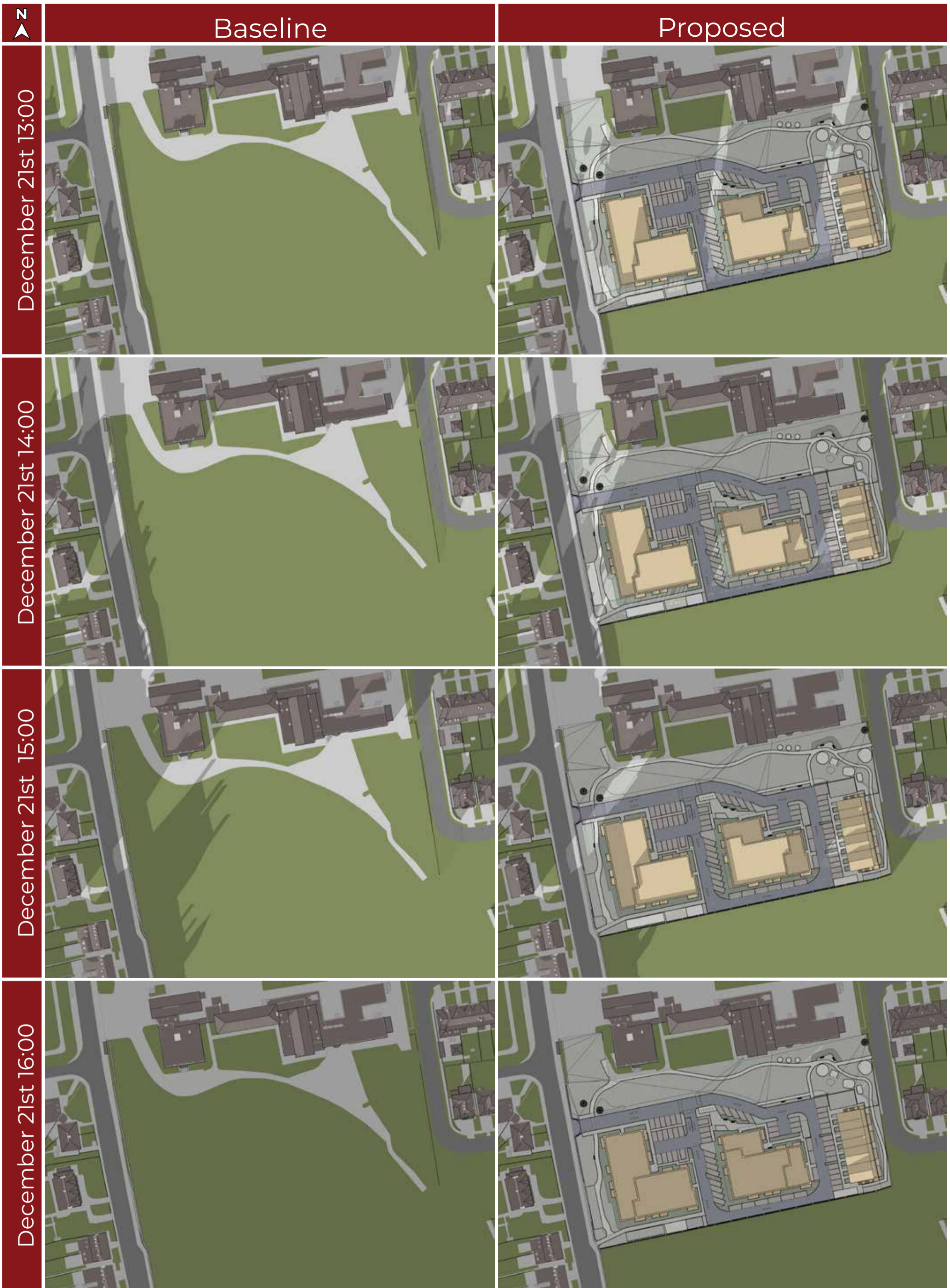
**June 21st
Sunrise 5:04 | Sunset 21:49**

**Applicant: Dún Laoghaire-Rathdown County
Council**





B.3	Shadow Study 21 December	Project: Proposed Residential Development, Mount St. Mary's, Dundrum Road, Dublin 14		Proposed
December 21st Sunrise 8:45 Sunset 16:00		Applicant: Dún Laoghaire-Rathdown County Council	 3D DESIGN BUREAU	



**Project: Proposed Residential Development,
Mount St. Mary's, Dundrum Road, Dublin 14**

Proposed

**December 21st
Sunrise 8:45 | Sunset 16:00**

**Applicant: Dún Laoghaire-Rathdown County
Council**



C.0 Supplementary Study Results

C.1 SDA study, under the I.S. EN 17037 criteria

Below is an example of the table used to describe the supplementary study results for proposed units in the assessment of SDA under the I.S. EN 17037 criteria.

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria
		Area above 300 Lux	Area above 100 Lux	Area above 300 Lux	Area above 100 Lux	
A	B	C	D	E	F	G

A: Unit Number

This column identifies the assessed unit. All unit numbers are determined by the architect's drawings, unless otherwise stated.

B: Room Description

Room Description details which room in the unit has been assessed, e.g. bedroom, LKD, etc.

C: % of area above 300 Lux (No Trees)

I.S. EN 17037 recommends at least 50% of the working plane receives above 300 lux for at least half the daylight hours. This column states percentage of the working plane of the assessed room that is capable of receiving more than 300 lux for at least half the daylight hours when the assessment is carried out without trees in the analytical model.

D: % of area above 100 Lux (No Trees)

I.S. EN 17037 recommends at least 95% of the working plane receives above 100 lux for at least half the daylight hours. This column states percentage of the working plane of the assessed room that is capable of receiving more than 100 lux for at least half the daylight hours when the assessment is carried out without trees in the analytical model.

E: % of area above 300 Lux (Winter Trees)

I.S. EN 17037 recommends at least 50% of the working plane receives above 300 lux for at least half the daylight hours. This column states percentage of the working plane of the assessed room that is capable of receiving more than 300 lux for at least half the daylight hours with the foliage of deciduous trees varied to account for summer and winter conditions, i.e. full leaf and bare branch.

F: % of area above 100 Lux (Winter Trees)

I.S. EN 17037 recommends at least 95% of the working plane receives above 100 lux for at least half the daylight hours. This column states percentage of the working plane of the assessed room that is capable of receiving more than 100 lux for at least half the daylight hours with the foliage of deciduous trees varied to account for summer and winter conditions.

G: Compliance with I.S. EN 17037 Criteria

This column states if the assessed room achieves the recommended level of daylight as per I.S. EN 17037 with consideration to the various tree states.

If the recommended lux levels are achieved on the working plane, for half the daylight hours, both with and without trees, this column will state: *'Compliant'*.

If the recommended lux levels are not achieved on the working plane, for half the daylight hours, both with and without trees, this column will state: *'Non-compliant'*.

If the recommended lux levels are achieved on the working plane, for half the daylight hours, without trees but are not achieved with trees, this column will state: *'Trees affecting compliance'*.

Compliance rates will be stated for SDA compliance with trees in all of the above states.

It should be noted that the figures displayed in the table of results have been rounded off. A manual calculation of these figures may yield a negligible difference and should not be considered an error.

C.1.1 Supplementary SDA Results (I.S. EN 17037 criteria): Block A

Table No. C.1.1 - Supplementary SDA Results (I.S. EN 17037 criteria): Block A						
Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BA-00-01	LKD	87%	100%	66%	99%	Compliant
BA-00-01	Bedroom 1	100%	100%	56%	100%	Compliant
BA-00-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-00-02	LKD	54%	100%	32%	89%	Trees affecting compliance
BA-00-02	Bedroom	100%	100%	48%	100%	Trees affecting compliance
BA-00-03	LKD	46%	100%	36%	90%	Non-compliant
BA-00-03	Bedroom	85%	100%	56%	100%	Compliant
BA-00-04	LKD	46%	100%	37%	91%	Non-compliant
BA-00-04	Bedroom	79%	100%	56%	100%	Compliant
BA-00-05	LKD	39%	93%	32%	81%	Non-compliant
BA-00-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-00-05	Bedroom 2	100%	100%	81%	100%	Compliant
BA-00-06	LKD	47%	100%	28%	88%	Non-compliant
BA-00-06	Bedroom	73%	100%	48%	100%	Trees affecting compliance
BA-00-07	LKD	53%	100%	36%	99%	Trees affecting compliance
BA-00-07	Bedroom	91%	100%	71%	100%	Compliant
BA-00-08	LKD	69%	100%	49%	99%	Trees affecting compliance
BA-00-08	Bedroom 1	93%	100%	78%	100%	Compliant
BA-00-08	Bedroom 2	97%	100%	87%	100%	Compliant
BA-00-09	LKD	51%	91%	42%	84%	Non-compliant
BA-00-09	Bedroom	28%	100%	25%	100%	Non-compliant
BA-00-10	LKD	29%	85%	23%	80%	Non-compliant
BA-00-10	Bedroom 1	31%	100%	30%	100%	Non-compliant
BA-00-10	Bedroom 2	88%	100%	80%	100%	Compliant
BA-00-11	LKD	35%	95%	33%	90%	Non-compliant
BA-00-11	Bedroom	25%	100%	23%	100%	Non-compliant
BA-00-12	LKD	83%	100%	70%	98%	Compliant
BA-00-12	Bedroom 1	61%	100%	59%	100%	Compliant
BA-00-12	Bedroom 2	100%	100%	100%	100%	Compliant
BA-01-01	LKD	90%	100%	69%	100%	Compliant
BA-01-01	Bedroom 1	100%	100%	83%	100%	Compliant
BA-01-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-01-02	LKD	59%	100%	26%	90%	Trees affecting compliance
BA-01-02	Bedroom	100%	100%	67%	100%	Compliant
BA-01-03	LKD	53%	100%	36%	99%	Trees affecting compliance
BA-01-03	Bedroom	100%	100%	73%	100%	Compliant
BA-01-04	LKD	56%	100%	43%	100%	Trees affecting compliance
BA-01-04	Bedroom	100%	100%	98%	100%	Compliant
BA-01-05	LKD	52%	99%	41%	97%	Trees affecting compliance
BA-01-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-01-05	Bedroom 2	100%	100%	100%	100%	Compliant
BA-01-06	LKD	63%	100%	36%	100%	Trees affecting compliance
BA-01-06	Bedroom	100%	100%	95%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.1 - Supplementary SDA Results (I.S. EN 17037 criteria): Block A

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BA-01-07	LKD	63%	100%	39%	100%	Trees affecting compliance
BA-01-07	Bedroom	100%	100%	100%	100%	Compliant
BA-01-08	LKD	96%	100%	90%	100%	Compliant
BA-01-08	Bedroom 1	100%	100%	100%	100%	Compliant
BA-01-08	Bedroom 2	100%	100%	100%	100%	Compliant
BA-01-09	LKD	57%	96%	46%	90%	Trees affecting compliance
BA-01-09	Bedroom	44%	100%	41%	100%	Non-compliant
BA-01-10	LKD	27%	88%	22%	83%	Non-compliant
BA-01-10	Bedroom 1	41%	100%	41%	100%	Non-compliant
BA-01-10	Bedroom 2	100%	100%	96%	100%	Compliant
BA-01-11	LKD	23%	88%	22%	77%	Non-compliant
BA-01-11	Bedroom 1	41%	100%	41%	100%	Non-compliant
BA-01-11	Bedroom 2	36%	100%	33%	100%	Non-compliant
BA-01-12	LKD	85%	100%	80%	100%	Compliant
BA-01-12	Bedroom 1	87%	100%	78%	100%	Compliant
BA-01-12	Bedroom 2	100%	100%	100%	100%	Compliant
BA-02-01	LKD	91%	100%	69%	100%	Compliant
BA-02-01	Bedroom 1	100%	100%	81%	100%	Compliant
BA-02-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-02-02	LKD	62%	100%	24%	89%	Trees affecting compliance
BA-02-02	Bedroom	100%	100%	64%	100%	Compliant
BA-02-03	LKD	59%	100%	41%	100%	Trees affecting compliance
BA-02-03	Bedroom	100%	100%	82%	100%	Compliant
BA-02-04	LKD	61%	100%	50%	100%	Compliant
BA-02-04	Bedroom	100%	100%	100%	100%	Compliant
BA-02-05	LKD	56%	99%	44%	98%	Trees affecting compliance
BA-02-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-02-05	Bedroom 2	100%	100%	100%	100%	Compliant
BA-02-06	LKD	66%	100%	37%	100%	Trees affecting compliance
BA-02-06	Bedroom	100%	100%	98%	100%	Compliant
BA-02-07	LKD	68%	100%	40%	100%	Trees affecting compliance
BA-02-07	Bedroom	100%	100%	100%	100%	Compliant
BA-02-08	LKD	97%	100%	96%	100%	Compliant
BA-02-08	Bedroom 1	100%	100%	100%	100%	Compliant
BA-02-08	Bedroom 2	100%	100%	100%	100%	Compliant
BA-02-09	LKD	60%	100%	55%	94%	Trees affecting compliance
BA-02-09	Bedroom	63%	100%	61%	100%	Compliant
BA-02-10	LKD	31%	97%	27%	89%	Non-compliant
BA-02-10	Bedroom 1	46%	100%	46%	100%	Non-compliant
BA-02-10	Bedroom 2	100%	100%	100%	100%	Compliant
BA-02-11	LKD	30%	94%	27%	91%	Non-compliant
BA-02-11	Bedroom 1	56%	100%	52%	100%	Compliant
BA-02-11	Bedroom 2	42%	100%	41%	100%	Non-compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.1 - Supplementary SDA Results (I.S. EN 17037 criteria): Block A

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BA-02-12	LKD	86%	100%	84%	100%	Compliant
BA-02-12	Bedroom 1	98%	100%	91%	100%	Compliant
BA-02-12	Bedroom 2	100%	100%	100%	100%	Compliant
BA-03-01	LKD	91%	100%	78%	100%	Compliant
BA-03-01	Bedroom 1	100%	100%	94%	100%	Compliant
BA-03-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-03-02	LKD	64%	100%	32%	97%	Trees affecting compliance
BA-03-02	Bedroom	100%	100%	89%	100%	Compliant
BA-03-03	LKD	60%	100%	47%	100%	Trees affecting compliance
BA-03-03	Bedroom	100%	100%	95%	100%	Compliant
BA-03-04	LKD	64%	100%	56%	100%	Compliant
BA-03-04	Bedroom	100%	100%	100%	100%	Compliant
BA-03-05	LKD	57%	99%	48%	98%	Trees affecting compliance
BA-03-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-03-05	Bedroom 2	100%	100%	100%	100%	Compliant
BA-03-06	LKD	67%	100%	46%	100%	Trees affecting compliance
BA-03-06	Bedroom	100%	100%	100%	100%	Compliant
BA-03-07	LKD	70%	100%	46%	100%	Trees affecting compliance
BA-03-07	Bedroom	100%	100%	100%	100%	Compliant
BA-03-08	LKD	98%	100%	97%	100%	Compliant
BA-03-08	Bedroom 1	100%	100%	100%	100%	Compliant
BA-03-08	Bedroom 2	100%	100%	100%	100%	Compliant
BA-03-09	LKD	64%	100%	63%	100%	Compliant
BA-03-09	Bedroom	100%	100%	95%	100%	Compliant
BA-03-10	LKD	37%	99%	35%	97%	Non-compliant
BA-03-10	Bedroom 1	59%	100%	59%	100%	Compliant
BA-03-10	Bedroom 2	100%	100%	100%	100%	Compliant
BA-03-11	LKD	35%	98%	34%	97%	Non-compliant
BA-03-11	Bedroom 1	70%	100%	68%	100%	Compliant
BA-03-11	Bedroom 2	51%	100%	48%	100%	Trees affecting compliance
BA-03-12	LKD	87%	100%	86%	100%	Compliant
BA-03-12	Bedroom 1	100%	100%	100%	100%	Compliant
BA-03-12	Bedroom 2	100%	100%	100%	100%	Compliant
BA-04-01	LKD	94%	100%	87%	100%	Compliant
BA-04-01	Bedroom 1	100%	100%	100%	100%	Compliant
BA-04-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-04-02	LKD	77%	100%	68%	100%	Compliant
BA-04-02	Bedroom	100%	100%	100%	100%	Compliant
BA-04-03	LKD	74%	100%	72%	100%	Compliant
BA-04-03	Bedroom	100%	100%	100%	100%	Compliant
BA-04-04	LKD	76%	100%	74%	100%	Compliant
BA-04-04	Bedroom	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.1 - Supplementary SDA Results (I.S. EN 17037 criteria): Block A

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BA-04-05	LKD	58%	99%	54%	99%	Compliant
BA-04-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-04-05	Bedroom 2	100%	100%	100%	100%	Compliant
BA-04-06	LKD	79%	100%	69%	100%	Compliant
BA-04-06	Bedroom	100%	100%	100%	100%	Compliant
BA-04-07	LKD	70%	100%	59%	100%	Compliant
BA-04-07	Bedroom	100%	100%	100%	100%	Compliant
BA-04-08	LKD	98%	100%	98%	100%	Compliant
BA-04-08	Bedroom 1	100%	100%	100%	100%	Compliant
BA-04-08	Bedroom 2	100%	100%	100%	100%	Compliant
BA-04-09	LKD	71%	100%	69%	100%	Compliant
BA-04-09	Bedroom	100%	100%	100%	100%	Compliant
BA-04-10	LKD	45%	100%	44%	100%	Non-compliant
BA-04-10	Bedroom 1	78%	100%	74%	100%	Compliant
BA-04-10	Bedroom 2	100%	100%	100%	100%	Compliant
BA-04-11	LKD	56%	100%	56%	100%	Compliant
BA-04-11	Bedroom 1	98%	100%	98%	100%	Compliant
BA-04-11	Bedroom 2	65%	100%	65%	100%	Compliant
BA-04-12	LKD	90%	100%	88%	100%	Compliant
BA-04-12	Bedroom 1	100%	100%	100%	100%	Compliant
BA-04-12	Bedroom 2	100%	100%	100%	100%	Compliant
BA-05-01	LKD	100%	100%	100%	100%	Compliant
BA-05-01	Bedroom 1	100%	100%	100%	100%	Compliant
BA-05-01	Bedroom 2	100%	100%	100%	100%	Compliant
BA-05-02	LKD	92%	100%	87%	100%	Compliant
BA-05-02	Bedroom	100%	100%	100%	100%	Compliant
BA-05-03	LKD	100%	100%	100%	100%	Compliant
BA-05-03	Bedroom 1	100%	100%	100%	100%	Compliant
BA-05-03	Bedroom 2	100%	100%	100%	100%	Compliant
BA-05-04	LKD	83%	100%	82%	100%	Compliant
BA-05-04	Bedroom	100%	100%	100%	100%	Compliant
BA-05-05	LKD	73%	100%	70%	100%	Compliant
BA-05-05	Bedroom 1	100%	100%	100%	100%	Compliant
BA-05-05	Bedroom 2	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

C.1.2 Supplementary SDA Results (I.S. EN 17037 criteria): Block B

Table No. C.1.2 - Supplementary SDA Results (I.S. EN 17037 criteria): Block B						
Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BB-00-01	LKD	76%	100%	73%	100%	Compliant
BB-00-01	Bedroom	43%	100%	38%	100%	Non-compliant
BB-00-02	LKD	30%	81%	25%	73%	Non-compliant
BB-00-02	Bedroom	28%	100%	25%	100%	Non-compliant
BB-00-03	LKD	25%	79%	21%	71%	Non-compliant
BB-00-03	Bedroom	23%	100%	22%	100%	Non-compliant
BB-00-04	LKD	52%	98%	38%	94%	Trees affecting compliance
BB-00-04	Bedroom 1	100%	100%	82%	100%	Compliant
BB-00-04	Bedroom 2	100%	100%	100%	100%	Compliant
BB-00-05	LKD	64%	100%	37%	100%	Trees affecting compliance
BB-00-05	Bedroom	100%	100%	59%	100%	Compliant
BB-00-06	LKD	65%	100%	44%	100%	Trees affecting compliance
BB-00-06	Bedroom	100%	100%	92%	100%	Compliant
BB-00-07	LKD	59%	100%	35%	98%	Trees affecting compliance
BB-00-07	Bedroom 1	100%	100%	100%	100%	Compliant
BB-00-07	Bedroom 2	100%	100%	100%	100%	Compliant
BB-00-08	LKD	64%	100%	58%	95%	Compliant
BB-00-08	Bedroom	80%	100%	72%	100%	Compliant
BB-00-09	LKD	36%	88%	28%	82%	Non-compliant
BB-00-09	Bedroom 1	33%	100%	22%	100%	Non-compliant
BB-00-09	Bedroom 2	96%	100%	68%	100%	Compliant
BB-00-10	LKD	78%	100%	70%	100%	Compliant
BB-00-10	Bedroom	48%	100%	22%	100%	Non-compliant
BB-01-01	LKD	79%	100%	78%	100%	Compliant
BB-01-01	Bedroom	62%	100%	57%	100%	Compliant
BB-01-02	LKD	33%	87%	29%	80%	Non-compliant
BB-01-02	Bedroom	42%	100%	42%	100%	Non-compliant
BB-01-03	LKD	30%	87%	26%	80%	Non-compliant
BB-01-03	Bedroom	40%	100%	32%	100%	Non-compliant
BB-01-04	LKD	54%	99%	37%	93%	Trees affecting compliance
BB-01-04	Bedroom 1	100%	100%	100%	100%	Compliant
BB-01-04	Bedroom 2	100%	100%	100%	100%	Compliant
BB-01-05	LKD	64%	100%	34%	98%	Trees affecting compliance
BB-01-05	Bedroom	100%	100%	74%	100%	Compliant
BB-01-06	LKD	66%	100%	38%	100%	Trees affecting compliance
BB-01-06	Bedroom	100%	100%	100%	100%	Compliant
BB-01-07	LKD	97%	100%	94%	100%	Compliant
BB-01-07	Bedroom 1	100%	100%	100%	100%	Compliant
BB-01-07	Bedroom 2	100%	100%	96%	100%	Compliant
BB-01-08	LKD	70%	100%	69%	100%	Compliant
BB-01-08	Bedroom	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.2 - Supplementary SDA Results (I.S. EN 17037 criteria): Block B

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BB-01-09	LKD	36%	96%	31%	89%	Non-compliant
BB-01-09	Bedroom 1	46%	100%	41%	100%	Non-compliant
BB-01-09	Bedroom 2	100%	100%	100%	100%	Compliant
BB-01-10	LKD	66%	100%	63%	100%	Compliant
BB-01-10	Bedroom 1	57%	100%	48%	100%	Trees affecting compliance
BB-01-10	Bedroom 2	41%	100%	33%	100%	Non-compliant
BB-02-01	LKD	83%	100%	82%	100%	Compliant
BB-02-01	Bedroom	73%	100%	72%	100%	Compliant
BB-02-02	LKD	41%	96%	39%	94%	Non-compliant
BB-02-02	Bedroom	57%	100%	53%	100%	Compliant
BB-02-03	LKD	37%	96%	32%	91%	Non-compliant
BB-02-03	Bedroom	50%	100%	50%	100%	Compliant
BB-02-04	LKD	57%	99%	48%	98%	Trees affecting compliance
BB-02-04	Bedroom 1	100%	100%	100%	100%	Compliant
BB-02-04	Bedroom 2	100%	100%	100%	100%	Compliant
BB-02-05	LKD	66%	100%	50%	100%	Compliant
BB-02-05	Bedroom	100%	100%	100%	100%	Compliant
BB-02-06	LKD	68%	100%	50%	100%	Compliant
BB-02-06	Bedroom	100%	100%	100%	100%	Compliant
BB-02-07	LKD	98%	100%	97%	100%	Compliant
BB-02-07	Bedroom 1	100%	100%	100%	100%	Compliant
BB-02-07	Bedroom 2	100%	100%	100%	100%	Compliant
BB-02-08	LKD	78%	100%	75%	100%	Compliant
BB-02-08	Bedroom	100%	100%	100%	100%	Compliant
BB-02-09	LKD	41%	100%	38%	99%	Non-compliant
BB-02-09	Bedroom 1	54%	100%	52%	100%	Compliant
BB-02-09	Bedroom 2	100%	100%	100%	100%	Compliant
BB-02-10	LKD	70%	100%	68%	100%	Compliant
BB-02-10	Bedroom 1	78%	100%	63%	100%	Compliant
BB-02-10	Bedroom 2	42%	100%	41%	100%	Non-compliant
BB-03-01	LKD	87%	100%	87%	100%	Compliant
BB-03-01	Bedroom	95%	100%	93%	100%	Compliant
BB-03-02	LKD	50%	100%	48%	100%	Trees affecting compliance
BB-03-02	Bedroom	75%	100%	72%	100%	Compliant
BB-03-03	LKD	44%	100%	41%	100%	Non-compliant
BB-03-03	Bedroom	72%	100%	70%	100%	Compliant
BB-03-04	LKD	58%	99%	55%	99%	Compliant
BB-03-04	Bedroom 1	100%	100%	100%	100%	Compliant
BB-03-04	Bedroom 2	100%	100%	100%	100%	Compliant
BB-03-05	LKD	67%	100%	59%	100%	Compliant
BB-03-05	Bedroom	100%	100%	100%	100%	Compliant
BB-03-06	LKD	70%	100%	60%	100%	Compliant
BB-03-06	Bedroom	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.2 - Supplementary SDA Results (I.S. EN 17037 criteria): Block B

Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BB-03-07	LKD	99%	100%	98%	100%	Compliant
BB-03-07	Bedroom 1	100%	100%	100%	100%	Compliant
BB-03-07	Bedroom 2	100%	100%	100%	100%	Compliant
BB-03-08	LKD	83%	100%	80%	100%	Compliant
BB-03-08	Bedroom	100%	100%	100%	100%	Compliant
BB-03-09	LKD	45%	100%	44%	100%	Non-compliant
BB-03-09	Bedroom 1	67%	100%	63%	100%	Compliant
BB-03-09	Bedroom 2	100%	100%	100%	100%	Compliant
BB-03-10	LKD	73%	100%	70%	100%	Compliant
BB-03-10	Bedroom 1	92%	100%	89%	100%	Compliant
BB-03-10	Bedroom 2	54%	100%	49%	100%	Trees affecting compliance
BB-04-01	LKD	97%	100%	97%	100%	Compliant
BB-04-01	Bedroom	100%	100%	100%	100%	Compliant
BB-04-02	LKD	63%	100%	62%	100%	Compliant
BB-04-02	Bedroom	100%	100%	100%	100%	Compliant
BB-04-03	LKD	58%	100%	58%	100%	Compliant
BB-04-03	Bedroom	100%	100%	100%	100%	Compliant
BB-04-04	LKD	59%	99%	59%	99%	Compliant
BB-04-04	Bedroom 1	100%	100%	100%	100%	Compliant
BB-04-04	Bedroom 2	100%	100%	100%	100%	Compliant
BB-04-05	LKD	68%	100%	65%	100%	Compliant
BB-04-05	Bedroom	100%	100%	100%	100%	Compliant
BB-04-06	LKD	70%	100%	66%	100%	Compliant
BB-04-06	Bedroom	100%	100%	100%	100%	Compliant
BB-04-07	LKD	99%	100%	99%	100%	Compliant
BB-04-07	Bedroom 1	100%	100%	100%	100%	Compliant
BB-04-07	Bedroom 2	100%	100%	100%	100%	Compliant
BB-04-08	LKD	88%	100%	88%	100%	Compliant
BB-04-08	Bedroom	100%	100%	100%	100%	Compliant
BB-04-09	LKD	52%	100%	51%	100%	Compliant
BB-04-09	Bedroom 1	83%	100%	81%	100%	Compliant
BB-04-09	Bedroom 2	100%	100%	100%	100%	Compliant
BB-04-10	LKD	82%	100%	79%	100%	Compliant
BB-04-10	Bedroom 1	100%	100%	100%	100%	Compliant
BB-04-10	Bedroom 2	71%	100%	67%	100%	Compliant
BB-05-01	LKD	98%	100%	98%	100%	Compliant
BB-05-01	Bedroom	100%	100%	100%	100%	Compliant
BB-05-02	LKD	83%	100%	83%	100%	Compliant
BB-05-02	Bedroom	100%	100%	100%	100%	Compliant
BB-05-03	LKD	67%	100%	67%	100%	Compliant
BB-05-03	Bedroom 1	100%	100%	100%	100%	Compliant
BB-05-03	Bedroom 2	100%	100%	100%	100%	Compliant
BB-05-04	LKD	87%	100%	87%	100%	Compliant
BB-05-04	Bedroom	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.1.2 - Supplementary SDA Results (I.S. EN 17037 criteria): Block B						
Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BB-05-05	LKD	100%	100%	99%	100%	Compliant
BB-05-05	Bedroom	100%	100%	100%	100%	Compliant
BB-05-06	LKD	76%	100%	76%	100%	Compliant
BB-05-06	Bedroom 1	73%	100%	72%	100%	Compliant
BB-05-06	Bedroom 2	98%	100%	98%	100%	Compliant

C.1.3 Supplementary SDA Results (I.S. EN 17037 criteria): Block C

Table No. C.1.3 - Supplementary SDA Results (I.S. EN 17037 criteria): Block B						
Unit Number	Room Description	No Trees		With Trees		Compliance with I.S. EN 17037 Criteria*
		Area above 300 Lux*	Area above 100 Lux*	Area above 300 Lux*	Area above 100 Lux*	
BC-00-01	LKD	20%	67%	19%	60%	Non-compliant
BC-00-01	Bedroom 1	100%	100%	82%	100%	Compliant
BC-00-01	Bedroom 2	61%	100%	27%	100%	Trees affecting compliance
BC-00-02	LKD	17%	58%	16%	55%	Non-compliant
BC-00-02	Bedroom 1	100%	100%	84%	100%	Compliant
BC-00-02	Bedroom 2	62%	100%	42%	100%	Trees affecting compliance
BC-00-03	LKD	15%	58%	13%	52%	Non-compliant
BC-00-03	Bedroom 1	100%	100%	82%	100%	Compliant
BC-00-03	Bedroom 2	61%	100%	40%	100%	Trees affecting compliance
BC-00-04	LKD	20%	64%	17%	57%	Non-compliant
BC-00-04	Bedroom 1	100%	100%	73%	100%	Compliant
BC-00-04	Bedroom 2	66%	100%	23%	100%	Trees affecting compliance
BC-01-01	Kitchen	100%	100%	100%	100%	Compliant
BC-01-01	Living / Dining	100%	100%	100%	100%	Compliant
BC-01-01	Bedroom	31%	100%	30%	100%	Non-compliant
BC-01-02	Kitchen	100%	100%	100%	100%	Compliant
BC-01-02	Living / Dining	58%	100%	53%	100%	Compliant
BC-01-02	Bedroom	29%	100%	29%	100%	Non-compliant
BC-01-03	Kitchen	100%	100%	92%	100%	Compliant
BC-01-03	Living / Dining	52%	100%	45%	100%	Trees affecting compliance
BC-01-03	Bedroom	28%	100%	24%	100%	Non-compliant
BC-01-04	Kitchen	100%	100%	64%	100%	Compliant
BC-01-04	Living / Dining	63%	100%	49%	100%	Trees affecting compliance
BC-01-04	Bedroom	100%	100%	100%	100%	Compliant

* For information regarding the criteria under the various guidelines including target Lux please refer to section 4.3.1 on page 15. For floor plans of the assessed units please refer to section A.1 on page 25.

C.2 Supplementary No Sky Line (NSL) assessment in proposed units.

Below is an example of the table used to describe the supplementary assessment results for 'No Sky Line' in proposed units.

Table Example. C.2 - Supplementary NSL Results:			
Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%
A	B	C	D

A: Unit Number

This column identifies the assessed unit. All unit numbers are determined by the architect's drawings, unless otherwise stated.

B: Room Description

Room Description details which room in the unit has been assessed, e.g. bedroom, LKD, etc.

C: % of room where the sky is visible from the working plane

This column states the percentage of the room from which there is a direct line of sight to the sky when assessed at the working plane height, which is 850mm above the finished floor level in residential rooms or 700mm above the finished floor level in offices or classrooms.

D: Above 80%

Whilst the BRE Guidelines only provide recommendations for NSL in the context of an impact analysis, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

If this column states: 'Yes', it signifies that the sky will be visible from more than 80% of the working plane.

If this column states: 'No', it signifies that the sky will be visible from less than 80% of the working plane and supplementary electric lighting may be required.

C.2.1 Supplementary NSL Results: Block A

Table No. C.2.1 - Supplementary NSL Results: Block A			
Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BA-00-01	LKD	98%	Yes
BA-00-01	Bedroom 1	100%	Yes
BA-00-01	Bedroom 2	100%	Yes
BA-00-02	LKD	97%	Yes
BA-00-02	Bedroom	99%	Yes
BA-00-03	LKD	98%	Yes
BA-00-03	Bedroom	99%	Yes
BA-00-04	LKD	97%	Yes
BA-00-04	Bedroom	99%	Yes
BA-00-05	LKD	93%	Yes
BA-00-05	Bedroom 1	100%	Yes
BA-00-05	Bedroom 2	99%	Yes
BA-00-06	LKD	97%	Yes
BA-00-06	Bedroom	99%	Yes
BA-00-07	LKD	98%	Yes
BA-00-07	Bedroom	99%	Yes
BA-00-08	LKD	95%	Yes
BA-00-08	Bedroom 1	100%	Yes
BA-00-08	Bedroom 2	99%	Yes
BA-00-09	LKD	83%	Yes
BA-00-09	Bedroom	56%	No
BA-00-10	LKD	94%	Yes
BA-00-10	Bedroom 1	90%	Yes
BA-00-10	Bedroom 2	97%	Yes
BA-00-11	LKD	91%	Yes
BA-00-11	Bedroom	70%	No
BA-00-12	LKD	95%	Yes
BA-00-12	Bedroom 1	96%	Yes
BA-00-12	Bedroom 2	100%	Yes
BA-01-01	LKD	98%	Yes
BA-01-01	Bedroom 1	100%	Yes
BA-01-01	Bedroom 2	100%	Yes
BA-01-02	LKD	97%	Yes
BA-01-02	Bedroom	99%	Yes
BA-01-03	LKD	97%	Yes
BA-01-03	Bedroom	99%	Yes
BA-01-04	LKD	97%	Yes
BA-01-04	Bedroom	99%	Yes
BA-01-05	LKD	93%	Yes
BA-01-05	Bedroom 1	100%	Yes
BA-01-05	Bedroom 2	99%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."
For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.1 - Supplementary NSL Results: Block A

Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BA-01-06	LKD	97%	Yes
BA-01-06	Bedroom	99%	Yes
BA-01-07	LKD	98%	Yes
BA-01-07	Bedroom	99%	Yes
BA-01-08	LKD	92%	Yes
BA-01-08	Bedroom 1	99%	Yes
BA-01-08	Bedroom 2	99%	Yes
BA-01-09	LKD	83%	Yes
BA-01-09	Bedroom	62%	No
BA-01-10	LKD	94%	Yes
BA-01-10	Bedroom 1	91%	Yes
BA-01-10	Bedroom 2	99%	Yes
BA-01-11	LKD	89%	Yes
BA-01-11	Bedroom 1	92%	Yes
BA-01-11	Bedroom 2	86%	Yes
BA-01-12	LKD	95%	Yes
BA-01-12	Bedroom 1	99%	Yes
BA-01-12	Bedroom 2	100%	Yes
BA-02-01	LKD	98%	Yes
BA-02-01	Bedroom 1	100%	Yes
BA-02-01	Bedroom 2	100%	Yes
BA-02-02	LKD	97%	Yes
BA-02-02	Bedroom	99%	Yes
BA-02-03	LKD	97%	Yes
BA-02-03	Bedroom	99%	Yes
BA-02-04	LKD	97%	Yes
BA-02-04	Bedroom	99%	Yes
BA-02-05	LKD	93%	Yes
BA-02-05	Bedroom 1	100%	Yes
BA-02-05	Bedroom 2	99%	Yes
BA-02-06	LKD	97%	Yes
BA-02-06	Bedroom	99%	Yes
BA-02-07	LKD	98%	Yes
BA-02-07	Bedroom	99%	Yes
BA-02-08	LKD	98%	Yes
BA-02-08	Bedroom 1	99%	Yes
BA-02-08	Bedroom 2	99%	Yes
BA-02-09	LKD	84%	Yes
BA-02-09	Bedroom	74%	No
BA-02-10	LKD	95%	Yes
BA-02-10	Bedroom 1	94%	Yes
BA-02-10	Bedroom 2	99%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.1 - Supplementary NSL Results: Block A

Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BA-02-11	LKD	94%	Yes
BA-02-11	Bedroom 1	96%	Yes
BA-02-11	Bedroom 2	91%	Yes
BA-02-12	LKD	95%	Yes
BA-02-12	Bedroom 1	99%	Yes
BA-02-12	Bedroom 2	100%	Yes
BA-03-01	LKD	98%	Yes
BA-03-01	Bedroom 1	100%	Yes
BA-03-01	Bedroom 2	100%	Yes
BA-03-02	LKD	97%	Yes
BA-03-02	Bedroom	99%	Yes
BA-03-03	LKD	97%	Yes
BA-03-03	Bedroom	99%	Yes
BA-03-04	LKD	97%	Yes
BA-03-04	Bedroom	99%	Yes
BA-03-05	LKD	93%	Yes
BA-03-05	Bedroom 1	100%	Yes
BA-03-05	Bedroom 2	99%	Yes
BA-03-06	LKD	97%	Yes
BA-03-06	Bedroom	99%	Yes
BA-03-07	LKD	98%	Yes
BA-03-07	Bedroom	99%	Yes
BA-03-08	LKD	98%	Yes
BA-03-08	Bedroom 1	99%	Yes
BA-03-08	Bedroom 2	99%	Yes
BA-03-09	LKD	85%	Yes
BA-03-09	Bedroom	95%	Yes
BA-03-10	LKD	96%	Yes
BA-03-10	Bedroom 1	99%	Yes
BA-03-10	Bedroom 2	100%	Yes
BA-03-11	LKD	97%	Yes
BA-03-11	Bedroom 1	98%	Yes
BA-03-11	Bedroom 2	93%	Yes
BA-03-12	LKD	97%	Yes
BA-03-12	Bedroom 1	99%	Yes
BA-03-12	Bedroom 2	100%	Yes
BA-04-01	LKD	98%	Yes
BA-04-01	Bedroom 1	100%	Yes
BA-04-01	Bedroom 2	100%	Yes
BA-04-02	LKD	98%	Yes
BA-04-02	Bedroom	99%	Yes
BA-04-03	LKD	98%	Yes
BA-04-03	Bedroom	99%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.1 - Supplementary NSL Results: Block A

Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BA-04-04	LKD	98%	Yes
BA-04-04	Bedroom	99%	Yes
BA-04-05	LKD	93%	Yes
BA-04-05	Bedroom 1	100%	Yes
BA-04-05	Bedroom 2	99%	Yes
BA-04-06	LKD	98%	Yes
BA-04-06	Bedroom	99%	Yes
BA-04-07	LKD	98%	Yes
BA-04-07	Bedroom	99%	Yes
BA-04-08	LKD	98%	Yes
BA-04-08	Bedroom 1	99%	Yes
BA-04-08	Bedroom 2	99%	Yes
BA-04-09	LKD	97%	Yes
BA-04-09	Bedroom	98%	Yes
BA-04-10	LKD	98%	Yes
BA-04-10	Bedroom 1	99%	Yes
BA-04-10	Bedroom 2	100%	Yes
BA-04-11	LKD	98%	Yes
BA-04-11	Bedroom 1	99%	Yes
BA-04-11	Bedroom 2	98%	Yes
BA-04-12	LKD	98%	Yes
BA-04-12	Bedroom 1	99%	Yes
BA-04-12	Bedroom 2	100%	Yes
BA-05-01	LKD	99%	Yes
BA-05-01	Bedroom 1	100%	Yes
BA-05-01	Bedroom 2	97%	Yes
BA-05-02	LKD	98%	Yes
BA-05-02	Bedroom	99%	Yes
BA-05-03	LKD	98%	Yes
BA-05-03	Bedroom 1	99%	Yes
BA-05-03	Bedroom 2	99%	Yes
BA-05-04	LKD	97%	Yes
BA-05-04	Bedroom	98%	Yes
BA-05-05	LKD	98%	Yes
BA-05-05	Bedroom 1	99%	Yes
BA-05-05	Bedroom 2	100%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

For floor plans of the assessed units please refer to section A.1 on page 25.

C.2.2 Supplementary NSL Results: Block B

Table No. C.2.2 - Supplementary NSL Results: Block B			
Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BB-00-01	LKD	85%	Yes
BB-00-01	Bedroom	87%	Yes
BB-00-02	LKD	61%	No
BB-00-02	Bedroom	66%	No
BB-00-03	LKD	55%	No
BB-00-03	Bedroom	61%	No
BB-00-04	LKD	93%	Yes
BB-00-04	Bedroom 1	98%	Yes
BB-00-04	Bedroom 2	99%	Yes
BB-00-05	LKD	98%	Yes
BB-00-05	Bedroom	99%	Yes
BB-00-06	LKD	98%	Yes
BB-00-06	Bedroom	99%	Yes
BB-00-07	LKD	94%	Yes
BB-00-07	Bedroom 1	100%	Yes
BB-00-07	Bedroom 2	99%	Yes
BB-00-08	LKD	95%	Yes
BB-00-08	Bedroom	98%	Yes
BB-00-09	LKD	96%	Yes
BB-00-09	Bedroom 1	96%	Yes
BB-00-09	Bedroom 2	100%	Yes
BB-00-10	LKD	97%	Yes
BB-00-10	Bedroom	96%	Yes
BB-01-01	LKD	85%	Yes
BB-01-01	Bedroom	96%	Yes
BB-01-02	LKD	64%	No
BB-01-02	Bedroom	78%	No
BB-01-03	LKD	57%	No
BB-01-03	Bedroom	62%	No
BB-01-04	LKD	93%	Yes
BB-01-04	Bedroom 1	99%	Yes
BB-01-04	Bedroom 2	99%	Yes
BB-01-05	LKD	98%	Yes
BB-01-05	Bedroom	99%	Yes
BB-01-06	LKD	97%	Yes
BB-01-06	Bedroom	99%	Yes
BB-01-07	LKD	98%	Yes
BB-01-07	Bedroom 1	98%	Yes
BB-01-07	Bedroom 2	99%	Yes
BB-01-08	LKD	97%	Yes
BB-01-08	Bedroom	98%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."
For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.2 - Supplementary NSL Results: Block B

Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BB-01-09	LKD	97%	Yes
BB-01-09	Bedroom 1	96%	Yes
BB-01-09	Bedroom 2	99%	Yes
BB-01-10	LKD	97%	Yes
BB-01-10	Bedroom 1	92%	Yes
BB-01-10	Bedroom 2	83%	Yes
BB-02-01	LKD	93%	Yes
BB-02-01	Bedroom	99%	Yes
BB-02-02	LKD	88%	Yes
BB-02-02	Bedroom	84%	Yes
BB-02-03	LKD	69%	No
BB-02-03	Bedroom	69%	No
BB-02-04	LKD	93%	Yes
BB-02-04	Bedroom 1	99%	Yes
BB-02-04	Bedroom 2	99%	Yes
BB-02-05	LKD	97%	Yes
BB-02-05	Bedroom	99%	Yes
BB-02-06	LKD	97%	Yes
BB-02-06	Bedroom	99%	Yes
BB-02-07	LKD	98%	Yes
BB-02-07	Bedroom 1	98%	Yes
BB-02-07	Bedroom 2	99%	Yes
BB-02-08	LKD	97%	Yes
BB-02-08	Bedroom	98%	Yes
BB-02-09	LKD	97%	Yes
BB-02-09	Bedroom 1	97%	Yes
BB-02-09	Bedroom 2	100%	Yes
BB-02-10	LKD	97%	Yes
BB-02-10	Bedroom 1	94%	Yes
BB-02-10	Bedroom 2	84%	Yes
BB-03-01	LKD	96%	Yes
BB-03-01	Bedroom	99%	Yes
BB-03-02	LKD	94%	Yes
BB-03-02	Bedroom	92%	Yes
BB-03-03	LKD	72%	No
BB-03-03	Bedroom	82%	Yes
BB-03-04	LKD	93%	Yes
BB-03-04	Bedroom 1	99%	Yes
BB-03-04	Bedroom 2	100%	Yes
BB-03-05	LKD	97%	Yes
BB-03-05	Bedroom	99%	Yes
BB-03-06	LKD	97%	Yes
BB-03-06	Bedroom	99%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.2 - Supplementary NSL Results: Block B

Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BB-03-07	LKD	98%	Yes
BB-03-07	Bedroom 1	98%	Yes
BB-03-07	Bedroom 2	99%	Yes
BB-03-08	LKD	97%	Yes
BB-03-08	Bedroom	98%	Yes
BB-03-09	LKD	97%	Yes
BB-03-09	Bedroom 1	99%	Yes
BB-03-09	Bedroom 2	100%	Yes
BB-03-10	LKD	97%	Yes
BB-03-10	Bedroom 1	97%	Yes
BB-03-10	Bedroom 2	86%	Yes
BB-04-01	LKD	98%	Yes
BB-04-01	Bedroom	99%	Yes
BB-04-02	LKD	95%	Yes
BB-04-02	Bedroom	99%	Yes
BB-04-03	LKD	87%	Yes
BB-04-03	Bedroom	99%	Yes
BB-04-04	LKD	93%	Yes
BB-04-04	Bedroom 1	99%	Yes
BB-04-04	Bedroom 2	100%	Yes
BB-04-05	LKD	97%	Yes
BB-04-05	Bedroom	99%	Yes
BB-04-06	LKD	97%	Yes
BB-04-06	Bedroom	99%	Yes
BB-04-07	LKD	98%	Yes
BB-04-07	Bedroom 1	98%	Yes
BB-04-07	Bedroom 2	99%	Yes
BB-04-08	LKD	97%	Yes
BB-04-08	Bedroom	98%	Yes
BB-04-09	LKD	98%	Yes
BB-04-09	Bedroom 1	99%	Yes
BB-04-09	Bedroom 2	100%	Yes
BB-04-10	LKD	98%	Yes
BB-04-10	Bedroom 1	98%	Yes
BB-04-10	Bedroom 2	92%	Yes
BB-05-01	LKD	98%	Yes
BB-05-01	Bedroom	99%	Yes
BB-05-02	LKD	98%	Yes
BB-05-02	Bedroom	99%	Yes
BB-05-03	LKD	94%	Yes
BB-05-03	Bedroom 1	100%	Yes
BB-05-03	Bedroom 2	99%	Yes

* Whilst the BRE Guidelines do not provide target values for NSL in a proposed development, it states that "Supplementary electric lighting will be needed if a significant part of the working plane (20% of the room or more) lies beyond the no sky line."

For floor plans of the assessed units please refer to section A.1 on page 25.

Table No. C.2.2 - Supplementary NSL Results: Block B			
Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BB-05-04	LKD	98%	Yes
BB-05-04	Bedroom	99%	Yes
BB-05-05	LKD	97%	Yes
BB-05-05	Bedroom	100%	Yes
BB-05-06	LKD	99%	Yes
BB-05-06	Bedroom 1	100%	Yes
BB-05-06	Bedroom 2	97%	Yes

C.2.3 Supplementary NSL Results: Block C

Table No. C.2.3 - Supplementary NSL Results: Block C			
Unit Number	Room Description	No Sky Line (NSL)	
		% of room where the sky is visible from the working plane	Above 80%*
BC-00-01	LKD	66%	No
BC-00-01	Bedroom 1	100%	Yes
BC-00-01	Bedroom 2	95%	Yes
BC-00-02	LKD	47%	No
BC-00-02	Bedroom 1	100%	Yes
BC-00-02	Bedroom 2	95%	Yes
BC-00-03	LKD	36%	No
BC-00-03	Bedroom 1	100%	Yes
BC-00-03	Bedroom 2	95%	Yes
BC-00-04	LKD	68%	No
BC-00-04	Bedroom 1	100%	Yes
BC-00-04	Bedroom 2	95%	Yes
BC-01-01	Kitchen	98%	Yes
BC-01-01	Living / Dining	97%	Yes
BC-01-01	Bedroom	72%	No
BC-01-02	Kitchen	98%	Yes
BC-01-02	Living / Dining	87%	Yes
BC-01-02	Bedroom	63%	No
BC-01-03	Kitchen	98%	Yes
BC-01-03	Living / Dining	83%	Yes
BC-01-03	Bedroom	67%	No
BC-01-04	Kitchen	98%	Yes
BC-01-04	Living / Dining	81%	Yes
BC-01-04	Bedroom	100%	Yes