Daylight & Sunlight Assessments of a Proposed Residential Development at Basin View Flats, Basin View, Dublin 8

Date: 4th October 2024

Prepared by John Healy
MSc Environmental Design of Buildings

1 Rathmines Road Upper, Dublin 6, D06 Y5P5 tel 01 4965340 email mail@digitaldimensions.ie
web digitaldimensions.ie Digital Dimensions Ltd trading as Digital Dimensions.

Contents:

1. Introduction

Notice is hereby given of the construction of 171 apartments at a site of c.1.64 ha at Basin Street Flats, Basin View, Dublin 8. The site is bounded by Basin Grove and St. James Primary School to the south; Luas light rail line and St. James' Hospital campus to the west, Basin Street Lower/Ewington Lane and Mary Aikenhead House Flats to the north and Basin View Street / Brandon Terrace to the east; which will consist of the following:

- The demolition of four existing Basin Street Flats residential blocks; Building 1 (nos. 20-43), Building 2 (nos. 44-67), Building 3 (nos. 68-91) and Building 4 (nos. 92-115), ancillary structures, boundary walls and railings and site clearance works and renovation of one existing Basin Street Flats block (Building 5 nos. 116-151);
- Construction of 171 no. apartment units in three apartment blocks (Block A, Block B and Block C) comprising 171 residential units (83 no. 1-bed, 71 no. 2-bed, 13 no. 3-bed and 4 no. 4 beds);
  - Block A ranges from 4- 8 storeys with 48 units (17 no. 1-bed, 28 no. 2-bed, 3 no. 3-bed)
  - Block B ranges from 4 -8 storeys with 81 units (28 no. 1-bed, 39 no. 2-bed, 10 no. 3-bed, 4 no. 4 bed)
  - Block C is 5 storeys (renovation block) with extension to western gable with 42 units (38 no. 1-bed, 4 no. 2-bed)
- 382 bicycle parking spaces;
- 55 car parking spaces, which includes provision of 51 residential and 4 non-residential car parking spaces (2 creche and 2 community, arts and cultural car parking spaces);
- Provision of a childcare facility of 294 sq.m. at ground floor of Block A;
- Provision of 1114 sq.m. community, cultural and arts space comprising 516 sq.m. internal space at ground floor of Block B and 598 sq.m. external space, which includes a 468 sq.m. amphitheatre and 130 sq.m. space located externally at Block B;
- Relocation of public open space to a new central area of 3767 sq.m. (in place of Oisin Kelly Park) and 2748 sq.m. of communal open space;
- Two vehicular access/ egress points are proposed from Brandon Terrace/ Basin View Street and from Basin Street Lower/ Ewington Lane;
- Existing bollards and line marking fronting Wee Tots Creche Pre-School and Fountain Youth Project at building 2A Basin Lane along Basin View/ Brandon Terrace to be removed and replaced with paving, extension of kerb and flexible bollards;
- Boundary treatments, landscaping and public realm works, public lighting, site drainage works, new internal road layout, traffic calming raised table and pedestrian crossing points, footpaths, ESB substation and meter rooms, stores, bin and cycle storage, plant rooms; and
- All ancillary site services and development works above and below ground.

1.1 Executive Summary

This report assesses the impact of the proposed development for Daylight and Sunlight on the neighbouring buildings and the quality of daylight and sunlight within the proposed development. This analysis is carried out based on the drawings of Coady Architects.

1.2 Assessment of Potential Impact to Daylight and Sunlight Availability on Adjacent Properties

1.2.1 Daylight to Adjacent Properties

The majority of the window the neighbouring residential properties retain a VSC level greater that 27% or if less that 27% VSC then they are not reduced below 80% of their existing value. There are a small number of windows that have a reduction below 27% VSC. The guidelines sets out alternative target VSC levels for these conditions and the majority of windows achieve the alternative target VSC levels. Any reduction in available daylight is in-line with emerging trends in the area and any impact will be negligible.

In considering the acceptability of the results / level of impact, it must be acknowledged that the proposed development is located on a small infill site where it would be impossible to avoid a level of perceptible impact on neighbouring properties, without severely limiting the height of development on the application site, and prejudicing the possibility and viability of its redevelopment.

It is important to recognise that the guideline targets published by the BRE are intended to be employed with a degree of discretion and flexibility. The flexibility available in the BRE guide is outlined in the introductory section as follows:

> *"The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical targets these should be interpreted flexibly because natural lighting is only one of many factors in site layout design."*

The impact on the VSC levels is in-line with developments in urban locations and the Sustainable and Compact Settlements: Guidelines for Planning Authorities (2024) recommends flexibility when interpreting results.

1.2.2 Sunlight to Adjacent Properties

There will be minimal reduction to the available sunlight to the neighbouring properties and any impact will be minor to imperceptible.

There will be no reduction to sunlight to existing adjacent private amenity spaces and are any perceived reduction will be negligible.

1.3 Assessment of the Quality of Daylight and Sunlight within the Proposed Development

The apartments were designed in line with the recommendations of the BRE guidelines. Numerous rounds of design iterations were conducted to improve the daylight and sunlight within in the proposed development. The guidelines clearly state that the they are recommendations only and flexibility is required when setting and interpreting the targets.

BR209:2022 recommends assessment methods set out in BS EN 17037 for daylight provision. BS EN 17037 contains a National Annex (NA1) which sets out minimum daylight levels to be achieved in the UK and channel Islands. Ireland has a similar latitude and climate to the UK. The National Annex in BS EN 17037 states that the target values set out in Table A1 may be hard to achieve in the UK and as a result sets alternative minimum values for rooms to dwellings. The minimum illuminance levels set out in BS EN17037:2018+A1:2021 are: Kitchens and living spaces containing a kitchen 200lux (1.3%DF). Living rooms 150lux (1%DF) and bedrooms 100lux (DF0.7%).

There are existing mature trees to the south of the site, within the vicinity of Block C, the Basin View block that is being retrofitted. These trees were included in daylight and sunlight assessments.

1.3.1 Assessment of Daylight in Accordance with BR209:2022 and BS EN 17037:2018+A1:2021

100% of the Living, Dining, Kitchen and Bedroom spaces within the proposed development achieve the target values set out in BS EN 17037:2018+A1:2021 section NA1. These are the minimum values, per specified use, to be achieved in habitable rooms and meets the recommendations of the BRE guidelines.

1.3.2 Sunlight within the Proposed Development

This scheme is well designed for sunlight, with 74.9% of units meeting the minimum recommended 1.5 direct sunlight hours. This is in line with the BRE guidelines example for an apartment layout where 4 in 5 achieves the target sunlight hours.

All public and communal amenity areas meet and exceed the recommendations of the BRE guidelines, achieving sunlight levels that exceed 2 hours sunlight over 50% of the amenity space on the 21st March.

1.4 Supplementary Information - Assessment of Daylight in Accordance with IS EN 17037:2018

EN 17037:2018 sets out values for target illuminance, minimum target illuminance and fractions of reference plane to be achieved. The target and minimum target levels set out in EN17037:2018 are for any type of building; they do not take into account room use or make allowance for rooms that have a lesser requirement for daylight. The results indicate a high level of compliance with Daylight Provision as per IS / BS EN 17037:2018. With the retained trees south of Block C included in the assessment model, 97.8% of habitable rooms meet the Minimum Level and 86.8% meet the Target Level. Appendix B identifies any rooms which do not achieve minimum illuminance and /or target illuminance levels.

Apartment guidelines and local authorities guidelines refer to BR209 2022: “Site layout planning for daylight and sunlight” (Third edition) which in turn references BS EN 17037. BS EN17037:2018+A1:2021 is the same as IS EN 17037:2018 with the addition of a National Annex (NA1) and the annex specifically refers to and sets room specific values for dwellings in the UK and Channel Islands.

Appendix 16- Sunlight and Daylight of the Dublin City Development Plan 2022-2028 gives guidance on the two daylight provision metrics as follows:
Section 3.3 BS EN 17037:2018 – Daylight in Buildings states that:*“The minimum daylight provision targets given within the national annex have relevance.”*
Section 3.4 IS EN 17037:2018 – Daylight in Buildings states that due to the lack of localisation and provision for specific guidance on individual room use that: *“These limitations make it unsuitable for use in planning policy or during planning applications. BR 209 must still be used for this purpose.“*

1.5 Conclusions

Overall the design team worked in response to the context to ensure the proposed development performed with regards to achieving the best possible daylight and sunlight quality. All apartments meet the minimum standard for daylight provision as per BS EN 17037:2018+A1:2021 as referred to in the BRE guidelines BR209:2022 (third edition). The majority of the apartment units achieve daylight provision as set out in IS EN 17038:2018.

Also of note 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 (sic). This may arise due to design constraints 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."*

Furthermore Section 3.2 of the Urban Development and Building Heights: Guidelines for Planning Authorities (2018) states the following:

> *"Where a proposal may not be able to fully meet all 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, in respect of which the planning authority or An Bord Pleanála should apply their discretion, having regard to local factors including specific site constraints 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."*

It is our opinion that all the rooms within the proposed development achieve the minimum target daylight levels set out in BS EN 17037:2018+A1:2021 as referred to in The BRE guidelines BR209:2022 (third edition) and no compensatory measures are required.

2. Methodology

2.1 Standards and Guidelines

Ministerial guidance is provided in Sustainable and Compact Settlements: Guidelines for Planning Authorities (2024) Section 5.3.7(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."*

This is accordance with Section 6.6 of the Sustainable Urban Housing: Design Standards for New Apartments (2023), and Section 3.2 of the Urban Development and Building Heights Guidelines for Planning Authorities (2018).

The Daylight and Sunlight assessments included in this report demonstrates the level of compliance with these three documents:

- BR209:2022 Site Layout Planning for Daylight and Sunlight (3rd edition), also referred to as the BRE guidelines.
- BS EN 17037:2018+A1:2021 Daylight in Buildings, also referred to as the UK Annex.
- IS EN 17037:2018 Daylight in Buildings.

As Appendix 16- Sunlight and Daylight of the Dublin City Development Plan 2022-28 references the BR209:2011 Site Layout Planning for Daylight and Sunlight (2nd edition), it is considered that the guidance in the Development Plan has been superseded by BR209:2022 and therefore it is not necessary to assess the scheme against the recommendations in Appendix 16 also.

2.2 BRE Guidance Document BR209:2022 - Site Layout Planning for Daylight and Sunlight (3rd edition).

The BRE guidelines (2022) state at the outset that "It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location." The recommendations of the BRE guidelines (2022) are not suitable for rigid application to all developments in all contexts and this is of particular importance in the context of national and local policies for the consolidation and densification of urban areas.

BR209 2022 sets out the assessment metrics to be applied when assessing the potential impact of a development on the daylight and sunlight of neighbouring properties. The metrics for assessing impact to adjacent buildings in the areas of Daylight is the Vertical Sky Component (VSC) and Sunlight is the Annual Probable Sunlight Hours (APSH). Sunlight to adjacent amenity space is assessed through the measurement of sunlight availability on the 21st March and the plotting of shadow diagrams.

The BRE guidelines (2022) recommend the use of BS EN 17037:2018 for assessing the quality of interior spaces in proposed developments. BS EN 17037 sets out assessment methods for daylight provision and access to sunlight. It states that "The guidance here is intended for use in the United Kingdom and in the Republic of Ireland, though recommendations in the Irish Standard IS EN 17037 may vary from those in BS EN17037."

EN 17037 is a unified daylighting standard published by the European Committee for Standardization (CEN) in 2018. It is applicable across all countries within the EU including Ireland with the Irish edition IS EN17037:2018. The standard is enacted in Britain under BS EN 17037:2018+A1:2021 with a UK National Annex for regional assessments. The daylight and sunlight assessment methods for internal daylight and sunlight provision are common to both the Irish Standard Version and the UK version.

The UK National Annex (NA) provides further recommendations for daylight provision in the UK and Channel Islands. NA.1 states that the UK committee supports the recommendations for daylight in buildings given in BS EN17037:2018. The annex states that the daylight target levels in Clause A.2 may be hard to achieve in buildings in the UK and in particular dwellings in urban areas with significant obstructions or tall trees outside. NA.2 sets out minimum daylight provision to be achieved in UK dwellings.

The UK National Annex A1 sets out room specific minimum values to be achieved in the UK and Channel Islands. All the rooms achieve the minimum DF factor levels set out in A1 for Bedrooms (DF0.7%), Living Rooms (1%DF) and Kitchens and Living Spaces containing a Kitchen(1.3%). The Daylight Factor percentage values are derived from minimum room specific illiminance levels set out in NA+1 and the Median External Diffuse Illuminance ($E_{v,d,med}$) for Dublin from Table A.3 EN17037:2018. The illuminance levels and corresponding DF% are given in Table 5 below.

2.3 Daylight to Existing Dwellings

BRE guidance document (2022) "Site layout planning for daylight and sunlight" relates to daylight and sunlight to potential impact in neighbouring buildings. As set out above, this is broadly in line with the previous version of the BRE guidelines (2011). The metrics are the same for assessing impact in the areas of Daylight (VSC) and Sunlight (APSH) to adjacent buildings. Sunlight to adjacent amenity space is assessed through the measurement of sunlight availability on the 21st March.

A proposed development could potentially have a negative effect on the level of daylight that a neighbouring property receives, if the obstructing building is large in relation to it's distance from the existing dwelling. To ensure a neighbouring property is not adversely affected, the Vertical Sky Component (VSC) is calculated and assessed. VSC can be defined as the amount of skylight that falls on a vertical wall or window.

BRE guidelines (2022) recommend that; *"Loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window."*

The diffuse light of the existing building may be adversely affected if part of a new building measured in a vertical section perpendicular to the main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25º to the horizontal. If a window falls within a 45° angle both in plan and elevation with a new development in place then the window may be affected and should be assessed.

The guidelines sets out which rooms need to be assessed for daylight in Section 2.2;

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

For loss of daylight the BRE guidelines (2022) recommends calculation of the Vertical Sky Component. This is the ratio of direct sky illuminance falling on the outside window, to the simultaneous horizontal illuminance under an unobstructed sky. The standard CIE Overcast Sky is used and the ratio is usually expressed as a percentage. The maximum value is just under 40% for a completely unobstructed vertical wall. The Vertical Sky Component on a window is a good measure of the amount of daylight entering it.

The BRE guidelines (2022) recommend one of two criteria is met when assessing for the Vertical Sky Component;

a) Where the Vertical Sky Component at the centre of the existing window exceeds 27% with the new development in place then enough sky light should still be reached by the existing window.

b) Where the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the area lit by the window is likely to appear more gloomy, and electric light will be needed more of the time.

The BRE guidelines (2022) state that if the VSC is:

- At least 27%, then conventional window design will usually give reasonable results;
- Between 15% and 27%, then special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight;
- Between 5% and 15%, then it is very difficult to prove adequate daylight unless very large windows are used;
- Less than 5%, then it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed

This report assesses the percentage of direct sky illuminance that falls on the centre point of neighbouring windows that could be affected by the proposed development through the Vertical Sky Component (VSC) as per the methodologies contained in the BRE guidelines (2022).

2.4 Sunlight to Existing Buildings

The BRE guidelines (2022) recommend assessing the main living rooms and conservatories if they have a window wall facing within 90° of due south. Kitchens and bedrooms are less important but care should be taken not to block too much sun. If the proposed development is fully north of the existing window then sunlight need not be assessed.

The Annual Probable Sunlight Hours (APSH) is used to assess the quantity of sunlight for a given location. This is the total amount of sunshine for a given location on an unobstructed horizontal surface taking cloud cover into account. Statistical data from the Irish Meteorological Service is used to assess the APSH and the Winter Probable Sunlight Hours (taken to fall between the 21st of September and the 21st of March). Table 1 below shows the average sunlight hours for each month and the maximum possible without any cloud cover. This gives the factor of possible sunlight hours for each month.

Met Éireann Sunlight Hours Data Set 1991-2020													
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Average Sunlight Hours/ Day	1:54	2:54	3:42	5:24	6:24	6:00	5:17	5:00	4:24	3:24	2:24	1:42	
Average Sunlight Hours/ Month	58:54	81:12	114:42	162:00	198:24	180:00	163:47	155:00	132:00	105:24	72:00	52:42	1449.1
Total Available Sunlight Hours	252	265	358	412	483	485	496	451	375	320	250	236	4383
Probable Sunlight Hours Ratio	23.4%	30.6%	32.9%	39.3%	41.1%	37.1%	33.0%	34.4%	35.2%	32.9%	16.8%	22.3%	33.1%

Table 1: Average monthly sunlight hours recorded at Dublin Airport - Data set 1991-2020

The BRE guidelines (2022) recommend that the centre of a window or 1.6m above ground for a door be assessed and it should receive at least 25% of the APSH and it should receive at least 5% during the period of 21st September to 21st March. If the available APSH is less than this then it should not be reduced below 0.8 times its former value or noticeable loss of sunlight may occur.

2.5 Sunlight to Gardens and Open Spaces

For calculations of sunlight analysis it is general practice to use March 21st. The BRE guidelines (2022) states:

> *"It is recommended that for it 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 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March."*

2.6 Calculations of Trees & Hedges

Trees are not usually included in the assessments of impact on neighbouring properties, unless specified otherwise. In relation to the effects of trees and hedges the BRE guidelines (2022) states;

> *"It is generally more difficult to calculate the effects of trees on daylight because of their irregular shape and because some light will generally penetrate through the crown. Where the effects of a new building on existing buildings nearby is being analysed, it is usual to ignore the effects of existing trees. This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf."*

BR209:2022 recommends that sometimes trees should be taken into account for the proposed development where the new development is proposed near large existing trees. This needs to be done by modelling a representative of the existing trees. Reflectance and transparency should be taken into account. Table G1 in BR209:2022 gives values for transparencies of tree crowns in summer and winter for deciduous trees, dense evergreen can be assessed as opaque. Table G2 gives general reflectance values for shades of trees.

2.7 BRE Guidelines (2022) Appendix H: Environmental Impact Assessment

The BRE guidelines sets out criteria for classification for assessment of impact where a new development affects a number of existing buildings or open spaces in relation to an Environmental Impact Assessment. The guide does not give a specific range or percentages but sets out parameters as set out below.

> *"Where the loss of skylight or sunlight fully meets the guidelines in this book, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*
>
> *Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*
> - *only a small number of windows or limited area of open space are affected*
> - *the loss of light is only marginally outside the guidelines*
> - *an affected room has other sources of skylight or sunlight*
> - *the affected building or open space only has a low level requirement for skylight or sunlight*
> - *there are particular reasons why an alternative, less stringent, guideline should be applied.*
>
> *Factors tending towards a major adverse impact include:*
> - *a large number of windows or large area of open space are affected*
> - *the loss of light is substantially outside the guidelines*
> - *all the windows in a particular property are affected*
> - *the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground.*
>
> *Beneficial impacts occur when there is a significant increase 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. Beneficial impacts should be worked out using the same principles as adverse impacts. Thus a tiny increase in light would be classified as a negligible impact, not a minor beneficial impact."*

A flexible approach should be taken when assessing the impact with daylight and sunlight being one of many factors that influence the environment when planning a new development.

The BRE guidelines does not set out a specific value range for the different classification of impact level of Minor, Moderate and Major to each window. For the purpose of this report one of five classification levels will be applied:

1. Imperceptible: There is no reduction in the VSC levels or where the levels are 99% of the existing value.
2. Negligible: A reduction in the VSC level but it retains a VSC >27% or <27% but >80% of the existing value
3. Minor reduction: A reduction below <27%VSC and <65% of the existing value but greater than 20% VSC.
4. Moderate reduction: A reduction below <20%VSC and <50% of the existing value but greater than 10% VSC.
5. Major reduction: A reduction below <10%VSC and <30% of the existing value.

The evaluation of the impact should be considered in conjunction with other factors when determining the overall impact level to a property.

2.8 Daylight in the Proposed Development.

BR209 (2022) Appendix C sets out interior daylight recommendations. The guideline sets out the that; “BS EN 17037 supersedes BS8206 Part 2 ‘Code of practice for daylighting’ which contained a method of assessment based on Average Daylight Factor, which is now no longer recommended.

BS EN 17037:2018+A1 sets out two methods for assessing daylight provision in proposed buildings. One method is called the **Illuminance method.** This is based on Target illuminances for daylight to be achieved across specified fractions of a reference plane at working plane height (0.85m) for half the daylight hours in a year. The Illuminance Method requires the use of a suitable weather file with local climate conditions and takes into account the orientation of the space.

The alternative method is called the **Daylight Factor Method.** This method is based on calculating the daylight factors achieved over specific fractions of a reference plane. The Daylight factor is the illuminance at a point on a reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. This method uses an overcast sky for calculation and the assessment of the space is orientation independent. BS EN 17037 gives the Median External Diffuse Illuminance (Ev,d,med) for the capital cities throughout Europe to account for external local illuminance levels.

The UK National Annex (NA) sets out additional minimum room specific Target Daylight Factor values for the UK where the target values in A2 are hard to achieve. NA.2 sets out illuminance values to be exceeded over at least 50% of the points on a reference plane 0.85m above the floor for at least half the daylight hours. The UK committee formed the opinion that the Target Illuminance recommendations in Clause A.2 of BS EN 17037 may not be achievable for some buildings, particularly dwellings. The UK committee believes this could be the case for dwellings with basement rooms or those with significant external obstructions.

BR209 (2022) recommends surface reflectances should represent real conditions and where reflectance values have not been measured or specified default values are set out in Table C4 of the guidance document. The surface reflectances have been specified and are set out in Table 2 below. This table also shows the input values for material used and additional assessment model input parameters.

Input Values for Assessment Model			
Surface Reflectance			
Element	Reflectance	Transmittance	Material Description
Internal walls	80%	0%	White Painted Walls
Internal ceiling	80%	0%	White Painted Ceiling
Floor - light wood	40%	0%	Light wood Flooring
External walls - proposed development	50%	0%	Brick
External walls - outside site	50%	0%	CIBSE
External ground	20%	0%	CIBSE
Glass		68%	Triple glazed clear glass
Maintenance Factor for Glass		Assessment Plane	
Suburban Vertical no overhang	0.96	Sensor Grid spacing	0.3m
Suburban Vertical sheltered by balcony or overhang	0.88	Sensor grid inset	0.35m
Framing Factor: Patio Doors	0.77	Minimum inset	0.3m
		Work plane offset	0.85m

Table 2: Surface reflectance parameters and input values for model calculations

The EN17037:2018 Standard deals exclusively with new developments and does not give guidance or metrics on loss of light or sunlight to existing properties. EN 17037:2018 sets out values for Minimum and Target levels to be achieved with a minimum, medium and high compliance level for each. The guideline recommends that the minimum level should be achieved for both target levels but it does not give guidance on the number of units or fraction within a multiple residential unit development that

should achieve these values. Additionally it does not differentiate between room use and weighted targets for rooms which would have a lesser requirement. The UK National annex sets out factors for UK specific settings where it is difficult to achieve natural daylighting.

The compliance calculation is based on an annual, climate-based simulation of interior illuminance distributions. BR209 refers to this method as the Illuminance Method. For each hour of the year, the percentage of the floor area achieving minimum and target illuminance thresholds are measured on a room-by-room basis. Two target types are set with the following criteria:

- Target Illuminance: 300 lux over 50% of floor area for at least 50% of daylight hours.
- Minimum Illuminance: 100 lux over 95% of floor area for at least 50% of daylight hours.

BS EN 17037 gives three levels of recommendation for daylight provision in an interior space: Minimum, Medium and High. BR209:2022 Section C3 recommends for compliance with the standard, a space should achieve the Minimum level.

Daylight hours are defined as the 4380 hours with the most diffuse horizontal illuminance in the weather file. In addition to this baseline (Minimum) requirement, rooms can achieve Medium and High levels of compliance by meeting higher illuminance thresholds, as outlined in the table below:

Target Illuminance from Daylight over at least half the daylight hours		
Level of recommendation	Target illuminance E_T(lx) for half of the assessment grid	Minimum illuminance E_{TM}(lx) for 95% of the assessment grid
Minimum	300 lux	100 lux
Medium	500 lux	300 lux
High	750 lux	500 lux

Table 3: IS / BS EN 17037:2018 Target Illuminance from Daylight over at least half the daylight hours.

Target Daylight Factor (D) for Dublin*		
Level of recommendation	Target daylight factor D for half of the assessment grid	Minimum daylight factor D for 95% of the assessment grid
Minimum	2%	0.7%
Medium	3.5%	2%
High	5%	3.5%

Table 4: IS / BS EN 17037:2018 Target Daylight Factor (D) for Dublin.

Target Minimum Daylight Factor (D) for Dublin* based UK National Annex		
Room Type	Target illuminance E_T(lx) for half of the assessment grid	Target daylight factor D from Table A.3 EN17037 $E_{v,d,med}$ for Dublin -14,900
Bedroom	100 lux	0.7%
Living Room	150 lux	1%
Kitchen	200 lux	1.3%

* EN17037 uses the latitude of the capital city of each European country to set individual values for daylight and sunlight metrics for use in setting the target levels to be achieved in a particular country.

Table 5: BS EN 17037:2018+A1:2021 Target Illuminance levels and Daylight Factor (D) for Dublin.

2.9 Sunlight within Proposed Developments

The BRE guidelines (2022) recommend that for large residential developments the overall sunlight potential can be initially assessed by counting the number of windows facing south, east and west and the aim should be to minimise the number of living rooms facing solely north, north-east or north-west unless there is some compensating factor such as an appealing view to the north. The guideline acknowledges that it may not be possible to have every living room facing within 90° of south in large developments, however, it recommends maximising the number of units with a southerly aspect.

The BRE guidelines (2022) state that BS EN 17037 should be used to assess for interior access to direct sunlight and that the assessment of APSH should no longer be used. BS EN 17037 sets recommendations for access to sunlight and notes three levels of achievement; Minimum, Medium and High. In dwellings at least one habitable room, preferably a living room, should achieve the Minimum of 1.5 direct hours on a specified date between 1st February and 21st March, with a cloudless sky. This assessment uses the 21st March. The guidelines recommend a time step of 5 minutes or less for the assessment interval. The Minimum level to achieve is 1.5, the Medium level is 3 hours and the High level is 4 hours direct sunlight.

3. Daylight in Neighbouring Buildings

3.1 Site Overview

This project involves the demolition of blocks 1 - 4 of Basin Street Flats, Basin View, Dublin 8 and the retrofit of block 5. The site is bounded by St James Primary School to the south, Luas light rail line and St. James' Hospital Campus to the west, Basin Street Lower / Ewington Lane and Mary Aikenhead House Flats to the north, Basin View Street / Brandon Terrace to the east and Basin Grove apartments to the south east.

Block 5 is to be retrofitted, with a new element to the west. There will be no perceptible change in the daylight and sunlight currently experienced in Basin Grove, to the east and St. James Primary School, to the south of Block 5.

Figure 1: Indicative view of the site, taken from Google Maps.

3.2 Preliminary Assessment of Adjoining Dwellings

The BRE guidelines BR209:2022 (third edition) recommend that loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. The zone of influence 3 times the height of the proposal is plotted in Figure 2 in yellow.

Section planes perpendicular to the window wall of the adjacent properties facing the proposed development are indicated in blue in Figure 2. The planes at locations A - D extend and if they intersect the proposed development, they are plotted in Figure 3 below.

The document also states that if part of a new building measured in a vertical section perpendicular to the main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25º to the horizontal, then the diffuse light of the existing building may be adversely affected. If a window falls within a 45° angle both in plan and elevation with a new development in place then the window may be affected and should be assessed.

Figure 2: Proposed site plan showing the zone of influence (3 times the height of the proposed building) and direction of the window wall of adjacent residential properties.

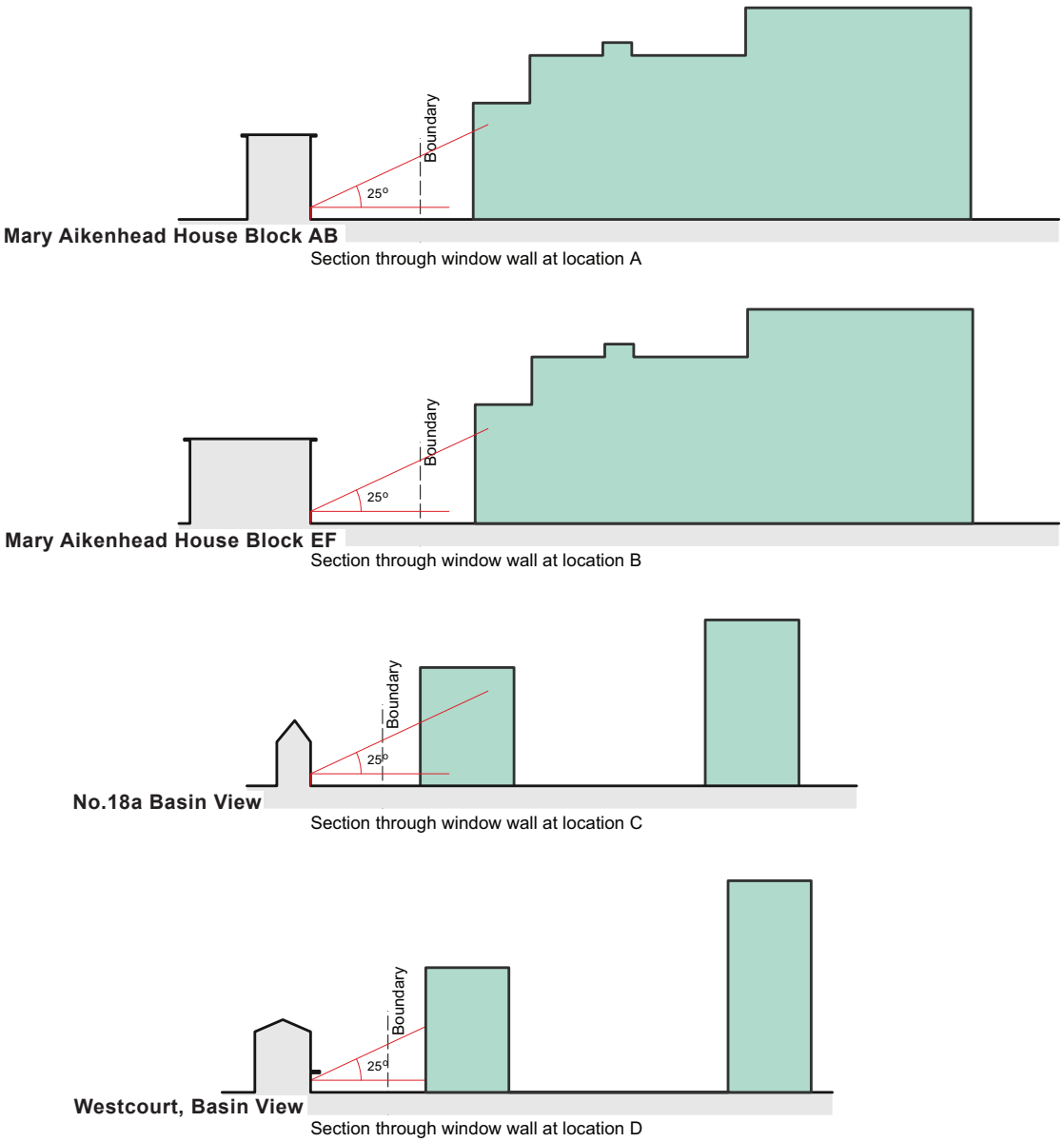


Figure 3: Section perpendicular to window wall at locations indicated in Figure 2.

3.3 Comment on preliminary assessment

Location A through Mary Aikenhead House, Block AB: The proposed development subtends the 25º angle and these windows will be assessed in detail.

Location B through Mary Aikenhead House, Block EF: The proposed development subtends the 25º angle and these windows will be assessed in detail.

Location C; No. 18a Basin View: The proposed development subtends the 25º angle and these windows will be assessed in detail.

Location D through Westcourt, Basin View: The proposed development subtends the 25º angle and these windows will be assessed in detail.

Windows along the elevations identified will be assessed in detail in Section 3.5.

3.4 Detailed Assessment to Adjoining Dwellings

The BRE guidelines BR209:2022 (third edition) recommend assessing the Vertical Sky Component (VSC) to adjacent properties, where the layouts are not known. Annual Probable Sunlight Hours (APSH) will also be assessed, where that is relevant.

If a window retains a VSC in excess of 27% with the proposed development in place then it will still receive enough daylight. If the existing VSC is below 27% or is reduced below 27% and below 0.8 times its former value then the diffuse light maybe adversely affected.

Test points representing windows in the adjacent dwellings at locations identified in the preliminary analysis are indicated in Figures 4 - 8. A summary of results are shown in Table 6, a schedule per window are shown in Tables 7 - 11 below. Ground floor windows in St. James Primary School were also assessed, the locations are shown in Figure 9 and the results shown in Table 12.

Summary results of assessment for Vertical Sky Component in residential properties					
Location	Total no. of windows assessed	Recommendation windows with VSC > 27%			
		Existing		Proposed	
	No.	No. meeting	% meeting	No. meeting	% meeting
Mary Aikenhead House Blocks AB	49	48	98.0%	41	88.5%
Mary Aikenhead House Blocks EF	65	62	95.4%	38	61.5%
St. James Ave & No.s 18 & 18a Basin View	19	16	84.2%	9	47.4%
Westcourt, Basin View	42	30	71.4%	22	52.4%
Overall Total	175	156	89.1%	110	62.9%

Table 6: Summary of Vertical sky component in residential properties

3.5 VSC Target for the Inner City Location

The BRE guidelines gives an advisory target VSC of 27% when assessing windows to adjacent dwellings. It states that; *"These targets are purely advisory and different targets may be used based on the special requirements of the proposed development or its location*." The site is located in the city centre and where there are buildings built directly on the boundary in a continuous form. The summary in Table 6 above shows that many windows do not meet the recommended value of 27% VSC in the existing scenario.

3.6 Mary Aikenhead House Block AB

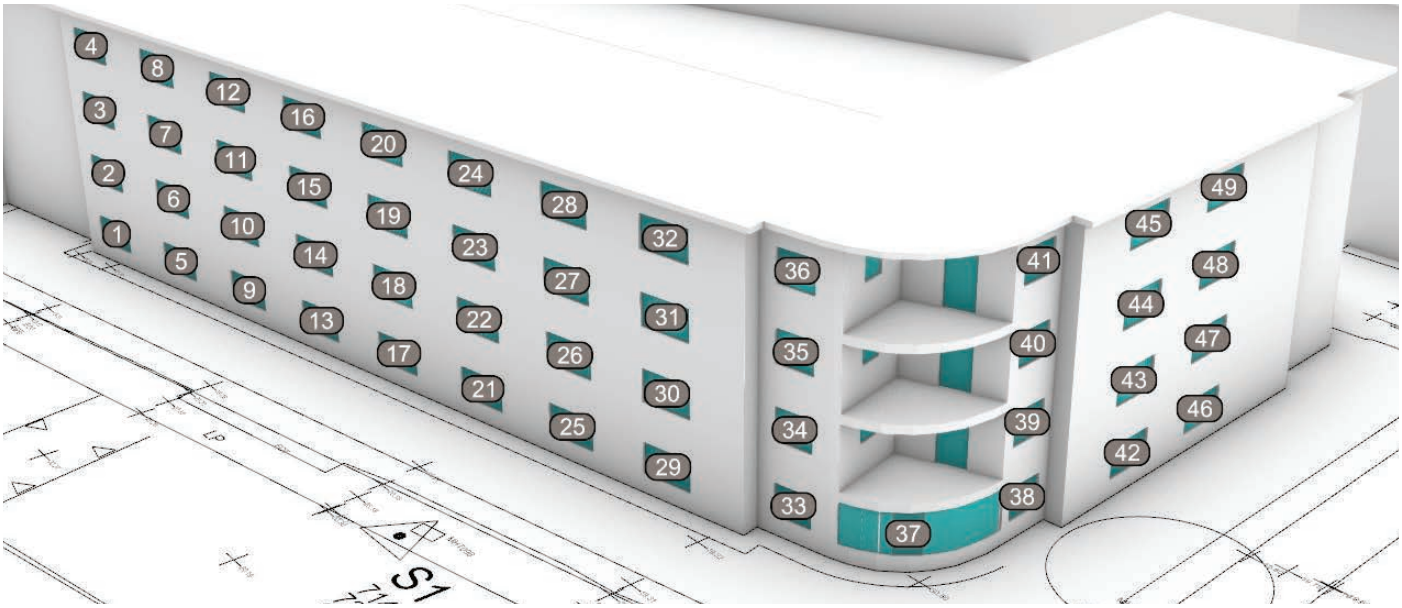


Figure 4: Mary Aikenhead House Block AB, View of model locating VSC & APSH test points.

Mary Aikenhead House Block AB - Vertical Sky Component					
Location ID	Vertical Sky Component Recommended Value > 27%		Ratio: Proposal to Existing Recommended > 80%	Meets criteria of >27% VSC Or <27% but >80% Existing Value	Comments
No	Existing	Proposed			
1	36.5	31.5	86.30%	Y	Negligible
2	37.1	33.1	89.10%	Y	Negligible
3	37	33.9	91.50%	Y	Negligible

Mary Aikenhead House Block AB - Vertical Sky Component					
4	31.5	29	92.10%	Y	Negligible
5	36.4	30.7	84.20%	Y	Negligible
6	37	32.3	87.40%	Y	Negligible
7	36.8	33.3	90.30%	Y	Negligible
8	31.3	28.5	91.10%	Y	Negligible
9	36.3	29.7	81.80%	Y	Negligible
10	36.9	31.5	85.30%	Y	Negligible
11	36.8	32.6	88.60%	Y	Negligible
12	31.2	28	89.70%	Y	Negligible
13	36.3	28.6	78.80%	Y	Negligible
14	36.9	30.5	82.60%	Y	Negligible
15	36.8	31.7	86.40%	Y	Negligible
16	31.2	27.4	87.70%	Y	Negligible
17	36.2	27.3	75.30%	Y	Negligible
18	36.8	29.3	79.60%	Y	Negligible
19	36.7	30.7	83.70%	Y	Negligible
20	31.2	26.6	85.20%	Y	Negligible
21	36.1	26.1	72.20%	N	Minor reduction
22	36.7	28.3	77.00%	Y	Negligible
23	36.6	29.8	81.50%	Y	Negligible
24	31.1	25.9	83.30%	Y	Negligible
25	36	25.2	70.10%	N	Minor reduction
26	36.6	27.4	74.80%	Y	Negligible
27	36.6	29.1	79.60%	Y	Negligible
28	31.1	25.4	81.60%	Y	Negligible
29	35.8	24.7	69.00%	N	Minor reduction
30	36.5	26.9	73.80%	N	Minor reduction
31	36.6	28.6	78.10%	Y	Negligible
32	31.1	24.9	80.00%	Y	Negligible
33	33.6	23.2	69.10%	N	Minor reduction
34	34.2	25.1	73.50%	N	Minor reduction
35	34.2	26.6	77.90%	N	Minor reduction
36	28	22	78.60%	N	Minor reduction
37	34.8	27.4	78.70%	Y	Negligible
38	30.6	27.8	90.90%	Y	Negligible
39	32	29.5	92.30%	Y	Negligible
40	32.7	30.5	93.50%	Y	Negligible
41	26.1	24.4	93.40%	Y	Negligible
42	33.6	31.2	92.90%	Y	Negligible
43	35.1	33	94.20%	Y	Negligible
44	35.9	34.2	95.30%	Y	Negligible
45	30.3	28.9	95.40%	Y	Negligible
46	33.9	31.9	94.20%	Y	Negligible
47	35.3	33.6	95.10%	Y	Negligible
48	36	34.6	96.10%	Y	Negligible
49	30.4	29.2	96.20%	Y	Negligible

Table 7: Vertical sky component for windows, Mary Aikenhead House Block AB

3.6.1 Conclusion of potential impact Mary Aikenhead House Block A - B

There is a minor to some of the windows to Mary Aikenhead House Block AB. These apartments currently face open space and have an unobstructed access to the sky. All the windows retain a VSC in excess of 17% which is in line with and above expectation VSC levels for an inner city location.

3.7 Mary Aikenhead House Block E - F

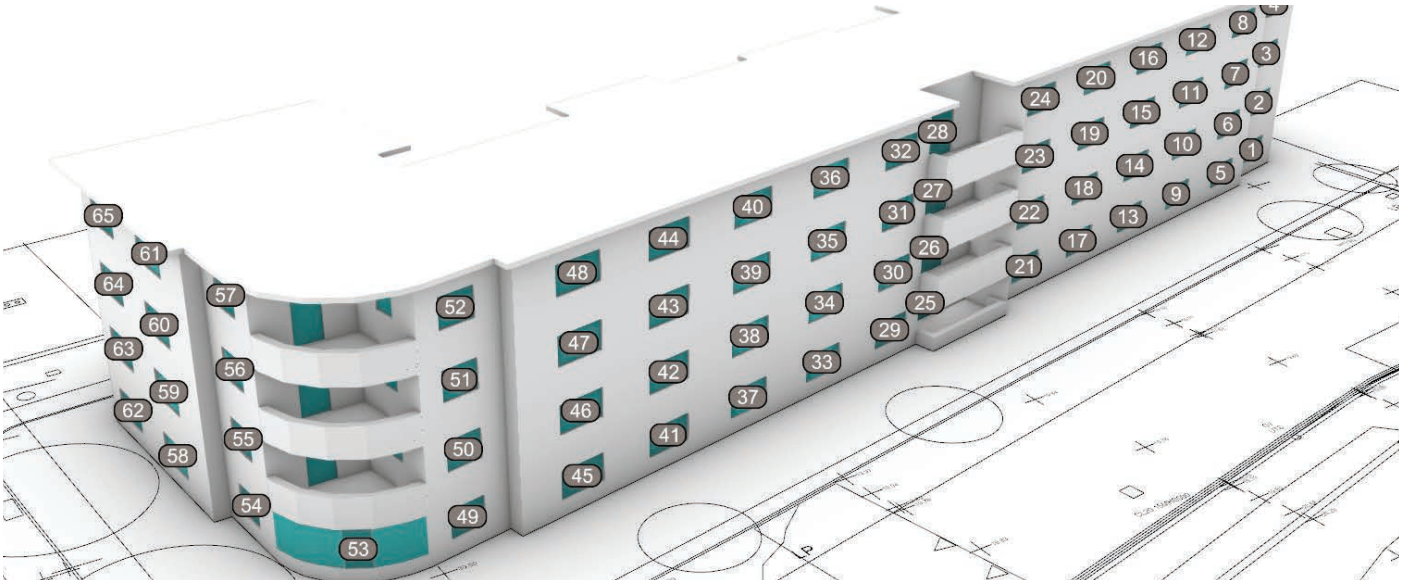


Figure 5: Mary Aikenhead House Block E - F - View of model locating VSC & APSH test points.

Mary Aikenhead House Block EF -Vertical Sky Component					
Location ID	Vertical Sky Component Recommended Value > 27%		Ratio: Proposal to Existing Recommended > 80%	Meets criteria of >27% VSC Or <27% but >80% Existing Value	Comments
No	Existing	Proposed			
1	34.4	29.7	86.30%	Y	Negligible
2	35.4	31.6	89.10%	Y	Negligible
3	35.7	32.7	91.50%	Y	Negligible
4	30.3	28.1	92.80%	Y	Negligible
5	35.4	29.5	83.30%	Y	Negligible
6	36.4	31.5	86.60%	Y	Negligible
7	36.8	33	89.70%	Y	Negligible
8	31.8	29	91.30%	Y	Negligible
9	35.4	28.3	80.00%	Y	Negligible
10	36.3	30.4	83.80%	Y	Negligible
11	36.6	32	87.50%	Y	Negligible
12	31.5	28.1	89.40%	Y	Negligible
13	35.3	26.3	74.40%	N	Minor reduction
14	36.3	28.7	79.20%	Y	Negligible
15	36.5	30.6	83.90%	Y	Negligible
16	31.3	27	86.40%	Y	Negligible
17	35.1	24.7	70.20%	N	Minor reduction
18	36.1	27.3	75.70%	Y	Negligible
19	36.4	29.5	81.00%	Y	Negligible
20	31	26.1	84.00%	Y	Negligible
21	33.8	22.6	66.80%	N	Minor reduction
22	34.8	25.3	72.60%	N	Minor reduction
23	35.3	27.8	78.60%	Y	Negligible
24	30.4	24.9	81.90%	Y	Negligible
25	8.9	0.6	6.80%	N	Major reduction
26	9.7	0.8	8.50%	N	Major reduction
27	10.5	2.8	26.70%	N	Major reduction
28	31.2	25.5	81.50%	Y	Negligible
29	33.3	20.7	62.10%	N	Minor reduction
30	34.2	23.5	68.80%	N	Minor reduction
31	34.9	26.3	75.40%	N	Major reduction
32	31.1	24.8	79.60%	N	Minor reduction
33	35	22.2	63.40%	N	Minor reduction

Mary Aikenhead House Block EF -Vertical Sky Component					
34	36	25	69.60%	N	Minor reduction
35	36.2	27.4	75.80%	Y	Negligible
36	31	24.4	78.70%	N	Minor reduction
37	35.1	22.2	63.30%	N	Minor reduction
38	36	25	69.40%	N	Minor reduction
39	36.2	27.3	75.30%	Y	Minor reduction
40	30.9	24.2	78.10%	N	Minor reduction
41	35.1	22.3	63.70%	N	Minor reduction
42	36	25	69.50%	N	Minor reduction
43	36.2	27.2	75.20%	Y	Minor reduction
44	30.9	24	77.80%	N	Minor reduction
45	35.1	22.5	64.20%	N	Minor reduction
46	36	25	69.60%	N	Minor reduction
47	36.2	27.2	75.10%	Y	Negligible
48	30.9	23.9	77.30%	N	Minor reduction
49	33.8	22.3	66.00%	N	Minor reduction
50	34.5	24.5	71.00%	N	Minor reduction
51	34.7	26.2	75.70%	N	Minor reduction
52	28.9	22.3	76.90%	N	Minor reduction
53	34.9	27.6	78.90%	Y	Negligible
54	30.4	28.3	93.10%	Y	Negligible
55	32.3	30.6	94.50%	Y	Negligible
56	33.6	32.2	95.80%	Y	Negligible
57	28.2	27	96.00%	Y	Negligible
58	30.9	29.4	94.90%	Y	Negligible
59	33.3	32	95.90%	Y	Negligible
60	34.9	33.9	96.90%	Y	Negligible
61	30.1	29.3	97.20%	Y	Negligible
62	30.8	29.4	95.50%	Y	Negligible
63	33.2	32.1	96.70%	Y	Negligible
64	34.9	34	97.40%	Y	Negligible
65	30.1	29.4	97.70%	Y	Negligible

Table 8: Vertical sky component for windows

3.7.1 Conclusion of potential impact Mary Aikenhead House Block E - F

There is a minor to moderate reduction to some of the windows to Mary Aikenhead House Block EF. These apartments currently face open space and have an unobstructed access to the sky. All the windows retain a VSC in excess of 17% which is in line with and above expectation VSC levels for an inner city location. There will be a major reduction to the available access to 3 of the windows. These windows have an a balcony obstruction overhead and to the sides which is the main cause of a low VSC and not the proposed development.

3.8 No.s 1 - 12 Westcourt, Basin View

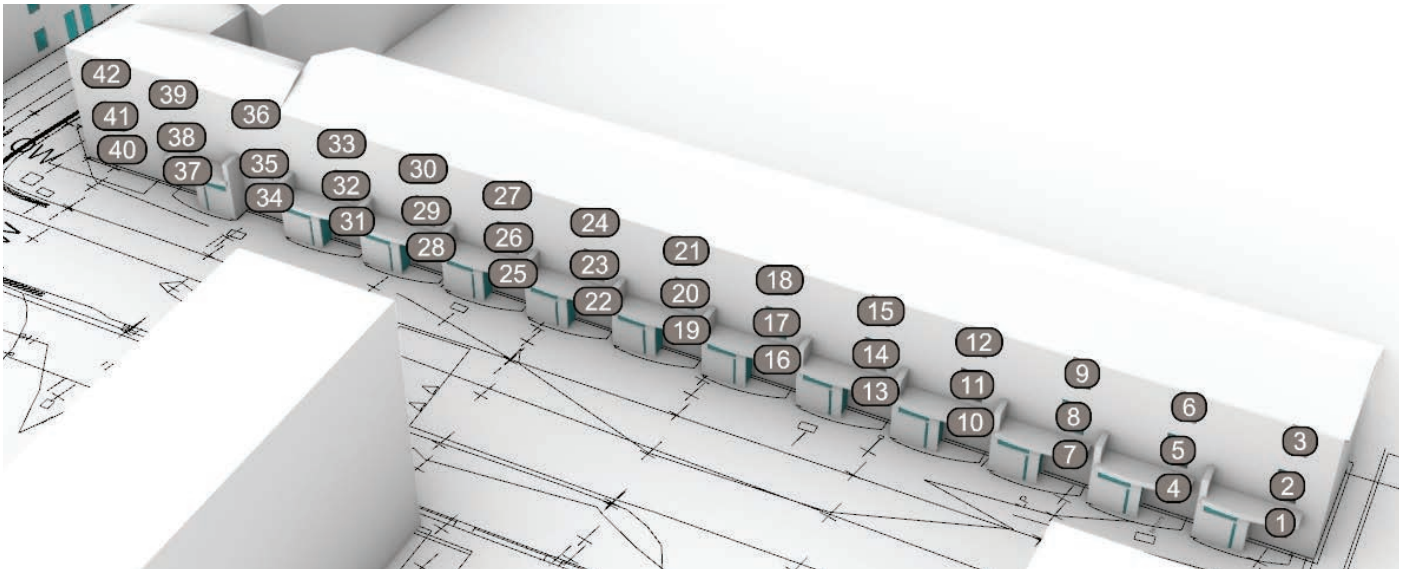


Figure 6: No.s 1 - 12 Westcourt, Basin View - View of model locating VSC & APSH test points.

Westcourt, Basin View - Vertical Sky Component					
Location ID	Vertical Sky Component Recommended Value > 27%		Ratio: Proposal to Existing Recommended > 80%	Meets criteria of >27% VSC Or <27% but >80% Existing Value	Comments
No	Existing	Proposed			
1	10.3	13.0	126.8%	Y	Negligible
2	31.1	33.1	106.6%	Y	Negligible
3	33.3	34.4	103.3%	Y	Negligible
4	7.5	10.7	142.4%	Y	Negligible
5	30.9	33.0	106.6%	Y	Negligible
6	33.1	34.2	103.3%	Y	Negligible
7	7.5	10.4	138.1%	Y	Negligible
8	31.2	32.6	104.6%	Y	Negligible
9	33.4	34.0	101.5%	Y	Negligible
10	7.9	10.1	127.3%	Y	Negligible
11	31.6	32.0	101.6%	Y	Negligible
12	33.7	33.4	99.3%	Y	Negligible
13	9.4	10.5	111.6%	Y	Negligible
14	31.9	31.3	98.1%	Y	Negligible
15	33.9	33.0	97.2%	Y	Negligible
16	9.0	9.7	107.6%	Y	Negligible
17	31.8	30.0	94.4%	Y	Negligible
18	33.9	32.0	94.3%	Y	Negligible
19	8.7	8.3	95.1%	Y	Negligible
20	31.7	28.4	89.6%	Y	Negligible
21	33.8	30.8	91.0%	Y	Negligible
22	8.5	5.7	66.6%	N	Minor reduction
23	31.8	25.5	80.0%	Y	Negligible
24	33.8	28.5	84.4%	Y	Negligible
25	7.8	2.7	35.3%	N	Moderate reduction
26	31.7	22.6	71.3%	N	Minor reduction
27	33.7	26.1	77.4%	N	Minor reduction
28	8.7	1.0	11.7%	N	Major reduction
29	32.4	21.1	65.0%	N	Minor reduction
30	34.2	24.9	72.7%	N	Minor reduction
31	9.1	0.0	0.1%	N	Major reduction
32	33.1	20.6	62.3%	N	Moderate reduction

Westcourt, Basin View - Vertical Sky Component					
33	34.6	24.5	70.9%	N	Minor reduction
34	27.1	12.6	46.4%	N	Moderate reduction
35	33.8	20.2	59.9%	N	Moderate reduction
36	34.8	24.5	70.3%	N	Minor reduction
37	19.6	4.6	23.4%	N	Major reduction
38	34.5	20.5	59.3%	N	Moderate reduction
39	35.8	24.9	69.3%	N	Minor reduction
40	33.8	17.4	51.5%	N	Moderate reduction
41	35.0	20.6	59.0%	N	Moderate reduction
42	36.2	25.1	69.3%	N	Minor reduction

Table 9: Vertical sky component for windows in Westcourt, Basin View

3.8.1 Conclusion of potential impact on No.s 1-12 Westcourt, Basin View

There is a minor to major reduction to some of the windows to Westcourt, Basin view. These houses currently face open space and the narrow gables to the flat complex which have a minimal obstruction and the houses currently have largely unobstructed access to the sky. The majority of the windows that will perceptive a reduction will have a minor to moderate reduction which is in line with emerging trends in the location and for VSC levels in an inner city location.

A small number of windows will perceive a major reduction. These windows are ground floor windows which have a side obstruction from the projecting entrance and an overhead obstruction from a balcony which is the main cause for the low availability of access to daylight. Any additional obstruction to a window with side and overhead obstruction no matter how modest can causes a disproportionate reduction in VSC levels.

3.9 Basin View and St. James Ave

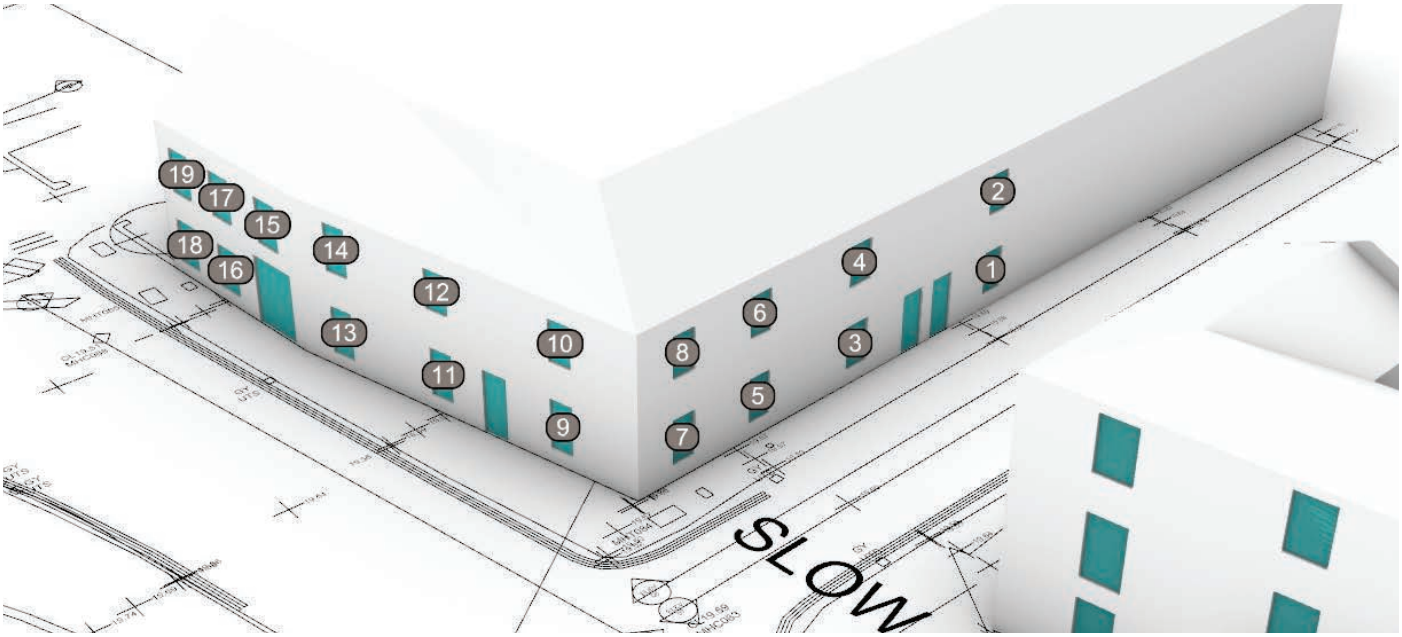


Figure 7: Basin View and St. James Ave - View of model locating VSC & APSH test points.

St. James Avenue, No.s 18 and 18a Basin View - Vertical Sky Component					
Location ID	Vertical Sky Component Recommended Value > 27%		Ratio: Proposal to Existing Recommended > 80%	Meets criteria of >27% VSC Or <27% but >80% Existing Value	Comments
No	Existing	Proposed			
St. James Ave					
1	23.5	22.4	95.40%	Y	Negligible
2	29.5	28.6	96.70%	Y	Negligible
3	24.3	21.9	89.80%	Y	Negligible
4	29.9	27.8	93.10%	Y	Negligible
5	26	22.2	85.40%	Y	Negligible
6	30.7	27.5	89.50%	Y	Negligible
7	28.3	23.5	83.00%	Y	Negligible
18 & 18 A Basin View					
9	34.4	16.6	48.3%	N	Moderate reduction
10	35.4	20.2	56.9%	N	Moderate reduction
11	34.4	17.4	50.8%	N	Moderate reduction
12	35.5	21.0	59.2%	N	Moderate reduction
13	34.2	18.8	54.9%	N	Moderate reduction
14	35.5	22.4	63.0%	N	Moderate reduction
15	35.2	24.4	69.4%	N	Minor reduction
16	33.6	23.4	69.6%	N	Minor reduction
17	35.0	26.2	75.0%	N	Minor reduction
18	33.2	24.7	74.3%	N	Minor reduction
19	34.7	27.4	79.0%	Y	Minor reduction

Table 10: Vertical sky component for windows to St. James Avenue, No.s 18 and 18a Basin View

3.9.1 Conclusion of potential impact St. James Avenue, No.s 18 and 18a Basin View

There is a minor to moderate reduction to some of the windows to 18 & 18A Basin view. These houses currently face open space and have an unobstructed access to the sky. All the windows retain a VSC in excess of 17% which is in line with and above expectation VSC levels for an inner city location.

3.10 St. James's Primary School

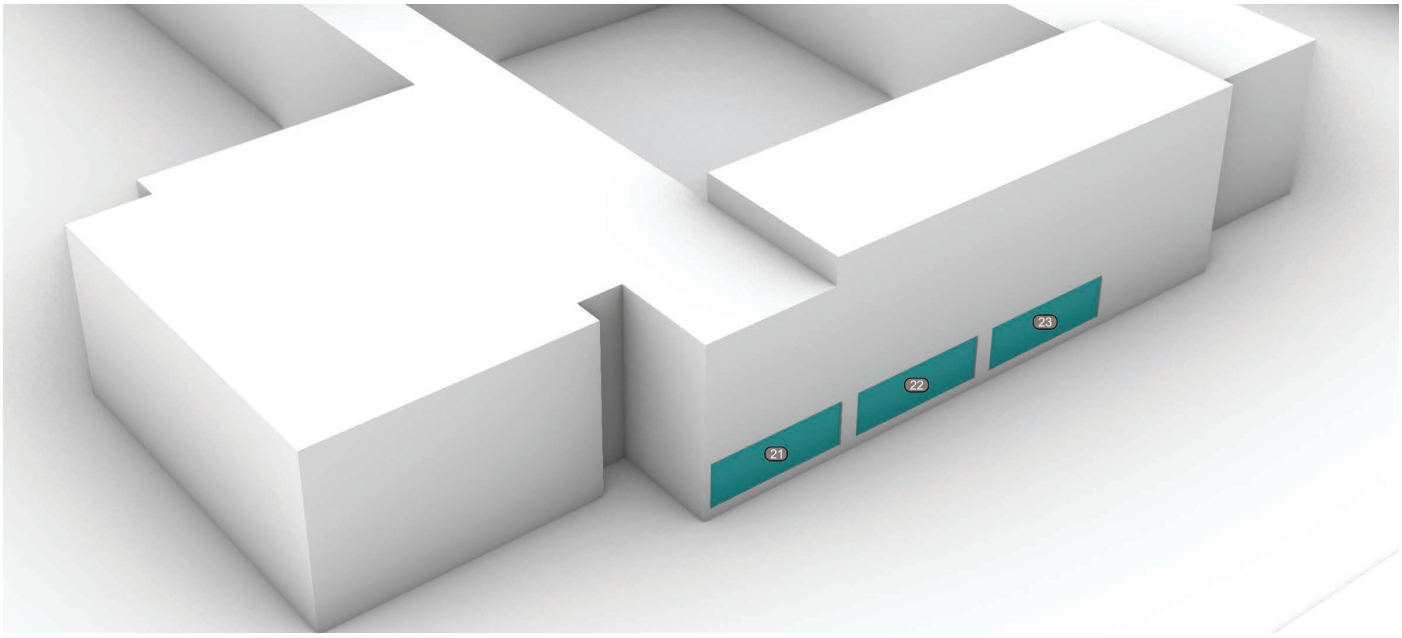


Figure 8: St. James's Primary School - View of model locating VSC test points.

St. James's Primary School - Vertical Sky Component					
Location ID	Vertical Sky Component Recommended Value > 27%		Ratio: Proposal to Existing Recommended > 80%	Meets criteria of >27% VSC Or <27% but >80% Existing Value	Comments
No	Existing	Proposed			
21	32.4	32.3	99.50%	Y	Negligible
22	32.2	31.8	98.90%	Y	Negligible
23	32.2	31.6	98.20%	Y	Negligible

Table 11: Vertical sky component for windows

3.10.1 Conclusion of potential impact to St. James's Primary School

All windows retain a VSC in excess of 27% or are not reduced below 80% of the existing VSC value and any potential loss of daylight light will be minimal. Any reduction in available daylight from the proposed development will be negligible and meets the recommendations of the BRE guidelines BR209:2022 (third edition).

4. Assessment of sunlight to adjoining properties

4.1 Sunlight the neighbouring dwellings (Annual Probable Sunlight Hours)

The BRE guidelines BR209:2022 (third edition) recommends assessing window walls for the APSH that face within 90º of due south. The guidelines state that;

> *" In housing the main requirement for sunlight is living rooms, where it is valued at any time of day, but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon."*

For a proposed development to have a noticeable impact on the annual Probable Sunlight Hours the value need to be reduced below the recommended 25% annual or 5% in the winter period from September to March. If the value is either below this to begin with or is reduced below this then it should not be reduced below 0.8 times its former value.

The windows identified in the preliminary assessment and indicated in Figures 4 - 8. A summary of results are shown in Table 16, schedules per window are shown in Tables 12 - 15 below.

Annual Probable Sunlight Hours, Mary Aikenhead House Blocks A-B

	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
1	78.7%	69.7%	88.6%	28.3%	21.9%	77.3%	Y	Y	Y	Y
2	79.6%	71.7%	90.1%	29.4%	23.3%	79.2%	Y	Y	Y	Y
3	79.9%	73.0%	91.4%	30.4%	24.8%	81.6%	Y	Y	Y	Y
4	71.5%	65.3%	91.3%	31.0%	25.9%	83.4%	Y	Y	Y	Y
5	78.2%	69.2%	88.5%	27.9%	21.5%	76.9%	Y	Y	Y	Y
6	79.9%	71.5%	89.6%	29.4%	22.9%	78.0%	Y	Y	Y	Y
7	78.7%	71.0%	90.2%	30.6%	24.3%	79.5%	Y	Y	Y	Y
8	70.1%	63.5%	90.5%	31.1%	25.6%	82.2%	Y	Y	Y	Y
9	77.8%	67.3%	86.5%	27.6%	20.0%	72.5%	Y	Y	Y	Y
10	78.9%	69.5%	88.1%	29.3%	21.9%	74.9%	Y	Y	Y	Y
11	78.9%	69.7%	88.3%	30.6%	23.1%	75.5%	Y	Y	Y	Y
12	70.2%	62.3%	88.7%	31.1%	24.5%	78.9%	Y	Y	Y	Y
13	77.3%	65.6%	84.8%	27.2%	18.6%	68.4%	Y	Y	Y	Y
14	79.1%	68.0%	86.0%	29.1%	20.5%	70.5%	Y	Y	Y	Y
15	78.3%	67.5%	86.3%	30.6%	21.8%	71.4%	Y	Y	Y	Y
16	70.3%	61.4%	87.3%	31.1%	23.7%	76.3%	Y	Y	Y	Y
17	77.0%	62.5%	81.2%	26.9%	16.0%	59.5%	Y	Y	Y	Y
18	78.7%	64.7%	82.3%	29.0%	18.1%	62.2%	Y	Y	Y	Y
19	78.2%	65.3%	83.4%	30.6%	20.0%	65.3%	Y	Y	Y	Y
20	70.4%	60.0%	85.3%	31.1%	22.5%	72.4%	Y	Y	Y	Y
21	77.1%	60.6%	78.6%	26.8%	14.1%	52.4%	Y	Y	Y	Y
22	78.6%	63.2%	80.5%	29.1%	16.9%	58.2%	Y	Y	Y	Y
23	78.3%	64.0%	81.8%	30.6%	18.9%	61.8%	Y	Y	Y	Y
24	70.4%	59.2%	84.1%	31.1%	21.8%	70.2%	Y	Y	Y	Y
25	76.1%	58.8%	77.3%	26.2%	12.7%	48.6%	Y	Y	Y	Y
26	78.6%	61.8%	78.6%	29.1%	15.7%	53.9%	Y	Y	Y	Y
27	79.4%	64.1%	80.7%	30.6%	18.0%	58.8%	Y	Y	Y	Y
28	70.5%	58.5%	83.0%	31.2%	21.3%	68.2%	Y	Y	Y	Y
29	76.1%	56.9%	74.7%	26.2%	11.3%	43.1%	Y	Y	Y	Y
30	78.7%	59.7%	75.8%	29.2%	13.8%	47.4%	Y	Y	Y	Y
31	79.5%	62.2%	78.3%	30.7%	16.5%	53.7%	Y	Y	Y	Y
32	71.2%	58.1%	81.5%	31.2%	20.2%	64.9%	Y	Y	Y	Y
33	65.2%	46.4%	71.1%	23.4%	8.7%	37.4%	Y	Y	Y	Y
34	68.9%	50.2%	72.9%	26.4%	11.3%	42.7%	Y	Y	Y	Y
35	70.7%	53.6%	75.9%	27.9%	13.9%	49.9%	Y	Y	Y	Y

Annual Probable Sunlight Hours, Mary Aikenhead House Blocks A-B										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
36	64.3%	51.0%	79.3%	28.6%	17.5%	61.4%	Y	Y	Y	Y
37	57.5%	40.9%	71.1%	19.8%	6.7%	33.7%	Y	Y	Y	Y
38	37.7%	30.2%	80.2%	11.1%	4.9%	44.2%	Y	Y	Y	N
39	40.4%	32.7%	80.9%	12.3%	5.9%	47.8%	Y	Y	Y	Y
40	41.7%	33.4%	80.2%	13.8%	6.9%	50.1%	Y	Y	Y	Y
41	38.1%	30.8%	80.9%	13.2%	7.1%	54.1%	Y	Y	Y	Y
42	38.3%	31.5%	82.4%	11.6%	6.0%	51.6%	Y	Y	Y	Y
43	39.7%	33.2%	83.7%	12.2%	6.9%	56.2%	Y	Y	Y	Y
44	41.7%	35.0%	84.0%	13.3%	7.8%	58.5%	Y	Y	Y	Y
45	37.2%	31.2%	83.8%	12.2%	7.2%	58.9%	Y	Y	Y	Y
46	37.6%	31.1%	82.8%	11.7%	6.3%	54.2%	Y	Y	Y	Y
47	38.1%	31.8%	83.4%	12.4%	7.2%	57.7%	Y	Y	Y	Y
48	40.2%	34.2%	85.0%	12.5%	7.5%	60.0%	Y	Y	Y	Y
49	36.5%	31.9%	87.2%	11.3%	7.4%	65.7%	Y	Y	Y	Y

Table 12: Annual Probable Sunlight hours to adjoining dwellings, Mary Aikenhead House Blocks A-B

Annual Probable Sunlight Hours, Mary Aikenhead House Blocks E-F										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
1	69.9%	58.8%	84.1%	24.8%	15.5%	62.8%	Y	Y	Y	Y
2	72.3%	62.6%	86.5%	26.8%	18.7%	69.8%	Y	Y	Y	Y
3	74.5%	65.8%	88.3%	29.5%	22.2%	75.5%	Y	Y	Y	Y
4	69.8%	63.4%	90.9%	30.4%	25.1%	82.5%	Y	Y	Y	Y
5	75.7%	61.8%	81.7%	25.9%	14.4%	55.6%	Y	Y	Y	Y
6	78.1%	65.8%	84.2%	28.7%	18.4%	64.2%	Y	Y	Y	Y
7	79.3%	68.6%	86.5%	30.4%	21.5%	70.8%	Y	Y	Y	Y
8	74.1%	67.1%	90.6%	31.8%	26.0%	81.7%	Y	Y	Y	Y
9	75.9%	60.3%	79.5%	26.3%	13.3%	50.7%	Y	Y	Y	Y
10	77.9%	64.1%	82.3%	28.6%	17.1%	59.9%	Y	Y	Y	Y
11	79.4%	67.6%	85.1%	30.5%	20.7%	67.9%	Y	Y	Y	Y
12	71.6%	63.1%	88.1%	31.8%	24.7%	77.8%	Y	Y	Y	Y
13	75.4%	56.6%	75.1%	26.6%	11.0%	41.3%	Y	Y	Y	Y
14	77.4%	60.6%	78.3%	28.4%	14.5%	50.9%	Y	Y	Y	Y
15	78.0%	63.6%	81.5%	30.5%	18.5%	60.6%	Y	Y	Y	Y
16	71.3%	60.7%	85.2%	31.8%	23.0%	72.3%	Y	Y	Y	Y
17	74.5%	52.7%	70.7%	26.9%	8.7%	32.5%	Y	Y	Y	Y
18	76.0%	56.6%	74.5%	28.1%	12.0%	42.8%	Y	Y	Y	Y
19	77.0%	60.4%	78.4%	29.9%	16.1%	53.8%	Y	Y	Y	Y
20	70.5%	58.3%	82.7%	31.3%	21.2%	67.6%	Y	Y	Y	Y
21	69.9%	46.0%	65.8%	25.6%	5.7%	22.4%	Y	Y	Y	Y
22	71.5%	50.5%	70.7%	26.9%	9.5%	35.2%	Y	Y	Y	Y
23	72.3%	54.8%	75.7%	28.4%	13.9%	48.8%	Y	Y	Y	Y
24	67.5%	54.8%	81.2%	29.7%	19.1%	64.4%	Y	Y	Y	Y
25	21.9%	1.6%	7.1%	18.2%	1.3%	7.1%	N	Y	N	N
26	23.1%	2.2%	9.7%	19.2%	1.9%	9.7%	N	Y	N	N
27	24.1%	5.7%	23.7%	20.0%	4.7%	23.7%	N	Y	N	N
28	52.9%	38.1%	72.0%	26.1%	13.8%	52.8%	Y	Y	Y	Y

Annual Probable Sunlight Hours, Mary Aikenhead House Blocks E-F										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
29	71.0%	43.8%	61.7%	28.2%	5.8%	20.4%	Y	Y	Y	Y
30	71.1%	46.7%	65.7%	29.3%	9.1%	31.0%	Y	Y	Y	Y
31	71.4%	50.4%	70.7%	30.5%	13.1%	43.0%	Y	Y	Y	Y
32	72.9%	56.2%	77.1%	31.8%	17.9%	56.3%	Y	Y	Y	Y
33	76.3%	48.9%	64.1%	28.2%	5.8%	20.4%	Y	Y	Y	Y
34	76.7%	51.9%	67.6%	29.4%	8.7%	29.7%	Y	Y	Y	Y
35	78.0%	56.6%	72.5%	30.6%	12.8%	41.8%	Y	Y	Y	Y
36	70.5%	53.2%	75.4%	31.8%	17.4%	54.7%	Y	Y	Y	Y
37	76.4%	49.2%	64.4%	27.8%	5.4%	19.6%	Y	Y	Y	Y
38	77.3%	52.6%	68.0%	29.2%	8.7%	29.7%	Y	Y	Y	Y
39	78.2%	56.2%	71.9%	30.6%	12.4%	40.4%	Y	Y	Y	Y
40	70.6%	52.7%	74.6%	31.8%	16.9%	53.3%	Y	Y	Y	Y
41	76.4%	49.7%	65.0%	27.1%	5.3%	19.5%	Y	Y	Y	Y
42	79.1%	54.7%	69.1%	28.8%	8.5%	29.5%	Y	Y	Y	Y
43	78.7%	56.5%	71.8%	30.7%	12.3%	40.0%	Y	Y	Y	Y
44	70.7%	52.5%	74.3%	31.8%	16.8%	52.6%	Y	Y	Y	Y
45	76.6%	50.1%	65.5%	26.6%	5.2%	19.6%	Y	Y	Y	Y
46	79.0%	54.4%	69.0%	28.6%	8.3%	29.1%	Y	Y	Y	Y
47	80.7%	58.1%	72.0%	30.9%	12.2%	39.4%	Y	Y	Y	Y
48	72.2%	53.8%	74.5%	32.2%	16.9%	52.5%	Y	Y	Y	Y
49	69.7%	45.7%	65.6%	26.4%	7.0%	26.4%	Y	Y	Y	Y
50	72.1%	49.5%	68.6%	28.4%	9.6%	34.0%	Y	Y	Y	Y
51	75.0%	53.7%	71.5%	30.8%	13.1%	42.4%	Y	Y	Y	Y
52	63.2%	46.3%	73.2%	31.9%	17.8%	55.9%	Y	Y	Y	Y
53	66.6%	46.3%	69.5%	25.5%	8.7%	34.2%	Y	Y	Y	Y
54	38.5%	31.4%	81.6%	14.5%	8.6%	59.5%	Y	Y	Y	Y
55	41.8%	35.4%	84.6%	15.2%	9.9%	64.9%	Y	Y	Y	Y
56	47.1%	40.8%	86.6%	16.5%	11.3%	68.3%	Y	Y	Y	Y
57	43.6%	38.7%	88.8%	15.6%	11.5%	74.0%	Y	Y	Y	Y
58	38.9%	32.5%	83.5%	14.0%	8.7%	61.8%	Y	Y	Y	Y
59	42.4%	36.7%	86.7%	14.6%	9.9%	67.9%	Y	Y	Y	Y
60	45.8%	41.0%	89.5%	15.7%	11.8%	74.8%	Y	Y	Y	Y
61	42.3%	39.3%	92.9%	14.8%	12.3%	83.2%	Y	Y	Y	Y
62	38.6%	32.3%	83.5%	13.7%	8.4%	61.3%	Y	Y	Y	Y
63	43.3%	37.9%	87.4%	14.6%	10.0%	68.8%	Y	Y	Y	Y
64	45.9%	41.7%	90.8%	14.9%	11.4%	76.5%	Y	Y	Y	Y
65	41.4%	39.3%	94.9%	13.8%	12.0%	87.4%	Y	Y	Y	Y

Table 13: Annual Probable Sunlight hours to adjoining dwellings, Mary Aikenhead House Blocks E-F

Annual Probable Sunlight Hours, St. James Ave, No.s 18 & 18A Basin View										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
1	54.1%	48.0%	88.6%	8.0%	5.0%	62.8%	Y	Y	Y	Y
2	63.8%	58.1%	91.1%	16.0%	12.4%	77.5%	Y	Y	Y	Y
3	54.5%	44.7%	82.0%	8.3%	4.0%	48.1%	Y	Y	Y	N
4	63.6%	55.3%	86.9%	15.9%	11.2%	70.4%	Y	Y	Y	Y
5	57.3%	44.1%	76.8%	10.7%	4.9%	45.7%	Y	Y	Y	N

Annual Probable Sunlight Hours, St. James Ave, No.s 18 & 18A Basin View										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
6	65.6%	54.1%	82.5%	17.5%	11.6%	66.4%	Y	Y	Y	Y
7	61.4%	44.2%	71.9%	14.0%	7.2%	51.6%	Y	Y	Y	Y
8	68.6%	53.5%	78.0%	20.0%	12.2%	61.0%	Y	Y	Y	Y
9	47.5%	21.4%	45.0%	12.7%	5.5%	43.6%	Y	Y	N	Y
10	50.5%	25.4%	50.4%	15.0%	6.7%	44.5%	Y	Y	Y	Y
11	48.3%	21.4%	44.4%	13.5%	5.6%	41.6%	Y	Y	N	Y
12	51.4%	25.5%	49.6%	15.8%	6.8%	42.9%	Y	Y	Y	Y
13	48.7%	23.1%	47.5%	14.4%	5.6%	38.5%	Y	Y	N	Y
14	52.8%	28.1%	53.2%	17.1%	6.8%	39.7%	Y	Y	Y	Y
15	46.5%	24.1%	51.7%	15.2%	4.6%	30.5%	Y	Y	N	N
16	42.2%	22.9%	54.3%	12.8%	3.7%	29.3%	Y	Y	N	N
17	46.3%	28.0%	60.5%	15.3%	4.9%	32.1%	Y	Y	Y	N
18	42.5%	24.2%	56.9%	13.6%	4.1%	29.7%	Y	Y	N	N
19	46.0%	30.0%	65.2%	15.1%	5.2%	34.6%	Y	Y	Y	Y

Table 14: Annual Probable Sunlight hours to adjoining dwellings, St. James Ave, No.s 18 & 18a Basin View

Annual Probable Sunlight Hours, Westcourt, Basin View										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
1	24.6%	29.3%	119.5%	12.7%	12.3%	97.1%	N	Y	Y	Y
2	41.1%	45.0%	109.5%	14.2%	13.7%	96.4%	Y	Y	Y	Y
3	46.5%	47.9%	102.9%	16.4%	16.1%	98.2%	Y	Y	Y	Y
4	13.7%	18.9%	137.9%	3.9%	5.0%	127.4%	N	N	Y	Y
5	42.7%	46.0%	107.7%	13.2%	14.5%	109.8%	Y	Y	Y	Y
6	47.5%	48.1%	101.3%	14.7%	16.2%	110.2%	Y	Y	Y	Y
7	12.7%	18.8%	148.2%	2.3%	5.3%	232.8%	N	N	Y	Y
8	42.6%	46.6%	109.5%	11.9%	15.0%	125.9%	Y	Y	Y	Y
9	47.0%	48.8%	103.8%	13.5%	16.8%	124.1%	Y	Y	Y	Y
10	13.9%	16.5%	118.9%	1.7%	5.9%	340.4%	N	N	Y	Y
11	43.1%	44.2%	102.6%	11.6%	15.5%	133.3%	Y	Y	Y	Y
12	46.4%	48.0%	103.5%	13.2%	17.1%	130.2%	Y	Y	Y	Y
13	16.4%	17.6%	107.3%	1.3%	5.7%	426.5%	N	N	Y	Y
14	43.0%	44.0%	102.4%	12.0%	16.3%	135.9%	Y	Y	Y	Y
15	46.2%	46.6%	101.0%	13.8%	17.3%	125.9%	Y	Y	Y	Y
16	15.4%	18.0%	116.9%	2.6%	7.1%	277.9%	N	N	Y	Y
17	42.6%	44.3%	103.8%	11.7%	16.7%	142.1%	Y	Y	Y	Y
18	45.1%	46.9%	104.0%	13.8%	17.8%	129.5%	Y	Y	Y	Y
19	15.2%	15.1%	99.1%	3.8%	6.6%	173.8%	N	N	Y	Y
20	41.2%	43.1%	104.8%	12.8%	16.8%	131.4%	Y	Y	Y	Y
21	44.6%	45.7%	102.4%	14.5%	17.9%	123.4%	Y	Y	Y	Y
22	14.3%	10.9%	76.3%	4.3%	6.4%	150.9%	N	N	N	Y
23	41.9%	38.3%	91.4%	13.3%	16.3%	122.0%	Y	Y	Y	Y
24	47.0%	40.6%	86.4%	15.3%	17.2%	112.3%	Y	Y	Y	Y
25	15.1%	6.6%	44.1%	4.3%	4.5%	103.6%	N	N	N	Y
26	44.3%	34.1%	76.9%	13.4%	14.5%	108.2%	Y	Y	Y	Y
27	49.5%	36.6%	73.8%	15.4%	15.1%	97.8%	Y	Y	Y	Y

Annual Probable Sunlight Hours, Westcourt, Basin View										
	APSH >25% Target		Ratio	Sept 21 - Mar 21 WPSH >5% Target		Ratio	Meets criteria of >25% APSH and >5% PSH Or <25% or <5% PSH but >80% Existing Value			
Location ID	Existing	Proposed	If less than 25% APSH Target >80%	Existing	Proposed	If less than 5% WPSH Target >80%	Existing		Proposed	
	% APSH	% APSH		% WPSH	% WPSH		% APSH	% WPSH	% APSH	% WPSH
28	16.7%	2.8%	16.9%	3.3%	2.2%	67.7%	N	N	N	N
29	45.5%	30.1%	66.1%	12.4%	12.0%	96.2%	Y	Y	Y	Y
30	49.6%	33.8%	68.2%	14.0%	12.6%	90.2%	Y	Y	Y	Y
31	17.4%	0.1%	0.5%	1.7%	0.0%	0.0%	N	N	N	N
32	46.7%	27.9%	59.8%	11.8%	10.1%	85.9%	Y	Y	Y	Y
33	49.5%	31.5%	63.6%	13.3%	10.6%	79.9%	Y	Y	Y	Y
34	30.6%	9.6%	31.4%	2.1%	0.2%	9.4%	Y	N	N	N
35	47.4%	26.5%	55.9%	11.9%	8.5%	71.4%	Y	Y	Y	Y
36	50.5%	31.8%	63.0%	13.9%	9.4%	67.7%	Y	Y	Y	Y
37	19.7%	0.0%	0.0%	1.8%	0.0%	0.0%	N	N	N	N
38	47.4%	26.0%	54.8%	12.1%	7.8%	64.9%	Y	Y	Y	Y
39	50.3%	31.1%	61.9%	13.9%	8.7%	62.7%	Y	Y	Y	Y
40	42.7%	20.7%	48.5%	9.4%	5.4%	57.3%	Y	Y	N	Y
41	47.1%	26.5%	56.3%	12.2%	7.8%	63.8%	Y	Y	Y	Y
42	50.3%	31.6%	62.7%	14.0%	9.0%	64.3%	Y	Y	Y	Y

Table 15: Annual Probable Sunlight hours to adjoining dwellings in Westcourt, Basin View

Summary results of assessment for APSH & WPSH					
Location	Windows assessed	APSH		WPSH	
	No.	Existing	Proposed	Existing	Proposed
Mary Aikenhead House Block AB	49	49	49	49	48
Mary Aikenhead House Block EF	65	62	62	65	62
James Ave & No.s 18 & 18a Basin View	19	19	13	19	13
Westcourt, Basin View	42	30	35	30	38
Total	175	160	159	163	161

Table 16: Summary of APSH & WPSH

4.2 Comment on the summary of APSH & WPSH

The room use of the windows to the surrounding buildings is not know and the results in the summary table are for all the windows to the surrounding buildings. Some of these windows will be associated with rooms that do not have a specific requirement for sunlight like bedrooms.

The majority of windows assessed exceed the target values set out for annual and winter probable sunlight hours. Overall the reductions in APSH is limited and not excessive. A design development iteration process was carried out to minimise the impact on surrounding properties and any reduction is in line with a development in an inner city location.

It should also be noted that the building is built to the boundary on a narrow street facing with unobstructed access to the sky from the direction of the proposed development and any reduction to available sunlight is in-line with a building of similar scale and distance from the boundary.

5. Sunlight to Amenity in Neighbouring Properties

The BRE guidelines BR209:2022 (third edition) indicate that for an amenity area to have good quality sunlight throughout the year, 50% should receive in excess of 2 hours sunlight on the 21st March. It also states that front gardens need not be assessed for sunlight. Amenity spaces which are entirely south of the proposed development would not perceive an impact from it.

5.1 Amenity space to neighbouring properties.

The communal and private amenity spaces in the neighbouring dwellings do not face towards the proposed development and their access to sunlight would not be affected by the proposed development. The shadow diagrams in Section 9 indicate that the shadows caused by the proposed development do not extend to any private garden or amenity space with a requirement for sunlight on the 21st march and no detailed assessment is required.

5.2 Conclusion on Sunlight to Adjacent Amenity Spaces

There will be no reduction in sunlight to any of the neighbouring communal or private amenity spaces with a requirement for sunlight and the proposed development meets the requirements of the BRE guidelines (2022).

6. Daylight within the Proposed Development

All habitable rooms within the units were assessed for daylight provision by illuminance method. The Illuminance method assesses the daylight levels over at least 50% daylight hours in the year and uses a weather file data set. These methods take into account the orientation of the space. They provide an accurate representation of the daylight provision to a specific room in the context of the proposed environment.

There are existing mature trees to the south of the site, within the vicinity of Block C, the Basin View block that is being retrofitted. These trees were included in daylight and sunlight assessments.

Compliance is demonstrated by a calculation of Daylight Provision with the illuminance method under BS EN 17037:2018+A1:2021. A summary of the results are presented in Table 17 below and a complete set of room results are shown in Appendix A.

For supplementary information, an assessment of Daylight Provision with the illuminance method under IS /BS EN 17037:2018 is undertaken. A summary of the results are presented in Table 18 below and a complete set of room results are shown in Appendix B.

6.1 Assessment for Daylight Provision BS EN 17037:2018+A1:2021

The UK National Annex (A1) contains minimum room specific target values for dwellings in the UK. The UK committee fully supports the recommendations of EN17037:2018 but considers the target daylight levels may be hard to achieve in UK dwellings, in particular in urban areas and areas with mature trees. The Target and Minimum levels set out in IS / BS EN17037:2018 do not take into account room use or make allowance for room that have a lesser requirement for daylight. The UK National Annex A1 in BS EN17037:2018+A1:2021 sets out room specific minimum values to be achieved in the UK and Channel Islands. These target values are set to achieve similar minimum daylight levels as the superseded Average Daylight Factor method (ADF) in BS8206-2 2008.

Minimum daylight provision UK NA.1 - BS EN 17037:2018+A1:2021					
	Room Use	Number of rooms	Target illuminance E_T(lx) for half of the assessment grid	Number of rooms to achieve target Lux over 50% of the assessment grid	Percentage of rooms achieving Target
Block A	LKD	48	200	48	100.0%
	Bedrooms	82	100	82	100.0%
Block B	LKD/ KD	81	200	81	100.0%
	Liv	4	150	4	100.0%
	Bedrooms	152	100	152	100.0%
Block C	LKD	42	200	42	100.0%
	Bedrooms	46	100	46	100.0%
Total		455		455	100.0%

Table 17: Summary of room for Target Illuminance compliance with BS EN 17037:2018+A1:2021. Individual room results can be viewed in Appendix A.

6.2 Conclusion

BR209:2022 recommends assessment methods set out in BS EN 17037 for daylight provision. 100% of the Living, Dining, Kitchen and Bedroom spaces achieve the target values set out in BS EN 17037:2018+A1:2021 section NA1. These are the minimum values, per specified use, to be achieved in habitable rooms.

6.3 Supplementary Information - Assessment for Daylight Provision IS / BS EN 17037:2018

A summary of Minimum and Target Illuminance levels under IS EN 17037:2018 Annex A Table A1 are set out in the table below. The assessment includes the existing trees, south of the retrofitted Block C, as a worst case scenario.

Daylight provision Illuminance Method IS EN 17037:2018						
		Below Target	Minimum	Medium	High	Percentage of rooms achieving Target
Block A, B and Retrofit Block C with existing trees	Target Illuminance	13.2%	36.3%	33.0%	17.6%	86.8%
	Minimum Illuminance	2.2%	43.1%	36.7%	18.0%	97.8%

Table 18: Percentage of rooms at each level to IS/BS EN 17037:2018. Individual room results can be viewed in Appendix B.

The results indicate a high level of compliance with Daylight Provision as per IS / BS EN 17037:2018. With the existing trees included in the assessment model, 97.8% of habitable rooms meet the Minimum Level and 86.8% meet the Target Level. The results indicate that the rooms will achieve high levels of daylight and they will be bright and pleasant.

The recommendations for Daylight provision in Table A1 are not specific for dwellings and do not make allowance for room use. BS EN 17037:2018+A1:2021 address this with the National Annex NA.1 which sets out room specific targets for dwellings and compliance for this is presented in Section 6.1.

7. Sunlight within the Proposed Development

7.1 Sunlight Hours

The BRE guidelines BR209:2022 (third edition) and BS EN 17037:2018+A1:2021 set out recommendations for sunlight hours to be achieved. It states that; *"For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion."* The guidelines recommend the sunlight hours should be assessed preferably on the 21st March over the course of the day. The guidelines set three levels of achievement. Minimum 1.5h, Medium 3h and High 4h. The guideline does not set the percentage of units that need the achieve the recommendations but they do give an example of a well designed floor layout in the figure below, where 4 out of 5 units in an apartment building would achieve the target sunlight.

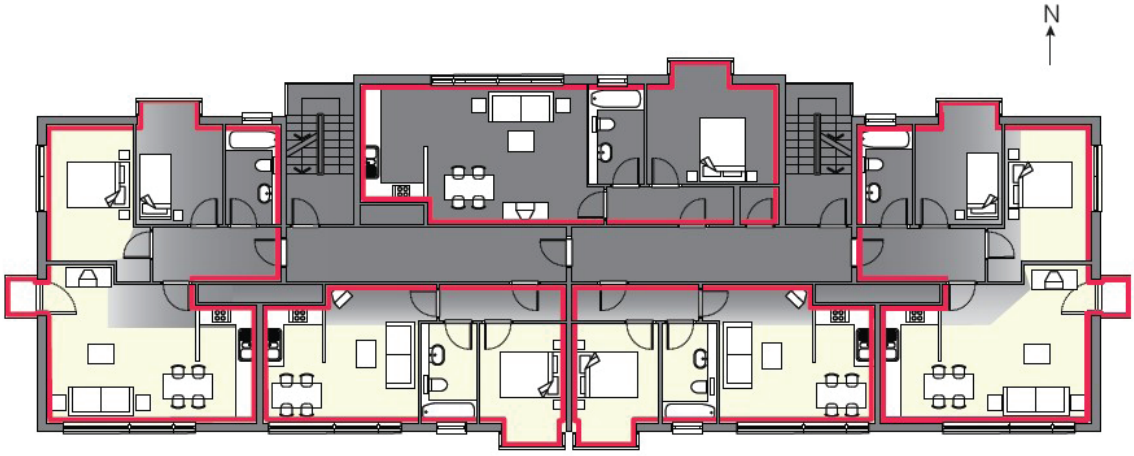


Figure 26: Careful layout design means that four out of the five flats shown have a south-facing living room

Figure 9: Extract from BR209:2022 Section 3 Sun-lighting: Diagram indicating sample floor plan to maximise units with a main living space facing south.

Appendix C details the results per habitable room, indicating if the room has a relevant south facing window. A summary of these results are displayed in Table 19 below. There are existing mature trees to the south of the site, within the vicinity of Block C, the Basin View block that is being retrofitted. The results for sunlight are shown with and without these included in the assessment model.

Sunlight Hours Summary Table

	Total Units	Rooms with a window within 90° South		Below recommendation <1.5 hours	Minimum >1.5 hours	Medium >3 Hours	High >4 Hours	Number meets criteria	Ratio meets criteria
		No.	Ratio						
Blocks A & B	129	113	87.6%	33	31	23	42	96	74.4%
Block C with existing trees	42	38	90.5%	10	16	7	9	32	76.2%
Overall total	171	151	88.3%	43	47	30	51	128	74.9%
Block C without trees	42	38	90.5%	2	13	15	12	40	95.2%

Table 19: Summary of results of assessment of Sunlight Hours

7.2 Comment on EN 17037 Sunlight Hours

The BRE guidelines recommend maximising the amount of units that have a window within 90° due south but does not have set targets. The guidelines acknowledge that for large developments with site constraints, it is not possible to achieve south facing windows to all main living spaces. 151no. of the 171no. (88.3%) apartment units have a window to a living room or kitchen/ dining room which face within 90° of due south.

Windows with an aspect of greater than 90° due south, to the north west or north east, will still receive sunlight, but it is likely to be lesser amounts especially in the winter period. 128no. of the 171no. units (74.9%) have a living spaces that achieves the minimum recommended 1.5 direct sunlight hours.

7.3 Conclusion

This scheme is well designed for sunlight, with 74.9% of units meeting the minimum recommended 1.5 direct sunlight hours. This is in-line with the BRE guidelines BR209:2022 (third edition) example for an apartment layout where 4 in 5 achieves the target sunlight hours.

8. Sunlight to Amenity within the Proposed Development

The BRE guidelines BR209:2022 (third edition) indicates that for an amenity area to have good quality sunlight throughout the year, 50% should receive in excess of 2 hours sunlight on the 21st March. It also states that front gardens need not be assessed for sunlight.

The amenity spaces are assessed for the amount of direct sunlight received by the space in 5 minute intervals between 8am and 6pm on the 21st March over an analysis grid with a 300mm grid size and the average is calculated.

8.1 Sunlight to amenity within the proposed development

The amenity areas within this proposal have been assessed with a calculation of Sun on the Ground on the 21st March. Generated analysis is shown in Figure 10 and the results are set out in Table 20.

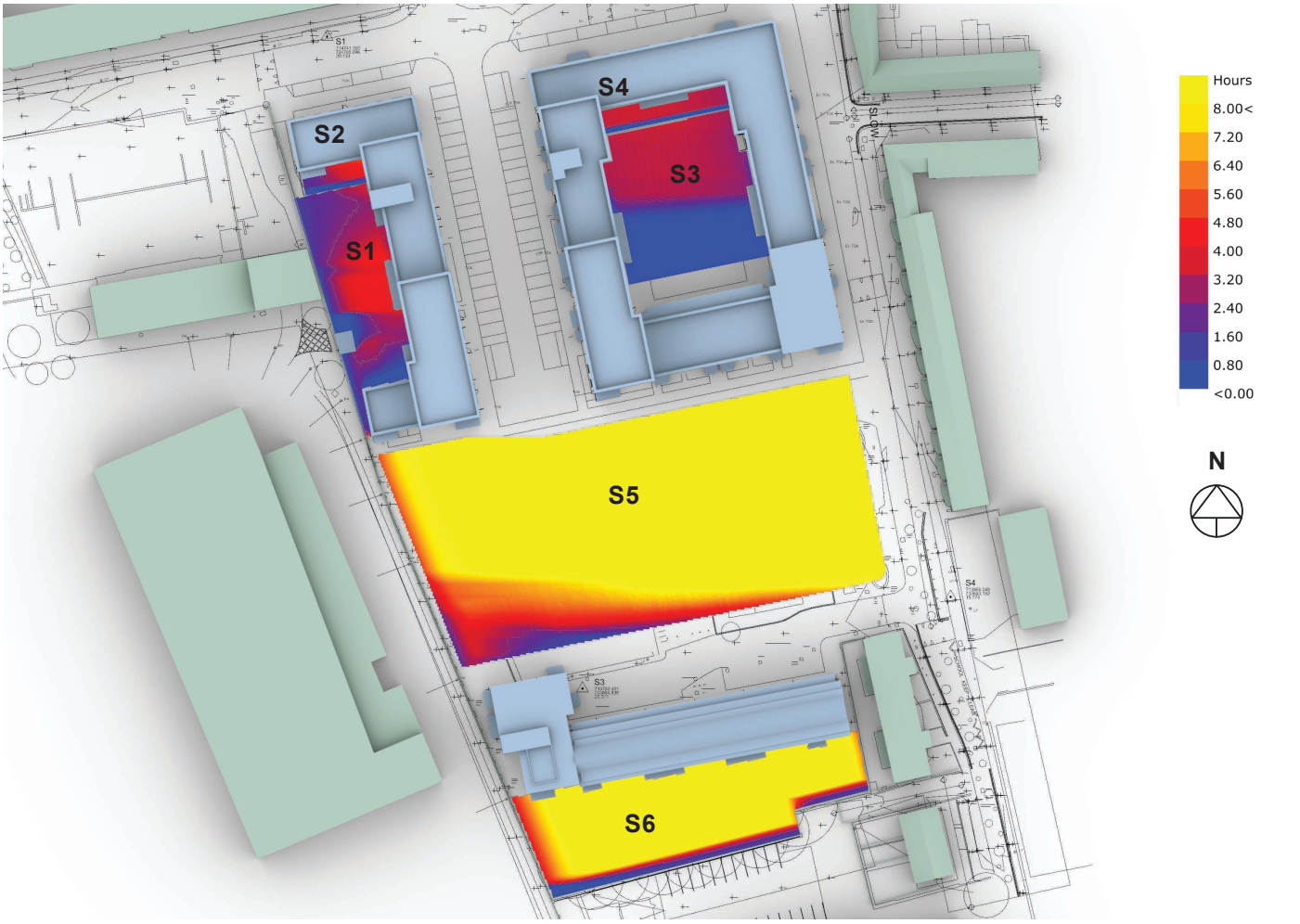


Figure 10: Public & Communal Open Space - Radiation map of amenity area, showing available sunlight on 21st March. The scale represents the percentage of daylight received from 0 - 8 hrs.

Sunlight on the ground - within development			
No.	Use/ Location	Proposed	Meets criteria of >50% area
S1	Block A Private Amenity	50.4%	Y
S2	Block A Creche	55.5%	Y
S3	Block B Private Amenity	50.4%	Y
S4	Community Centre Amenity	77.7%	Y
S5	Public Open Space	97.8%	Y
S6	Block C Private Amenity	92.1%	Y

Table 20: Calculation of Sun on the Ground to amenity area within the proposed development.

8.2 Conclusion

The communal and public amenity spaces are well oriented for sunlight and will achieve 2 hours sunlight on the 21st March over in excess of 50% of the area.

9. Shadow Study

9.1 BRE Guidance on Shadow Studies

The BRE guidelines recommend using the March Equinox due the equal length of the day and night time. It states:

> *"If a space is used all year round, the equinox (21 March) is the best date for which to prepare shadow plots as it gives an average level of shadowing. Lengths of shadows at the autumn equinox (21 September) will be the same as those for 21 March, so a separate set of plots for September is not required."*

June 21st and December 21st are provided below for information but it should be noted that the summer solstice is the best case scenario with shadows at their shortest. The summer solstice diagrams are included here with the Daylight Saving Time (UTC+1) applied. In Winter even low buildings will cast long shadows and it is common for large areas of the ground to be in shadow throughout the day especially in a built up area and sun barely rises above an altitude of 10° during the course of the day. The guidelines recommends that Sunlight at an altitude of 10° or less does not count. Below are the times for the Equinox and Solstice that the sun is above 10° altitude rounded to the nearest half hour.

Equinox: between 8:30 and 17:30
Summer Solstice: Between 6:30 and 20:00
Winter Solstice: Between 10:30 and 14:00

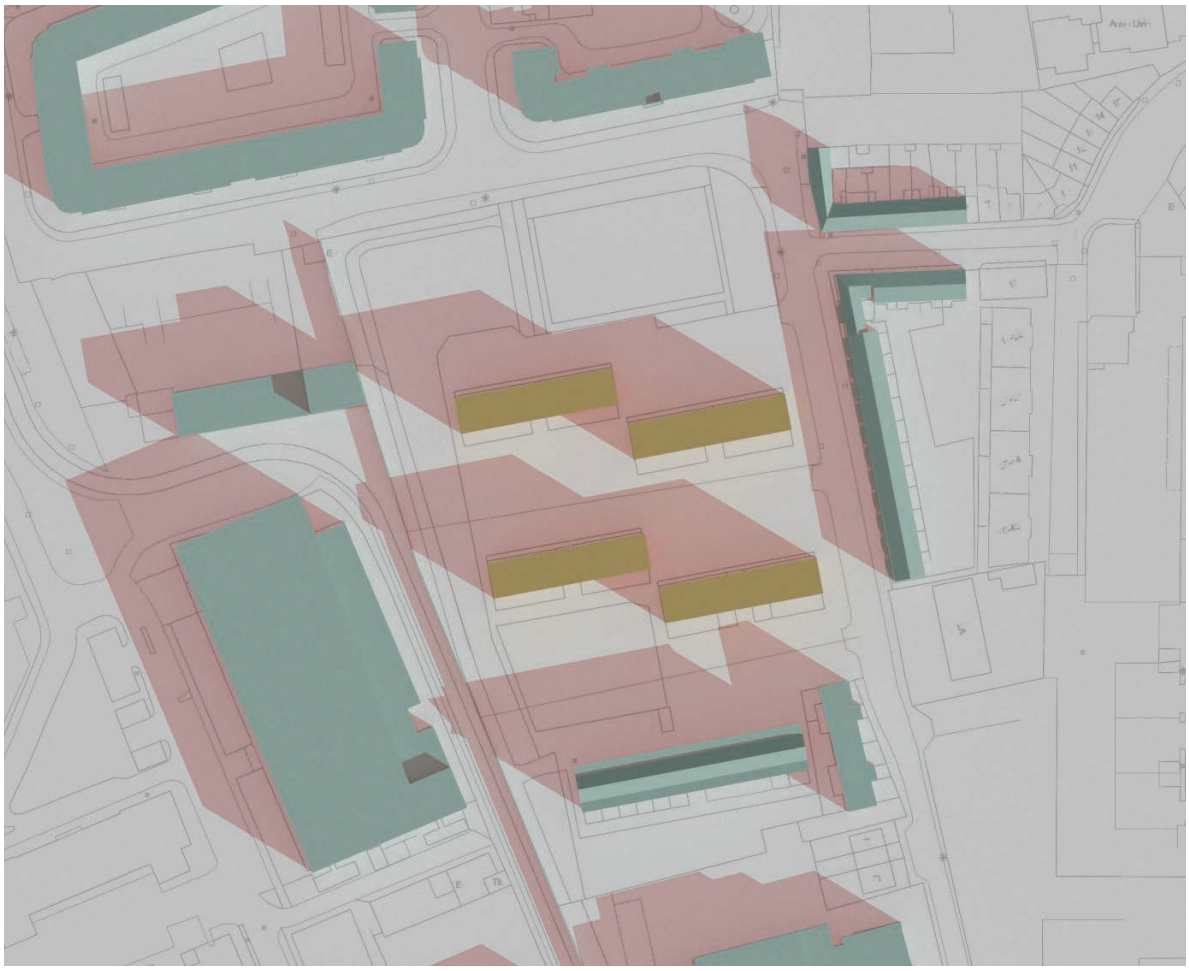
Section 9.2 shows the existing and proposed shadow diagrams for the Equinox on the 21st March at 2 hourly intervals during the day between 09:00 and 17:00.
Section 9.3 shows the existing and proposed shadow diagrams for the Summer Solstice on the 21st June at 2 hourly intervals during the day between 09:00 and 19:00.
Section 9.4 shows the existing and proposed shadow diagrams for the Winter Solstice on the 21st December at 2 hourly intervals during the day between 09:00 and 15:00.

Shadow diagrams are a visual aid to understand where possible shading may occur. The use of shadow diagrams as an assessment method should be taken over the course of the day and not a specific time due to the transient nature of the sun and the shade caused by obstructions.

9.2 Shadow Casting diagrams March Equinox

Existing

N



Proposed

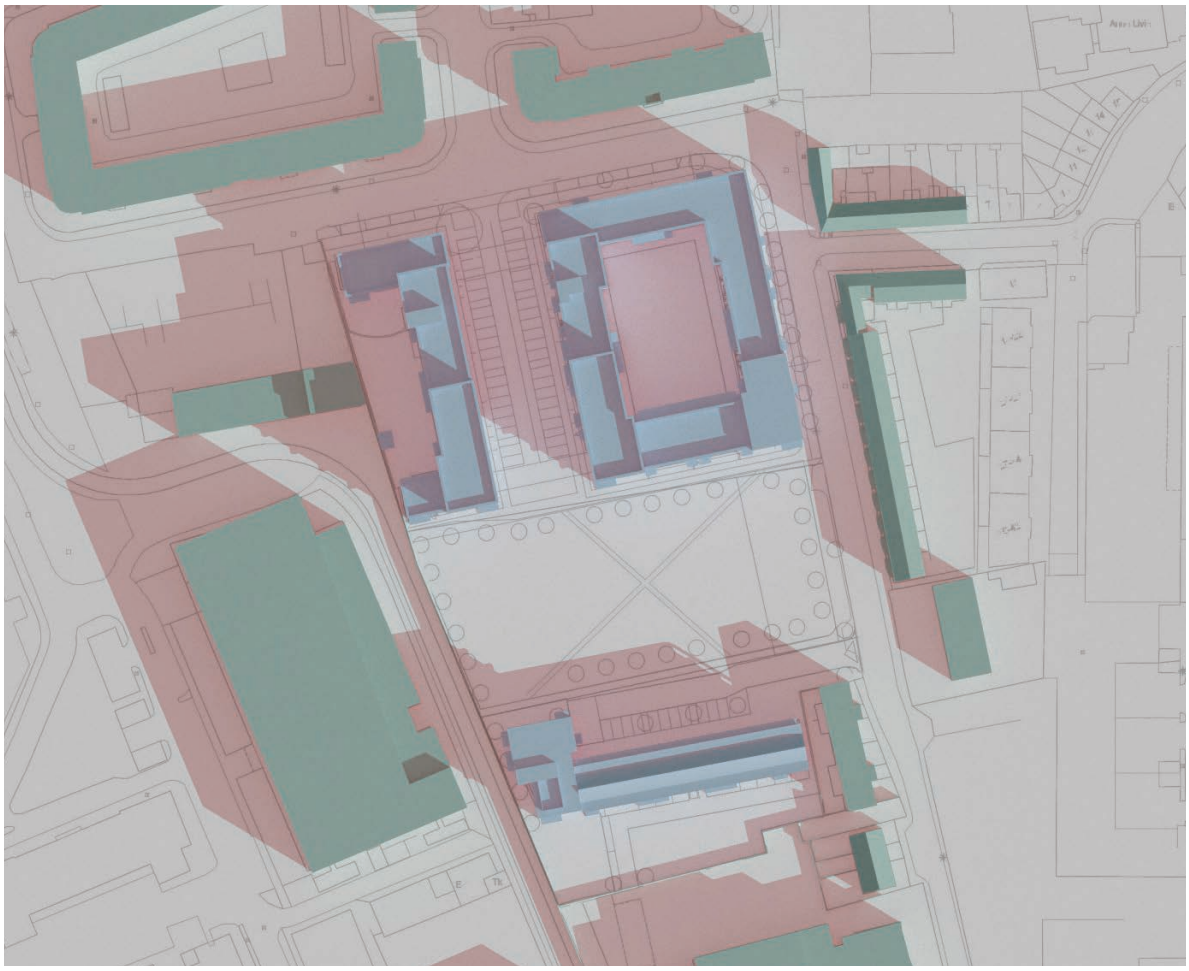
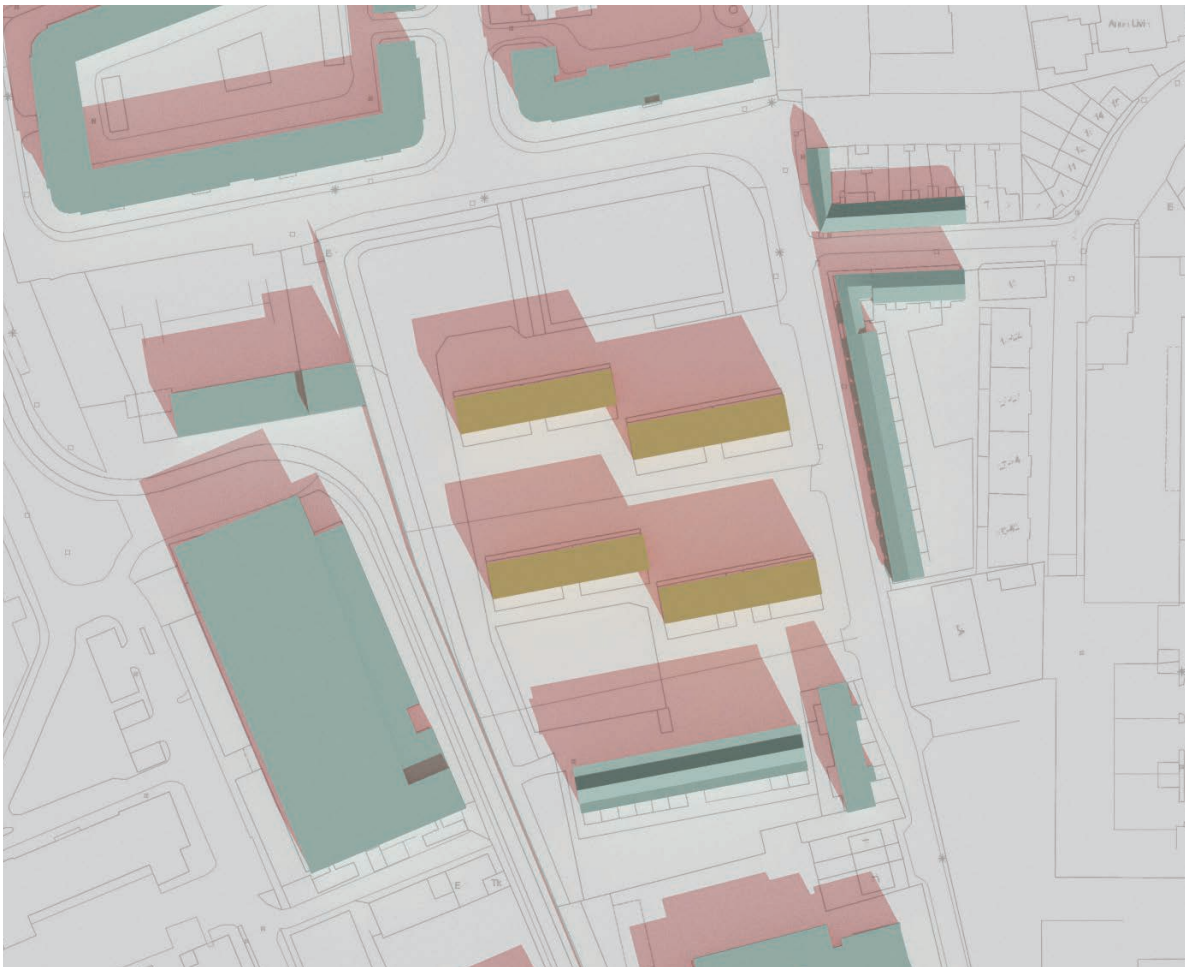


Figure 11: Shadow diagrams 21 March 09:00 UTC

Existing

N



Proposed

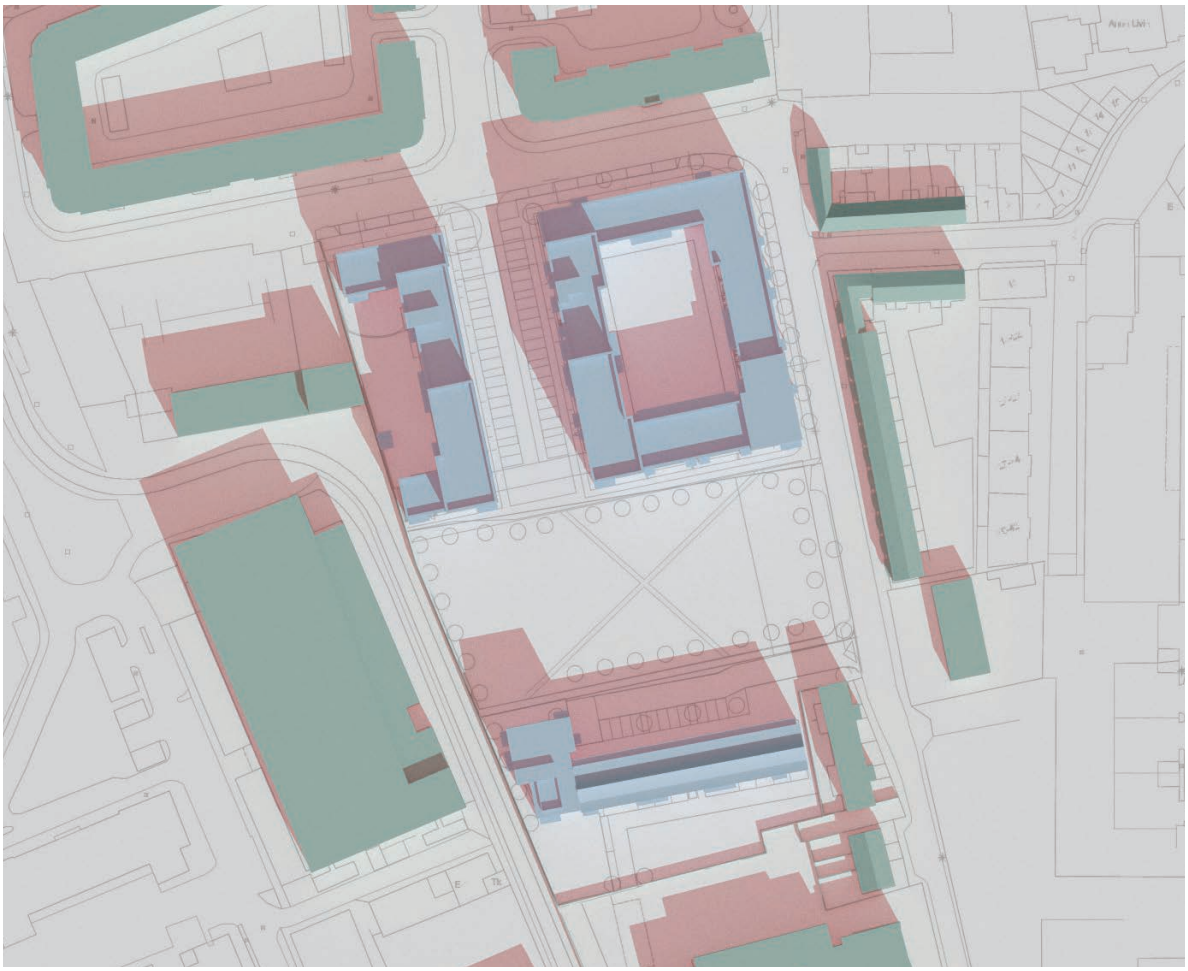
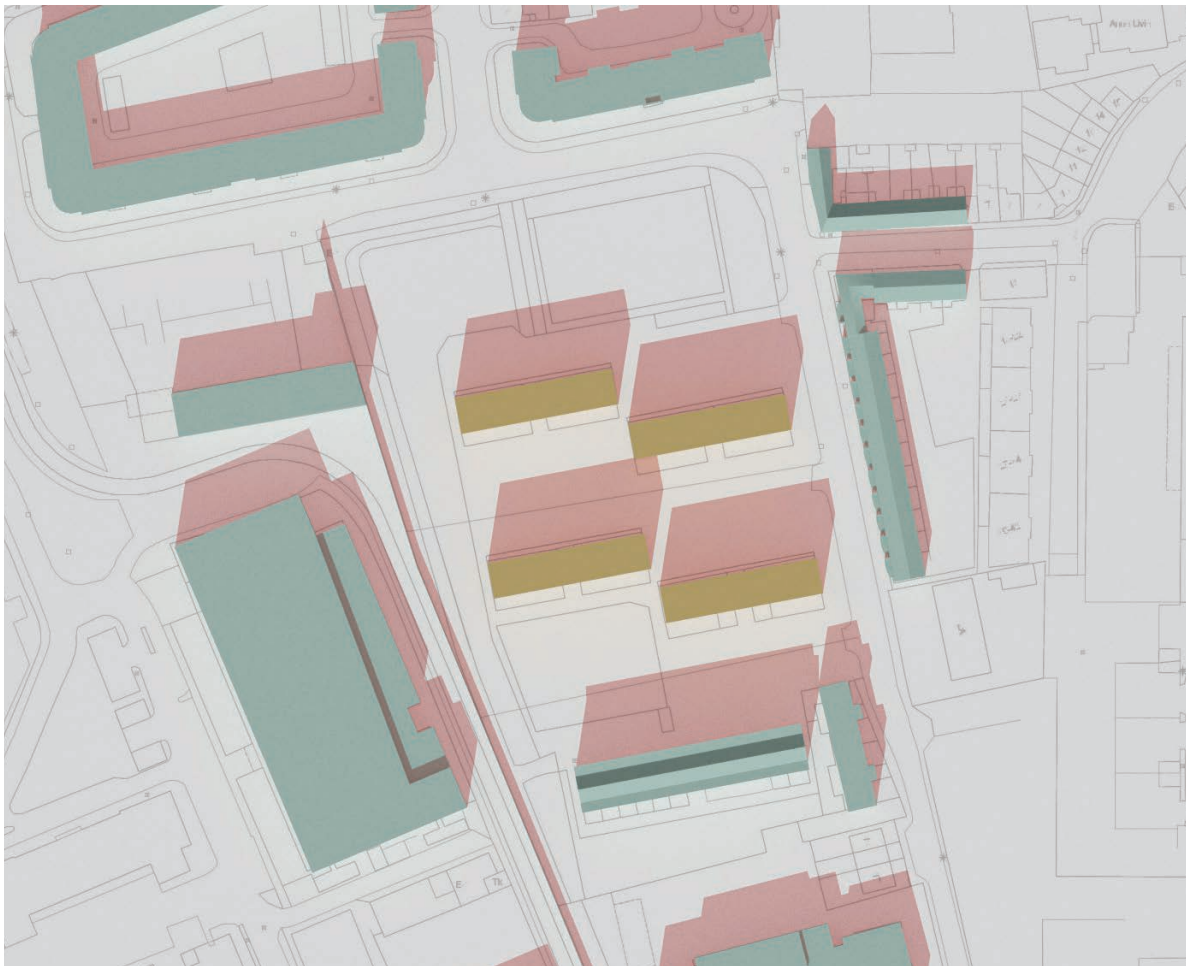


Figure 12: Shadow diagrams 21 March 11:00 UTC

Existing



N

Proposed

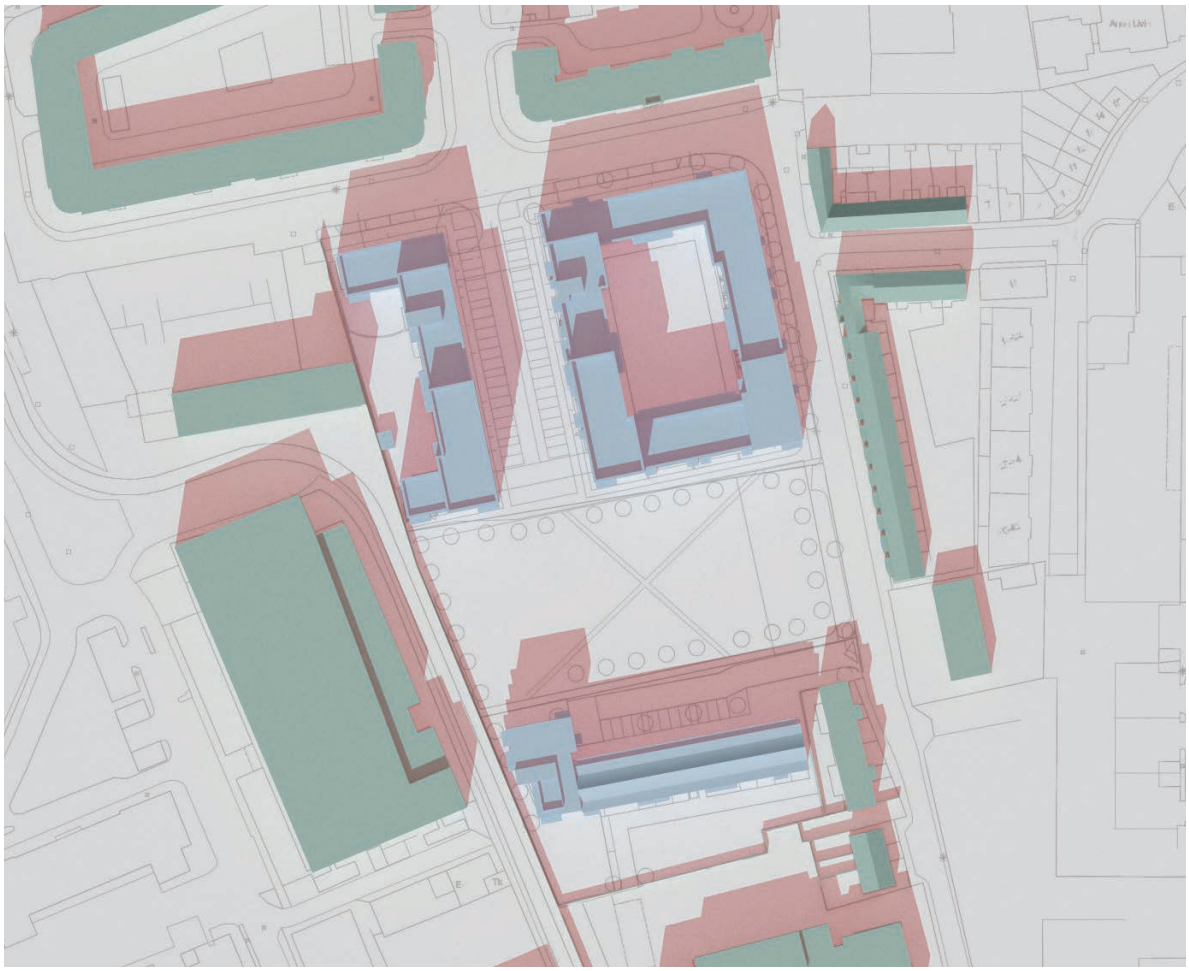
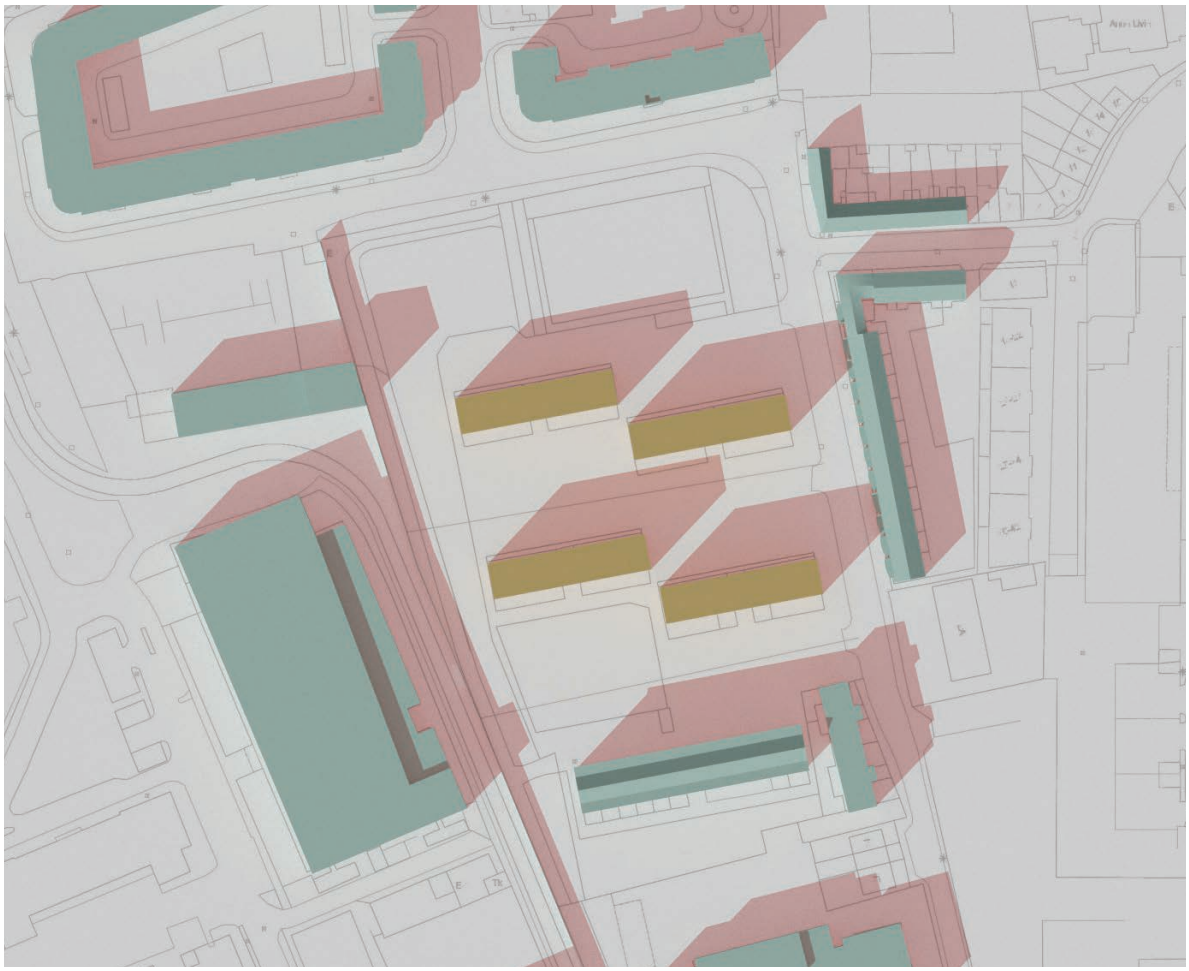


Figure 13: Shadow diagrams 21 March 13:00 UTC

Existing



N

Proposed

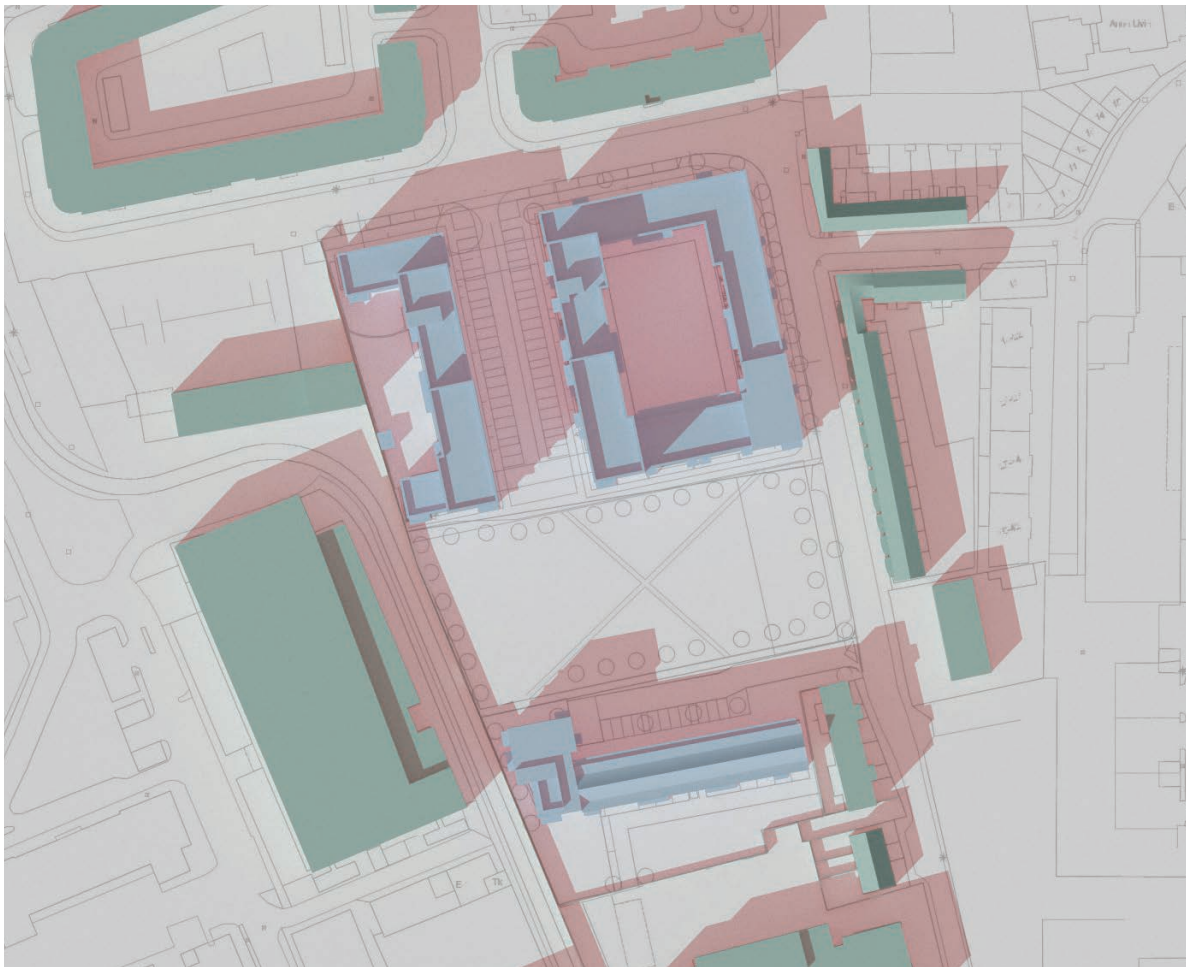
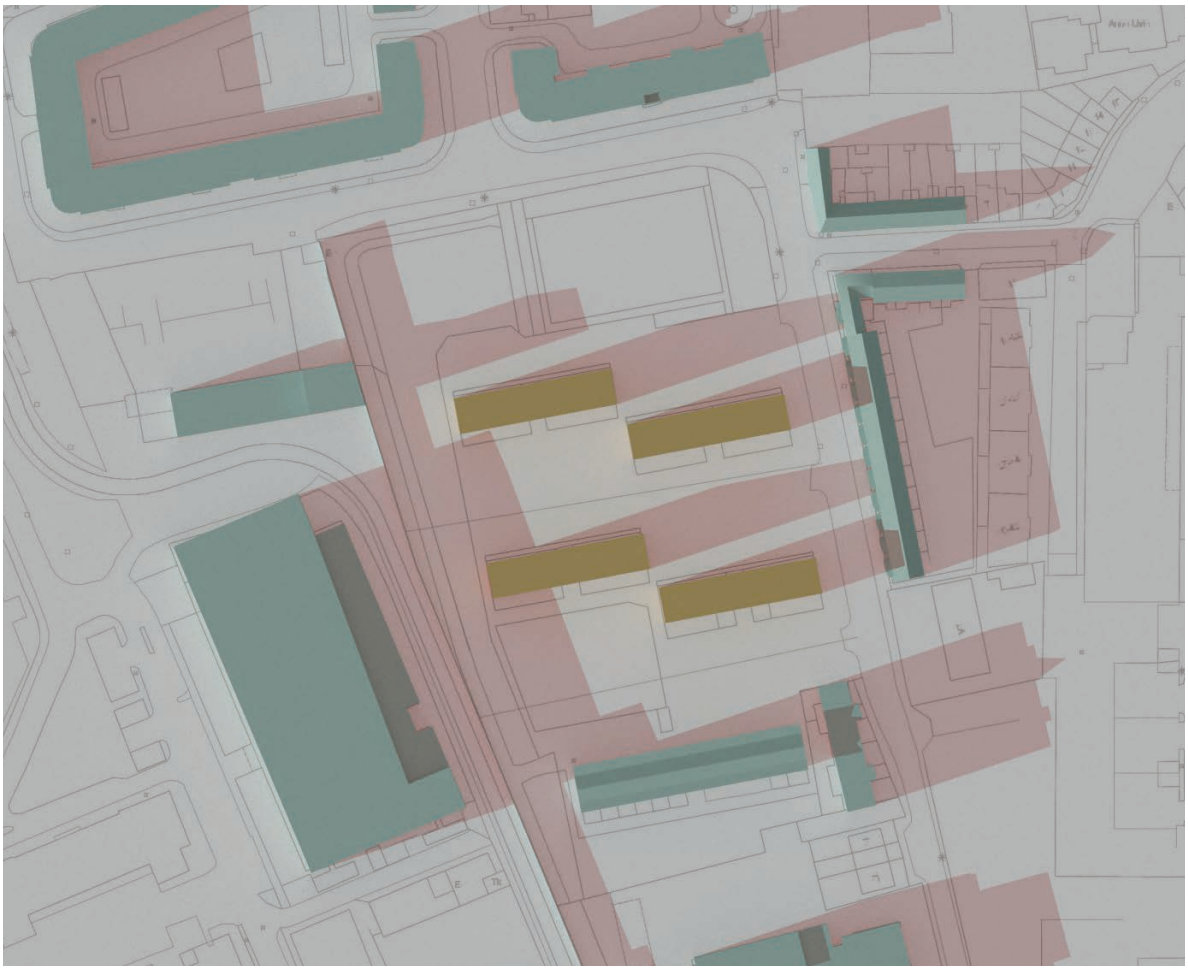


Figure 14: Shadow diagrams 21 March 15:00 UTC

Existing

N



Proposed

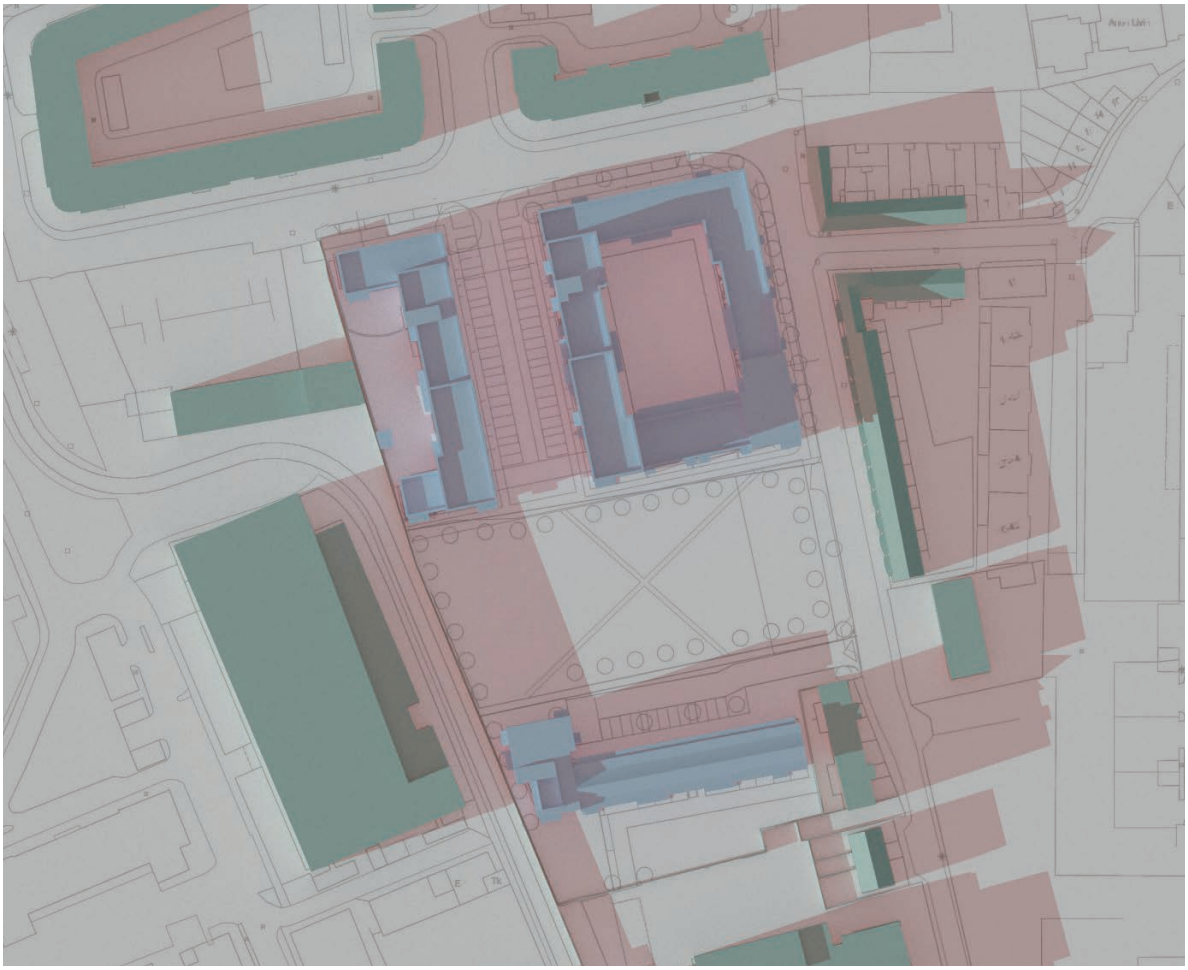


Figure 15: Shadow diagrams 21 March 17:00 UTC

9.3 Shadow Casting diagrams June Solstice

Existing

N

Proposed

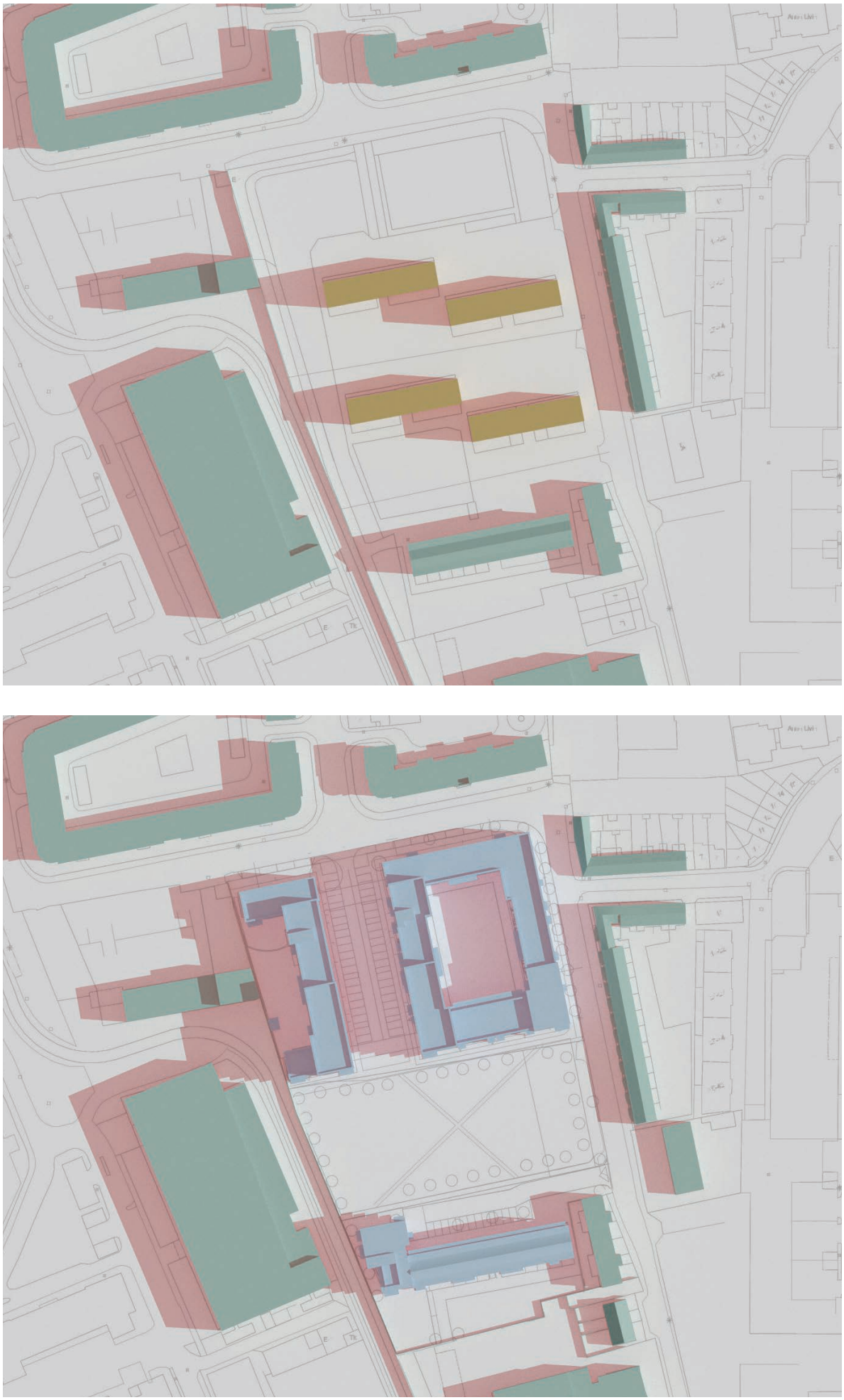
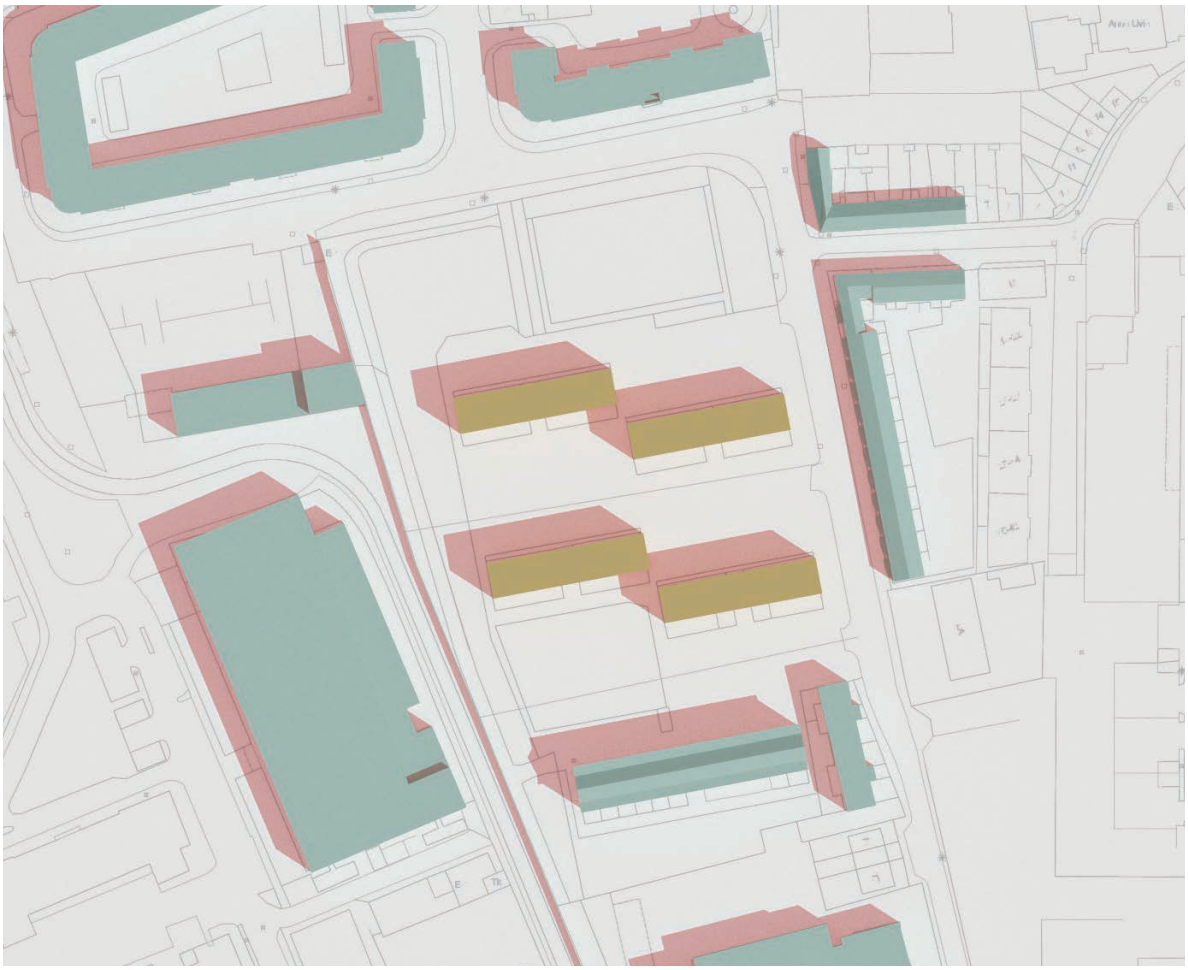


Figure 16: Shadow diagrams 21 June 09.00 UTC +1

Existing

N



Proposed

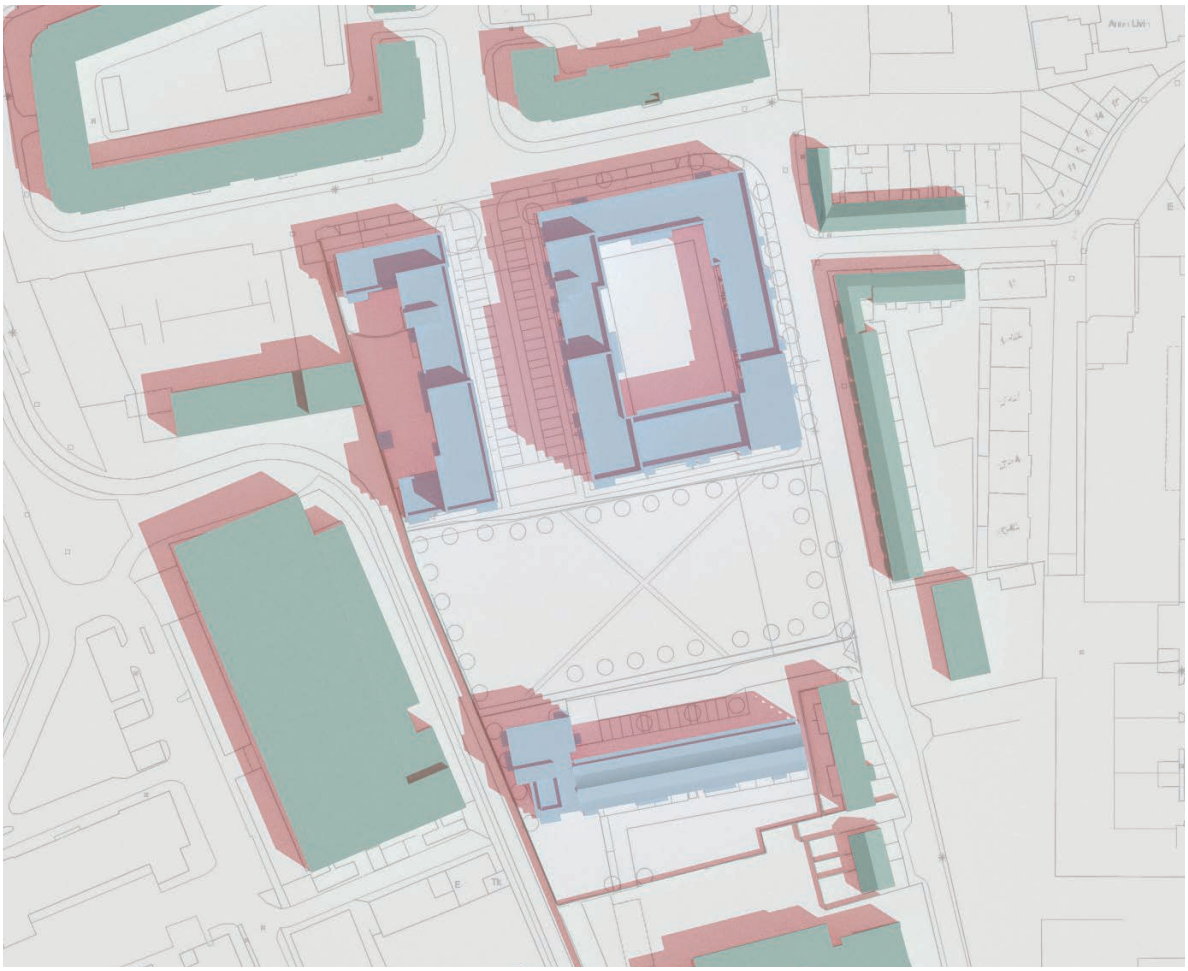
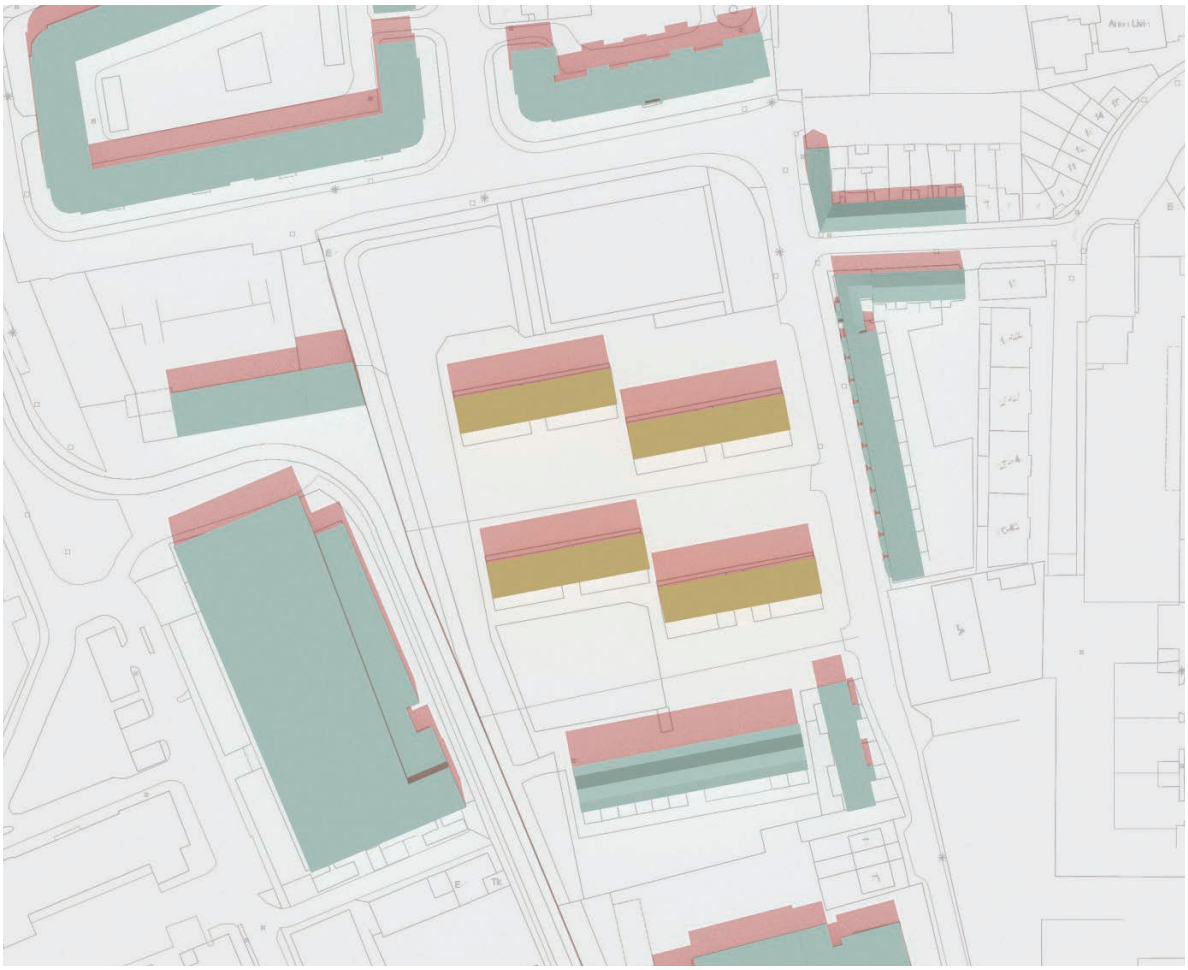


Figure 17: Shadow diagrams 21 June 11:00 UTC +1

Existing

N



Proposed

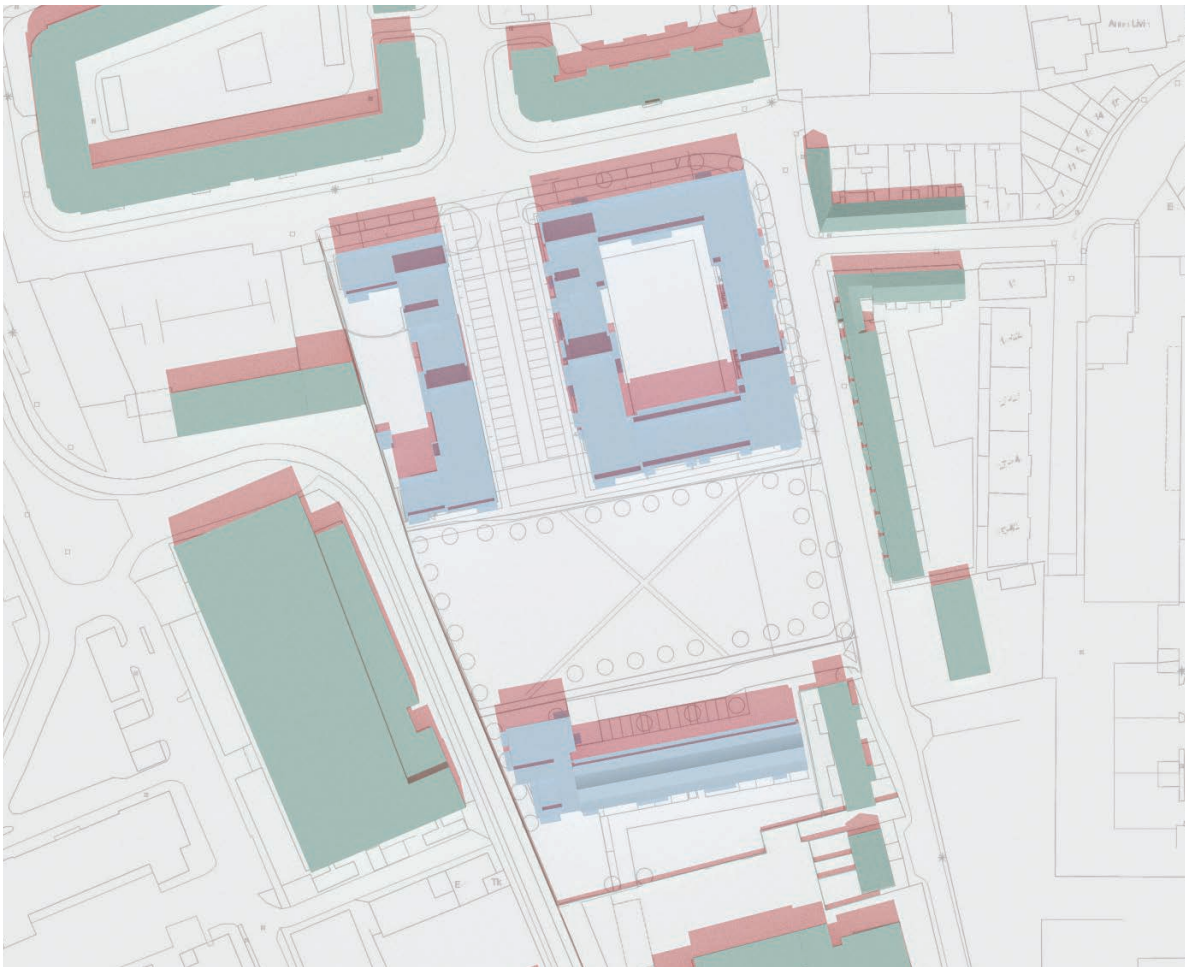
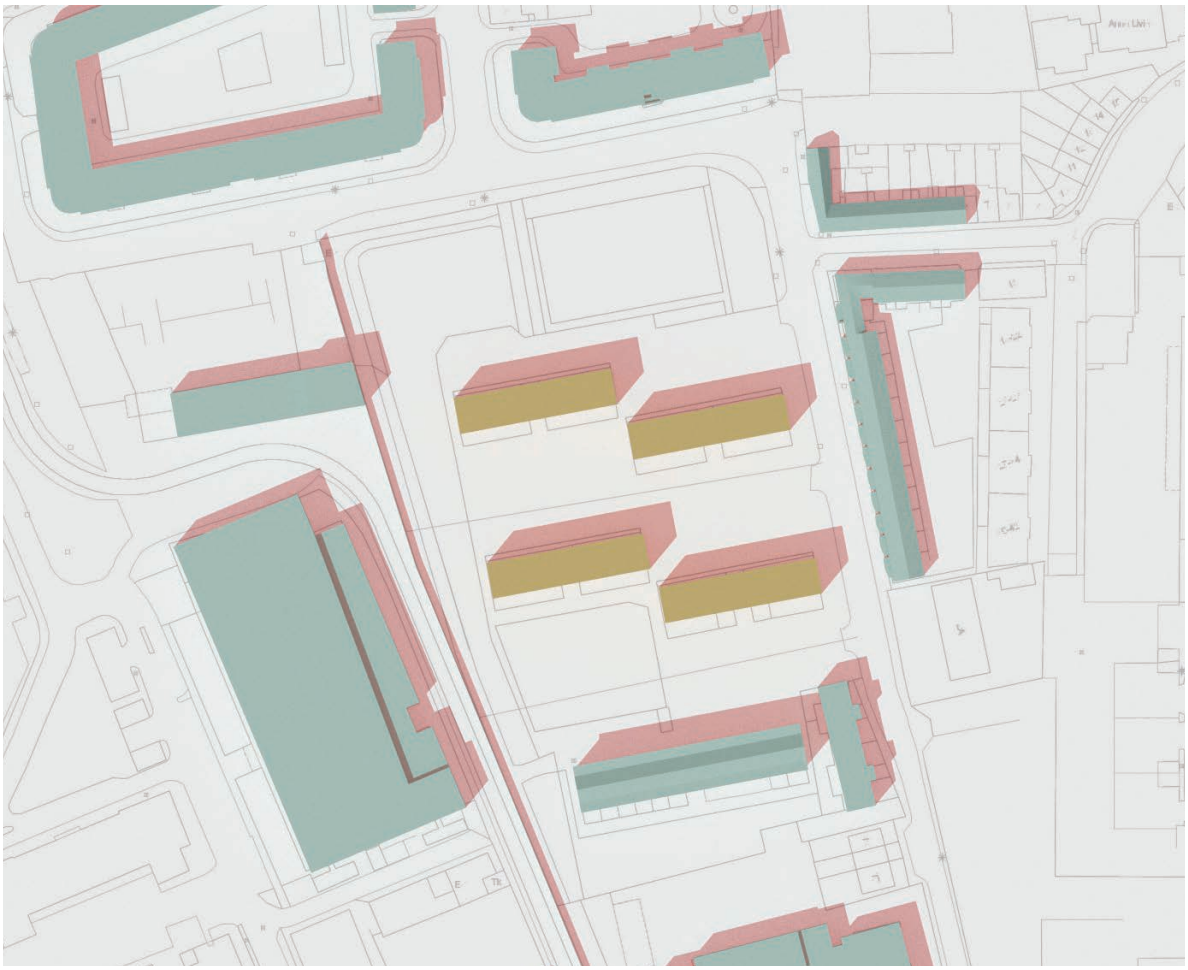


Figure 18: Shadow diagrams 21 June 13:00 UTC +1

Existing

N



Proposed

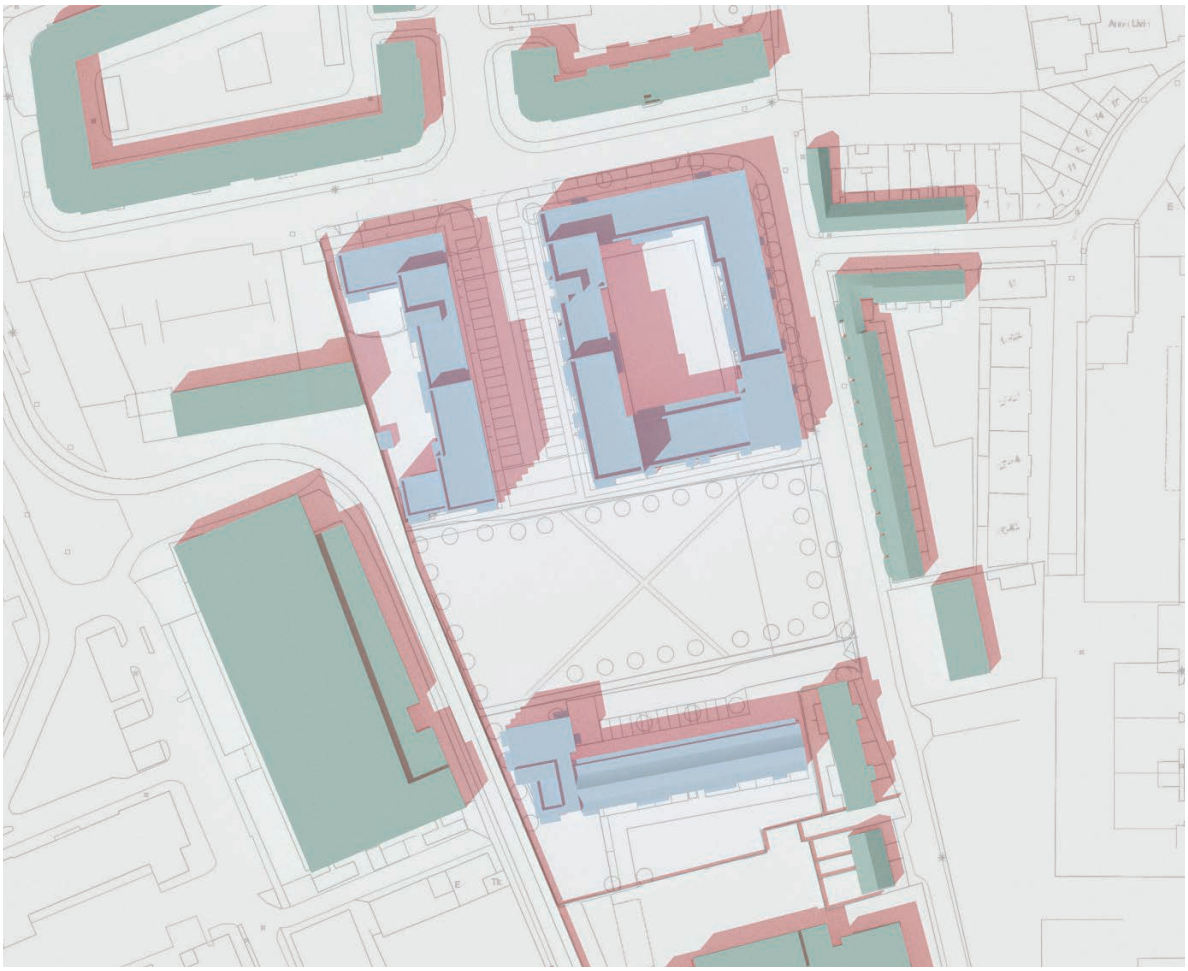
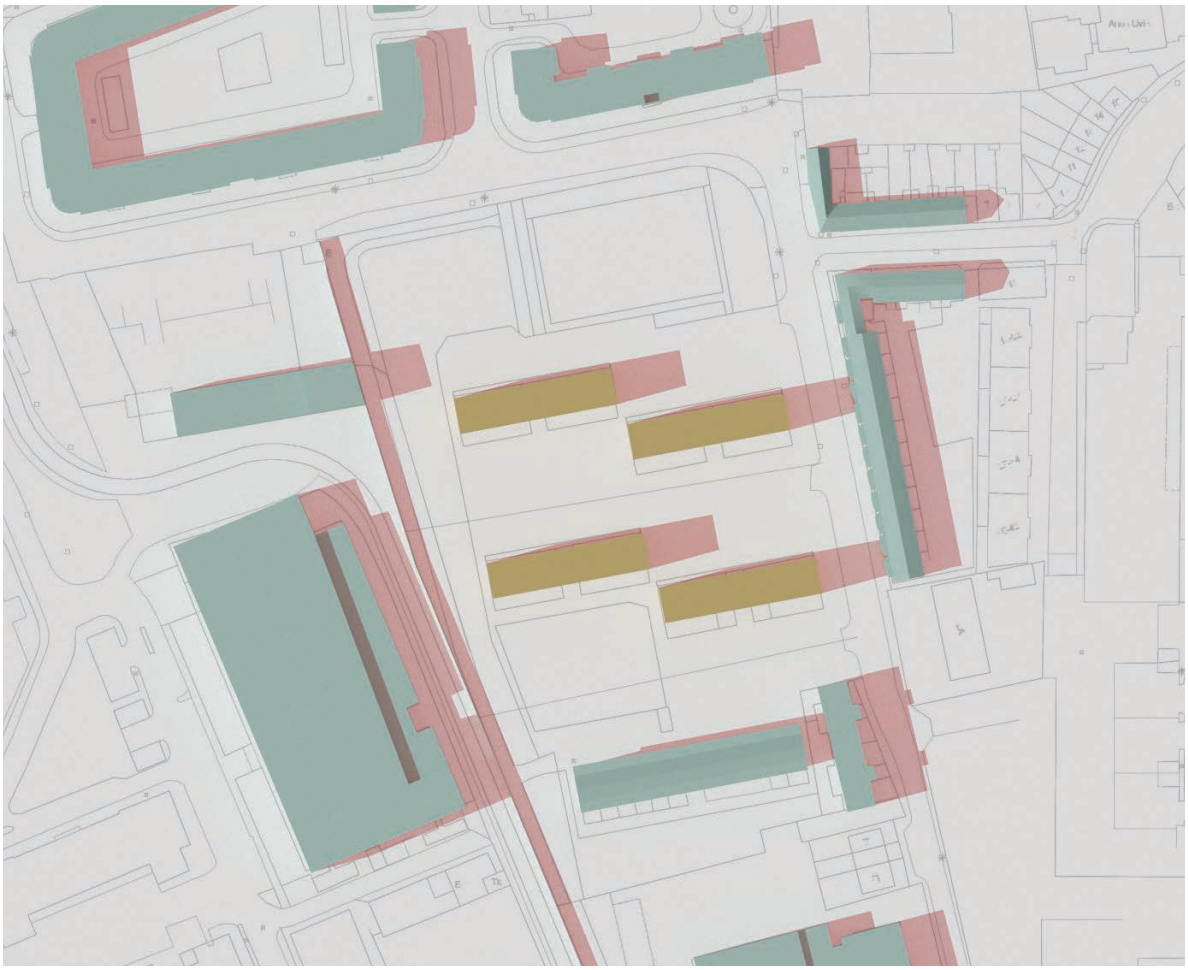


Figure 19: Shadow diagrams 21 June 15:00 UTC +1

Existing

N



Proposed

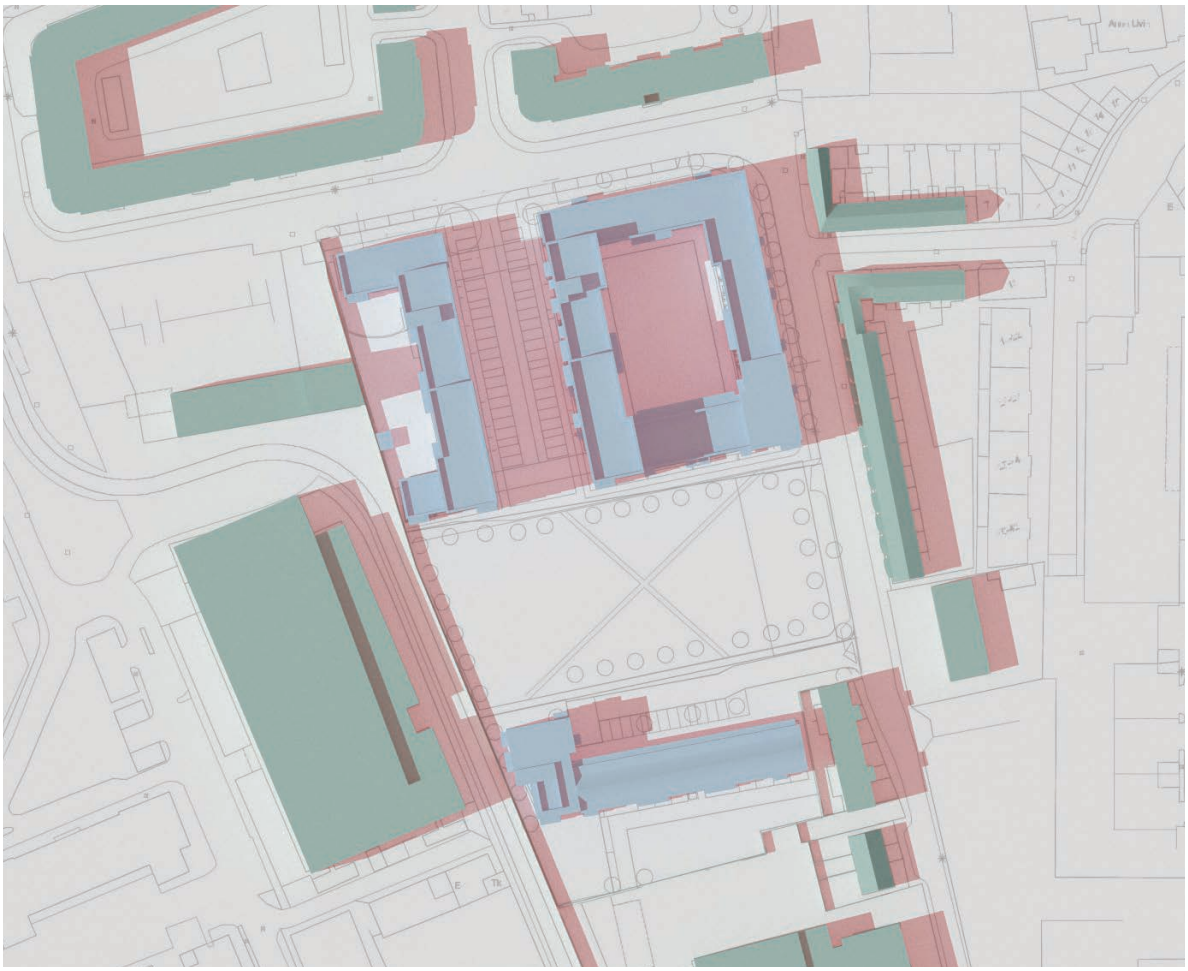
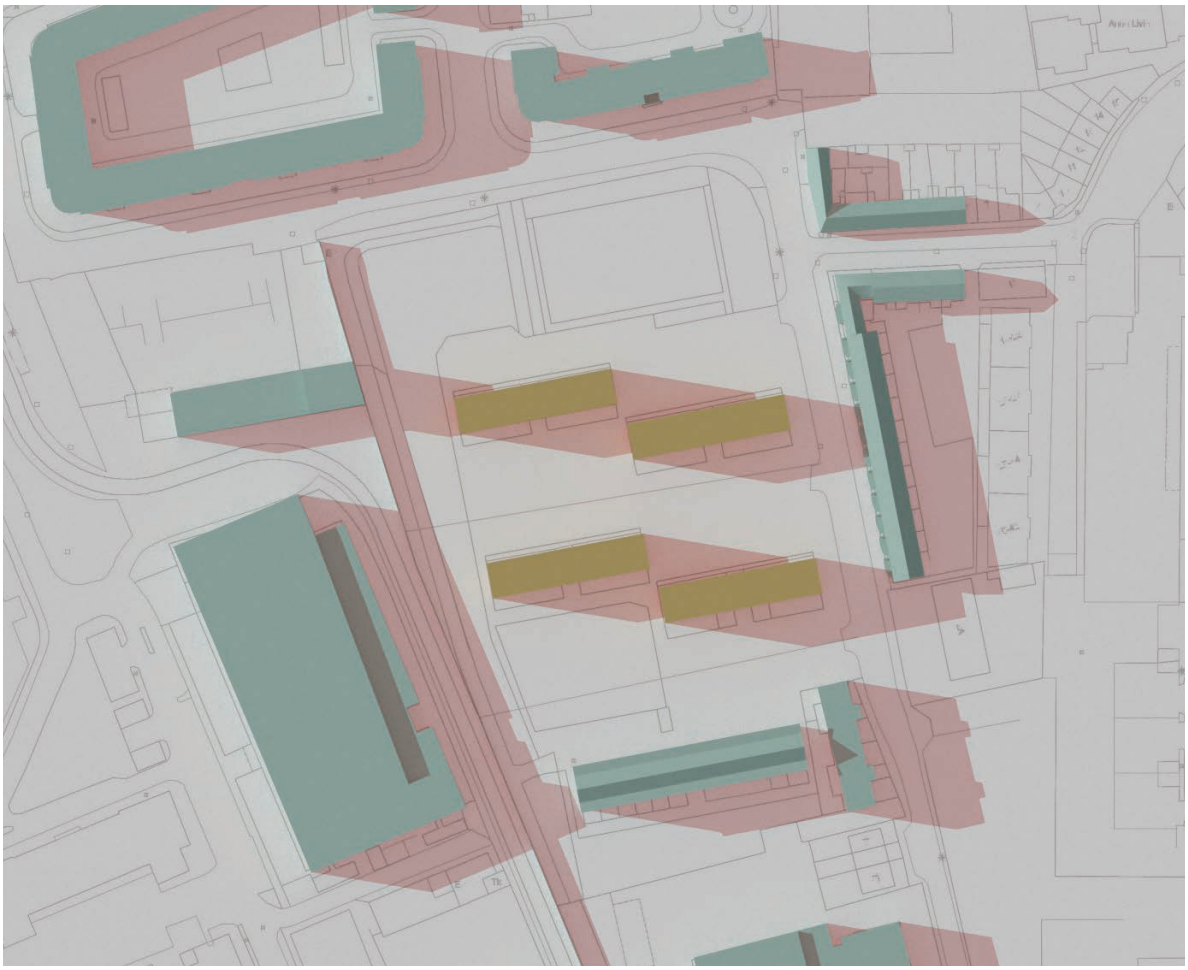


Figure 20: Shadow diagrams 21 June 17:00 UTC +1

Existing

N



Proposed

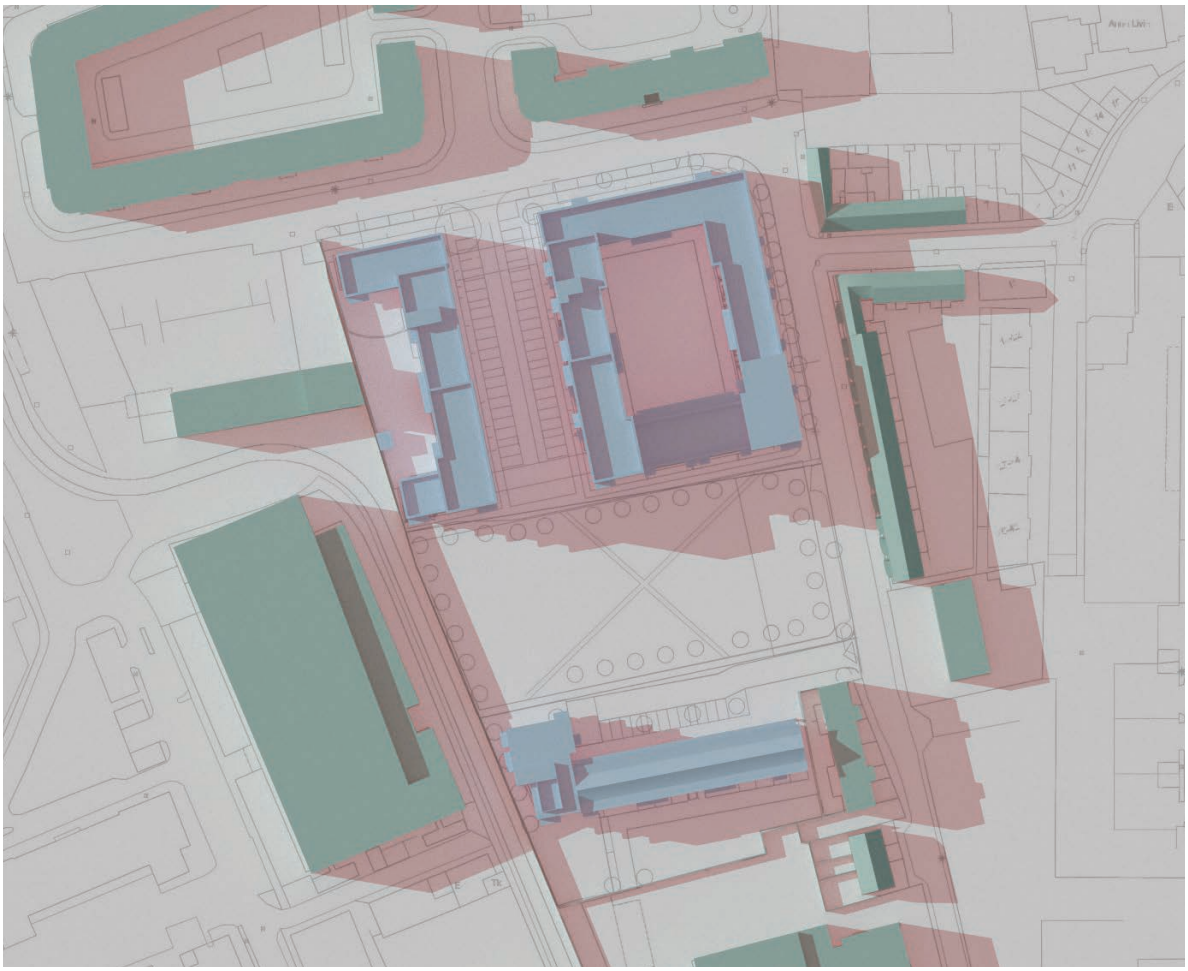


Figure 21: Shadow diagrams 21 June 19:00 UTC +1

9.4 Shadow Casting diagrams December Solstice

Existing

N

Proposed

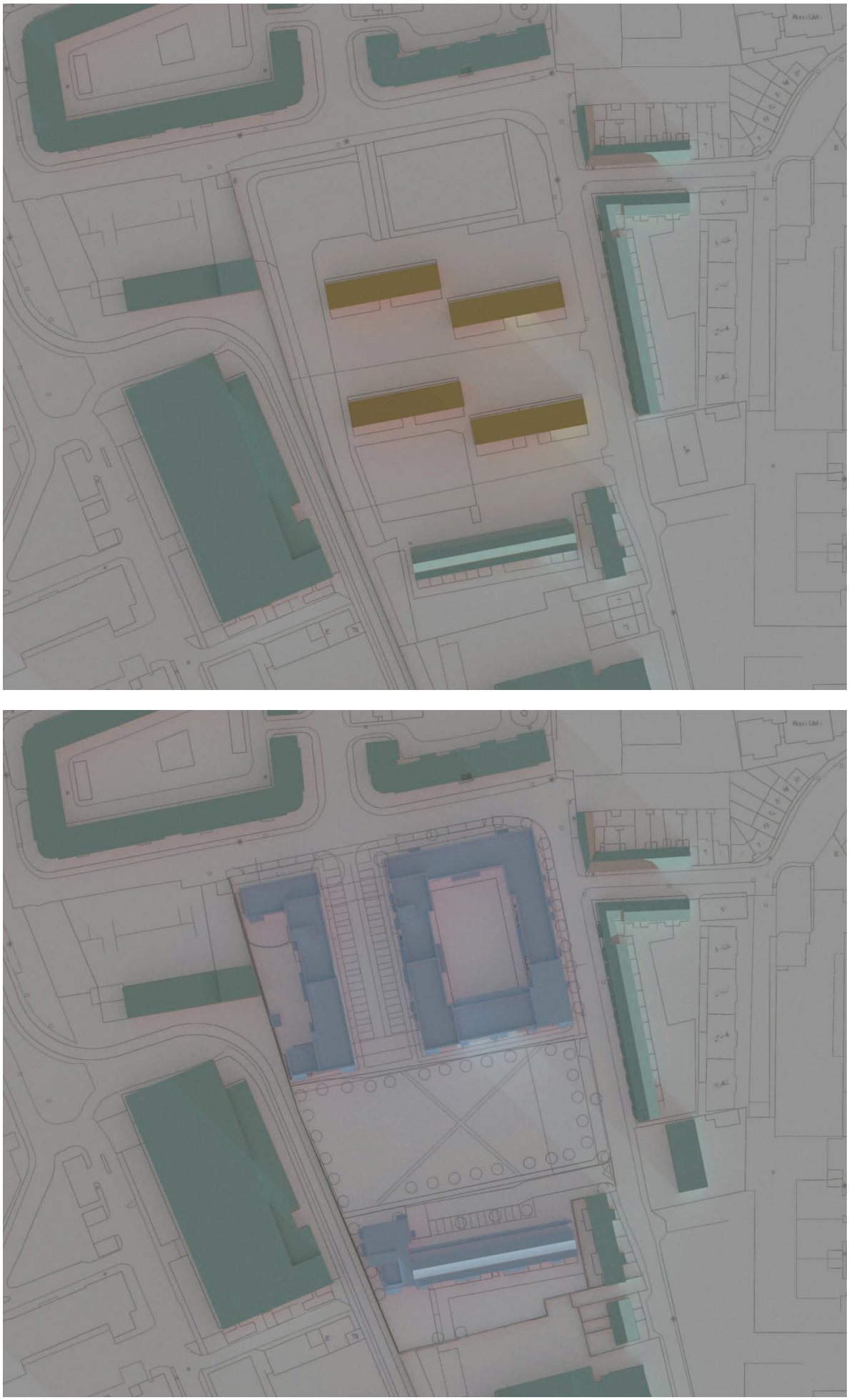
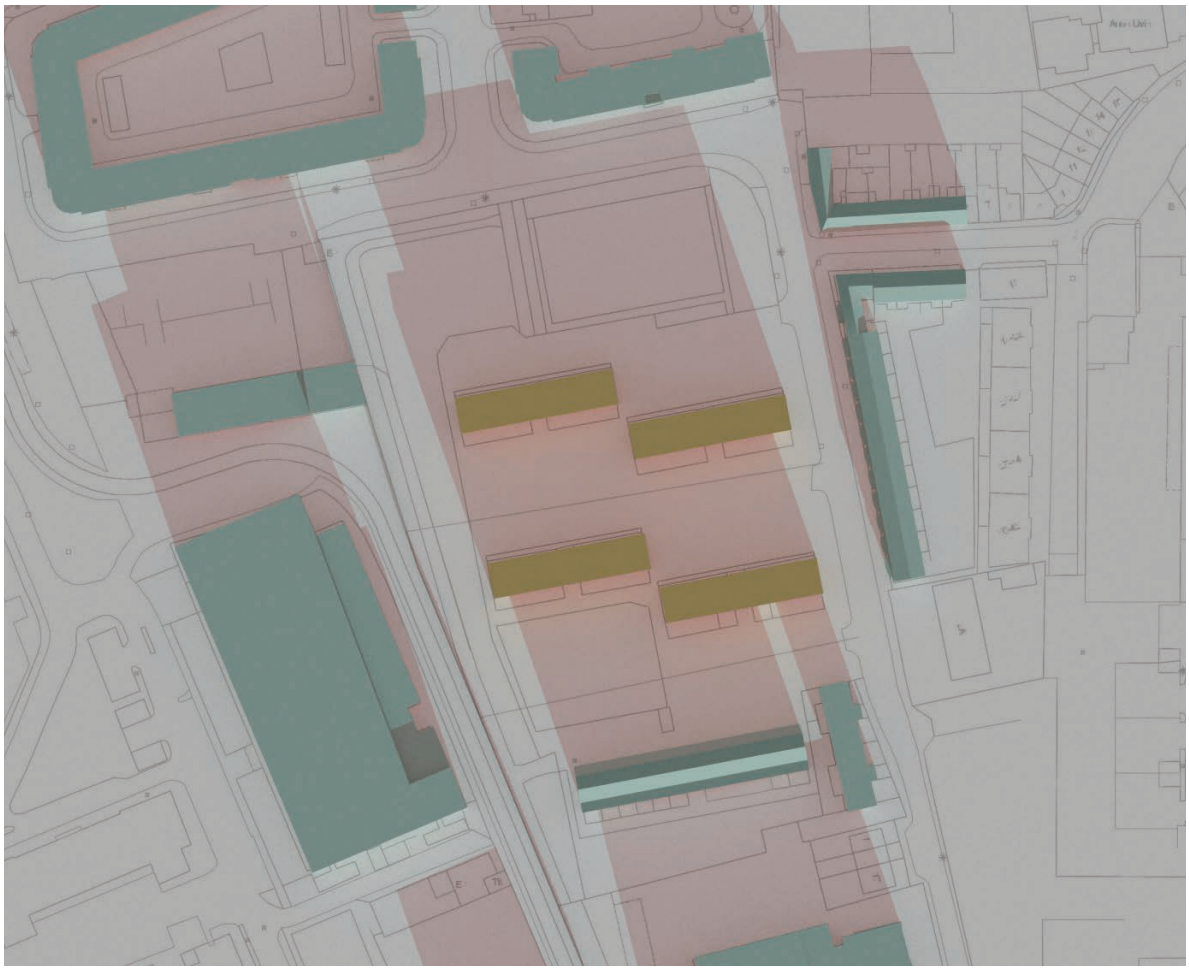


Figure 22: Shadow diagrams 21 December 09:00 UTC

Existing

N



Proposed

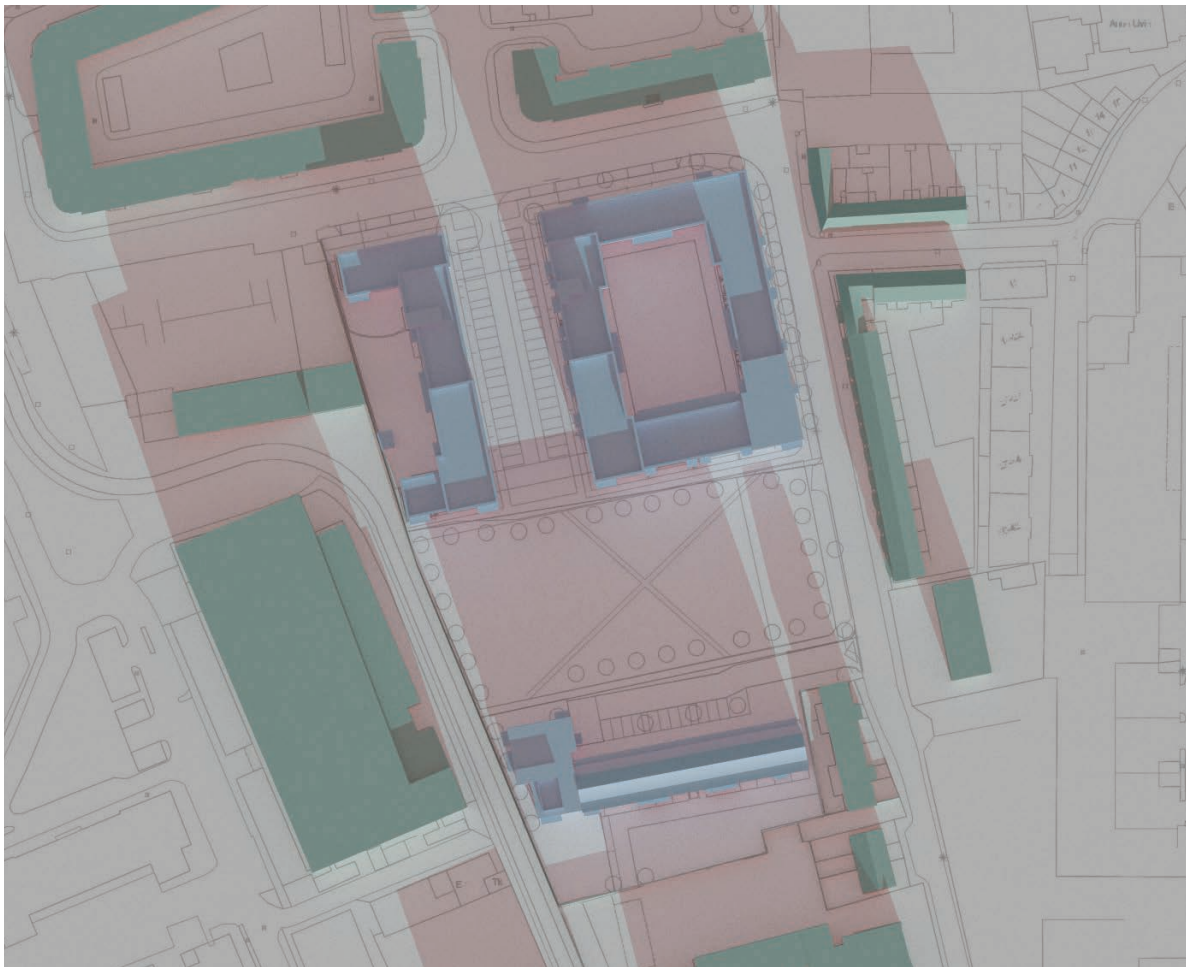
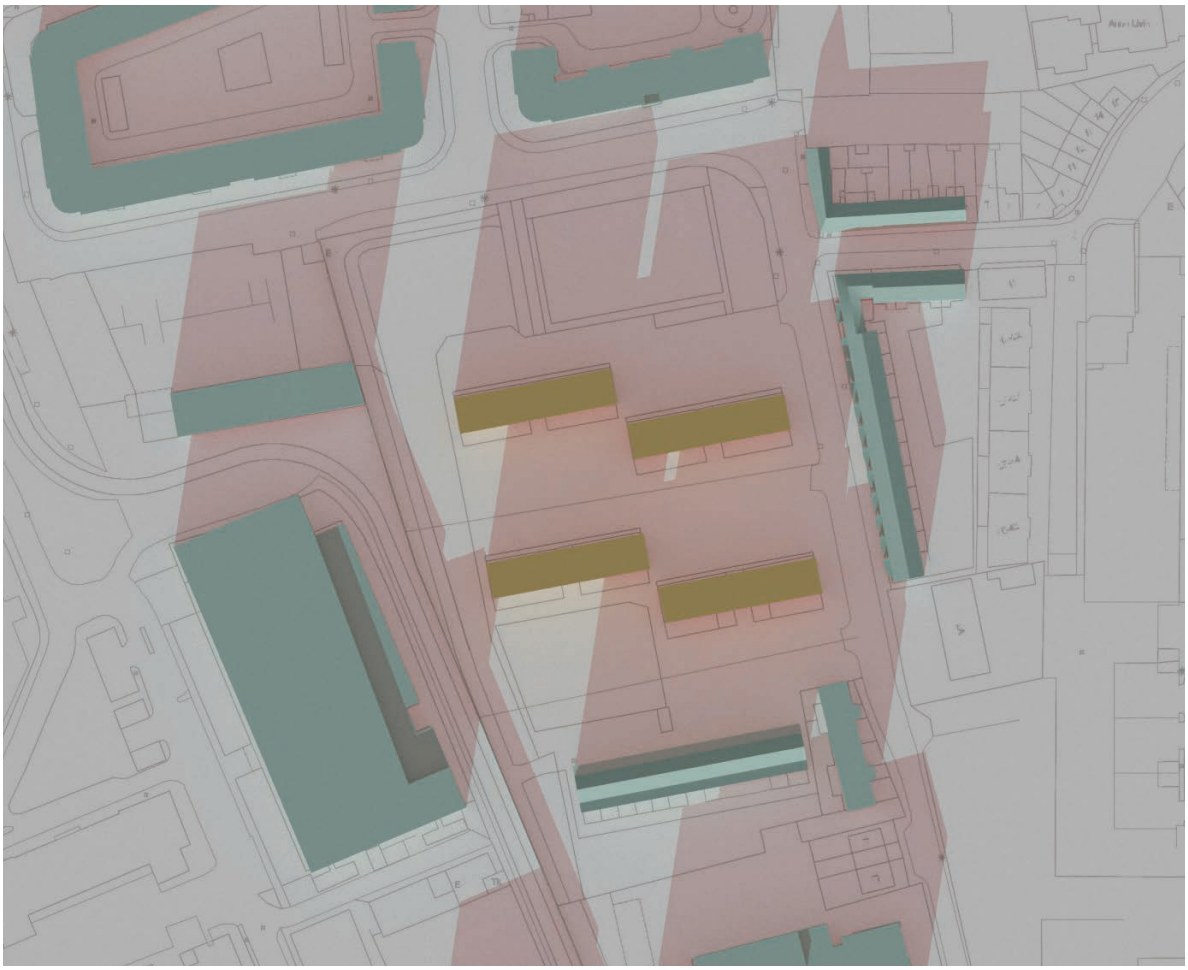


Figure 23: Shadow diagrams 21 December 11:00 UTC

Existing

N



Proposed

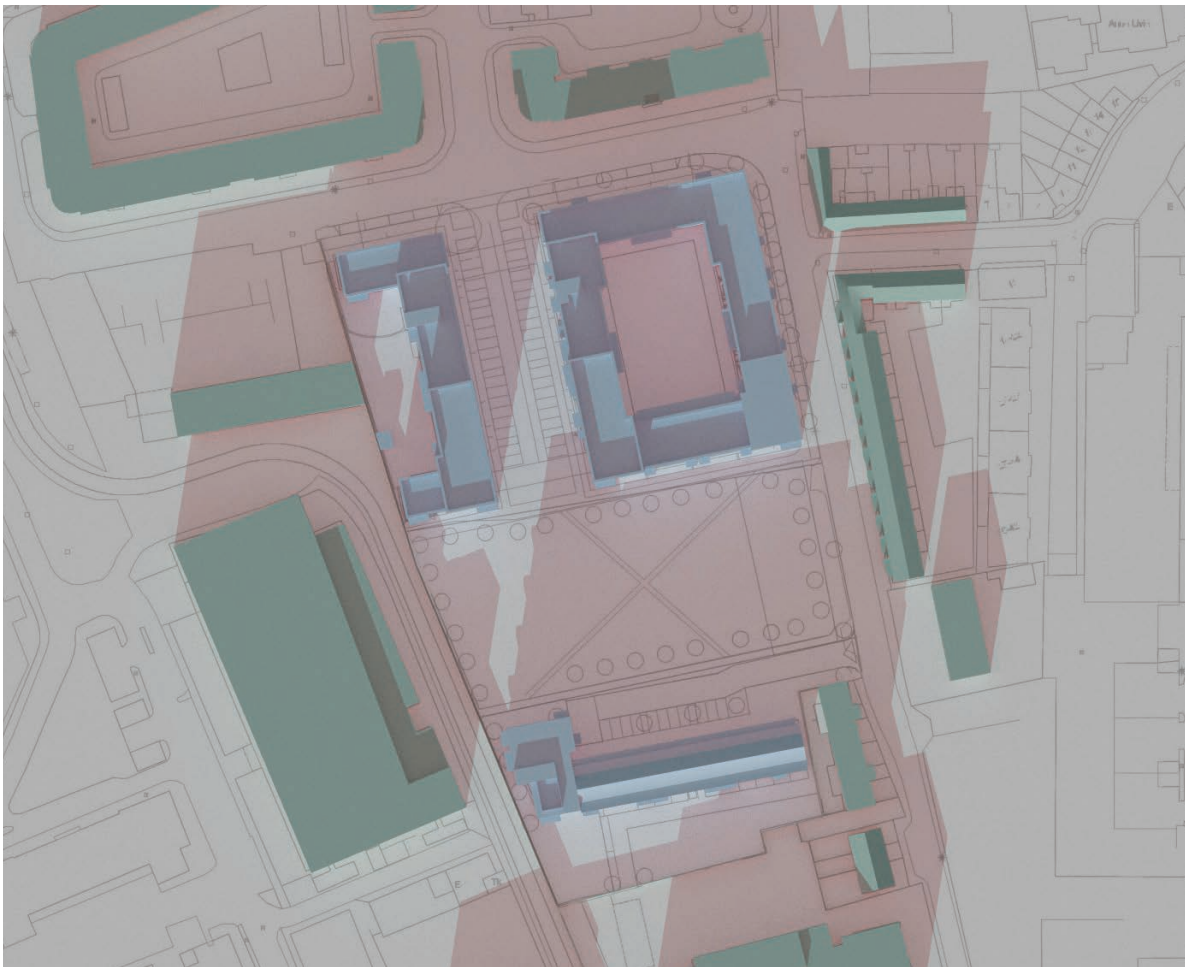
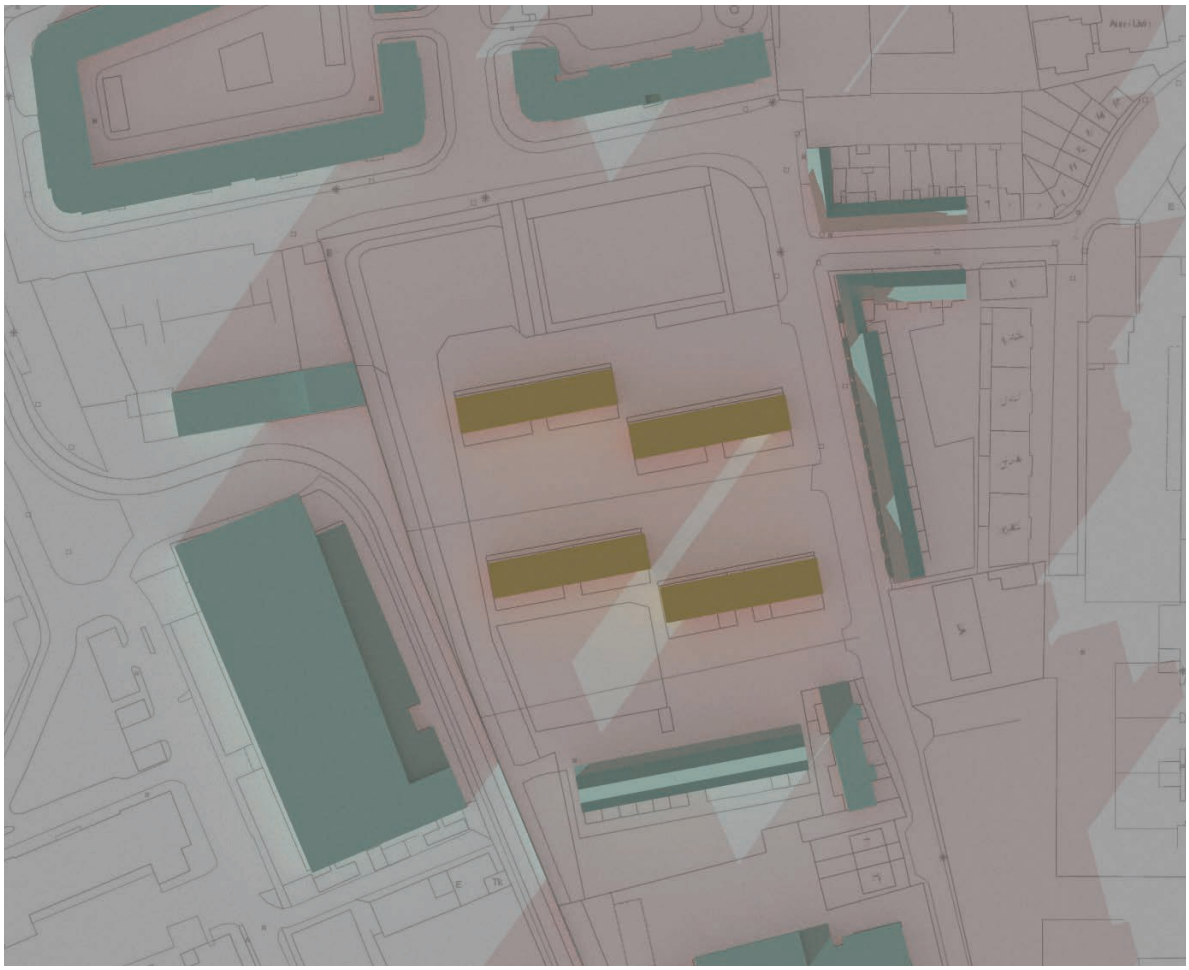


Figure 24: Shadow diagrams 21 December 13:00 UTC

Existing

N



Proposed

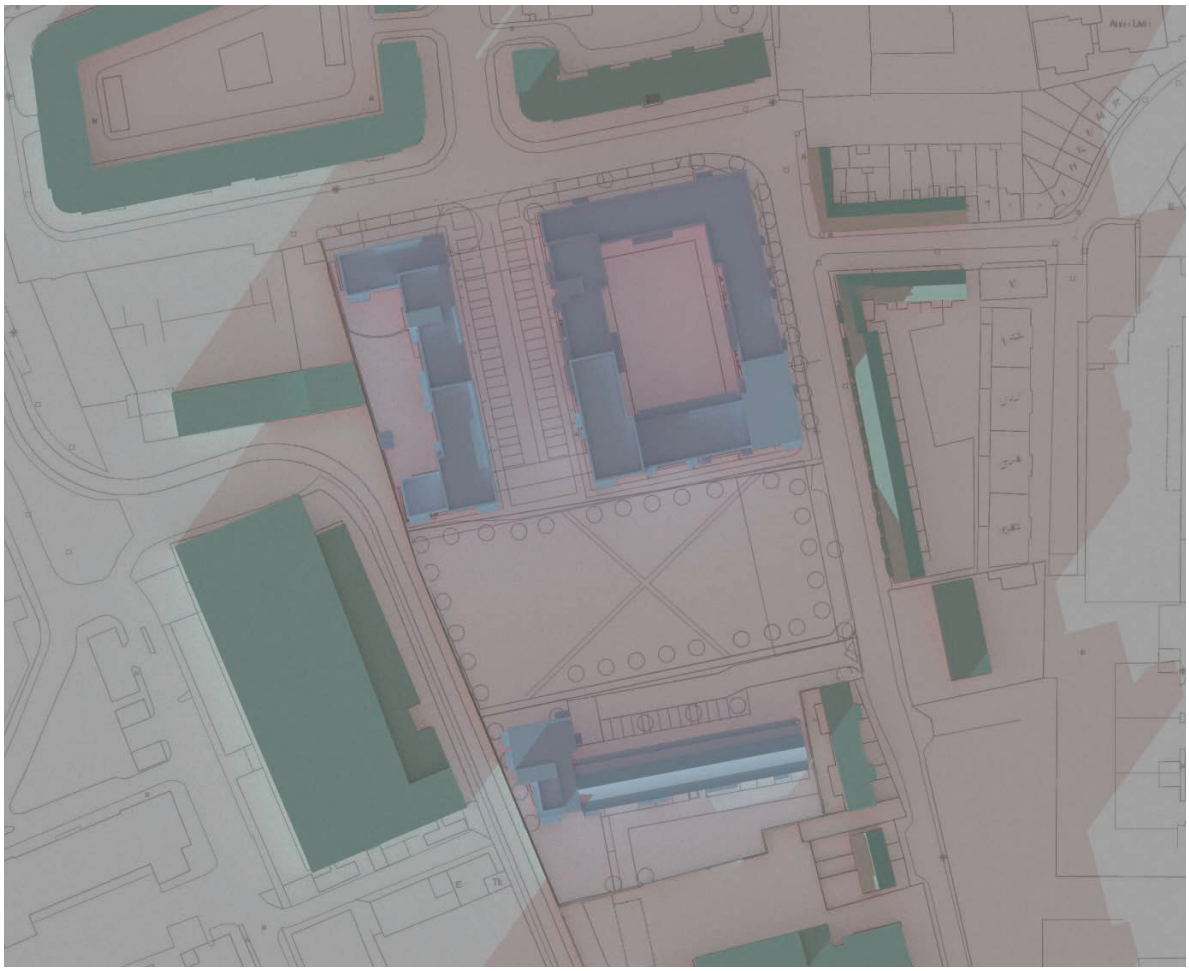


Figure 25: Shadow diagrams 21 December 15:00 UTC

Appendix A -BS EN17037:2021+A1 Minimum room specific Daylight Provision in accordance with UK National Annex Table NA.1.

Block A

Ground Floor **First Floor**

Figure 26: Block A - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block A

Second Floor **Third Floor**

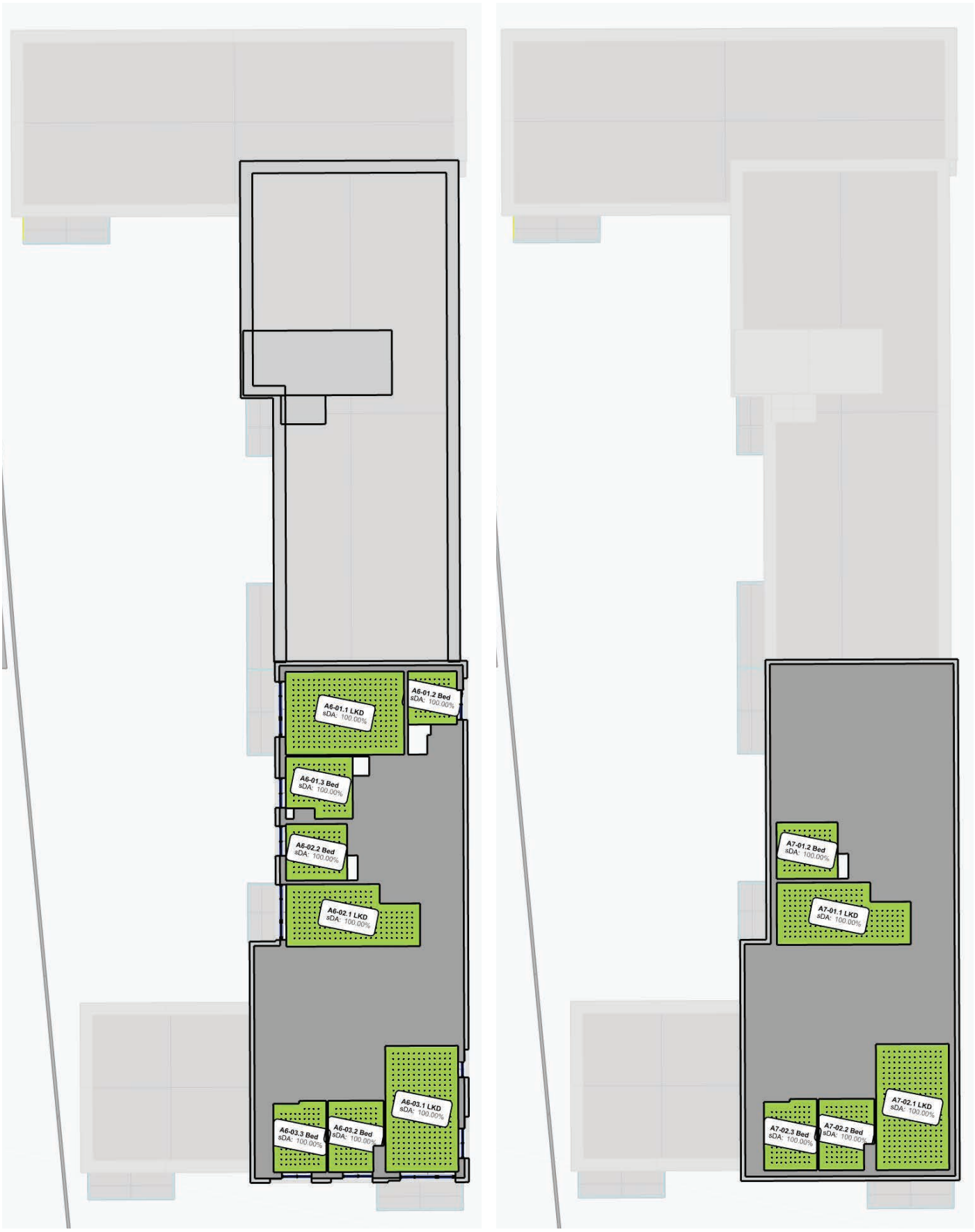
Figure 27: Block A - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block A

Fourth Floor **Fifth Floor**

Figure 28: Block A - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block A



Sixth Floor **Seventh Floor**

Figure 29: Block A - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

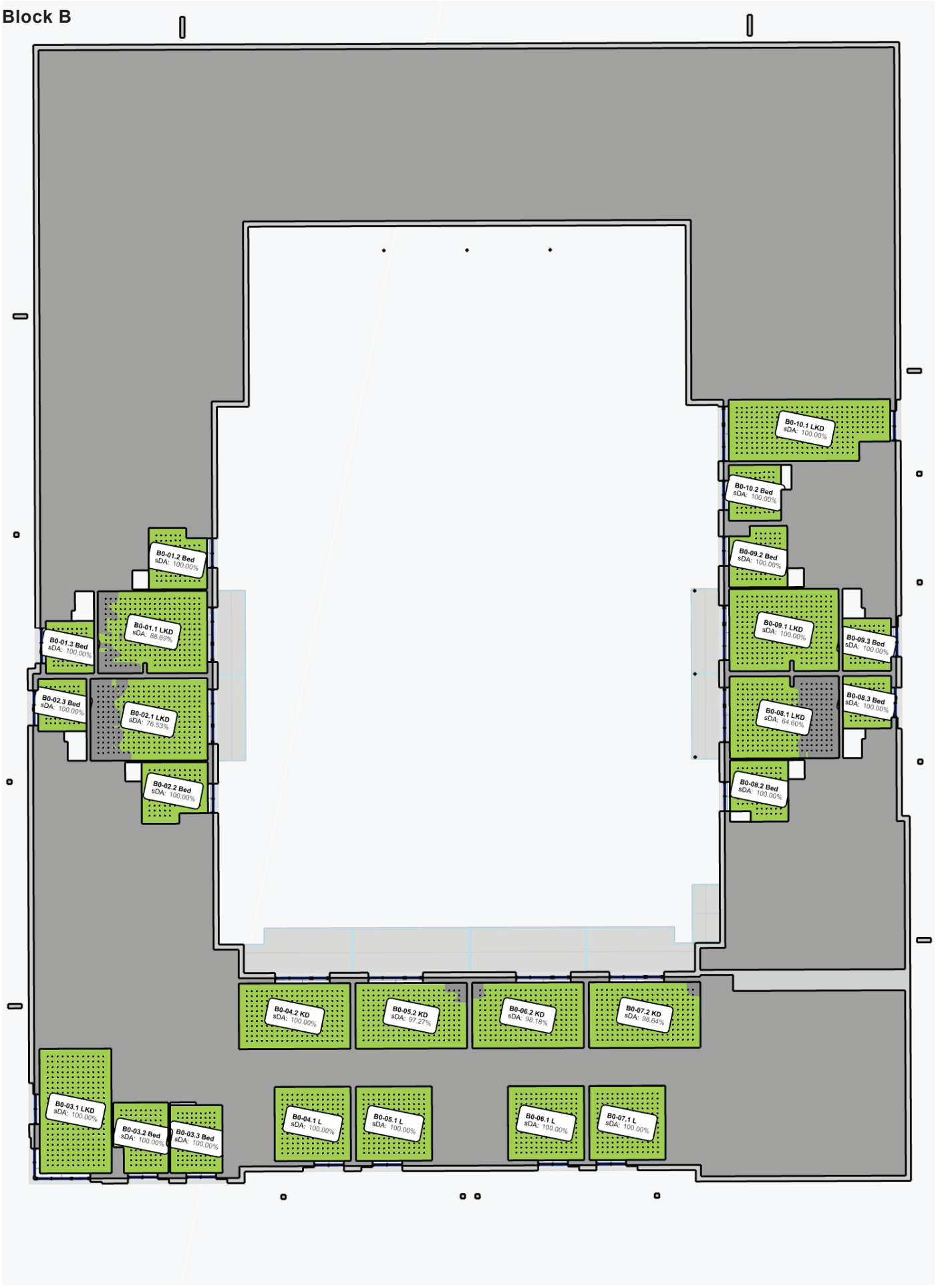
Block A - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
A0-01.1	LKD	30.1	280	200	580	97.1%	Y
A0-01.2	Bed	11.3	92	100	787	100.0%	Y
A0-01.3	Bed	8.5	72	100	623	100.0%	Y
A0-02.1	LKD	32.2	294	200	607	93.2%	Y
A0-02.2	Bed	12.9	102	100	998	99.0%	Y
A0-02.3	Bed	8.5	72	100	634	100.0%	Y
A0-03.1	LKD	30.1	280	200	1281	100.0%	Y
A0-03.2	Bed	11.3	92	100	523	100.0%	Y
A0-03.3	Bed	8.5	72	100	2291	100.0%	Y
A1-01.1	LKD	31.4	288	100	685	100.0%	Y
A1-01.2	Bed	11.3	96	100	517	100.0%	Y
A1-01.3	Bed	9.6	80	100	568	100.0%	Y
A1-02.1	LKD	31.8	286	100	576	100.0%	Y
A1-02.2	Bed	5.9	40	100	738	100.0%	Y
A1-02.3	Bed	9.6	80	100	584	100.0%	Y
A1-02.4	Bed	12.6	108	100	479	100.0%	Y
A1-03.1	LKD	23.1	205	200	282	50.3%	Y
A1-03.2	Bed	10.8	88	100	269	100.0%	Y
A1-04.1	LKD	23.0	189	100	622	100.0%	Y
A1-04.2	Bed	9.8	81	100	1007	100.0%	Y
A1-05.1	LKD	30.1	280	200	529	92.5%	Y
A1-05.2	Bed	11.3	92	100	753	100.0%	Y
A1-05.3	Bed	8.5	72	100	551	100.0%	Y
A1-06.1	LKD	32.2	294	200	537	86.7%	Y
A1-06.2	Bed	8.5	72	100	574	100.0%	Y
A1-06.3	Bed	12.6	98	100	859	100.0%	Y
A1-07.1	LKD	24.6	208	100	537	100.0%	Y
A1-07.2	Bed	11.3	90	100	866	100.0%	Y
A1-08.1	LKD	30.0	264	200	1389	100.0%	Y
A1-08.2	Bed	12.1	98	100	1399	100.0%	Y
A1-08.3	Bed	12.1	103	100	1574	100.0%	Y
A1-09.1	LKD	28.2	260	100	1462	100.0%	Y
A1-09.2	Bed	11.3	92	100	483	100.0%	Y
A1-09.3	Bed	8.5	72	100	1839	100.0%	Y
A2-01.1	LKD	31.4	288	200	821	100.0%	Y
A2-01.2	Bed	11.3	96	100	572	100.0%	Y
A2-01.3	Bed	9.6	80	100	625	100.0%	Y
A2-02.1	LKD	31.8	286	200	655	100.0%	Y
A2-02.2	Bed	5.9	40	100	809	100.0%	Y
A2-02.3	Bed	9.6	80	100	635	100.0%	Y
A2-02.4	Bed	12.6	108	100	527	100.0%	Y
A2-03.1	LKD	23.1	205	200	300	52.7%	Y
A2-03.2	Bed	10.8	88	100	340	100.0%	Y
A2-04.1	LKD	23.0	189	200	726	94.2%	Y
A2-04.2	Bed	9.8	81	100	1162	100.0%	Y
A2-05.1	LKD	30.1	280	200	609	99.6%	Y
A2-05.2	Bed	11.3	92	100	898	100.0%	Y
A2-05.3	Bed	8.5	72	100	620	100.0%	Y
A2-06.1	LKD	32.2	294	200	599	98.0%	Y
A2-06.2	Bed	12.6	98	100	926	100.0%	Y
A2-06.3	Bed	8.5	72	100	648	100.0%	Y

Block A - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
A2-07.1	LKD	24.6	208	200	585	92.3%	Y
A2-07.2	Bed	11.3	90	100	934	100.0%	Y
A2-08.1	LKD	30.0	264	200	1450	100.0%	Y
A2-08.2	Bed	12.1	98	100	1443	100.0%	Y
A2-08.3	Bed	12.1	103	100	1643	100.0%	Y
A2-09.1	LKD	28.2	260	200	1575	100.0%	Y
A2-09.2	Bed	11.3	92	100	541	100.0%	Y
A2-09.3	Bed	8.5	72	100	1895	100.0%	Y
A3-01.1	LKD	31.4	288	200	1267	100.0%	Y
A3-01.2	Bed	11.3	96	100	600	100.0%	Y
A3-01.3	Bed	9.6	80	100	661	100.0%	Y
A3-02.1	LKD	31.8	286	200	744	100.0%	Y
A3-02.2	Bed	5.9	40	100	863	100.0%	Y
A3-02.3	Bed	9.6	80	100	680	100.0%	Y
A3-02.4	Bed	12.6	108	100	560	100.0%	Y
A3-03.1	LKD	23.1	205	200	358	62.4%	Y
A3-03.2	Bed	10.8	88	100	409	100.0%	Y
A3-04.1	LKD	23.0	189	200	830	99.5%	Y
A3-04.2	Bed	9.8	81	100	1283	100.0%	Y
A3-05.1	LKD	30.1	280	200	691	100.0%	Y
A3-05.2	Bed	11.3	92	100	994	100.0%	Y
A3-05.3	Bed	8.5	72	100	730	100.0%	Y
A3-06.1	LKD	32.2	294	200	662	100.0%	Y
A3-06.2	Bed	12.6	98	100	970	100.0%	Y
A3-06.3	Bed	8.5	72	100	761	100.0%	Y
A3-07.1	LKD	24.6	208	200	632	95.7%	Y
A3-07.2	Bed	11.3	90	100	999	100.0%	Y
A3-08.1	LKD	30.0	264	200	1516	100.0%	Y
A3-08.2	Bed	12.1	98	100	1480	100.0%	Y
A3-08.3	Bed	12.1	103	100	1682	100.0%	Y
A3-09.1	LKD	28.2	260	200	1665	100.0%	Y
A3-09.2	Bed	11.3	92	100	582	100.0%	Y
A3-09.3	Bed	8.5	72	100	1959	100.0%	Y
A4-01.1	LKD	22.8	205	100	409	100.0%	Y
A4-01.2	Bed	10.8	88	100	477	100.0%	Y
A4-02.1	LKD	23.0	189	100	890	100.0%	Y
A4-02.2	Bed	9.8	81	100	1345	100.0%	Y
A4-03.1	LKD	30.1	280	200	740	100.0%	Y
A4-03.2	Bed	11.3	92	100	1060	100.0%	Y
A4-03.3	Bed	8.5	72	100	821	100.0%	Y
A4-04.1	LKD	32.2	294	200	702	100.0%	Y
A4-04.2	Bed	12.6	98	100	1011	100.0%	Y
A4-04.3	Bed	8.5	72	100	887	100.0%	Y
A4-05.1	LKD	24.6	208	100	677	100.0%	Y
A4-05.2	Bed	11.3	90	100	1045	100.0%	Y
A4-06.1	LKD	30.0	264	100	1549	100.0%	Y
A4-06.2	Bed	12.1	98	100	1507	100.0%	Y
A4-06.3	Bed	12.1	103	100	1700	100.0%	Y
A4-07.1	LKD	28.2	260	100	2103	100.0%	Y
A4-07.2	Bed	11.3	92	100	625	100.0%	Y
A4-07.3	Bed	8.5	72	100	1981	100.0%	Y

Block A - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
A5-01.1	LKD	22.8	205	200	451	85.4%	Y
A5-01.2	Bed	10.8	88	100	528	100.0%	Y
A5-02.1	LKD	23.0	189	200	1230	100.0%	Y
A5-02.2	Bed	9.8	81	100	1381	100.0%	Y
A5-03.1	LKD	30.1	280	200	1028	100.0%	Y
A5-03.2	Bed	11.3	92	100	1113	100.0%	Y
A5-03.3	Bed	8.5	72	100	961	100.0%	Y
A5-04.1	LKD	32.2	294	200	741	100.0%	Y
A5-04.2	Bed	8.5	72	100	1051	100.0%	Y
A5-04.3	Bed	12.6	98	100	1048	100.0%	Y
A5-05.1	LKD	24.6	208	200	741	100.0%	Y
A5-05.2	Bed	11.3	90	100	1092	100.0%	Y
A5-06.1	LKD	30.0	264	200	1601	100.0%	Y
A5-06.2	Bed	12.1	98	100	1528	100.0%	Y
A5-06.3	Bed	12.1	103	100	1741	100.0%	Y
A6-01.1	LKD	32.2	294	200	1011	100.0%	Y
A6-01.2	Bed	8.5	72	100	1176	100.0%	Y
A6-01.3	Bed	12.6	98	100	1084	100.0%	Y
A6-02.1	LKD	24.6	208	200	757	100.0%	Y
A6-02.2	Bed	11.3	90	100	1124	100.0%	Y
A6-03.1	LKD	30.0	264	200	1638	100.0%	Y
A6-03.2	Bed	12.1	98	100	1546	100.0%	Y
A6-03.3	Bed	12.1	103	100	1737	100.0%	Y
A7-01.1	LKD	24.6	208	200	993	100.0%	Y
A7-01.2	Bed	11.3	90	100	1161	100.0%	Y
A7-02.1	LKD	30.0	264	200	2001	100.0%	Y
A7-02.2	Bed	12.1	98	100	1617	100.0%	Y
A7-02.3	Bed	12.1	103	100	1740	100.0%	Y

Table 21: Minimum Daylight Provision BS EN17037:2018+A1:2021 Table NA.1 compliance for habitable rooms

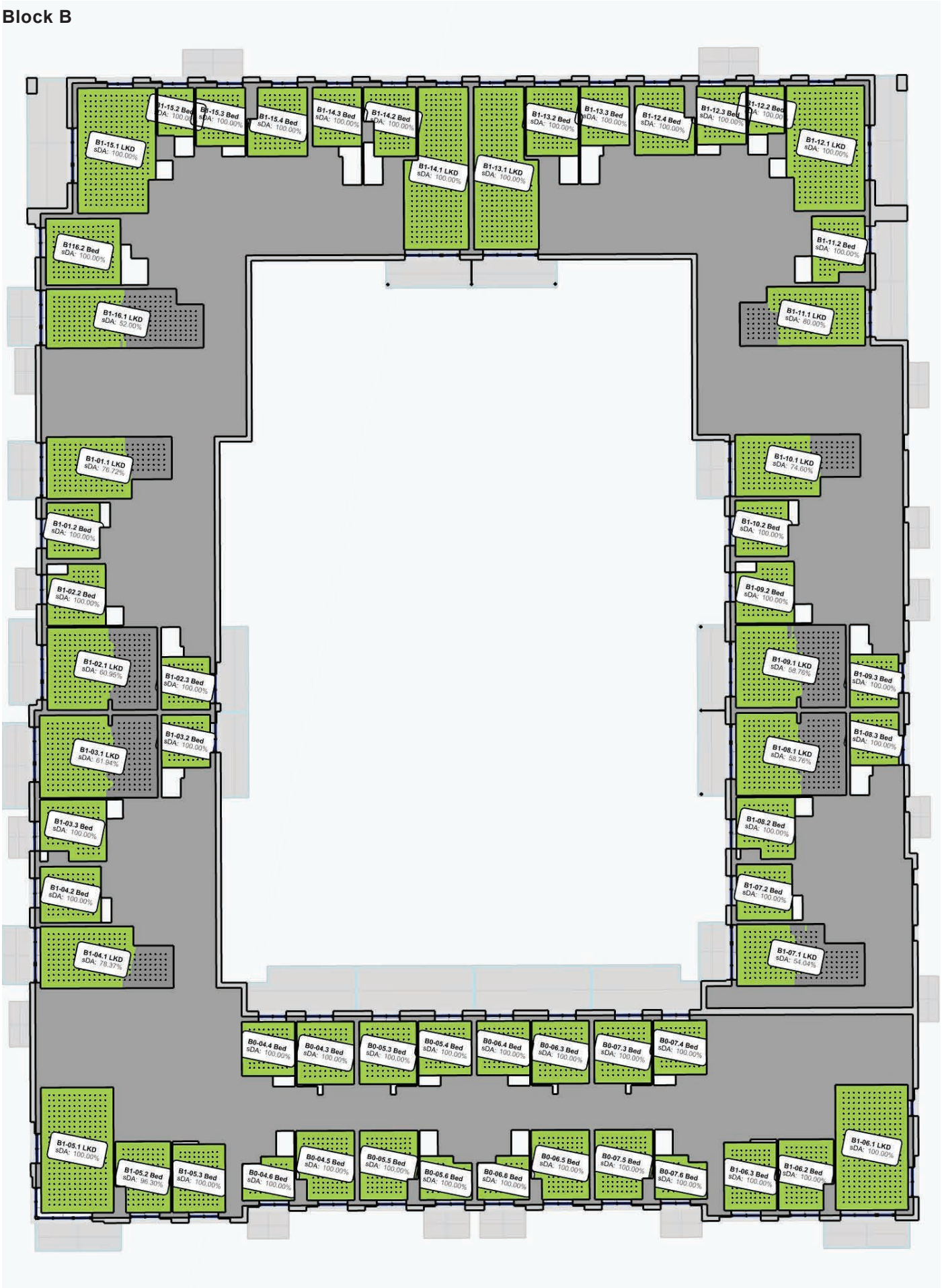
Block B



Ground Floor

Figure 30: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

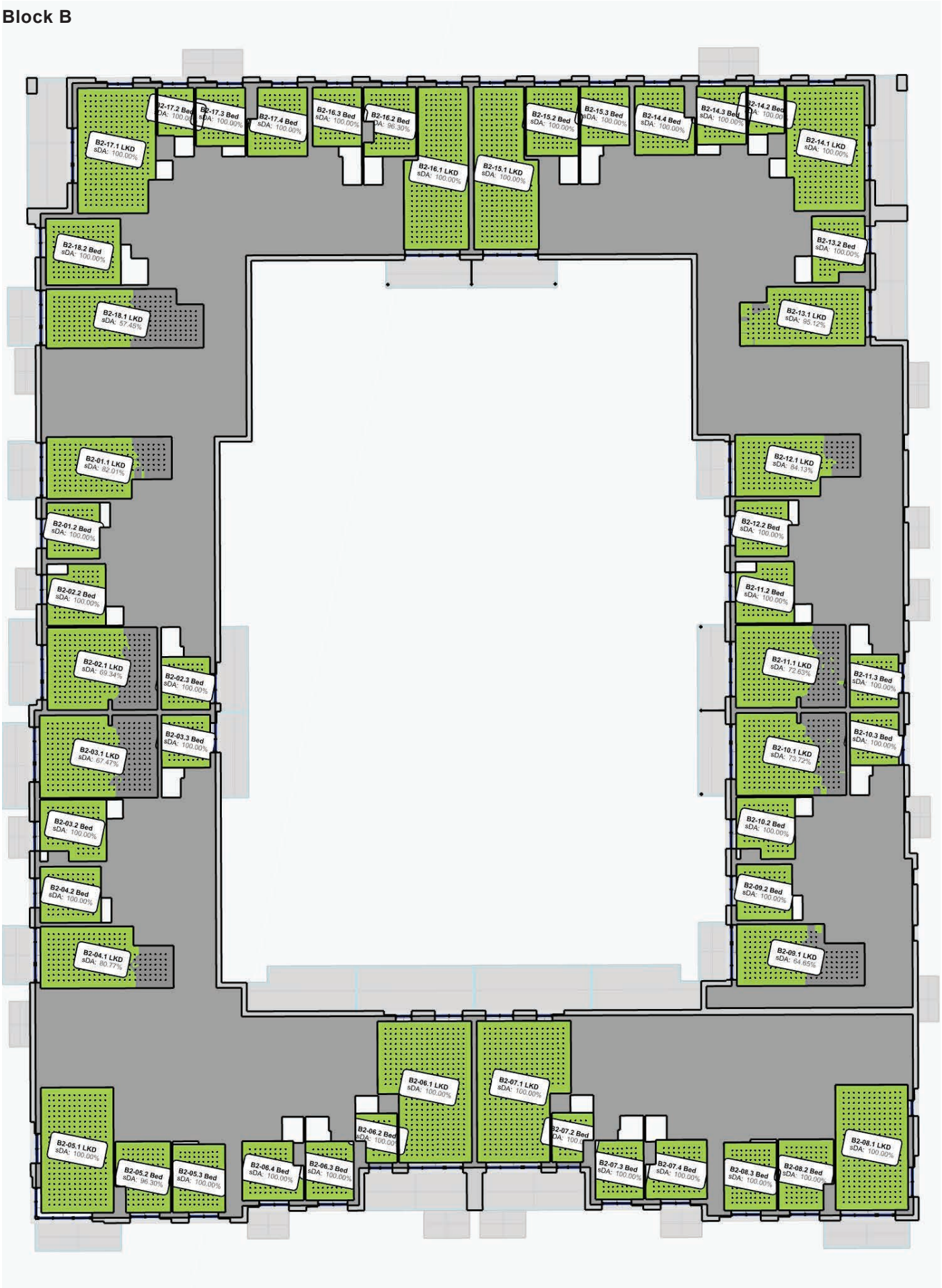
Block B



First Floor

Figure 31: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

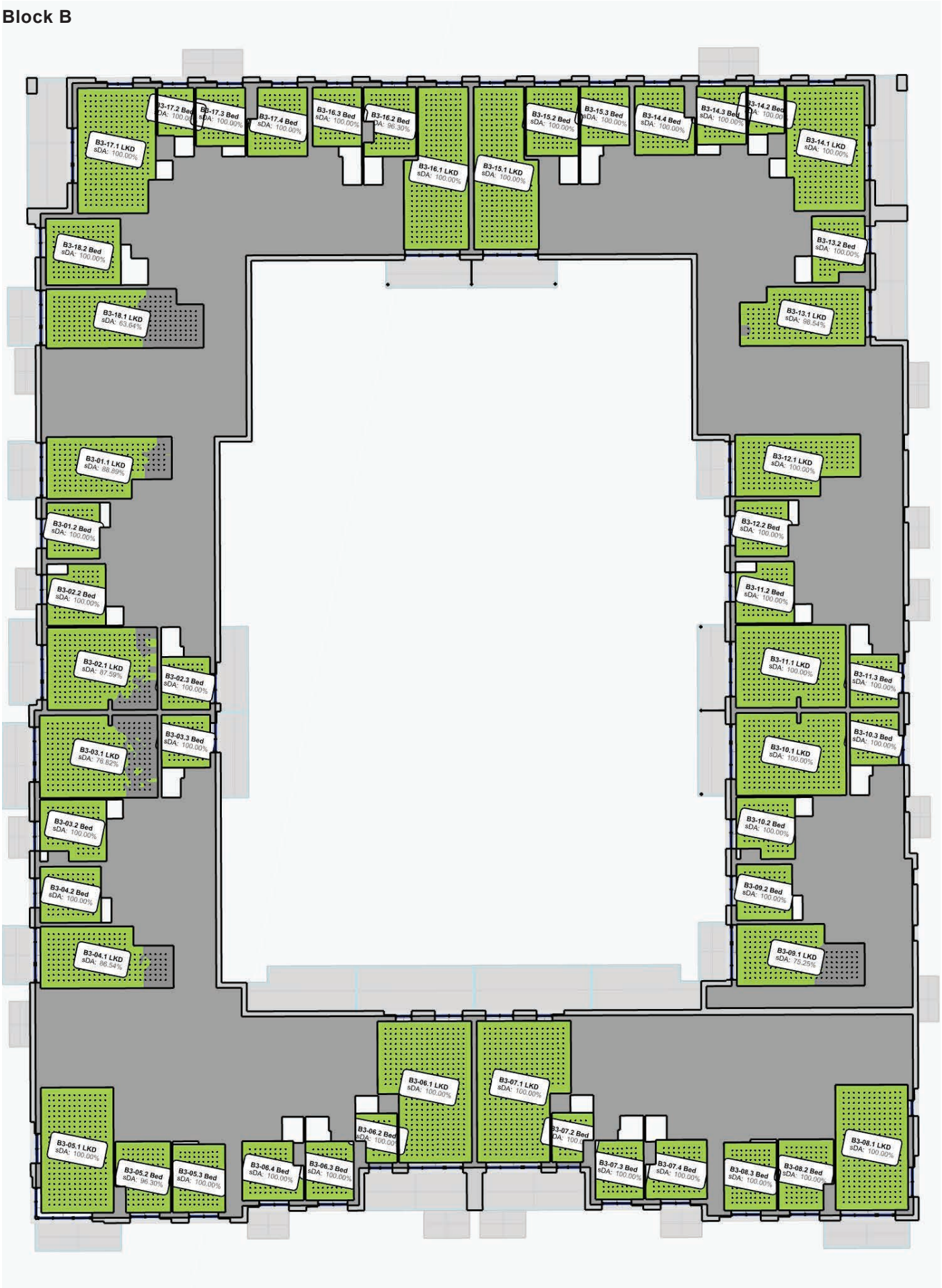
Block B



Second Floor

Figure 32: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block B



Third Floor

Figure 33: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block B

Fourth Floor

Figure 34: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block B

Fifth Floor

Sixth Floor

Seventh Floor

Figure 35: Block B - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1

Block B - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
B0-01.1	LKD	29.9	274	200	625	88.7%	Y
B0-01.2	Bed	11.3	92	100	678	100.0%	Y
B0-01.3	Bed	8.5	72	100	547	100.0%	Y
B0-02.1	LKD	32.2	294	200	531	76.5%	Y
B0-02.2	Bed	12.6	98	100	483	100.0%	Y
B0-02.3	Bed	8.5	72	100	581	100.0%	Y
B0-03.1	LKD	30.0	264	200	1878	100.0%	Y
B0-03.2	Bed	12.1	98	300	1759	100.0%	Y
B0-03.3	Bed	11.8	108	300	1888	100.0%	Y
B0-04.1	L	18.9	169	150	1264	100.0%	Y
B0-04.2	KD	24.5	220	200	493	100.0%	Y
B0-04.3	Bed	11.9	90	100	425	100.0%	Y
B0-04.4	Bed	9.5	81	100	476	100.0%	Y
B0-04.5	Bed	12.7	112	100	1554	100.0%	Y
B0-04.6	Bed	7.1	52	100	2395	100.0%	Y
B0-05.1	L	18.9	169	150	1357	100.0%	Y
B0-05.2	KD	24.5	220	200	520	97.3%	Y
B0-05.3	Bed	11.9	90	100	453	100.0%	Y
B0-05.4	Bed	9.5	81	100	537	100.0%	Y
B0-05.5	Bed	12.7	112	100	1516	100.0%	Y
B0-05.6	Bed	7.1	52	100	2467	100.0%	Y
B0-06.1	L	18.9	169	150	1372	100.0%	Y
B0-06.2	KD	24.5	220	200	511	98.2%	Y
B0-06.3	Bed	11.9	90	100	444	100.0%	Y
B0-06.4	Bed	9.5	81	100	530	100.0%	Y
B0-06.5	Bed	12.7	112	100	1560	100.0%	Y
B0-06.6	Bed	7.1	52	100	2542	100.0%	Y
B0-07.1	L	18.9	169	150	1328	100.0%	Y
B0-07.2	KD	24.5	220	200	472	98.6%	Y
B0-07.3	Bed	11.9	90	100	413	100.0%	Y
B0-07.4	Bed	9.5	81	100	455	100.0%	Y
B0-07.5	Bed	12.7	112	100	1599	100.0%	Y
B0-07.6	Bed	7.1	52	100	2455	100.0%	Y
B0-08.1	LKD	29.9	274	200	355	64.6%	Y
B0-08.2	Bed	11.3	92	100	497	100.0%	Y
B0-08.3	Bed	8.5	72	100	1173	100.0%	Y
B0-09.1	LKD	29.9	274	100	388	100.0%	Y
B0-09.2	Bed	11.3	92	100	627	100.0%	Y
B0-09.3	Bed	8.5	72	100	1115	100.0%	Y
B0-10.1	LKD	31.2	276	200	719	100.0%	Y
B0-10.2	Bed	9.7	81	100	820	100.0%	Y
B1-01.1	LKD	23.0	189	200	463	76.7%	Y
B1-01.2	Bed	9.8	81	100	722	100.0%	Y
B1-02.1	LKD	29.9	274	200	330	60.9%	Y
B1-02.2	Bed	11.3	92	100	567	100.0%	Y
B1-02.3	Bed	8.5	72	100	955	100.0%	Y
B1-03.1	LKD	32.1	289	200	332	61.9%	Y
B1-03.2	Bed	8.5	72	100	896	100.0%	Y
B1-03.3	Bed	12.6	98	100	504	100.0%	Y
B1-04.1	LKD	24.6	208	200	495	78.4%	Y
B1-04.2	Bed	11.3	90	100	591	100.0%	Y

Block B - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
B1-05.1	LKD	30.0	264	200	1654	100.0%	Y
B1-05.2	Bed	13.0	108	100	1491	96.3%	Y
B1-05.3	Bed	11.8	108	100	1654	100.0%	Y
B1-06.1	LKD	30.0	264	200	1568	100.0%	Y
B1-06.2	Bed	12.1	98	100	1564	100.0%	Y
B1-06.3	Bed	11.8	108	100	1692	100.0%	Y
B1-07.1	LKD	23.6	198	200	288	54.0%	Y
B1-07.2	Bed	10.3	81	100	566	100.0%	Y
B1-08.1	LKD	29.9	274	200	332	58.8%	Y
B1-08.2	Bed	11.1	90	100	520	100.0%	Y
B1-08.3	Bed	8.5	72	100	1147	100.0%	Y
B1-09.1	LKD	29.9	274	200	355	58.8%	Y
B1-09.2	Bed	11.3	92	100	657	100.0%	Y
B1-09.3	Bed	8.5	72	100	1169	100.0%	Y
B1-10.1	LKD	23.0	189	200	490	74.6%	Y
B1-10.2	Bed	9.8	81	100	844	100.0%	Y
B1-11.1	LKD	23.1	205	200	452	80.0%	Y
B1-11.2	Bed	10.8	88	100	633	100.0%	Y
B1-12.1	LKD	31.5	280	200	767	100.0%	Y
B1-12.2	Bed	5.9	40	100	833	100.0%	Y
B1-12.3	Bed	9.6	80	100	593	100.0%	Y
B1-12.4	Bed	12.6	108	100	489	100.0%	Y
B1-13.1	LKD	31.4	288	200	742	100.0%	Y
B1-13.2	Bed	12.0	108	100	492	100.0%	Y
B1-13.3	Bed	9.6	80	100	572	100.0%	Y
B1-14.1	LKD	31.4	288	200	726	100.0%	Y
B1-14.2	Bed	10.8	94	100	531	100.0%	Y
B1-14.3	Bed	9.6	80	100	576	100.0%	Y
B1-15.1	LKD	31.5	280	200	554	100.0%	Y
B1-15.2	Bed	5.9	40	100	821	100.0%	Y
B1-15.3	Bed	9.6	80	100	596	100.0%	Y
B1-15.4	Bed	12.6	108	100	492	100.0%	Y
B1-16.1	LKD	29.4	275	200	376	52.0%	Y
B116.2	Bed	16.4	143	100	514	100.0%	Y
B2-01.1	LKD	23.0	189	200	556	82.0%	Y
B2-01.2	Bed	9.8	81	100	850	100.0%	Y
B2-02.1	LKD	29.9	274	200	391	69.3%	Y
B2-02.2	Bed	11.3	92	100	657	100.0%	Y
B2-02.3	Bed	8.5	72	100	1074	100.0%	Y
B2-03.1	LKD	32.1	289	200	376	67.5%	Y
B2-03.2	Bed	12.6	98	100	568	100.0%	Y
B2-03.3	Bed	8.5	72	100	1022	100.0%	Y
B2-04.1	LKD	24.6	208	200	538	80.8%	Y
B2-04.2	Bed	11.3	90	100	679	100.0%	Y
B2-05.1	LKD	30.0	264	200	1735	100.0%	Y
B2-05.2	Bed	13.0	108	100	1539	96.3%	Y
B2-05.3	Bed	11.8	108	100	1690	100.0%	Y
B2-06.1	LKD	39.1	360	200	869	100.0%	Y
B2-06.2	Bed	6.1	40	100	1003	100.0%	Y
B2-06.3	Bed	9.4	80	100	1952	100.0%	Y
B2-06.4	Bed	11.2	90	100	1756	100.0%	Y

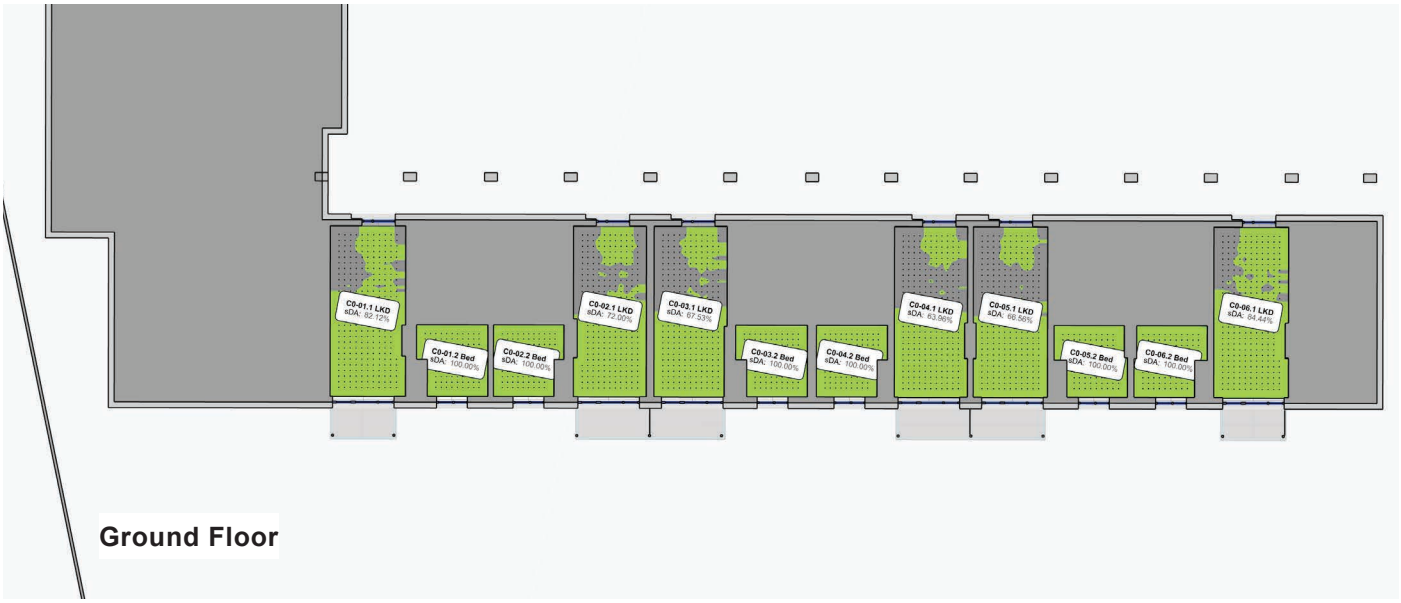
Block B - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
B2-07.1	LKD	39.1	360	200	864	100.0%	Y
B2-07.2	Bed	6.1	40	100	1008	100.0%	Y
B2-07.3	Bed	9.4	80	100	2015	100.0%	Y
B2-07.4	Bed	11.2	90	100	1785	100.0%	Y
B2-08.1	LKD	30.0	264	200	1674	100.0%	Y
B2-08.2	Bed	12.1	98	100	1600	100.0%	Y
B2-08.3	Bed	11.8	108	100	1739	100.0%	Y
B2-09.1	LKD	23.6	198	200	345	64.6%	Y
B2-09.2	Bed	10.3	81	100	719	100.0%	Y
B2-10.1	LKD	29.9	274	200	405	73.7%	Y
B2-10.2	Bed	11.1	90	100	656	100.0%	Y
B2-10.3	Bed	8.5	72	100	1271	100.0%	Y
B2-11.1	LKD	29.9	274	200	422	72.6%	Y
B2-11.2	Bed	11.3	92	100	770	100.0%	Y
B2-11.3	Bed	8.5	72	100	1287	100.0%	Y
B2-12.1	LKD	23.0	189	200	593	84.1%	Y
B2-12.2	Bed	9.8	81	100	993	100.0%	Y
B2-13.1	LKD	23.1	205	200	494	95.1%	Y
B2-13.2	Bed	10.8	88	100	699	100.0%	Y
B2-14.1	LKD	31.5	280	200	838	100.0%	Y
B2-14.2	Bed	5.9	40	100	893	100.0%	Y
B2-14.3	Bed	9.6	80	100	625	100.0%	Y
B2-14.4	Bed	12.6	108	100	541	100.0%	Y
B2-15.1	LKD	31.4	288	200	866	100.0%	Y
B2-15.2	Bed	12.0	108	100	540	100.0%	Y
B2-15.3	Bed	9.6	80	100	632	100.0%	Y
B2-16.1	LKD	31.4	288	200	837	100.0%	Y
B2-16.2	Bed	12.0	108	100	542	96.3%	Y
B2-16.3	Bed	9.6	80	100	639	100.0%	Y
B2-17.1	LKD	31.5	280	200	626	100.0%	Y
B2-17.2	Bed	5.9	40	100	880	100.0%	Y
B2-17.3	Bed	9.6	80	100	627	100.0%	Y
B2-17.4	Bed	12.6	108	100	551	100.0%	Y
B2-18.1	LKD	29.4	275	200	453	57.5%	Y
B2-18.2	Bed	16.4	143	100	606	100.0%	Y
B3-01.1	LKD	23.0	189	200	670	88.9%	Y
B3-01.2	Bed	9.8	81	100	1015	100.0%	Y
B3-02.1	LKD	29.9	274	200	458	87.6%	Y
B3-02.2	Bed	11.3	92	100	775	100.0%	Y
B3-02.3	Bed	8.5	72	100	1192	100.0%	Y
B3-03.1	LKD	32.1	289	200	438	76.8%	Y
B3-03.2	Bed	12.6	98	100	670	100.0%	Y
B3-03.3	Bed	8.5	72	100	1148	100.0%	Y
B3-04.1	LKD	24.6	208	200	595	86.5%	Y
B3-04.2	Bed	11.3	90	100	786	100.0%	Y
B3-05.1	LKD	30.0	264	200	1817	100.0%	Y
B3-05.2	Bed	13.0	108	100	1577	96.3%	Y
B3-05.3	Bed	11.8	108	100	1736	100.0%	Y
B3-06.1	LKD	39.1	360	200	964	100.0%	Y
B3-06.2	Bed	6.1	40	100	1099	100.0%	Y
B3-06.3	Bed	9.4	80	100	1993	100.0%	Y

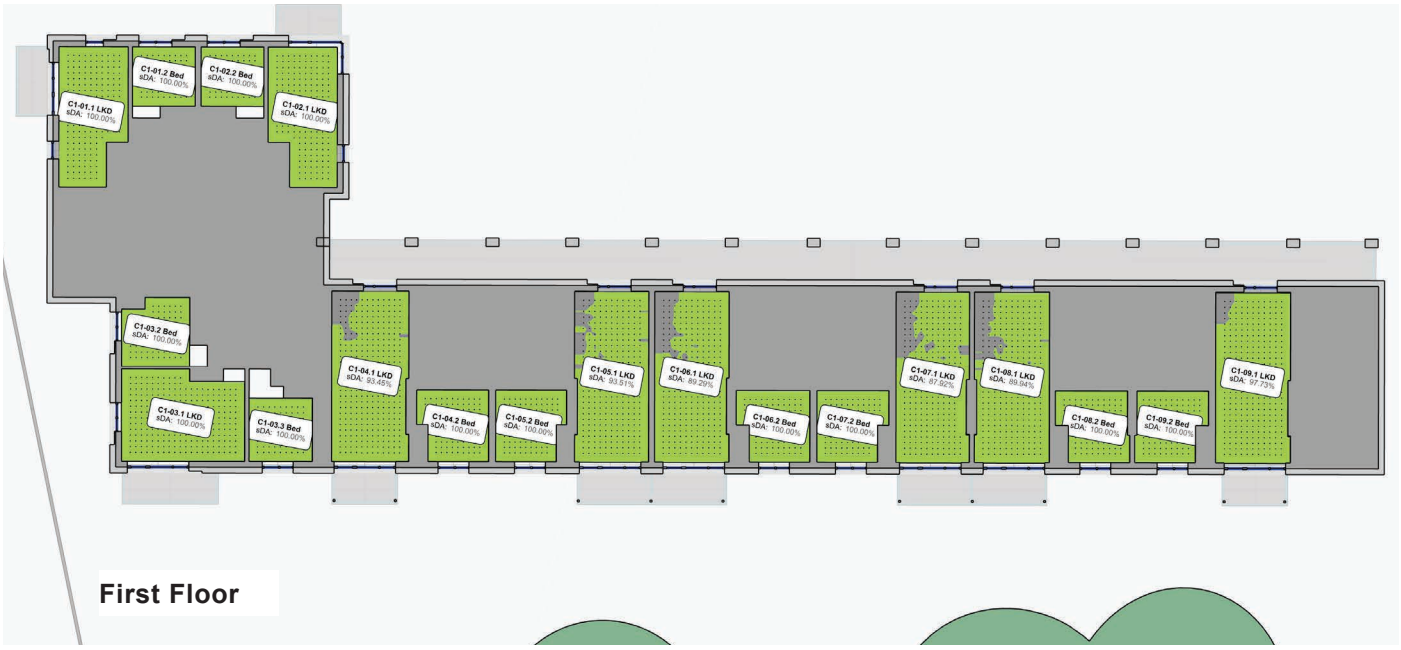
Block B - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
B3-06.4	Bed	11.2	90	100	1785	100.0%	Y
B3-07.1	LKD	39.1	360	200	950	100.0%	Y
B3-07.2	Bed	6.1	40	100	1095	100.0%	Y
B3-07.3	Bed	9.4	80	100	2045	100.0%	Y
B3-07.4	Bed	11.2	90	100	1801	100.0%	Y
B3-08.1	LKD	30.0	264	200	1724	100.0%	Y
B3-08.2	Bed	12.1	98	100	1633	100.0%	Y
B3-08.3	Bed	11.8	108	100	1771	100.0%	Y
B3-09.1	LKD	23.6	198	200	436	75.3%	Y
B3-09.2	Bed	10.3	81	100	887	100.0%	Y
B3-10.1	LKD	29.9	274	200	780	100.0%	Y
B3-10.2	Bed	11.1	90	100	819	100.0%	Y
B3-10.3	Bed	8.5	72	100	1336	100.0%	Y
B3-11.1	LKD	29.9	274	200	801	100.0%	Y
B3-11.2	Bed	11.3	92	100	888	100.0%	Y
B3-11.3	Bed	8.5	72	100	1332	100.0%	Y
B3-12.1	LKD	23.0	189	200	999	100.0%	Y
B3-12.2	Bed	9.8	81	100	1137	100.0%	Y
B3-13.1	LKD	23.1	205	200	527	98.5%	Y
B3-13.2	Bed	10.8	88	100	746	100.0%	Y
B3-14.1	LKD	31.5	280	200	886	100.0%	Y
B3-14.2	Bed	5.9	40	100	949	100.0%	Y
B3-14.3	Bed	9.6	80	100	672	100.0%	Y
B3-14.4	Bed	12.6	108	100	579	100.0%	Y
B3-15.1	LKD	31.4	288	200	1335	100.0%	Y
B3-15.2	Bed	12.0	108	100	576	100.0%	Y
B3-15.3	Bed	9.6	80	100	676	100.0%	Y
B3-16.1	LKD	31.4	288	200	1260	100.0%	Y
B3-16.2	Bed	12.0	108	100	583	96.3%	Y
B3-16.3	Bed	9.6	80	100	681	100.0%	Y
B3-17.1	LKD	31.5	280	200	741	100.0%	Y
B3-17.2	Bed	5.9	40	100	932	100.0%	Y
B3-17.3	Bed	9.6	80	100	670	100.0%	Y
B3-17.4	Bed	12.6	108	100	586	100.0%	Y
B3-18.1	LKD	29.4	275	200	544	63.6%	Y
B3-18.2	Bed	16.4	143	100	692	100.0%	Y
B4-01.1	LKD	29.4	275	200	633	72.0%	Y
B4-01.2	Bed	16.4	143	100	781	100.0%	Y
B4-02.1	LKD	23.0	189	200	790	99.5%	Y
B4-02.2	Bed	9.8	81	100	1173	100.0%	Y
B4-03.1	LKD	29.9	274	200	540	98.5%	Y
B4-03.2	Bed	11.3	92	100	896	100.0%	Y
B4-03.3	Bed	8.5	72	100	1284	100.0%	Y
B4-04.1	LKD	32.1	289	200	513	93.1%	Y
B4-04.2	Bed	12.6	98	100	778	100.0%	Y
B4-04.3	Bed	8.5	72	100	1236	100.0%	Y
B4-05.1	LKD	24.6	208	200	672	92.8%	Y
B4-05.2	Bed	11.3	90	100	912	100.0%	Y
B4-06.1	LKD	30.0	264	200	1900	100.0%	Y
B4-06.2	Bed	13.0	108	100	1600	96.3%	Y
B4-06.3	Bed	11.8	108	100	1753	100.0%	Y

Block B - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1							
Space ID	Use	Area m2	Sensor Count	Target Lux	Mean Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
B4-07.1	LKD	30.0	264	200	2085	100.0%	Y
B4-07.2	Bed	12.1	98	100	1727	100.0%	Y
B4-07.3	Bed	11.8	108	100	1794	100.0%	Y
B4-08.1	LKD	23.6	198	200	812	97.0%	Y
B4-08.2	Bed	10.3	81	100	1100	100.0%	Y
B5-01.1	LKD	29.4	275	200	904	88.4%	Y
B5-01.2	Bed	16.4	143	100	852	100.0%	Y
B5-02.1	LKD	23.0	189	200	1158	100.0%	Y
B5-02.2	Bed	9.8	81	100	1297	100.0%	Y
B5-03.1	LKD	29.9	274	200	892	100.0%	Y
B5-03.2	Bed	11.3	92	100	1013	100.0%	Y
B5-03.3	Bed	8.5	72	100	1336	100.0%	Y
B5-04.1	LKD	32.1	289	200	615	99.3%	Y
B5-04.2	Bed	12.6	98	100	911	100.0%	Y
B5-04.3	Bed	8.5	72	100	1291	100.0%	Y
B5-05.1	LKD	24.6	208	200	768	98.6%	Y
B5-05.2	Bed	11.3	90	100	1048	100.0%	Y
B5-06.1	LKD	30.0	264	200	1956	100.0%	Y
B5-06.2	Bed	13.0	108	100	1622	96.3%	Y
B5-06.3	Bed	11.8	108	100	1780	100.0%	Y
B6-01.1	LKD	32.1	289	200	961	100.0%	Y
B6-01.2	Bed	12.6	98	100	1023	100.0%	Y
B6-01.3	Bed	8.5	72	100	1310	100.0%	Y
B6-02.1	LKD	24.6	208	200	863	100.0%	Y
B6-02.2	Bed	11.3	90	100	1170	100.0%	Y
B6-03.1	LKD	30.0	264	200	2011	100.0%	Y
B6-03.2	Bed	13.0	108	100	1624	96.3%	Y
B6-03.3	Bed	11.8	108	100	1785	100.0%	Y
B7-01.1	LKD	24.6	208	200	1181	100.0%	Y
B7-01.2	Bed	11.3	90	100	1252	100.0%	Y
B7-02.1	LKD	30.0	264	200	2331	100.0%	Y
B7-02.2	Bed	13.0	108	100	1673	96.3%	Y
B7-02.3	Bed	11.8	108	100	1798	100.0%	Y

Table 22: Minimum Daylight Provision BS EN17037:2018+A1:2021 Table NA.1 compliance for habitable rooms

Block C - Assessment with Existing Trees





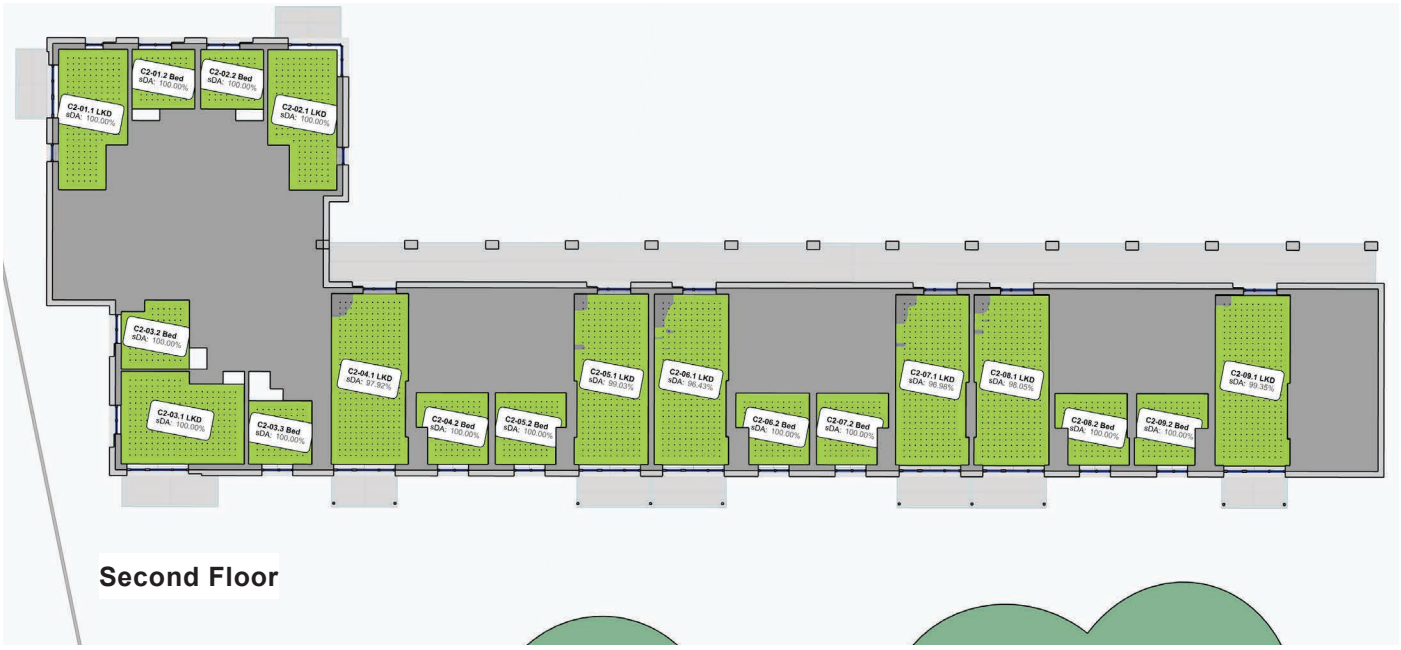


Figure 36: Block C - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1 Assessment with existing trees in place

Block C - Assessment with Existing Trees

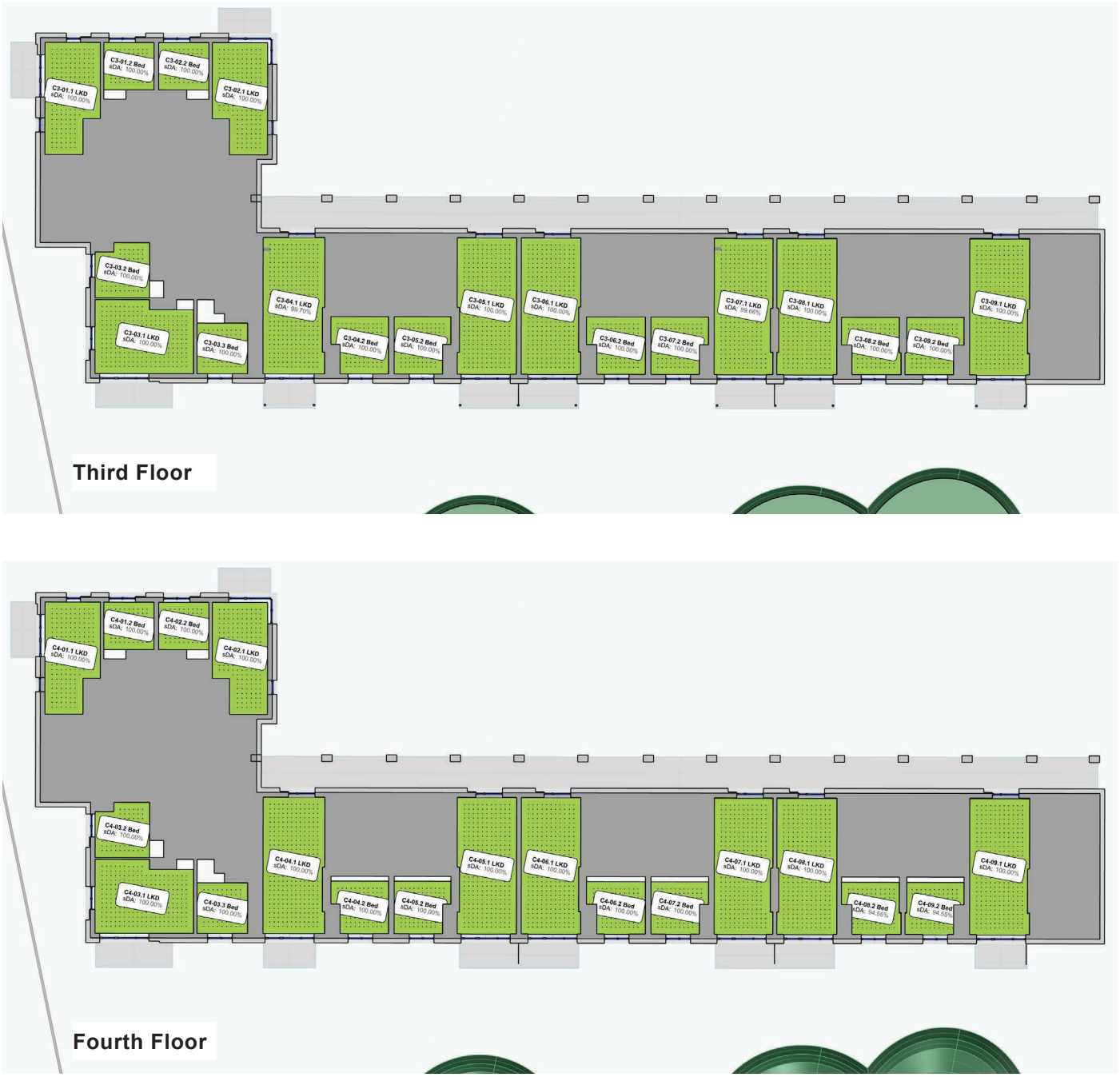


Figure 37: Block C - Floor plans indicating Daylight Provision to BS EN17037:2021+A1 Table NA.1 Assessment with existing trees in place

Block C - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1

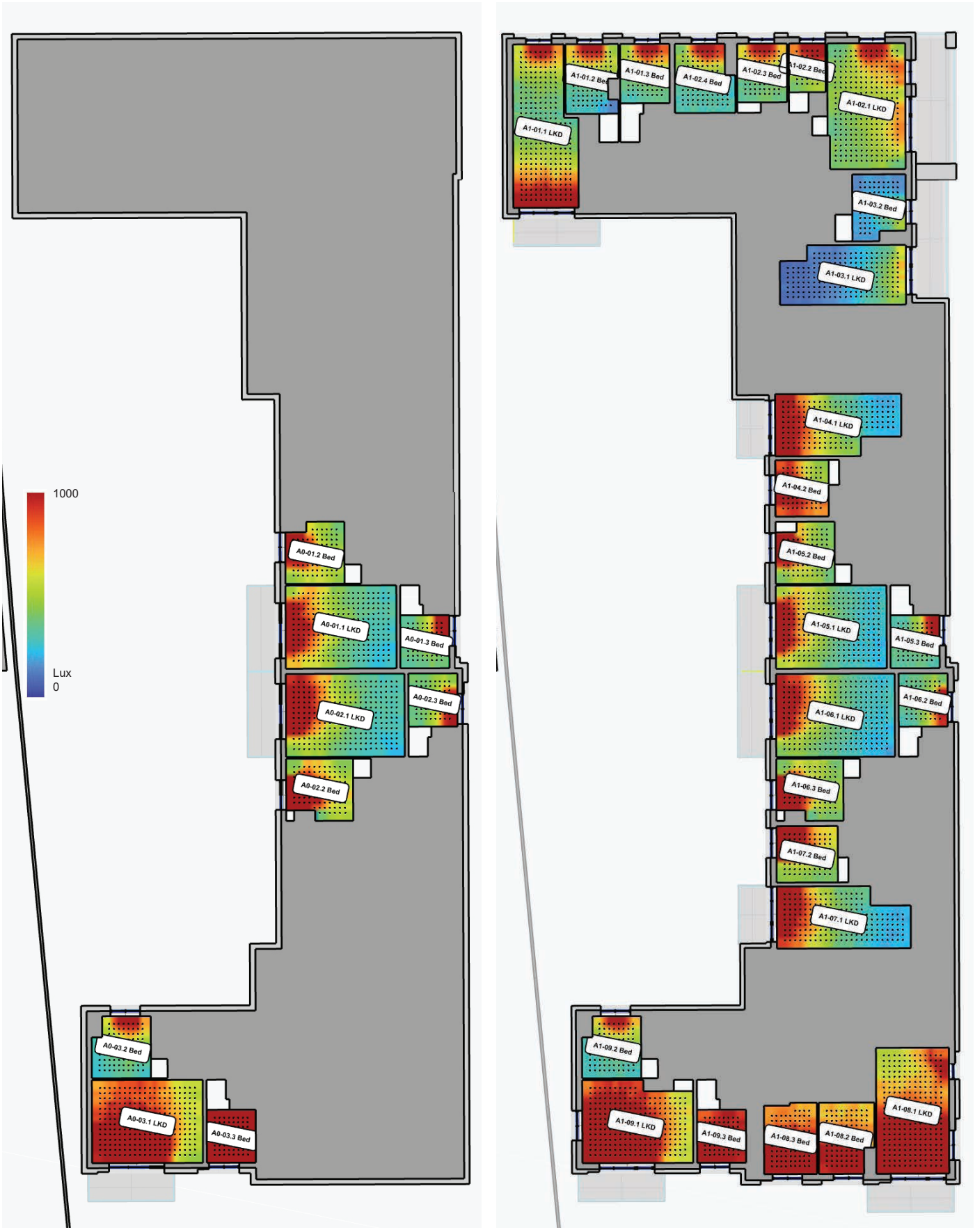
					With existing trees		Without existing trees	
Space ID	Use	Area m2	Sensor Count	Target Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
C0-01.1	LKD	33.6	302	200	82.1%	Y	98.7%	Y
C0-01.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C0-02.1	LKD	32.4	300	200	72.0%	Y	99.3%	Y
C0-02.2	Bed	12.4	108	100	100.0%	Y	100.0%	Y
C0-03.1	LKD	32.4	308	200	67.5%	Y	99.0%	Y
C0-03.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C0-04.1	LKD	32.6	308	200	64.0%	Y	98.1%	Y
C0-04.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C0-05.1	LKD	33.2	308	200	66.6%	Y	98.1%	Y
C0-05.2	Bed	12.4	102	100	100.0%	Y	100.0%	Y
C0-06.1	LKD	33.3	302	200	84.4%	Y	97.7%	Y
C0-06.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C1-01.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C1-01.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C1-02.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C1-02.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C1-03.1	LKD	28.2	260	200	100.0%	Y	100.0%	Y
C1-03.2	Bed	11.7	92	100	100.0%	Y	100.0%	Y
C1-03.3	Bed	10.6	81	100	100.0%	Y	100.0%	Y
C1-04.1	LKD	34.3	336	200	93.5%	Y	100.0%	Y
C1-04.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C1-05.1	LKD	32.9	308	200	93.5%	Y	100.0%	Y
C1-05.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C1-06.1	LKD	33.1	308	200	89.3%	Y	100.0%	Y
C1-06.2	Bed	12.6	107	100	100.0%	Y	100.0%	Y
C1-07.1	LKD	32.6	298	200	87.9%	Y	99.7%	Y
C1-07.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C1-08.1	LKD	33.4	308	200	89.9%	Y	100.0%	Y
C1-08.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C1-09.1	LKD	33.3	308	200	97.7%	Y	100.0%	Y
C1-09.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C2-01.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C2-01.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C2-02.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C2-02.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C2-03.1	LKD	28.2	260	200	100.0%	Y	100.0%	Y
C2-03.2	Bed	11.7	92	100	100.0%	Y	100.0%	Y
C2-03.3	Bed	10.6	81	100	100.0%	Y	100.0%	Y
C2-04.1	LKD	34.3	336	200	97.9%	Y	100.0%	Y
C2-04.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C2-05.1	LKD	32.9	308	200	99.0%	Y	100.0%	Y
C2-05.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C2-06.1	LKD	33.1	308	200	96.4%	Y	100.0%	Y
C2-06.2	Bed	12.6	107	100	100.0%	Y	100.0%	Y
C2-07.1	LKD	32.6	298	200	97.0%	Y	100.0%	Y
C2-07.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C2-08.1	LKD	33.4	308	200	98.1%	Y	100.0%	Y
C2-08.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C2-09.1	LKD	33.3	308	200	99.4%	Y	100.0%	Y
C2-09.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y

Block C - Minimum illuminance levels from BS EN17037:2018+A1:2021 - Table NA.1								
					With existing trees		Without existing trees	
Space ID	Use	Area m2	Sensor Count	Target Lux	% of grid target exceeded: Minimum 50% of grid	Meets Criteria	% of grid target exceeded: Minimum 50% of grid	Meets Criteria
C3-01.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C3-01.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C3-02.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C3-02.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C3-03.1	LKD	28.2	260	200	100.0%	Y	100.0%	Y
C3-03.2	Bed	11.7	92	100	100.0%	Y	100.0%	Y
C3-03.3	Bed	10.6	81	100	100.0%	Y	100.0%	Y
C3-04.1	LKD	34.3	336	200	99.7%	Y	100.0%	Y
C3-04.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C3-05.1	LKD	32.9	308	200	100.0%	Y	100.0%	Y
C3-05.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C3-06.1	LKD	33.1	308	200	100.0%	Y	100.0%	Y
C3-06.2	Bed	12.6	107	100	100.0%	Y	100.0%	Y
C3-07.1	LKD	32.6	298	200	99.7%	Y	100.0%	Y
C3-07.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C3-08.1	LKD	33.4	308	200	100.0%	Y	100.0%	Y
C3-08.2	Bed	12.5	107	100	100.0%	Y	100.0%	Y
C3-09.1	LKD	33.3	308	200	100.0%	Y	100.0%	Y
C3-09.2	Bed	12.4	107	100	100.0%	Y	100.0%	Y
C4-01.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C4-01.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C4-02.1	LKD	23.0	189	200	100.0%	Y	100.0%	Y
C4-02.2	Bed	9.8	81	100	100.0%	Y	100.0%	Y
C4-03.1	LKD	28.2	260	200	100.0%	Y	100.0%	Y
C4-03.2	Bed	11.7	92	100	100.0%	Y	100.0%	Y
C4-03.3	Bed	10.6	81	100	100.0%	Y	100.0%	Y
C4-04.1	LKD	34.3	336	200	100.0%	Y	100.0%	Y
C4-04.2	Bed	11.4	96	100	100.0%	Y	100.0%	Y
C4-05.1	LKD	32.9	308	200	100.0%	Y	100.0%	Y
C4-05.2	Bed	11.3	96	100	100.0%	Y	100.0%	Y
C4-06.1	LKD	33.1	308	200	100.0%	Y	100.0%	Y
C4-06.2	Bed	11.5	96	100	100.0%	Y	100.0%	Y
C4-07.1	LKD	32.6	298	200	100.0%	Y	100.0%	Y
C4-07.2	Bed	11.4	96	100	100.0%	Y	100.0%	Y
C4-08.1	LKD	33.4	308	200	100.0%	Y	100.0%	Y
C4-08.2	Bed	12.7	110	100	94.5%	Y	94.5%	Y
C4-09.1	LKD	33.3	308	200	100.0%	Y	100.0%	Y
C4-09.2	Bed	12.6	110	100	94.5%	Y	94.5%	Y

Table 23: Minimum Daylight Provision BS EN17037:2018+A1:2021 Table NA.1 compliance for habitable rooms

Appendix B - Supplementary Information - IS/ BS EN17037:2018 Table A.1 Daylight Provision Room Results

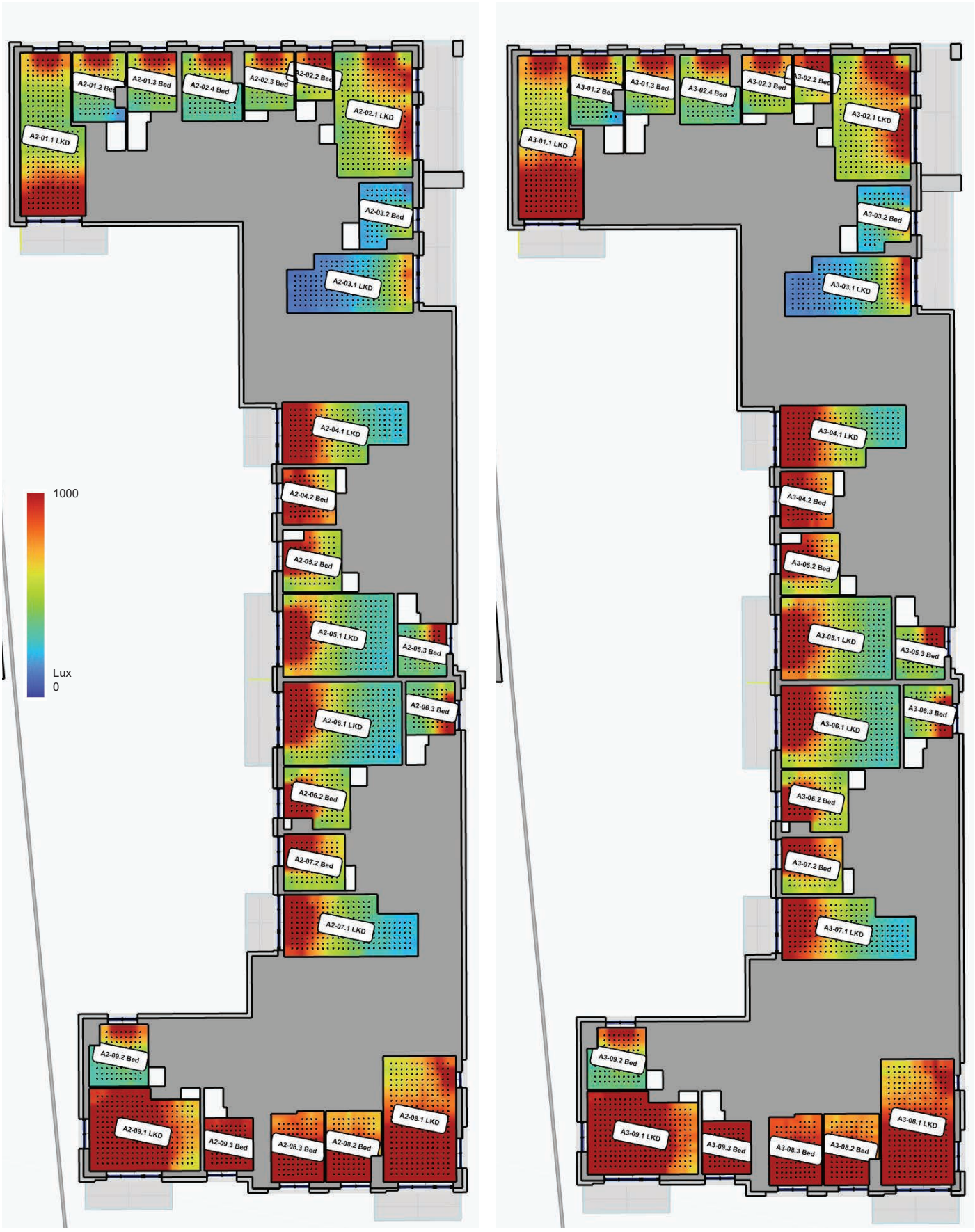
Block A



Ground Floor **First Floor**

Figure 38: Block A - Daylight Provision and Annual Average Illuminance to all habitable rooms

Block A



Second Floor **Third Floor**

Figure 39: Block A - Daylight Provision and Annual Average Illuminance to all habitable rooms

Block A

Fourth Floor **Fifth Floor**

Figure 40: Block A - Daylight Provision and Annual Average Illuminance to all habitable rooms

Block A

Sixth Floor **Seventh Floor**

Figure 41: Block A - Daylight Provision and Annual Average Illuminance to all habitable rooms

Block A - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
A0-01.1	LKD	30.1	280	Fail	49.6%	29.4%	13.7%	Minimum	68.9%	29.2%	10.1%
A0-01.2	Bed	11.3	92	Minimum	61.3%	42.8%	26.7%	Minimum	78.4%	47.7%	28.2%
A0-01.3	Bed	8.5	72	Minimum	58.3%	40.3%	22.3%	Minimum	77.8%	46.5%	24.9%
A0-02.1	LKD	32.2	294	Fail	48.2%	27.9%	13.7%	Minimum	67.4%	26.2%	11.0%
A0-02.2	Bed	12.9	102	Minimum	62.2%	42.9%	27.5%	Minimum	78.5%	45.6%	25.2%
A0-02.3	Bed	8.5	72	Minimum	59.4%	41.2%	22.0%	Minimum	78.0%	47.3%	25.0%
A0-03.1	LKD	30.1	280	Medium	66.3%	53.2%	41.5%	Medium	78.8%	53.6%	39.0%
A0-03.2	Bed	11.3	92	Minimum	57.2%	35.5%	14.9%	Minimum	74.7%	35.1%	12.1%
A0-03.3	Bed	8.5	72	High	76.9%	66.1%	55.7%	High	86.2%	70.0%	56.6%
A1-01.1	LKD	31.4	288	Minimum	59.2%	43.4%	24.5%	Minimum	76.6%	46.1%	25.0%
A1-01.2	Bed	11.3	96	Minimum	62.4%	43.2%	18.6%	Minimum	75.1%	37.4%	4.7%
A1-01.3	Bed	9.6	80	Minimum	64.8%	45.8%	21.7%	Minimum	79.2%	48.4%	20.6%
A1-02.1	LKD	31.8	286	Minimum	64.2%	47.2%	27.1%	Medium	81.6%	54.3%	31.4%
A1-02.2	Bed	5.9	40	Medium	74.2%	57.1%	41.2%	Medium	85.5%	63.4%	43.7%
A1-02.3	Bed	9.6	80	Minimum	66.3%	48.1%	26.4%	Medium	80.9%	52.2%	27.1%
A1-02.4	Bed	12.6	108	Minimum	56.3%	34.5%	6.8%	Minimum	76.5%	39.7%	6.8%
A1-03.1	LKD	23.1	205	Fail	19.3%	1.9%	0.2%	Fail	37.3%	0.0%	0.0%
A1-03.2	Bed	10.8	88	Fail	26.1%	3.7%	1.1%	Minimum	55.3%	4.0%	0.8%
A1-04.1	LKD	23.0	189	Minimum	52.8%	33.5%	17.9%	Minimum	62.3%	20.4%	7.5%
A1-04.2	Bed	9.8	81	Medium	68.1%	52.4%	36.8%	Medium	80.6%	53.5%	34.6%
A1-05.1	LKD	30.1	280	Fail	47.4%	25.7%	11.5%	Minimum	67.1%	25.6%	7.6%
A1-05.2	Bed	11.3	92	Minimum	59.7%	40.8%	23.8%	Minimum	78.5%	47.8%	27.4%
A1-05.3	Bed	8.5	72	Minimum	54.4%	33.7%	13.5%	Minimum	76.7%	43.0%	18.7%
A1-06.1	LKD	32.2	294	Fail	45.8%	24.2%	11.8%	Minimum	64.9%	22.5%	8.4%
A1-06.2	Bed	8.5	72	Minimum	56.0%	36.3%	16.8%	Minimum	76.9%	44.2%	22.2%
A1-06.3	Bed	12.6	98	Minimum	58.5%	37.6%	21.8%	Minimum	77.4%	43.2%	22.7%
A1-07.1	LKD	24.6	208	Minimum	50.5%	27.5%	11.2%	Minimum	62.6%	14.4%	5.5%
A1-07.2	Bed	11.3	90	Minimum	63.1%	43.6%	25.4%	Minimum	78.2%	46.0%	24.0%
A1-08.1	LKD	30.0	264	Medium	72.8%	60.4%	48.8%	Medium	81.9%	60.1%	45.7%
A1-08.2	Bed	12.1	98	Medium	66.4%	53.4%	41.2%	Medium	80.3%	56.2%	41.0%
A1-08.3	Bed	12.1	103	Medium	70.2%	57.8%	46.5%	Medium	81.7%	59.8%	44.7%
A1-09.1	LKD	28.2	260	High	74.3%	63.2%	52.2%	Medium	81.8%	60.9%	47.6%
A1-09.2	Bed	11.3	92	Minimum	54.0%	32.1%	10.4%	Minimum	74.5%	34.2%	9.8%
A1-09.3	Bed	8.5	72	High	74.6%	62.7%	51.7%	High	84.8%	66.2%	51.6%
A2-01.1	LKD	31.4	288	Minimum	64.2%	48.9%	34.3%	Medium	79.8%	53.2%	34.7%
A2-01.2	Bed	11.3	96	Minimum	65.4%	47.1%	23.9%	Minimum	78.2%	45.8%	14.2%
A2-01.3	Bed	9.6	80	Medium	69.3%	51.9%	31.7%	Medium	81.0%	53.5%	29.0%
A2-02.1	LKD	31.8	286	Medium	67.8%	51.8%	33.0%	Medium	82.9%	58.2%	38.4%
A2-02.2	Bed	5.9	40	Medium	76.9%	62.1%	46.9%	Medium	86.0%	65.8%	47.2%
A2-02.3	Bed	9.6	80	Medium	70.3%	53.2%	33.9%	Medium	82.8%	57.0%	36.8%
A2-02.4	Bed	12.6	108	Minimum	59.5%	39.9%	12.3%	Minimum	79.4%	49.3%	19.0%
A2-03.1	LKD	23.1	205	Fail	28.9%	3.9%	1.0%	Fail	44.7%	0.7%	0.0%
A2-03.2	Bed	10.8	88	Fail	34.8%	7.3%	2.2%	Minimum	61.0%	11.9%	2.1%
A2-04.1	LKD	23.0	189	Minimum	57.9%	39.7%	24.0%	Minimum	67.1%	27.7%	10.3%
A2-04.2	Bed	9.8	81	Medium	72.1%	56.9%	42.0%	Medium	82.9%	60.7%	42.7%
A2-05.1	LKD	30.1	280	Minimum	53.3%	32.3%	15.0%	Minimum	70.7%	31.3%	11.6%
A2-05.2	Bed	11.3	92	Minimum	64.5%	47.4%	29.5%	Medium	80.9%	53.4%	32.9%
A2-05.3	Bed	8.5	72	Minimum	58.7%	41.8%	21.2%	Minimum	78.0%	47.0%	23.4%
A2-06.1	LKD	32.2	294	Minimum	50.9%	30.1%	13.5%	Minimum	68.8%	29.3%	11.2%
A2-06.2	Bed	12.6	98	Minimum	62.4%	44.2%	26.7%	Minimum	79.1%	48.9%	27.3%

Block A - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
A2-06.3	Bed	8.5	72	Minimum	59.2%	41.7%	22.4%	Minimum	78.3%	48.8%	26.3%
A2-07.1	LKD	24.6	208	Minimum	55.4%	33.4%	14.5%	Minimum	67.4%	21.9%	7.5%
A2-07.2	Bed	11.3	90	Minimum	66.5%	48.1%	29.8%	Medium	80.3%	51.3%	29.8%
A2-08.1	LKD	30.0	264	High	74.9%	62.6%	51.4%	Medium	83.2%	62.9%	48.7%
A2-08.2	Bed	12.1	98	Medium	69.5%	56.6%	44.8%	Medium	81.9%	59.7%	44.1%
A2-08.3	Bed	12.1	103	Medium	73.2%	60.9%	49.6%	Medium	83.0%	62.4%	47.6%
A2-09.1	LKD	28.2	260	High	76.9%	66.1%	56.1%	High	83.9%	65.2%	52.6%
A2-09.2	Bed	11.3	92	Minimum	59.7%	39.5%	18.3%	Minimum	77.3%	43.0%	18.0%
A2-09.3	Bed	8.5	72	High	76.4%	65.0%	53.9%	High	85.7%	68.9%	55.2%
A3-01.1	LKD	31.4	288	Medium	72.0%	58.1%	45.1%	Medium	83.6%	61.9%	46.1%
A3-01.2	Bed	11.3	96	Medium	67.7%	50.4%	27.7%	Medium	79.8%	51.0%	23.0%
A3-01.3	Bed	9.6	80	Medium	69.8%	53.3%	33.3%	Medium	82.6%	56.7%	34.1%
A3-02.1	LKD	31.8	286	Medium	71.3%	55.9%	40.2%	Medium	84.7%	62.5%	44.4%
A3-02.2	Bed	5.9	40	Medium	77.0%	63.3%	48.2%	High	87.1%	69.8%	52.4%
A3-02.3	Bed	9.6	80	Medium	71.7%	55.4%	36.9%	Medium	84.5%	60.5%	40.9%
A3-02.4	Bed	12.6	108	Minimum	64.3%	45.2%	20.6%	Medium	81.2%	53.8%	27.4%
A3-03.1	LKD	23.1	205	Fail	36.0%	7.4%	1.6%	Minimum	50.9%	1.9%	0.1%
A3-03.2	Bed	10.8	88	Fail	45.4%	17.0%	4.1%	Minimum	66.2%	19.6%	3.4%
A3-04.1	LKD	23.0	189	Minimum	63.0%	46.2%	29.7%	Minimum	71.5%	33.7%	13.2%
A3-04.2	Bed	9.8	81	Medium	74.2%	59.7%	46.2%	Medium	85.6%	66.6%	49.5%
A3-05.1	LKD	30.1	280	Minimum	59.7%	40.6%	22.6%	Minimum	76.0%	40.1%	17.4%
A3-05.2	Bed	11.3	92	Medium	68.4%	52.8%	36.6%	Medium	82.9%	59.6%	39.4%
A3-05.3	Bed	8.5	72	Minimum	64.2%	46.9%	29.2%	Medium	80.7%	53.6%	32.7%
A3-06.1	LKD	32.2	294	Minimum	57.8%	37.2%	20.2%	Minimum	74.1%	37.0%	14.7%
A3-06.2	Bed	12.6	98	Minimum	65.4%	48.1%	30.2%	Medium	80.7%	53.4%	31.6%
A3-06.3	Bed	8.5	72	Minimum	63.8%	48.1%	30.9%	Medium	80.5%	54.0%	33.8%
A3-07.1	LKD	24.6	208	Minimum	58.9%	37.6%	18.1%	Minimum	70.1%	26.6%	8.7%
A3-07.2	Bed	11.3	90	Medium	68.5%	51.7%	34.7%	Medium	82.7%	58.9%	38.2%
A3-08.1	LKD	30.0	264	High	76.4%	64.2%	54.1%	High	84.3%	64.8%	51.6%
A3-08.2	Bed	12.1	98	Medium	71.0%	58.1%	46.7%	Medium	83.0%	62.4%	47.2%
A3-08.3	Bed	12.1	103	High	74.6%	62.8%	51.3%	High	84.2%	65.1%	50.3%
A3-09.1	LKD	28.2	260	High	78.7%	67.9%	59.0%	High	85.3%	68.0%	56.0%
A3-09.2	Bed	11.3	92	Minimum	62.8%	43.8%	22.0%	Minimum	79.1%	48.0%	23.9%
A3-09.3	Bed	8.5	72	High	77.4%	66.8%	56.0%	High	86.3%	70.8%	57.4%
A4-01.1	LKD	22.8	205	Fail	45.8%	16.2%	3.6%	Minimum	57.1%	3.5%	1.8%
A4-01.2	Bed	10.8	88	Fail	49.4%	22.2%	6.8%	Minimum	71.3%	28.7%	6.8%
A4-02.1	LKD	23.0	189	Minimum	65.4%	48.7%	33.3%	Minimum	75.5%	40.5%	18.1%
A4-02.2	Bed	9.8	81	High	76.4%	63.7%	50.0%	High	86.9%	70.1%	54.2%
A4-03.1	LKD	30.1	280	Minimum	63.3%	44.5%	25.9%	Minimum	78.7%	48.6%	24.0%
A4-03.2	Bed	11.3	92	Medium	70.9%	56.2%	40.1%	Medium	84.6%	63.5%	45.6%
A4-03.3	Bed	8.5	72	Medium	67.0%	51.5%	34.5%	Medium	82.6%	58.6%	39.3%
A4-04.1	LKD	32.2	294	Minimum	60.2%	41.2%	22.7%	Minimum	77.2%	44.6%	19.6%
A4-04.2	Bed	12.6	98	Medium	66.8%	51.0%	32.8%	Medium	82.0%	57.7%	36.3%
A4-04.3	Bed	8.5	72	Medium	68.5%	54.2%	38.7%	Medium	82.6%	59.1%	40.9%
A4-05.1	LKD	24.6	208	Minimum	61.7%	41.5%	22.1%	Minimum	71.8%	29.5%	10.0%
A4-05.2	Bed	11.3	90	Medium	70.3%	54.8%	38.4%	Medium	83.4%	61.4%	42.2%
A4-06.1	LKD	30.0	264	High	77.4%	65.8%	55.5%	High	84.8%	66.9%	54.0%
A4-06.2	Bed	12.1	98	Medium	71.1%	58.4%	46.8%	Medium	83.4%	64.2%	48.9%
A4-06.3	Bed	12.1	103	High	75.3%	63.6%	52.3%	High	84.6%	66.9%	52.3%
A4-07.1	LKD	28.2	260	High	81.0%	72.1%	63.2%	High	87.0%	73.6%	61.7%

Block A - EN17037:2018 Table A.1 Daylight Provision Room Schedule											
Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
A4-07.2	Bed	11.3	92	Minimum	66.3%	48.1%	27.0%	Medium	80.9%	54.0%	29.2%
A4-07.3	Bed	8.5	72	High	77.5%	66.9%	56.2%	High	86.6%	71.8%	59.3%
A5-01.1	LKD	22.8	205	Minimum	50.0%	22.5%	5.3%	Minimum	62.8%	6.8%	2.4%
A5-01.2	Bed	10.8	88	Minimum	53.9%	29.7%	9.2%	Minimum	74.1%	35.8%	9.0%
A5-02.1	LKD	23.0	189	Medium	70.8%	55.9%	41.6%	Minimum	78.0%	48.7%	26.8%
A5-02.2	Bed	9.8	81	High	76.8%	64.5%	51.3%	High	87.2%	71.9%	56.9%
A5-03.1	LKD	30.1	280	Medium	67.9%	52.4%	34.5%	Medium	81.3%	55.9%	33.5%
A5-03.2	Bed	11.3	92	Medium	72.5%	58.2%	43.2%	Medium	84.6%	64.2%	46.8%
A5-03.3	Bed	8.5	72	Medium	72.8%	58.5%	43.9%	Medium	84.8%	64.0%	46.2%
A5-04.1	LKD	32.2	294	Minimum	62.5%	45.0%	26.3%	Minimum	78.3%	48.1%	23.6%
A5-04.2	Bed	8.5	72	Medium	72.9%	59.2%	45.9%	Medium	84.5%	64.3%	47.8%
A5-04.3	Bed	12.6	98	Medium	67.9%	53.1%	35.4%	Medium	82.6%	59.1%	39.2%
A5-05.1	LKD	24.6	208	Minimum	64.3%	45.8%	26.0%	Minimum	73.0%	33.9%	11.4%
A5-05.2	Bed	11.3	90	Medium	72.5%	58.1%	42.3%	Medium	84.4%	63.8%	46.1%
A5-06.1	LKD	30.0	264	High	78.0%	67.0%	56.2%	High	85.8%	68.9%	55.8%
A5-06.2	Bed	12.1	98	Medium	71.7%	59.5%	47.4%	High	84.0%	65.1%	50.0%
A5-06.3	Bed	12.1	103	High	75.8%	64.1%	52.9%	High	85.0%	67.9%	53.7%
A6-01.1	LKD	32.2	294	Medium	67.2%	51.4%	33.7%	Medium	80.2%	53.4%	31.5%
A6-01.2	Bed	8.5	72	Medium	75.6%	62.9%	49.8%	High	85.9%	67.7%	52.4%
A6-01.3	Bed	12.6	98	Medium	68.9%	54.7%	38.4%	Medium	82.8%	60.3%	41.9%
A6-02.1	LKD	24.6	208	Minimum	65.2%	47.7%	28.0%	Minimum	73.3%	34.8%	12.0%
A6-02.2	Bed	11.3	90	Medium	72.7%	58.3%	43.8%	Medium	84.5%	64.2%	47.3%
A6-03.1	LKD	30.0	264	High	78.4%	68.0%	57.0%	High	86.2%	70.6%	57.2%
A6-03.2	Bed	12.1	98	Medium	72.2%	60.2%	47.7%	High	84.5%	65.8%	51.0%
A6-03.3	Bed	12.1	103	High	76.3%	64.7%	53.6%	High	85.6%	69.1%	55.1%
A7-01.1	LKD	24.6	208	Medium	68.2%	52.6%	34.2%	Minimum	76.6%	41.3%	17.4%
A7-01.2	Bed	11.3	90	Medium	73.4%	59.3%	45.8%	Medium	84.8%	64.9%	48.3%
A7-02.1	LKD	30.0	264	High	79.8%	70.5%	60.8%	High	87.0%	73.6%	60.6%
A7-02.2	Bed	12.1	98	Medium	73.3%	61.4%	49.5%	High	84.5%	66.2%	51.4%
A7-02.3	Bed	12.1	103	High	76.3%	64.7%	53.4%	High	85.4%	68.5%	54.6%

Table 24: Block A - Daylight Provision individual values for all habitable rooms to EN 17037 Table A.1.

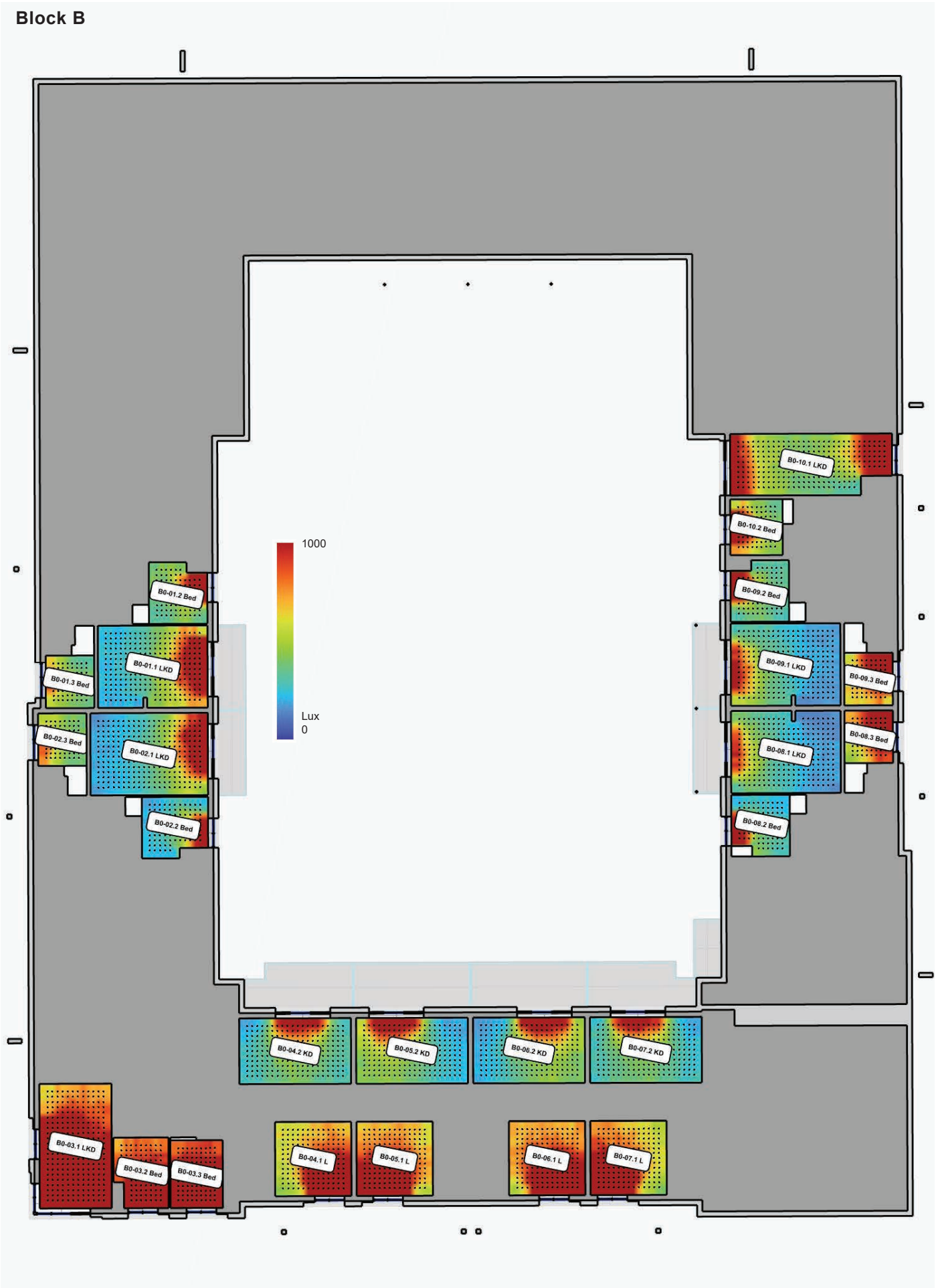
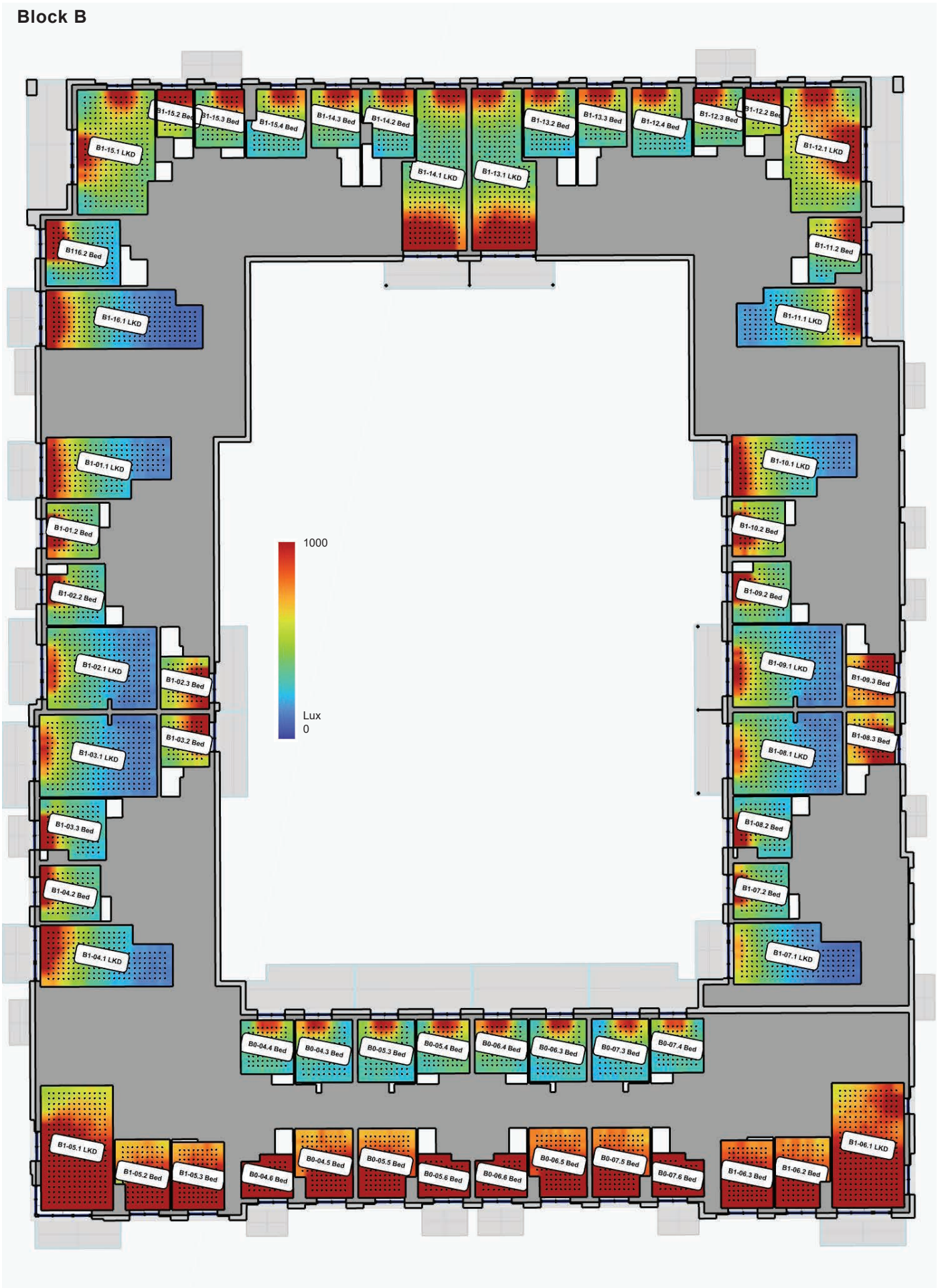
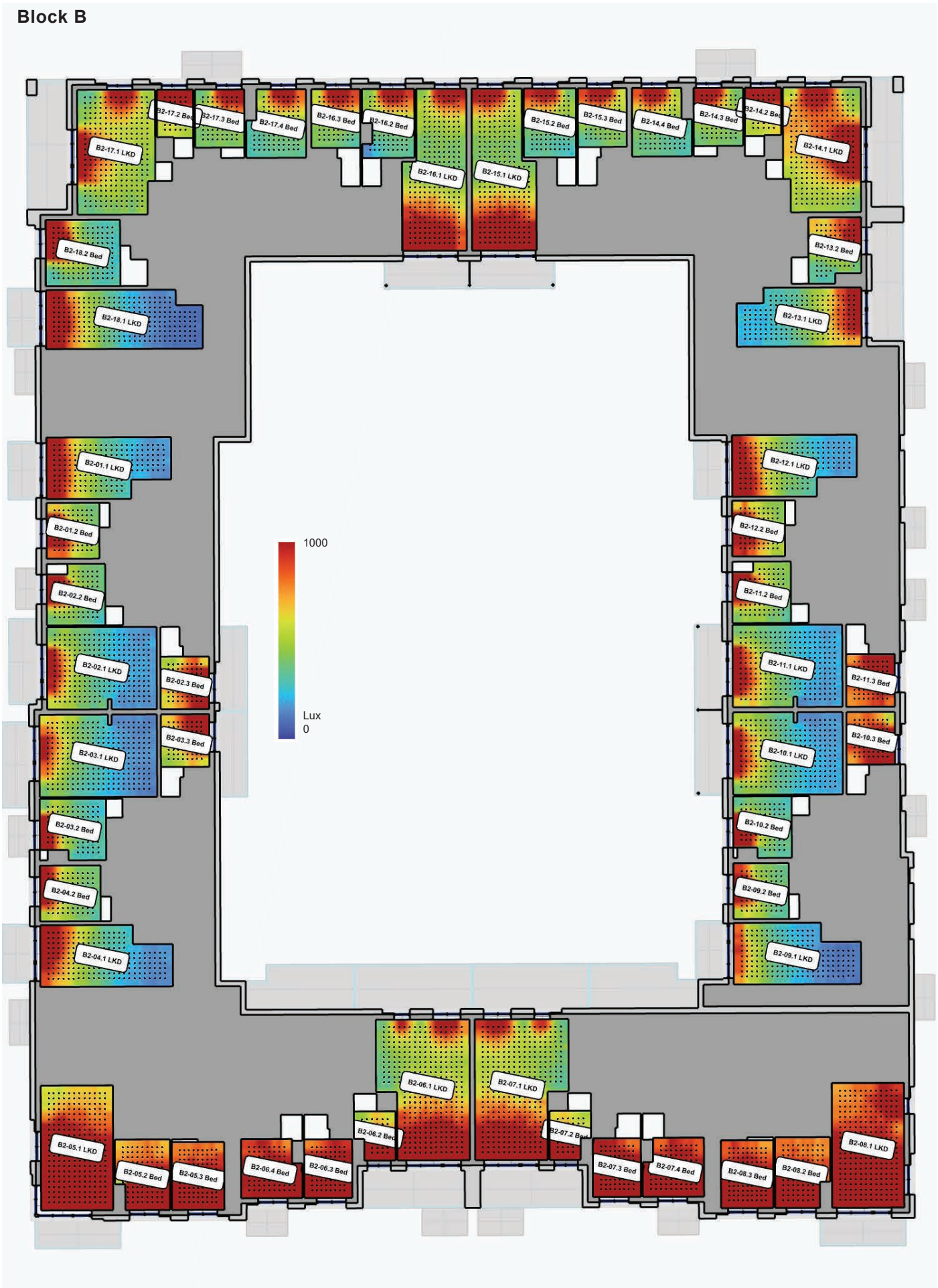


Figure 42: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms



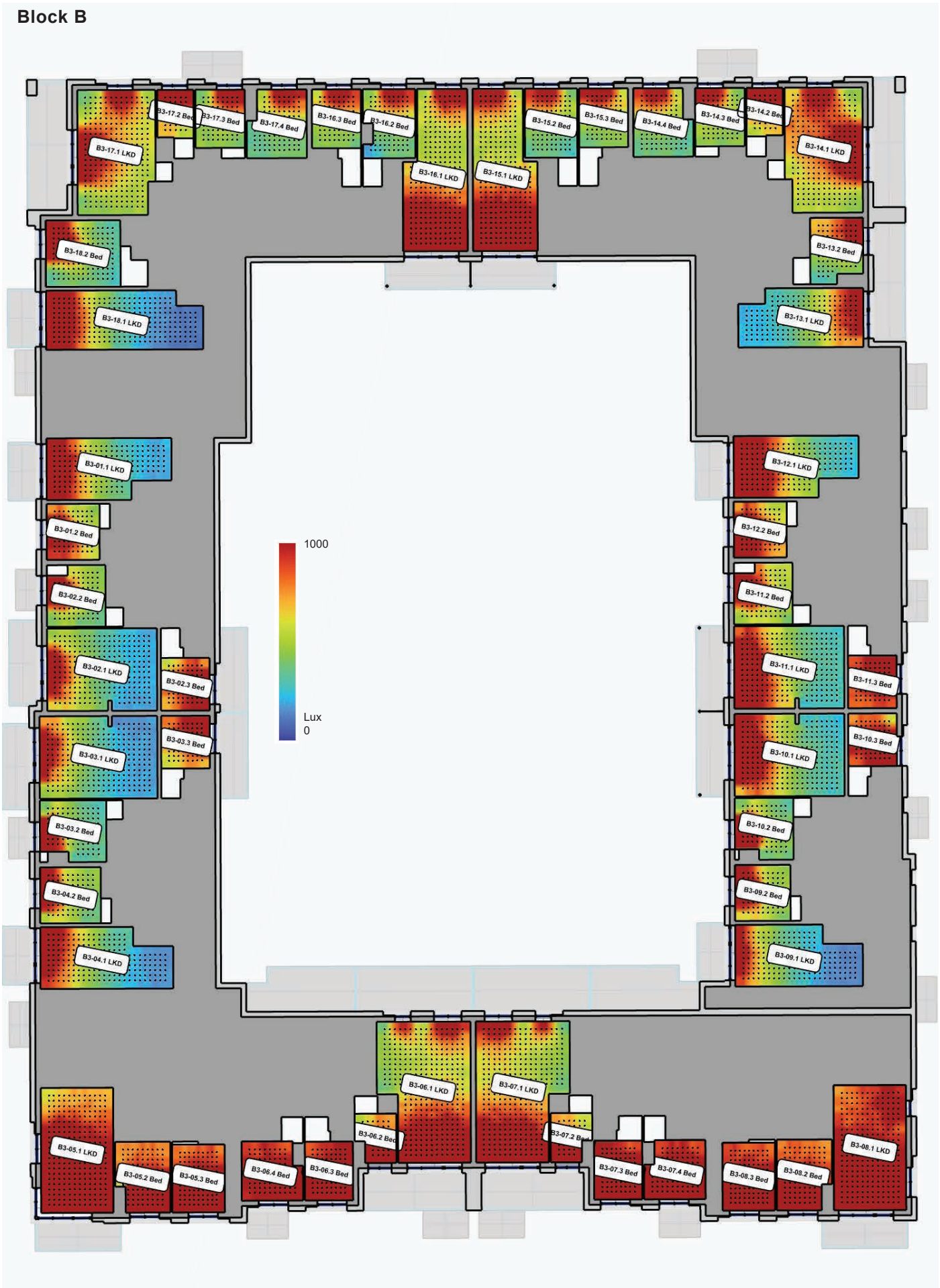
First Floor

Figure 43: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms



Second Floor

Figure 44: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms



Third Floor

Figure 45: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms

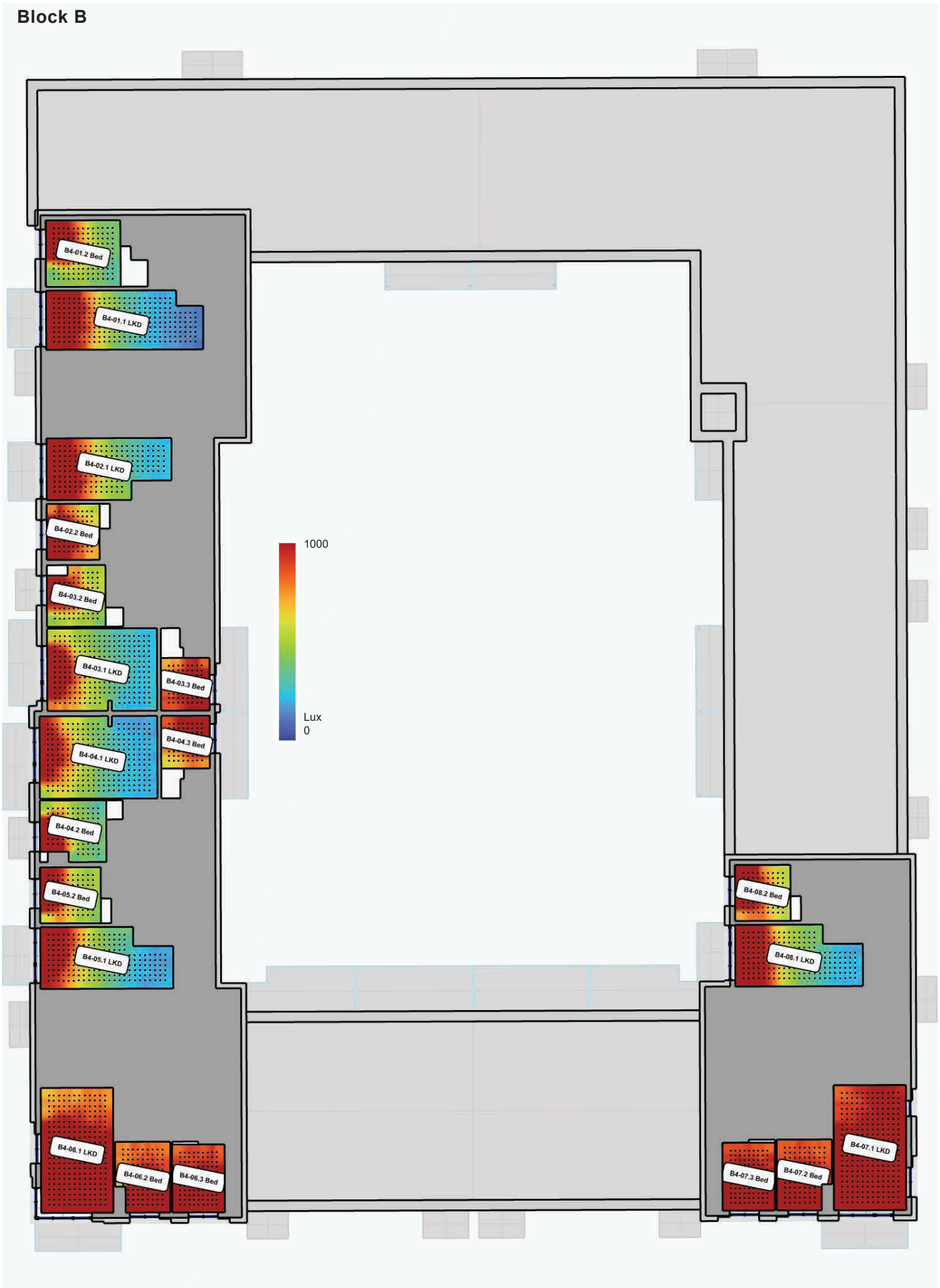


Figure 46: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms

Figure 47: Block B - Daylight Provision and Annual Average Illuminance to all habitable rooms

Block B - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
B0-01.1	LKD	29.9	274	Fail	49.8%	30.3%	12.5%	Minimum	63.7%	22.2%	5.3%
B0-01.2	Bed	11.3	92	Minimum	54.7%	37.2%	19.5%	Minimum	75.6%	40.9%	19.2%
B0-01.3	Bed	8.5	72	Minimum	57.6%	39.4%	21.1%	Minimum	77.5%	46.0%	24.9%
B0-02.1	LKD	32.2	294	Fail	43.9%	22.6%	6.3%	Minimum	61.1%	18.2%	3.4%
B0-02.2	Bed	12.6	98	Fail	41.5%	17.2%	3.0%	Minimum	66.1%	19.9%	2.3%
B0-02.3	Bed	8.5	72	Minimum	59.7%	42.4%	23.7%	Minimum	78.3%	49.9%	28.0%
B0-03.1	LKD	30.0	264	High	77.5%	66.6%	56.9%	High	83.7%	63.8%	50.0%
B0-03.2	Bed	12.1	98	Medium	72.6%	60.5%	48.1%	Medium	83.5%	63.3%	48.7%
B0-03.3	Bed	11.8	108	High	75.6%	63.3%	52.0%	High	84.8%	66.5%	52.3%
B0-04.1	L	18.9	169	Minimum	63.7%	50.0%	38.1%	Medium	79.4%	54.1%	39.3%
B0-04.2	KD	24.5	220	Minimum	56.2%	35.1%	10.9%	Minimum	76.0%	35.5%	6.6%
B0-04.3	Bed	11.9	90	Fail	48.2%	22.4%	2.9%	Minimum	72.9%	28.4%	4.4%
B0-04.4	Bed	9.5	81	Minimum	56.0%	33.9%	9.7%	Minimum	77.2%	40.0%	12.9%
B0-04.5	Bed	12.7	112	Medium	71.3%	58.5%	47.5%	Medium	83.0%	62.6%	48.3%
B0-04.6	Bed	7.1	52	High	80.4%	71.4%	61.9%	High	88.2%	76.2%	63.8%
B0-05.1	L	18.9	169	Medium	66.9%	53.7%	41.5%	Medium	81.3%	57.7%	42.1%
B0-05.2	KD	24.5	220	Minimum	59.2%	39.3%	15.9%	Minimum	71.6%	24.7%	2.2%
B0-05.3	Bed	11.9	90	Minimum	52.9%	29.5%	6.9%	Minimum	75.5%	34.3%	7.3%
B0-05.4	Bed	9.5	81	Minimum	59.8%	39.3%	14.8%	Minimum	79.5%	46.9%	17.9%
B0-05.5	Bed	12.7	112	Medium	71.3%	58.7%	47.3%	Medium	83.1%	62.6%	48.0%
B0-05.6	Bed	7.1	52	High	81.8%	74.1%	64.1%	High	87.9%	75.9%	63.6%
B0-06.1	L	18.9	169	Medium	67.6%	53.9%	41.7%	Medium	81.8%	59.7%	44.3%
B0-06.2	KD	24.5	220	Minimum	59.2%	38.3%	14.1%	Minimum	70.0%	24.0%	1.3%
B0-06.3	Bed	11.9	90	Minimum	51.6%	28.4%	3.3%	Minimum	75.7%	34.6%	5.0%
B0-06.4	Bed	9.5	81	Minimum	61.1%	40.8%	15.7%	Minimum	79.3%	45.8%	17.7%
B0-06.5	Bed	12.7	112	Medium	72.0%	60.0%	48.2%	Medium	83.8%	63.8%	49.4%
B0-06.6	Bed	7.1	52	High	81.8%	74.2%	64.3%	High	87.7%	75.0%	63.2%
B0-07.1	L	18.9	169	Medium	65.4%	52.0%	39.7%	Medium	79.9%	54.7%	40.6%
B0-07.2	KD	24.5	220	Minimum	54.7%	33.1%	7.1%	Minimum	74.7%	32.6%	4.0%
B0-07.3	Bed	11.9	90	Fail	49.0%	22.7%	2.0%	Minimum	72.2%	28.0%	2.6%
B0-07.4	Bed	9.5	81	Minimum	54.9%	33.1%	6.6%	Minimum	76.3%	38.3%	8.2%
B0-07.5	Bed	12.7	112	Medium	72.1%	60.2%	48.5%	Medium	83.6%	63.3%	49.0%
B0-07.6	Bed	7.1	52	High	81.1%	73.3%	62.9%	High	88.1%	76.4%	64.5%
B0-08.1	LKD	29.9	274	Fail	37.4%	15.1%	4.2%	Minimum	54.7%	11.2%	0.9%
B0-08.2	Bed	11.3	92	Fail	44.2%	23.4%	6.1%	Minimum	68.9%	28.6%	5.4%
B0-08.3	Bed	8.5	72	Medium	74.6%	59.4%	44.6%	Medium	84.9%	62.3%	44.5%
B0-09.1	LKD	29.9	274	Fail	39.1%	16.6%	4.9%	Minimum	55.9%	13.2%	1.9%
B0-09.2	Bed	11.3	92	Minimum	51.8%	34.8%	15.5%	Minimum	73.6%	38.4%	17.2%
B0-09.3	Bed	8.5	72	Medium	74.4%	59.0%	44.1%	Medium	85.4%	63.9%	46.1%
B0-10.1	LKD	31.2	276	Minimum	56.1%	40.2%	24.3%	Minimum	77.1%	45.1%	26.2%
B0-10.2	Bed	9.7	81	Minimum	59.9%	44.4%	30.6%	Minimum	77.9%	47.7%	28.9%
B1-01.1	LKD	23.0	189	Fail	46.6%	26.0%	7.4%	Minimum	53.2%	5.4%	0.2%
B1-01.2	Bed	9.8	81	Minimum	58.4%	41.3%	24.2%	Minimum	77.2%	45.4%	25.7%
B1-02.1	LKD	29.9	274	Fail	36.7%	9.8%	2.7%	Minimum	52.6%	3.2%	0.0%
B1-02.2	Bed	11.3	92	Minimum	52.6%	32.6%	12.5%	Minimum	75.6%	39.2%	15.8%
B1-02.3	Bed	8.5	72	Medium	70.0%	53.1%	38.5%	Medium	81.8%	53.9%	34.2%
B1-03.1	LKD	32.1	289	Fail	34.5%	8.9%	1.0%	Fail	49.3%	1.0%	0.0%
B1-03.2	Bed	8.5	72	Medium	69.8%	52.6%	36.7%	Medium	81.6%	53.3%	32.9%
B1-03.3	Bed	12.6	98	Fail	48.6%	29.0%	8.8%	Minimum	68.2%	30.5%	5.5%
B1-04.1	LKD	24.6	208	Fail	47.5%	27.4%	8.3%	Minimum	50.5%	5.1%	0.0%

Block B - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
B1-04.2	Bed	11.3	90	Minimum	56.6%	38.4%	17.3%	Minimum	74.4%	41.3%	16.3%
B1-05.1	LKD	30.0	264	High	76.9%	66.0%	55.3%	Medium	82.5%	61.1%	46.9%
B1-05.2	Bed	13.0	108	Medium	70.9%	58.2%	46.2%	Medium	80.0%	55.6%	39.5%
B1-05.3	Bed	11.8	108	Medium	73.6%	61.6%	49.9%	Medium	83.7%	63.7%	49.4%
B1-06.1	LKD	30.0	264	High	76.9%	65.5%	54.5%	High	84.6%	66.3%	52.4%
B1-06.2	Bed	12.1	98	Medium	71.2%	58.6%	47.1%	Medium	83.1%	62.5%	47.6%
B1-06.3	Bed	11.8	108	High	75.0%	63.0%	51.9%	High	84.1%	64.9%	50.7%
B1-07.1	LKD	23.6	198	Fail	29.3%	4.3%	0.3%	Fail	36.8%	0.0%	0.0%
B1-07.2	Bed	10.3	81	Minimum	53.2%	34.2%	13.6%	Minimum	76.1%	38.8%	14.5%
B1-08.1	LKD	29.9	274	Fail	36.3%	11.2%	3.5%	Minimum	50.7%	4.0%	0.0%
B1-08.2	Bed	11.1	90	Fail	46.5%	26.4%	6.8%	Minimum	70.1%	31.7%	7.1%
B1-08.3	Bed	8.5	72	Medium	74.2%	58.7%	44.4%	Medium	85.3%	64.6%	46.3%
B1-09.1	LKD	29.9	274	Fail	38.1%	12.3%	3.4%	Minimum	52.5%	5.7%	0.0%
B1-09.2	Bed	11.3	92	Minimum	53.3%	36.5%	16.8%	Minimum	75.7%	42.2%	22.1%
B1-09.3	Bed	8.5	72	Medium	76.4%	62.5%	48.0%	High	86.3%	67.9%	50.2%
B1-10.1	LKD	23.0	189	Fail	46.2%	28.4%	10.7%	Minimum	51.5%	9.3%	0.4%
B1-10.2	Bed	9.8	81	Minimum	61.6%	45.7%	31.4%	Medium	78.9%	50.3%	32.7%
B1-11.1	LKD	23.1	205	Fail	47.4%	22.1%	5.5%	Minimum	59.1%	6.4%	2.8%
B1-11.2	Bed	10.8	88	Minimum	60.8%	41.7%	21.9%	Minimum	73.0%	35.0%	11.1%
B1-12.1	LKD	31.5	280	Medium	70.7%	55.0%	38.7%	Medium	82.7%	57.2%	36.2%
B1-12.2	Bed	5.9	40	Medium	76.9%	62.4%	47.6%	Medium	85.8%	64.7%	47.4%
B1-12.3	Bed	9.6	80	Minimum	64.5%	46.1%	22.4%	Medium	80.9%	51.9%	27.6%
B1-12.4	Bed	12.6	108	Minimum	55.8%	35.3%	8.2%	Minimum	76.5%	38.3%	6.5%
B1-13.1	LKD	31.4	288	Minimum	59.1%	42.2%	23.7%	Minimum	76.2%	43.9%	20.4%
B1-13.2	Bed	12.0	108	Minimum	56.3%	36.1%	8.3%	Minimum	76.1%	37.3%	4.7%
B1-13.3	Bed	9.6	80	Minimum	63.8%	45.2%	21.4%	Minimum	78.9%	48.7%	19.0%
B1-14.1	LKD	31.4	288	Minimum	58.9%	41.6%	23.6%	Minimum	75.9%	42.9%	19.7%
B1-14.2	Bed	10.8	94	Minimum	59.7%	40.5%	15.0%	Minimum	77.1%	39.9%	7.5%
B1-14.3	Bed	9.6	80	Minimum	64.8%	46.4%	24.2%	Minimum	79.1%	47.6%	20.4%
B1-15.1	LKD	31.5	280	Minimum	61.4%	43.6%	23.1%	Minimum	78.4%	47.2%	23.0%
B1-15.2	Bed	5.9	40	Medium	77.1%	62.4%	47.6%	Medium	85.4%	62.4%	43.1%
B1-15.3	Bed	9.6	80	Minimum	64.2%	45.8%	22.5%	Medium	81.5%	52.1%	28.2%
B1-15.4	Bed	12.6	108	Minimum	56.6%	36.8%	10.2%	Minimum	76.6%	38.5%	5.9%
B1-16.1	LKD	29.4	275	Fail	30.3%	7.4%	2.3%	Fail	32.3%	0.0%	0.0%
B116.2	Bed	16.4	143	Fail	45.3%	23.4%	6.2%	Minimum	67.4%	25.8%	5.1%
B2-01.1	LKD	23.0	189	Minimum	53.5%	34.1%	10.9%	Minimum	57.9%	9.7%	1.5%
B2-01.2	Bed	9.8	81	Minimum	63.6%	48.2%	32.8%	Medium	79.5%	52.4%	32.7%
B2-02.1	LKD	29.9	274	Fail	42.9%	16.4%	5.7%	Minimum	57.6%	8.1%	0.8%
B2-02.2	Bed	11.3	92	Minimum	56.8%	38.8%	17.9%	Minimum	76.3%	42.3%	20.0%
B2-02.3	Bed	8.5	72	Medium	73.6%	58.2%	43.5%	Medium	84.0%	60.4%	42.2%
B2-03.1	LKD	32.1	289	Fail	42.0%	14.5%	3.4%	Minimum	54.7%	3.2%	0.0%
B2-03.2	Bed	12.6	98	Minimum	51.3%	31.8%	10.3%	Minimum	71.7%	37.1%	9.0%
B2-03.3	Bed	8.5	72	Medium	73.0%	56.9%	41.6%	Medium	84.3%	60.8%	42.4%
B2-04.1	LKD	24.6	208	Minimum	51.3%	33.1%	10.1%	Minimum	56.6%	7.6%	0.0%
B2-04.2	Bed	11.3	90	Minimum	59.4%	42.8%	23.9%	Minimum	77.2%	47.0%	26.3%
B2-05.1	LKD	30.0	264	High	78.2%	67.3%	57.8%	Medium	83.3%	63.9%	49.9%
B2-05.2	Bed	13.0	108	Medium	71.7%	59.7%	47.7%	Medium	82.1%	60.8%	44.9%
B2-05.3	Bed	11.8	108	High	75.3%	63.2%	52.0%	High	84.7%	66.1%	51.9%
B2-06.1	LKD	39.1	360	Medium	67.0%	52.5%	38.3%	Medium	81.8%	57.9%	39.4%
B2-06.2	Bed	6.1	40	Medium	65.7%	50.3%	37.2%	Minimum	77.5%	48.4%	31.0%

Block B - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
B2-06.3	Bed	9.4	80	High	77.6%	67.1%	56.6%	High	85.8%	68.9%	55.4%
B2-06.4	Bed	11.2	90	High	75.7%	63.8%	52.6%	High	84.9%	67.1%	53.0%
B2-07.1	LKD	39.1	360	Medium	66.7%	51.9%	37.0%	Medium	81.5%	56.8%	37.6%
B2-07.2	Bed	6.1	40	Medium	66.3%	51.6%	39.1%	Medium	78.9%	51.7%	37.0%
B2-07.3	Bed	9.4	80	High	77.9%	67.6%	57.2%	High	85.4%	68.0%	54.5%
B2-07.4	Bed	11.2	90	High	76.5%	64.9%	53.9%	High	85.0%	67.9%	53.5%
B2-08.1	LKD	30.0	264	High	78.5%	68.6%	57.8%	High	86.3%	70.4%	57.1%
B2-08.2	Bed	12.1	98	Medium	73.2%	60.8%	49.0%	Medium	83.8%	64.5%	49.3%
B2-08.3	Bed	11.8	108	High	75.8%	64.4%	53.5%	High	84.8%	66.8%	52.9%
B2-09.1	LKD	23.6	198	Fail	38.8%	11.3%	1.9%	Fail	46.9%	1.2%	0.0%
B2-09.2	Bed	10.3	81	Minimum	59.0%	41.7%	23.2%	Minimum	79.4%	48.1%	26.1%
B2-10.1	LKD	29.9	274	Fail	44.2%	23.7%	7.0%	Minimum	57.5%	10.4%	0.6%
B2-10.2	Bed	11.1	90	Minimum	52.9%	35.3%	14.8%	Minimum	75.9%	39.3%	15.1%
B2-10.3	Bed	8.5	72	Medium	76.9%	63.7%	49.7%	High	86.7%	70.3%	54.1%
B2-11.1	LKD	29.9	274	Fail	44.2%	22.3%	6.2%	Minimum	57.9%	11.2%	1.3%
B2-11.2	Bed	11.3	92	Minimum	58.6%	43.5%	26.0%	Minimum	77.8%	48.4%	27.9%
B2-11.3	Bed	8.5	72	High	78.5%	66.5%	52.7%	High	88.0%	73.9%	58.9%
B2-12.1	LKD	23.0	189	Minimum	53.3%	35.4%	13.6%	Minimum	56.6%	11.6%	2.1%
B2-12.2	Bed	9.8	81	Medium	67.5%	52.9%	40.0%	Medium	81.1%	55.5%	39.5%
B2-13.1	LKD	23.1	205	Minimum	52.0%	27.4%	7.4%	Minimum	67.5%	19.6%	3.9%
B2-13.2	Bed	10.8	88	Minimum	65.6%	48.2%	27.3%	Minimum	77.4%	43.7%	17.6%
B2-14.1	LKD	31.5	280	Medium	74.2%	59.2%	44.2%	Medium	84.3%	62.0%	43.3%
B2-14.2	Bed	5.9	40	High	78.2%	65.9%	51.8%	High	86.9%	69.8%	51.9%
B2-14.3	Bed	9.6	80	Medium	68.3%	50.5%	30.0%	Medium	83.0%	56.4%	35.7%
B2-14.4	Bed	12.6	108	Minimum	61.2%	41.6%	14.8%	Minimum	79.2%	48.3%	16.0%
B2-15.1	LKD	31.4	288	Minimum	63.7%	48.0%	32.8%	Medium	79.1%	50.2%	30.6%
B2-15.2	Bed	12.0	108	Minimum	62.9%	43.4%	17.2%	Minimum	78.2%	45.2%	12.5%
B2-15.3	Bed	9.6	80	Medium	69.1%	51.5%	31.6%	Medium	82.1%	54.3%	30.3%
B2-16.1	LKD	31.4	288	Minimum	63.3%	47.7%	31.0%	Medium	79.4%	50.5%	29.7%
B2-16.2	Bed	12.0	108	Minimum	63.7%	44.7%	21.4%	Minimum	60.1%	8.8%	0.0%
B2-16.3	Bed	9.6	80	Medium	68.6%	51.1%	31.1%	Medium	81.9%	54.7%	33.0%
B2-17.1	LKD	31.5	280	Minimum	66.2%	49.6%	30.3%	Medium	80.6%	53.3%	30.7%
B2-17.2	Bed	5.9	40	High	79.0%	67.5%	53.0%	High	86.9%	69.0%	51.2%
B2-17.3	Bed	9.6	80	Minimum	66.6%	48.5%	26.7%	Medium	82.8%	56.0%	34.7%
B2-17.4	Bed	12.6	108	Minimum	62.3%	42.7%	17.8%	Minimum	79.2%	47.7%	17.6%
B2-18.1	LKD	29.4	275	Fail	37.2%	11.7%	4.6%	Fail	36.8%	0.4%	0.0%
B2-18.2	Bed	16.4	143	Minimum	50.8%	29.3%	9.9%	Minimum	70.9%	32.7%	8.9%
B3-01.1	LKD	23.0	189	Minimum	56.9%	39.5%	18.4%	Minimum	63.4%	20.3%	3.7%
B3-01.2	Bed	9.8	81	Medium	69.6%	55.1%	41.2%	Medium	81.5%	57.3%	38.9%
B3-02.1	LKD	29.9	274	Fail	49.2%	26.1%	7.8%	Minimum	62.4%	16.1%	2.7%
B3-02.2	Bed	11.3	92	Minimum	61.3%	45.7%	26.3%	Medium	78.8%	50.4%	28.3%
B3-02.3	Bed	8.5	72	Medium	75.7%	62.1%	48.3%	Medium	85.4%	64.9%	48.0%
B3-03.1	LKD	32.1	289	Fail	47.3%	22.6%	6.6%	Minimum	58.2%	7.3%	0.0%
B3-03.2	Bed	12.6	98	Minimum	55.8%	37.2%	14.5%	Minimum	74.8%	42.3%	16.4%
B3-03.3	Bed	8.5	72	Medium	75.8%	62.1%	48.1%	Medium	86.3%	67.1%	49.9%
B3-04.1	LKD	24.6	208	Minimum	55.1%	36.6%	12.2%	Minimum	59.5%	8.5%	0.0%
B3-04.2	Bed	11.3	90	Minimum	62.9%	48.3%	31.0%	Medium	79.5%	53.7%	30.5%
B3-05.1	LKD	30.0	264	High	79.2%	68.5%	59.9%	High	84.2%	66.0%	52.1%
B3-05.2	Bed	13.0	108	Medium	72.8%	61.1%	48.8%	Medium	83.9%	63.8%	48.0%
B3-05.3	Bed	11.8	108	High	76.2%	64.6%	52.9%	High	84.9%	66.9%	52.3%

Block B - EN17037:2018 Table A.1 Daylight Provision Room Schedule

Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
B3-06.1	LKD	39.1	360	Medium	70.3%	56.2%	42.4%	Medium	83.3%	60.8%	44.0%
B3-06.2	Bed	6.1	40	Medium	68.0%	53.4%	40.0%	Medium	79.7%	53.2%	36.3%
B3-06.3	Bed	9.4	80	High	78.4%	68.2%	57.6%	High	85.8%	69.5%	56.0%
B3-06.4	Bed	11.2	90	High	76.6%	65.1%	53.5%	High	85.7%	69.2%	55.0%
B3-07.1	LKD	39.1	360	Medium	70.2%	55.8%	42.1%	Medium	82.9%	60.2%	43.1%
B3-07.2	Bed	6.1	40	Medium	67.2%	53.2%	40.8%	Medium	80.4%	54.9%	38.8%
B3-07.3	Bed	9.4	80	High	78.3%	68.2%	57.9%	High	85.9%	70.0%	56.7%
B3-07.4	Bed	11.2	90	High	76.9%	65.7%	55.1%	High	86.0%	69.8%	56.0%
B3-08.1	LKD	30.0	264	High	79.1%	69.5%	59.3%	High	86.6%	72.0%	58.8%
B3-08.2	Bed	12.1	98	High	74.0%	61.9%	50.1%	High	84.2%	65.8%	51.1%
B3-08.3	Bed	11.8	108	High	76.0%	64.8%	53.7%	High	85.3%	68.2%	53.9%
B3-09.1	LKD	23.6	198	Fail	46.5%	21.9%	5.3%	Minimum	53.5%	3.8%	0.0%
B3-09.2	Bed	10.3	81	Medium	66.7%	50.5%	35.1%	Medium	81.1%	53.6%	35.9%
B3-10.1	LKD	29.9	274	Minimum	59.6%	43.9%	25.5%	Minimum	71.7%	37.3%	7.3%
B3-10.2	Bed	11.1	90	Minimum	60.5%	44.4%	25.5%	Medium	79.1%	50.0%	27.2%
B3-10.3	Bed	8.5	72	High	78.4%	66.4%	52.5%	High	87.2%	72.3%	56.7%
B3-11.1	LKD	29.9	274	Minimum	59.5%	43.6%	25.3%	Minimum	72.9%	38.5%	9.2%
B3-11.2	Bed	11.3	92	Medium	65.4%	51.1%	35.7%	Medium	80.5%	55.4%	37.9%
B3-11.3	Bed	8.5	72	High	79.3%	68.1%	55.4%	High	88.4%	75.6%	61.7%
B3-12.1	LKD	23.0	189	Minimum	62.6%	49.5%	33.8%	Minimum	68.9%	35.0%	7.7%
B3-12.2	Bed	9.8	81	Medium	71.8%	58.5%	46.7%	Medium	83.2%	60.8%	44.9%
B3-13.1	LKD	23.1	205	Minimum	53.6%	30.4%	8.3%	Minimum	68.4%	20.5%	4.3%
B3-13.2	Bed	10.8	88	Medium	66.8%	50.4%	30.5%	Minimum	78.0%	46.0%	19.6%
B3-14.1	LKD	31.5	280	Medium	75.9%	61.3%	46.7%	Medium	85.2%	64.1%	46.3%
B3-14.2	Bed	5.9	40	High	79.0%	68.0%	53.4%	High	87.0%	69.7%	52.7%
B3-14.3	Bed	9.6	80	Medium	69.7%	52.6%	32.9%	Medium	84.5%	59.7%	39.5%
B3-14.4	Bed	12.6	108	Minimum	65.1%	46.6%	21.0%	Medium	80.8%	52.4%	23.4%
B3-15.1	LKD	31.4	288	Medium	72.2%	58.3%	44.9%	Medium	83.5%	60.9%	44.5%
B3-15.2	Bed	12.0	108	Minimum	65.8%	47.6%	23.9%	Medium	80.4%	51.8%	24.1%
B3-15.3	Bed	9.6	80	Medium	70.9%	54.1%	35.7%	Medium	83.9%	57.7%	37.9%
B3-16.1	LKD	31.4	288	Medium	71.2%	56.8%	42.7%	Medium	83.3%	60.3%	43.0%
B3-16.2	Bed	12.0	108	Minimum	67.6%	49.6%	28.1%	Minimum	70.0%	23.6%	0.5%
B3-16.3	Bed	9.6	80	Medium	72.2%	55.2%	37.2%	Medium	84.0%	58.4%	38.1%
B3-17.1	LKD	31.5	280	Medium	70.6%	55.0%	38.3%	Medium	82.1%	57.6%	36.9%
B3-17.2	Bed	5.9	40	High	79.3%	68.4%	54.0%	High	87.3%	70.1%	52.9%
B3-17.3	Bed	9.6	80	Medium	69.5%	52.3%	32.4%	Medium	84.5%	59.4%	39.5%
B3-17.4	Bed	12.6	108	Minimum	65.1%	46.3%	22.8%	Medium	80.8%	52.5%	25.2%
B3-18.1	LKD	29.4	275	Fail	44.1%	19.3%	6.8%	Fail	45.1%	3.4%	0.0%
B3-18.2	Bed	16.4	143	Minimum	55.6%	35.5%	15.2%	Minimum	74.3%	37.6%	12.9%
B4-01.1	LKD	29.4	275	Minimum	51.5%	28.6%	9.2%	Minimum	53.4%	6.6%	1.7%
B4-01.2	Bed	16.4	143	Minimum	60.0%	41.7%	21.5%	Minimum	77.4%	45.8%	19.3%
B4-02.1	LKD	23.0	189	Minimum	62.6%	48.2%	28.8%	Minimum	68.2%	28.5%	5.9%
B4-02.2	Bed	9.8	81	Medium	73.5%	59.8%	46.7%	Medium	83.7%	62.5%	46.8%
B4-03.1	LKD	29.9	274	Minimum	55.6%	36.0%	12.6%	Minimum	67.7%	25.9%	4.8%
B4-03.2	Bed	11.3	92	Medium	67.2%	51.9%	35.3%	Medium	81.1%	55.8%	36.3%
B4-03.3	Bed	8.5	72	High	78.4%	66.3%	52.7%	High	86.5%	69.8%	53.5%
B4-04.1	LKD	32.1	289	Minimum	53.2%	32.2%	9.2%	Minimum	63.1%	16.1%	2.2%
B4-04.2	Bed	12.6	98	Minimum	59.0%	43.2%	22.2%	Minimum	76.9%	46.6%	22.2%
B4-04.3	Bed	8.5	72	High	78.2%	66.0%	51.8%	High	87.1%	70.8%	54.8%
B4-05.1	LKD	24.6	208	Minimum	58.1%	42.2%	18.6%	Minimum	61.6%	12.8%	1.1%

Block B - EN17037:2018 Table A.1 Daylight Provision Room Schedule											
Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
B4-05.2	Bed	11.3	90	Medium	66.8%	53.4%	37.1%	Medium	80.7%	56.5%	37.7%
B4-06.1	LKD	30.0	264	High	80.5%	71.1%	61.7%	High	85.4%	67.6%	54.1%
B4-06.2	Bed	13.0	108	Medium	73.6%	61.8%	49.8%	Medium	83.4%	63.3%	47.3%
B4-06.3	Bed	11.8	108	High	76.1%	64.7%	52.8%	High	85.4%	68.3%	54.4%
B4-07.1	LKD	30.0	264	High	80.3%	71.6%	61.9%	High	87.2%	74.2%	61.5%
B4-07.2	Bed	12.1	98	High	74.8%	63.0%	51.5%	High	85.0%	67.5%	53.0%
B4-07.3	Bed	11.8	108	High	76.5%	65.5%	54.5%	High	85.7%	69.5%	55.5%
B4-08.1	LKD	23.6	198	Minimum	60.3%	44.4%	23.8%	Minimum	67.3%	25.4%	3.9%
B4-08.2	Bed	10.3	81	Medium	73.6%	59.2%	46.4%	Medium	84.3%	62.6%	46.6%
B5-01.1	LKD	29.4	275	Minimum	60.0%	41.9%	22.0%	Minimum	61.8%	14.2%	5.0%
B5-01.2	Bed	16.4	143	Minimum	63.3%	47.2%	27.4%	Minimum	78.9%	49.8%	25.6%
B5-02.1	LKD	23.0	189	Medium	71.6%	57.8%	43.8%	Minimum	76.1%	43.6%	16.5%
B5-02.2	Bed	9.8	81	High	76.5%	63.8%	51.9%	High	86.1%	68.2%	53.3%
B5-03.1	LKD	29.9	274	Minimum	64.7%	49.2%	30.5%	Minimum	76.4%	43.7%	16.9%
B5-03.2	Bed	11.3	92	Medium	70.5%	56.8%	42.0%	Medium	83.6%	61.9%	45.6%
B5-03.3	Bed	8.5	72	High	78.9%	67.1%	53.6%	High	87.1%	71.7%	56.1%
B5-04.1	LKD	32.1	289	Minimum	58.6%	40.8%	16.4%	Minimum	69.2%	28.7%	5.4%
B5-04.2	Bed	12.6	98	Minimum	63.3%	49.5%	30.7%	Medium	79.2%	53.2%	30.4%
B5-04.3	Bed	8.5	72	High	79.1%	67.5%	54.3%	High	87.6%	72.2%	57.3%
B5-05.1	LKD	24.6	208	Minimum	60.4%	45.9%	24.1%	Minimum	64.9%	24.2%	4.4%
B5-05.2	Bed	11.3	90	Medium	70.8%	57.8%	44.5%	Medium	82.6%	60.2%	43.2%
B5-06.1	LKD	30.0	264	High	80.9%	72.0%	62.8%	High	86.0%	69.3%	56.7%
B5-06.2	Bed	13.0	108	High	74.4%	62.4%	50.3%	High	84.5%	65.7%	50.6%
B5-06.3	Bed	11.8	108	High	76.7%	65.5%	54.1%	High	85.7%	69.4%	55.6%
B6-01.1	LKD	32.1	289	Medium	66.3%	51.6%	34.8%	Minimum	75.7%	44.1%	15.8%
B6-01.2	Bed	12.6	98	Medium	67.7%	54.2%	38.8%	Medium	81.7%	58.7%	40.2%
B6-01.3	Bed	8.5	72	High	79.3%	67.7%	55.0%	High	87.9%	73.1%	58.8%
B6-02.1	LKD	24.6	208	Medium	65.0%	51.9%	35.3%	Minimum	69.3%	32.6%	6.6%
B6-02.2	Bed	11.3	90	Medium	73.6%	60.8%	48.3%	Medium	84.7%	64.6%	49.4%
B6-03.1	LKD	30.0	264	High	81.5%	73.5%	64.0%	High	86.1%	70.5%	57.9%
B6-03.2	Bed	13.0	108	High	74.2%	62.4%	50.2%	High	84.6%	66.1%	51.0%
B6-03.3	Bed	11.8	108	High	76.6%	65.2%	54.2%	High	85.8%	69.5%	55.7%
B7-01.1	LKD	24.6	208	Medium	71.9%	58.9%	45.4%	Minimum	74.9%	42.9%	13.4%
B7-01.2	Bed	11.3	90	High	76.1%	63.4%	51.9%	High	85.7%	67.5%	52.9%
B7-02.1	LKD	30.0	264	High	82.8%	76.2%	66.4%	High	86.7%	72.7%	60.2%
B7-02.2	Bed	13.0	108	High	75.3%	63.5%	52.0%	High	84.6%	65.8%	50.7%
B7-02.3	Bed	11.8	108	High	76.8%	65.8%	55.0%	High	86.1%	70.3%	56.4%

Table 25: Block B - Daylight Provision individual values for all habitable rooms to EN 17037 Table A.1.

Block C - Assessment with Existing Trees

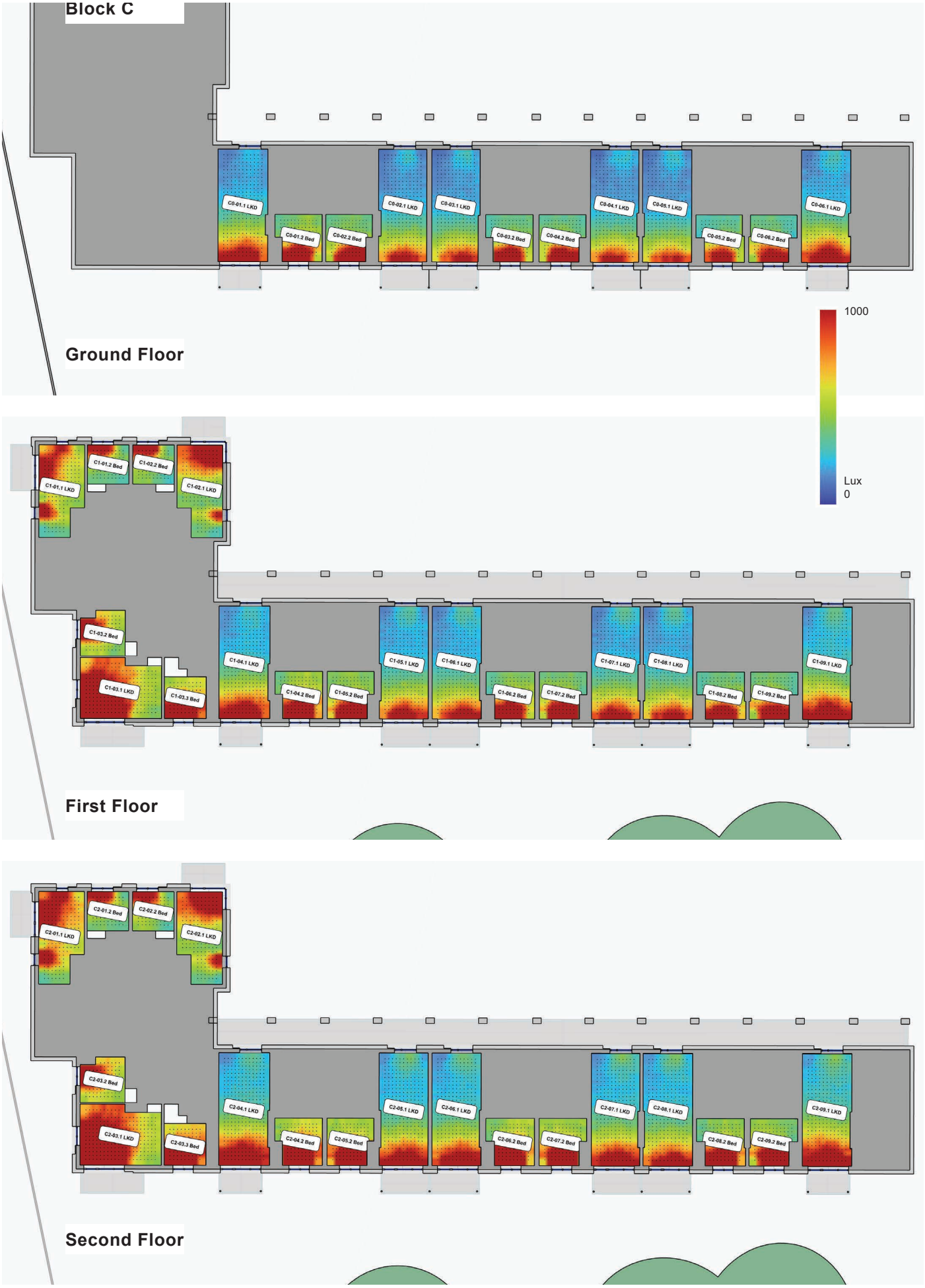


Figure 48: Block C - Daylight Provision and Annual Average Illuminance to all habitable rooms Assessment with existing trees in place

Block C - Assessment with Existing Trees

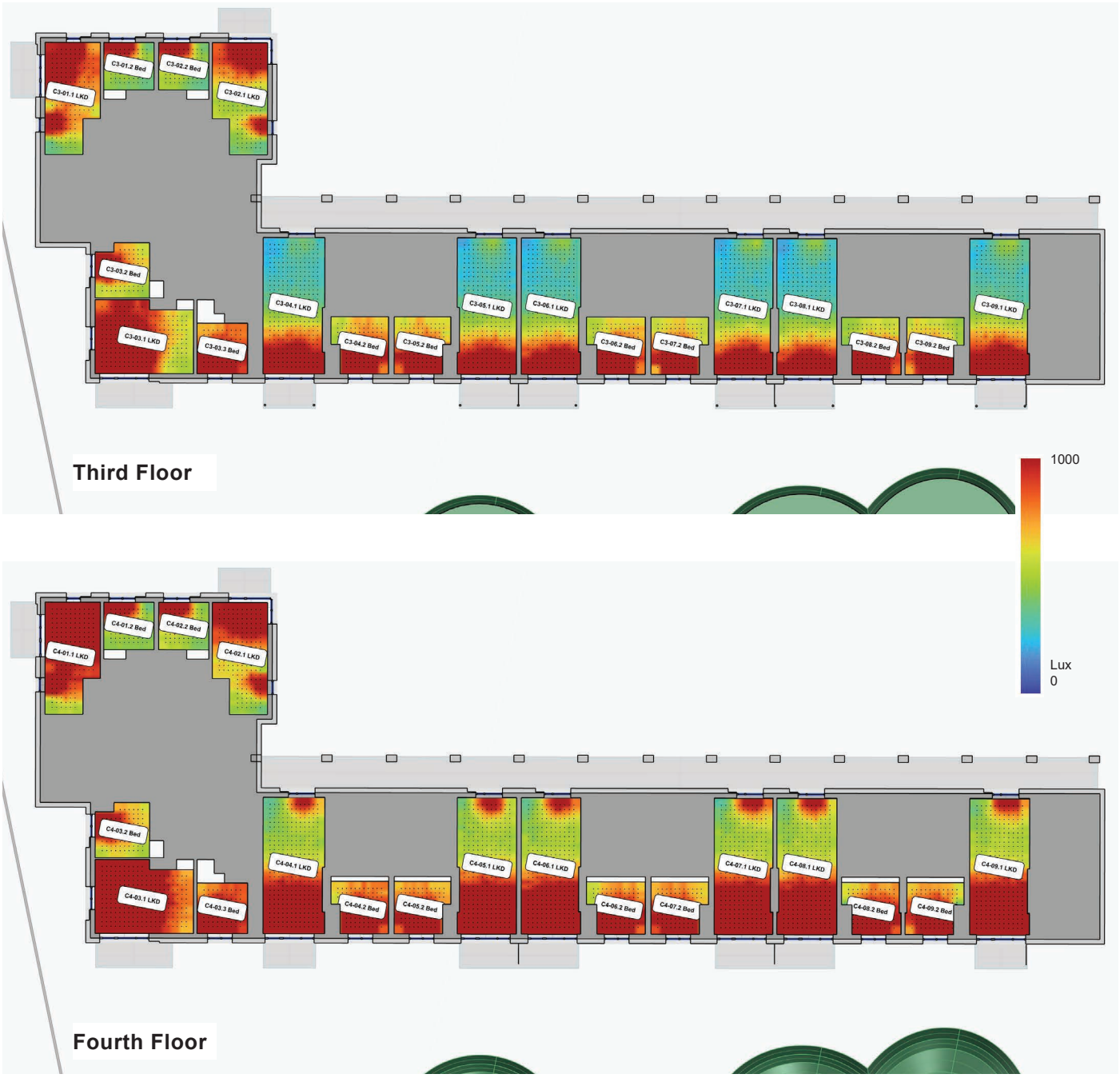


Figure 49: Block C - Daylight Provision and Annual Average Illuminance to all habitable rooms Assessment with existing trees in place

Block C with existing trees - EN17037:2018 Table A.1 Daylight Provision Room Schedule											
Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
C0-01.1	LKD	33.6	302	Fail	40.1%	13.2%	5.0%	Minimum	56.8%	8.4%	0.1%
C0-01.2	Bed	12.4	107	Minimum	54.6%	40.3%	27.8%	Minimum	72.5%	42.8%	25.6%
C0-02.1	LKD	32.4	300	Fail	33.4%	10.9%	0.7%	Minimum	56.1%	3.7%	0.0%
C0-02.2	Bed	12.4	108	Minimum	52.1%	39.2%	23.2%	Minimum	72.3%	41.9%	25.5%
C0-03.1	LKD	32.4	308	Fail	33.5%	10.6%	1.8%	Minimum	55.3%	4.5%	0.0%
C0-03.2	Bed	12.5	107	Minimum	51.2%	36.7%	22.1%	Minimum	68.8%	38.2%	19.4%
C0-04.1	LKD	32.6	308	Fail	33.6%	9.9%	1.0%	Minimum	54.5%	2.9%	0.0%
C0-04.2	Bed	12.4	107	Minimum	51.1%	37.1%	22.8%	Minimum	69.6%	39.5%	20.5%
C0-05.1	LKD	33.2	308	Fail	31.7%	9.4%	0.2%	Minimum	55.0%	1.9%	0.0%
C0-05.2	Bed	12.4	102	Minimum	51.0%	37.1%	21.0%	Minimum	67.2%	36.4%	15.1%
C0-06.1	LKD	33.3	302	Fail	39.7%	12.6%	4.2%	Minimum	59.7%	8.0%	0.3%
C0-06.2	Bed	12.4	107	Minimum	51.6%	37.5%	23.6%	Minimum	68.3%	39.0%	16.8%
C1-01.1	LKD	23.0	189	Medium	65.9%	51.0%	33.1%	Medium	78.6%	50.5%	25.9%
C1-01.2	Bed	9.8	81	Minimum	63.9%	44.5%	15.6%	Medium	80.8%	50.8%	22.1%
C1-02.1	LKD	23.0	189	Medium	67.8%	50.9%	29.9%	Medium	81.8%	54.5%	29.0%
C1-02.2	Bed	9.8	81	Minimum	65.4%	46.6%	20.8%	Minimum	80.1%	50.0%	17.6%
C1-03.1	LKD	28.2	260	Medium	70.5%	58.0%	47.0%	Medium	79.4%	54.7%	40.6%
C1-03.2	Bed	11.7	92	Minimum	58.9%	42.2%	27.4%	Minimum	76.1%	47.3%	28.6%
C1-03.3	Bed	10.6	81	Medium	65.8%	52.1%	41.3%	Medium	79.7%	54.2%	40.2%
C1-04.1	LKD	34.3	336	Fail	44.9%	19.4%	8.2%	Minimum	61.7%	13.3%	0.8%
C1-04.2	Bed	12.5	107	Minimum	60.0%	45.3%	34.7%	Minimum	75.0%	45.9%	30.6%
C1-05.1	LKD	32.9	308	Fail	41.4%	13.4%	4.7%	Minimum	62.4%	15.5%	0.0%
C1-05.2	Bed	12.4	107	Minimum	56.0%	41.9%	29.5%	Minimum	74.8%	46.0%	29.4%
C1-06.1	LKD	33.1	308	Fail	41.2%	13.0%	5.3%	Minimum	60.7%	10.2%	0.1%
C1-06.2	Bed	12.6	107	Minimum	55.5%	39.9%	27.0%	Minimum	71.5%	41.1%	23.2%
C1-07.1	LKD	32.6	298	Fail	40.4%	12.9%	2.8%	Minimum	60.3%	8.8%	0.0%
C1-07.2	Bed	12.5	107	Minimum	55.2%	40.4%	28.1%	Minimum	73.3%	42.6%	25.5%
C1-08.1	LKD	33.4	308	Fail	39.3%	12.5%	2.2%	Minimum	60.5%	9.4%	0.0%
C1-08.2	Bed	12.5	107	Minimum	52.7%	37.9%	23.7%	Minimum	70.3%	39.9%	20.5%
C1-09.1	LKD	33.3	308	Fail	47.4%	24.2%	8.9%	Minimum	65.0%	23.6%	0.9%
C1-09.2	Bed	12.4	107	Minimum	55.4%	40.0%	27.9%	Minimum	72.0%	41.8%	22.6%
C2-01.1	LKD	23.0	189	Medium	70.8%	57.2%	42.2%	Medium	80.7%	56.1%	33.6%
C2-01.2	Bed	9.8	81	Minimum	66.8%	48.3%	24.3%	Medium	82.0%	54.3%	29.4%
C2-02.1	LKD	23.0	189	Medium	69.2%	53.4%	34.1%	Medium	82.2%	56.1%	32.3%
C2-02.2	Bed	9.8	81	Medium	68.2%	50.9%	29.8%	Medium	81.3%	53.9%	28.9%
C2-03.1	LKD	28.2	260	Medium	72.4%	60.3%	49.9%	Medium	80.9%	57.9%	43.4%
C2-03.2	Bed	11.7	92	Minimum	62.1%	47.9%	31.6%	Medium	78.8%	53.0%	34.1%
C2-03.3	Bed	10.6	81	Medium	69.0%	55.9%	43.8%	Medium	81.6%	58.0%	42.7%
C2-04.1	LKD	34.3	336	Fail	48.4%	28.9%	10.7%	Minimum	65.7%	26.0%	2.6%
C2-04.2	Bed	12.5	107	Medium	64.2%	50.9%	38.1%	Medium	77.5%	50.8%	36.0%
C2-05.1	LKD	32.9	308	Fail	45.8%	22.7%	8.2%	Minimum	64.6%	23.8%	0.5%
C2-05.2	Bed	12.4	107	Minimum	62.2%	48.1%	37.0%	Minimum	77.0%	49.8%	35.1%
C2-06.1	LKD	33.1	308	Fail	45.1%	21.7%	8.3%	Minimum	64.2%	22.5%	1.3%
C2-06.2	Bed	12.6	107	Minimum	60.8%	46.2%	34.9%	Minimum	75.2%	45.3%	30.5%
C2-07.1	LKD	32.6	298	Fail	46.0%	22.2%	8.4%	Minimum	64.0%	21.5%	0.6%
C2-07.2	Bed	12.5	107	Minimum	60.8%	46.0%	35.5%	Minimum	76.1%	47.7%	33.2%
C2-08.1	LKD	33.4	308	Fail	44.7%	18.5%	7.6%	Minimum	64.3%	22.4%	0.2%
C2-08.2	Bed	12.5	107	Minimum	58.4%	44.0%	32.6%	Minimum	74.0%	43.8%	27.9%
C2-09.1	LKD	33.3	308	Minimum	50.6%	32.6%	11.5%	Minimum	68.1%	32.4%	4.0%
C2-09.2	Bed	12.4	107	Minimum	60.0%	45.0%	34.6%	Minimum	75.1%	45.5%	30.2%

Block C with existing trees - EN17037:2018 Table A.1 Daylight Provision Room Schedule											
Space ID	Description	Area m2	Sensor Count	Target Illuminance	300lux_50	500lux_50	750lux_50	Minimum Target Illuminance	100lux_95	300lux_95	500lux_95
C3-01.1	LKD	23.0	189	Medium	74.3%	61.0%	47.9%	Medium	82.4%	59.7%	40.2%
C3-01.2	Bed	9.8	81	Medium	69.4%	52.0%	30.6%	Medium	83.4%	57.9%	35.2%
C3-02.1	LKD	23.0	189	Medium	71.2%	56.3%	39.7%	Medium	83.2%	59.0%	37.5%
C3-02.2	Bed	9.8	81	Medium	70.2%	54.0%	34.5%	Medium	83.4%	57.5%	34.8%
C3-03.1	LKD	28.2	260	High	74.8%	62.9%	52.2%	Medium	81.9%	60.3%	47.0%
C3-03.2	Bed	11.7	92	Medium	63.7%	50.2%	34.2%	Medium	80.4%	55.3%	38.2%
C3-03.3	Bed	10.6	81	Medium	72.0%	59.3%	47.3%	Medium	83.1%	62.5%	47.1%
C3-04.1	LKD	34.3	336	Minimum	52.5%	36.9%	13.9%	Minimum	69.6%	36.4%	5.8%
C3-04.2	Bed	12.5	107	Medium	68.0%	54.5%	42.4%	Medium	80.8%	56.5%	40.9%
C3-05.1	LKD	32.9	308	Minimum	51.0%	34.4%	12.7%	Minimum	69.4%	35.8%	6.4%
C3-05.2	Bed	12.4	107	Medium	66.9%	53.6%	41.5%	Medium	81.2%	56.7%	41.7%
C3-06.1	LKD	33.1	308	Minimum	51.6%	34.3%	11.6%	Minimum	68.8%	33.7%	6.8%
C3-06.2	Bed	12.6	107	Medium	66.4%	52.8%	40.8%	Medium	80.0%	54.7%	38.0%
C3-07.1	LKD	32.6	298	Minimum	50.5%	32.3%	11.6%	Minimum	68.6%	34.1%	5.6%
C3-07.2	Bed	12.5	107	Medium	66.7%	53.2%	40.3%	Medium	80.4%	55.2%	40.6%
C3-08.1	LKD	33.4	308	Minimum	50.1%	31.7%	11.1%	Minimum	68.3%	33.3%	5.1%
C3-08.2	Bed	12.5	107	Medium	65.5%	52.1%	39.3%	Medium	78.4%	51.8%	36.6%
C3-09.1	LKD	33.3	308	Minimum	54.6%	38.7%	13.6%	Minimum	73.0%	40.5%	8.5%
C3-09.2	Bed	12.4	107	Medium	66.1%	52.8%	39.5%	Medium	79.4%	53.7%	38.4%
C4-01.1	LKD	23.0	189	High	79.6%	69.2%	58.1%	High	85.3%	65.5%	50.0%
C4-01.2	Bed	9.8	81	Medium	71.0%	54.4%	34.7%	Medium	85.2%	62.8%	41.5%
C4-02.1	LKD	23.0	189	Medium	76.5%	62.9%	48.5%	Medium	85.4%	64.7%	46.1%
C4-02.2	Bed	9.8	81	Medium	72.1%	56.2%	37.8%	Medium	84.9%	62.4%	42.2%
C4-03.1	LKD	28.2	260	High	79.4%	69.3%	60.2%	High	85.0%	67.4%	54.9%
C4-03.2	Bed	11.7	92	Medium	65.0%	51.9%	36.3%	Medium	81.6%	58.3%	41.3%
C4-03.3	Bed	10.6	81	High	74.0%	61.7%	50.4%	High	84.3%	65.4%	50.5%
C4-04.1	LKD	34.3	336	Medium	68.0%	54.2%	41.5%	Medium	80.6%	55.3%	37.6%
C4-04.2	Bed	11.4	96	Medium	71.7%	58.8%	46.9%	Medium	82.8%	61.8%	45.5%
C4-05.1	LKD	32.9	308	Medium	68.6%	54.6%	42.5%	Medium	81.7%	58.6%	40.9%
C4-05.2	Bed	11.3	96	Medium	70.9%	57.9%	46.4%	Medium	82.9%	61.9%	45.4%
C4-06.1	LKD	33.1	308	Medium	68.7%	54.7%	42.5%	Medium	81.6%	58.2%	40.0%
C4-06.2	Bed	11.5	96	Medium	70.8%	57.5%	45.1%	Medium	81.6%	58.3%	42.8%
C4-07.1	LKD	32.6	298	Medium	69.0%	55.1%	42.2%	Medium	81.4%	57.6%	39.8%
C4-07.2	Bed	11.4	96	Medium	71.2%	58.1%	45.9%	Medium	82.6%	61.2%	44.1%
C4-08.1	LKD	33.4	308	Medium	68.9%	54.9%	42.6%	Medium	81.5%	58.2%	40.1%
C4-08.2	Bed	12.7	110	Medium	70.2%	56.8%	44.3%	Fail	0.0%	0.0%	0.0%
C4-09.1	LKD	33.3	308	Medium	70.3%	56.8%	43.7%	Medium	81.8%	59.2%	40.9%
C4-09.2	Bed	12.6	110	Medium	70.9%	57.4%	45.5%	Fail	0.0%	0.0%	0.0%

Table 26: Block C with existing trees - Daylight Provision individual values for all habitable rooms to EN 17037 Table A.1.

Appendix C - Sunlight Hours to Living Spaces within the Proposed Development

Block A - Sunlight Hours			
Unit ID	LKD window within 90° South	No. sunlight hours on 21st March	BRE Recommendation
A0-01.1	Yes	2.3	Minimum
A0-02.1	Yes	3.3	Medium
A0-03.1	Yes	7.1	High
A1-01.1	Yes	2.1	Minimum
A1-02.1	No	0.0	Below criteria
A1-03.1	No	0.0	Below criteria
A1-04.1	Yes	2.3	Minimum
A1-05.1	Yes	2.3	Minimum
A1-06.1	Yes	3.3	Medium
A1-07.1	Yes	2.8	Minimum
A1-08.1	Yes	7.3	High
A1-09.1	Yes	7.4	High
A2-01.1	Yes	2.6	Minimum
A2-02.1	No	0.0	Below criteria
A2-03.1	No	0.0	Below criteria
A2-04.1	Yes	3.3	Medium
A2-05.1	Yes	2.3	Minimum
A2-06.1	Yes	3.3	Medium
A2-07.1	Yes	2.8	Minimum
A2-08.1	Yes	7.3	High
A2-09.1	Yes	7.4	High
A3-01.1	Yes	4.0	High
A3-02.1	No	0.2	Below criteria
A3-03.1	No	0.0	Below criteria
A3-04.1	Yes	4.3	High
A3-05.1	Yes	2.7	Minimum
A3-06.1	Yes	3.3	Medium
A3-07.1	Yes	2.8	Minimum
A3-08.1	Yes	7.3	High
A3-09.1	Yes	7.4	High
A4-01.1	No	0.0	Below criteria
A4-02.1	Yes	4.8	High
A4-03.1	Yes	3.9	Medium
A4-04.1	Yes	3.9	Medium
A4-05.1	No	3.8	Medium
A4-06.1	Yes	7.3	High
A4-07.1	Yes	9.4	High
A5-01.1	Yes	0.9	Below criteria
A5-02.1	Yes	5.6	High
A5-03.1	Yes	4.3	High
A5-04.1	Yes	3.9	Medium
A5-05.1	Yes	3.8	Medium
A5-06.1	Yes	7.3	High
A6-01.1	Yes	5.6	High
A6-02.1	Yes	3.8	Medium
A6-03.1	Yes	7.3	High
A7-01.1	Yes	3.8	Medium
A7-02.1	Yes	9.4	High

Table 27: Block A sunlight hours to living spaces

Block B - Sunlight Hours			
Unit ID	LKD window within 90° South	No. sunlight hours on 21st March	BRE Recommendation
B0-01.1	No	0.0	Below criteria
B0-02.1	No	0.0	Below criteria
B0-03.1	Yes	10.1	High
B0-04.1	Yes	6.7	High
B0-05.1	Yes	8.1	High
B0-06.1	Yes	6.6	High
B0-07.1	Yes	7.0	High
B0-08.1	Yes	0.0	Below criteria
B0-09.1	Yes	0.1	Below criteria
B0-10.1	Yes	1.3	Below criteria
B1-01.1	Yes	1.3	Below criteria
B1-02.1	Yes	0.9	Below criteria
B1-03.1	Yes	0.0	Below criteria
B1-04.1	Yes	2.2	Minimum
B1-05.1	Yes	9.6	High
B1-06.1	Yes	7.0	High
B1-07.1	Yes	0.0	Below criteria
B1-08.1	Yes	0.0	Below criteria
B1-09.1	Yes	0.0	Below criteria
B1-10.1	Yes	1.7	Minimum
B1-11.1	No	1.5	Minimum
B1-12.1	No	2.0	Minimum
B1-13.1	Yes	3.7	Medium
B1-14.1	Yes	3.8	Medium
B1-15.1	Yes	0.2	Below criteria
B1-16.1	Yes	1.3	Below criteria
B2-01.1	Yes	1.6	Minimum
B2-02.1	Yes	1.2	Below criteria
B2-03.1	Yes	0.0	Below criteria
B2-04.1	Yes	2.2	Minimum
B2-05.1	Yes	9.7	High
B2-06.1	Yes	0.3	Below criteria
B2-07.1	Yes	1.9	Minimum
B2-08.1	Yes	7.7	High
B2-09.1	Yes	0.0	Below criteria
B2-10.1	Yes	0.3	Below criteria
B2-11.1	Yes	0.3	Below criteria
B2-12.1	Yes	2.0	Minimum
B2-13.1	No	1.8	Minimum
B2-14.1	No	3.0	Medium
B2-15.1	Yes	4.2	High
B2-16.1	Yes	4.5	High
B2-17.1	Yes	0.6	Below criteria
B2-18.1	Yes	2.4	Minimum
B3-01.1	Yes	2.2	Minimum
B3-02.1	Yes	1.6	Minimum
B3-03.1	Yes	0.4	Below criteria
B3-04.1	Yes	2.2	Minimum
B3-05.1	Yes	9.7	High
B3-06.1	Yes	1.4	Below criteria
B3-07.1	Yes	3.0	Medium

Block B - Sunlight Hours			
Unit ID	LKD window within 90° South	No. sunlight hours on 21st March	BRE Recommendation
B3-08.1	Yes	7.7	High
B3-09.1	Yes	0.0	Below criteria
B3-10.1	Yes	2.3	Minimum
B3-11.1	Yes	2.4	Minimum
B3-12.1	Yes	2.7	Minimum
B3-13.1	No	1.8	Minimum
B3-14.1	No	3.1	Medium
B3-15.1	Yes	6.1	High
B3-16.1	Yes	6.0	High
B3-17.1	Yes	1.8	Minimum
B3-18.1	Yes	3.1	Medium
B4-01.1	Yes	3.6	Medium
B4-02.1	Yes	3.8	Medium
B4-03.1	Yes	2.1	Minimum
B4-04.1	Yes	0.8	Below criteria
B4-05.1	Yes	2.4	Minimum
B4-06.1	Yes	9.7	High
B4-07.1	Yes	9.2	High
B4-08.1	Yes	1.0	Below criteria
B5-01.1	Yes	4.9	High
B5-02.1	Yes	4.7	High
B5-03.1	Yes	3.0	Medium
B5-04.1	Yes	1.5	Minimum
B5-05.1	Yes	3.1	Medium
B5-06.1	Yes	9.7	High
B6-01.1	Yes	4.1	High
B6-02.1	Yes	3.8	Medium
B6-03.1	Yes	9.8	High
B7-01.1	Yes	4.7	High
B7-02.1	Yes	10.7	High

Table 28: Block B sunlight hours to living spaces

Block C - Sunlight Hours					
		Model With Trees		Model Without Trees	
Unit ID	LKD window within 90° South	No. sunlight hours on 21st March	BRE Recommendation	No. sunlight hours on 21st March	BRE Recommendation
C0-01.1	Yes	1.5	Minimum	3.8	Medium
C0-02.1	Yes	1.5	Minimum	3.5	Medium
C0-03.1	Yes	0.0	Below criteria	2.4	Minimum
C0-04.1	Yes	0.8	Below criteria	3.3	Medium
C0-05.1	Yes	0.5	Below criteria	1.8	Minimum
C0-06.1	Yes	1.4	Below criteria	2.1	Minimum
C1-01.1	Yes	2.1	Minimum	2.1	Minimum
C1-02.1	No	0.0	Below criteria	0.0	Below criteria
C1-03.1	Yes	2.4	Minimum	4.3	High
C1-04.1	Yes	1.6	Minimum	3.9	Medium
C1-05.1	Yes	1.9	Minimum	3.9	Medium
C1-06.1	Yes	0.1	Below criteria	2.4	Minimum
C1-07.1	Yes	1.7	Minimum	3.7	Medium
C1-08.1	Yes	0.4	Below criteria	1.8	Minimum
C1-09.1	Yes	2.2	Minimum	2.2	Minimum
C2-01.1	Yes	3.8	Medium	3.8	Medium
C2-02.1	No	0.0	Below criteria	0.0	Below criteria
C2-03.1	Yes	2.8	Minimum	4.3	High
C2-04.1	Yes	2.6	Minimum	3.9	Medium
C2-05.1	Yes	2.7	Minimum	3.8	Medium
C2-06.1	Yes	0.8	Below criteria	2.4	Minimum
C2-07.1	Yes	2.3	Minimum	3.7	Medium
C2-08.1	Yes	0.8	Below criteria	1.9	Minimum
C2-09.1	Yes	2.8	Minimum	2.8	Minimum
C3-01.1	Yes	4.6	High	4.6	High
C3-02.1	No	2.2	Minimum	2.2	Minimum
C3-03.1	Yes	3.9	Medium	4.3	High
C3-04.1	Yes	3.8	Medium	3.9	Medium
C3-05.1	Yes	3.8	Medium	3.8	Medium
C3-06.1	Yes	2.2	Minimum	2.4	Minimum
C3-07.1	Yes	3.8	Medium	3.8	Medium
C3-08.1	Yes	2.3	Minimum	2.3	Minimum
C3-09.1	Yes	3.8	Medium	3.8	Medium
C4-01.1	Yes	5.5	High	5.5	High
C4-02.1	No	3.2	Medium	3.2	Medium
C4-03.1	Yes	9.5	High	9.5	High
C4-04.1	Yes	9.2	High	9.2	High
C4-05.1	Yes	9.2	High	9.2	High
C4-06.1	Yes	9.2	High	9.2	High
C4-07.1	Yes	9.2	High	9.2	High
C4-08.1	Yes	9.2	High	9.2	High
C4-09.1	Yes	9.2	High	9.2	High

Table 29: Sunlight hours to living spaces