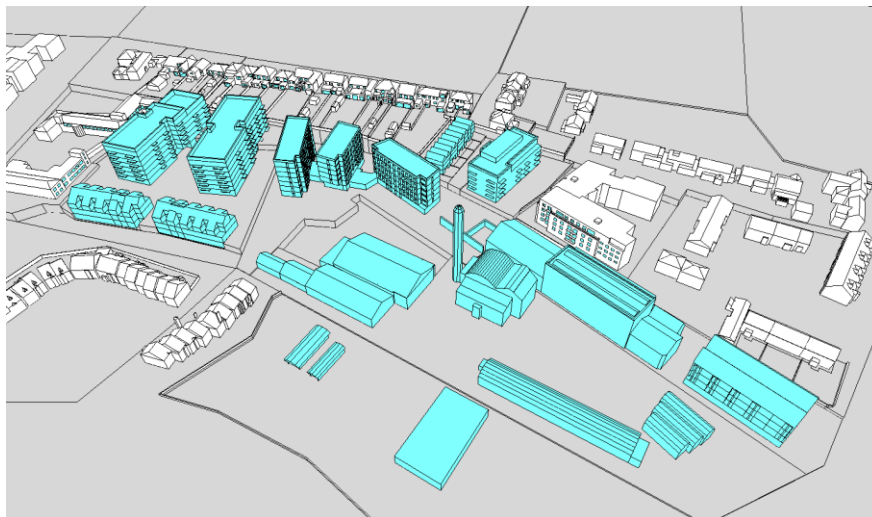




Cleeves Site LTT

Daylight, Sunlight and Overshadowing Study



Not Marked

Report For: Limerick City & County Council & Limerick Twenty Thirty



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1 Executive Summary

This report summarises the analyses undertaken to quantify the Sunlight and Daylight performance of the proposed mixed use development at the Cleeves Riverside Quarter site located in Limerick. The report focuses on measuring the daylight and sunlight impact to the existing surrounding dwellings as well as the daylight and sunlight performance within the proposed development.

1.1 Planning Authority Guidelines

Where daylight is concerned, The Planning Design Standards for Apartments 2025 refers to the Sustainable Residential Development and Compact Settlements Guidelines 2024 Section 5.3.7 (b) Daylight, which states the following:

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

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

As such the following section details out the standards adhered to within this report that align with the planning authority guidelines as outlined above.

To note, all methodologies have been employed for completeness to ensure appropriate and reasonable regard has been taken to address all assessments under all of the different standards. For clarity these are listed below and the following Section 1.2 denotes which standard is applicable for each assessment type:

- BRE Guide –3rd Edition of BR 209 BRE Site Layout Planning for Daylight and Sunlight
- BS EN 17037-2018+A1-2021 – Daylight in Buildings
 - This is the UK implementation of the European EN 17037-2018+A1-2021 standard. It supersedes BS 8206-2:2008 which is withdrawn in the UK. The BS EN standard includes a National Annex which addresses daylight requirements specific to dwellings which is notable as Ireland’s climate matches closely with the UK.
- IS EN 17037-2018+A1-2021 – Daylight in Buildings
 - For completeness, IS EN 17037-2018+A1-2021 – Daylight in Buildings has been assessed and results included in Appendix B. This has been included for completeness but does not have requirements specific to dwellings.

1.2 Reference Standards & Summary of Assessments Undertaken

The various daylight and sunlight assessments that were undertaken using the IES VE software are based on a number of different standards which are referenced in the individual sections of this report. For clarity, the assessments that were undertaken are summarised below as well as the reference standards that were used for each (where applicable):

- **Shadow Analysis**
 - Assessed using shadow images cast at key times throughout the year, i.e. March 21st, June 21st and December 21st to determine if any overshadowing impact occurs and to what extent to any Existing neighbouring dwellings in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Amenity Spaces**
 - Assessed using annual Solar Exposure calculations to determine any impact to Existing amenities and the sunlight received and also to assess the proposed developments amenity spaces to derive how much sunlight they can expect to receive in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Existing Buildings**
 - Assessed using the Annual Probable Sunlight Hours (APSH) method in accordance with the BRE Guide (3rd Edition) - to determine any impact to sunlight received to the Existing neighbouring building main living areas.
- **Sunlight to Proposed Buildings**
 - Assessed using Solar Exposure calculations in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)
 - In both assessments above the aim is to derive how much sunlight proposed development can expect to receive.
- **Daylight to Existing Buildings**
 - Assessed using the Vertical Sky Component (VSC) method in accordance with the BRE Guide (3rd Edition) - to determine any impact to existing daylight received to the Existing building neighbouring the site.
- **Daylight to Proposed Development**
 - Assessed in accordance with BS EN 17037-2018+A1-2021 National Annex Method 2 (BRE Guide 3rd Edition)
 - According to the BRE 3, BS EN 17037-2018+A1-2021 National Annex is the appropriate assessment methodology to satisfy minimum standards of daylight provision. For completeness, IS EN 17037 non-annex results have been included in Appendix B.
 - In all assessments above the aim is to derive how much daylight will be received within each of the apartments within the proposed development.
- **View Out**
 - Assessed in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)
- **Glare**
 - Assessed in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)

The following can be concluded based on the assessments undertaken:

1.3 Shadow Analysis

The shadow analysis illustrates different shadows being cast at key times of the year (March 21st, June 21st and December 21st) for the Existing Situation and the Proposed Scheme. The results from the study are summarised as follows:

Salesian Primary School

Minimal additional shading visible from the proposed development on these buildings during March 0800-1200, June 1200 and December* 1000-1200. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Clanmaurice Avenue Dwellings

Minimal additional shading visible from the proposed development on these buildings during December* 1200-1400. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Clanmaurice & Strandville Gardens

Minimal additional shading visible from the proposed development on these buildings during March 1200-1600 and December* 1000-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Lansdowne Hall Apartment Block

Additional shading visible from the proposed development on these buildings during March 1800 and June 1800-2000. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Stone Town Terrace

Additional shading visible from the proposed development on these buildings during March 1400-1800, June 1800 and December 1200-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

1-22 Fernhill Properties (backing onto North Circular Road)

No additional shading is observed from the proposed development on these neighbouring properties throughout the year.

*Overshadowing is showing in December when the sun is lower in the sky and shadows cast are much longer. Although this is the case, overshadowing is least noticeable during the winter months as there is a lot less sunlight available at this time of year and so the overall impact is vastly reduced.

The potential shading impact is quantified via the “Sunlight to Amenity Spaces” and “Daylight to Existing Buildings” sections of this report as these tests will provide a quantitative set of results in line with the BRE Guidance.

1.4 Sunlight to Amenity Spaces

As outlined in Section 3.3.17 of the BRE Guide (3rd Edition), for a space to appear adequately sunlit throughout the year, at least half of the garden or amenity area should receive at least 2 hours of sunlight on March 21st. In the case of Existing amenity spaces, if they are already below the 50% threshold then the BRE recommends the results kept to within 80% of the existing situation.

Existing Amenity Spaces

On March 21st, the existing amenity spaces will receive similar levels of sunlight with the proposed development in place when compared to the existing situation. In all cases the results comply with the recommendations in the BRE Guide outlined above. Overall the impact to the existing adjacent properties will be negligible.

Proposed Amenity Spaces

On the 21st March, 89% of the combined proposed communal amenity spaces will receive at least 2 hours of sunlight over their total area. 92% of the combined public amenity areas will receive at least 2 hours of sunlight on the 21st March. The creche amenity space has 100% of its area and the O’Callaghan Strand 91% of its communal roof terrace space above the recommendations of 2 hours of sunlight on the 21st March. Therefore, all proposed amenity spaces comply with the BRE recommendations and exceed the minimum recommended 50% of the spaces to achieve the 2 hours of sunlight on the 21st March. When considered individually, all amenity areas also exceed the minimum recommendations noted in the BRE guidelines and will be quality spaces in terms of sunlight for future occupants of the development.

1.5 Sunlight to Existing Buildings

This study considers existing dwellings sunlight and tests if the Annual Probable Sunlight Hours (APSH) results for the living room windows (existing properties) are greater than 25% annual and 5% winter sunlight or are greater than 0.8 times their former value with the proposed development in place or the reduction in sunlight across the year is less than 4% with the proposed development in place.

When compared to the Existing Scheme, 100% of the tested points (22no.) meet the BRE recommended values. These results highlight that the proposed development will have minimal impact to the sunlight received to these existing neighbouring properties. Overall the impact to the existing adjacent properties sunlight will be negligible.

1.6 Sunlight to Proposed Development

As the sunlight exposure assessment in accordance with BRE Guide 3rd Edition / IS/BS EN 17037-2018+A1-2021 considers the orientation of the rooms the following should be noted from section 3.1.11 of the guide.

“The BS EN 17037 criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met.”

Of the 561 no. points tested 84% (470 no.) meet the BRE Guide 3rd Edition / IS/BS EN 17037:2018 sunlight exposure recommendations of greater than 1.5 hours on March 21st. Where windows do not meet this recommendation, this is predominantly as a result of their orientation, or as a consequence of the impact of balcony projections.

It should be noted that in the development of any apartment type building in particular, achieving in the region of 75% to 80% for this assessment would be considered very high and factors such site constraints and ultimately orientation play a huge part to the outcome of this assessment. In some instance and particularly a scheme like this where you have apartments on either side of a rectangular block that is constrained by the site orientation, 50% would be a very high percentage achievable, with the apartments on one side not able to meet requirements purely on orientation as noted and the inclusion of balconies within the design scheme (as a requirement).

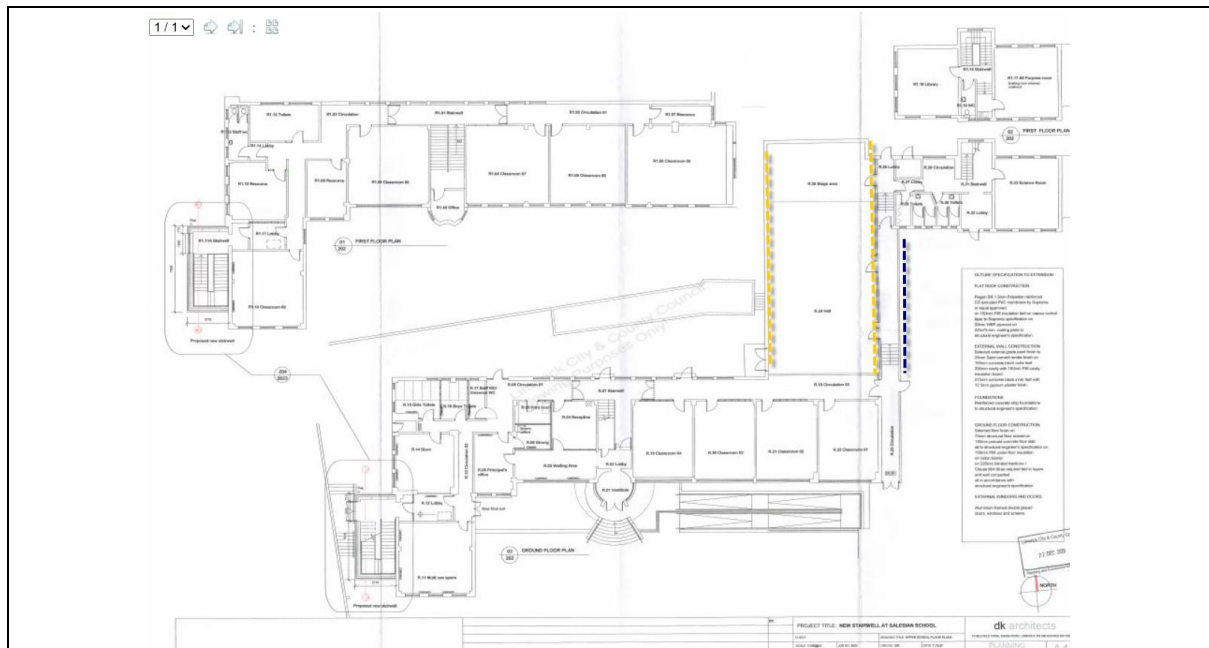
Overall, the sunlight provision results to the proposed development in accordance with IS/BS EN 17037:23018 are considered very good due to the fact that not all living rooms can face south and the inclusion of balconies.

1.7 Daylight to Existing Buildings

This study considers the Proposed Scheme and tests if the VSC results are greater than 27% or not less than 0.8 times the value of the Existing Scheme.

When compared to the Existing Scheme, of the 226 no. points tested, 94% (212 points) have a Proposed VSC value greater than 27% or not less than 0.8 times their former value compared to the Existing Scheme, thus complying with the BRE Guidelines. It should be noted that none of the windows neighbouring the development fall into category three and have a VSC value of less than 15% and less than 0.8 times its former value. All results are positive.

7 windows below recommendation are located on the Salesians Primary School. 3 of these windows are above 26% and only marginally outside the recommended value of 27% (View 1 window 4 & View 2 windows 11 & 24) and therefore adequate daylight should still be received. The remaining 4 are windows to the same hall space within the School (orange dotted line highlighted in the image below) that is also lit from an array of windows on the other side (images of hall space windows below) of the hall and therefore there will be a negligible impact to the school hall space overall. To note the windows at ground level (blue dotted line marked on the floor plan below) have been omitted as these are to a circulation space and are not required to be assessed as noted in the BRE Guide section 2.2.2, “windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed”.



Floor Plan of Salesians Primary School



Salesians Primary School Hall West



Salesians Primary School Hall East

5 windows below recommendation are located on the Lansdowne Hall apartments. 2 of the windows are to bedrooms and are above 25% and marginally outside recommendations and therefore there will be a minor adverse impact to these windows. The remaining 3 windows below recommendations have values between 18% and 21% and are located on living spaces with large floor to ceiling glass onto an outdoor balcony area. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible effect to these windows and to the building as a whole.

Finally, the remaining 2 windows below recommendations are located on properties on Stone Town Terrace. Both windows have percentages of between 18% and 25% and are marginally outside the recommended of 80% of the existing value. In addition to this both windows are larger than a conventional window and have floor to ceiling glass in place. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible impact to these windows and these neighbouring dwellings as a whole as result of the redevelopment of the proposed site.

The redevelopment of the proposed site will therefore overall have a negligible impact to daylight to exiting neighbouring receptors.

It should be noted, with regards to the existing neighbouring properties and in particular the Lansdowne Hall apartments, mitigation measures were taken with regards to the proposed design of the Stonetown Terrace apartment block to protect these existing neighbouring apartments daylight. An extensive design development was conducted considering multiple different massing options after the original design was noted to have a major impact to these dwellings. The mitigation measures included a sculpting of the massing on the upper floors, a reduction to the base floor levels from 11m to 9.5m to bring the overall building height down as well as moving the building away from the existing Lansdowne Hall building by half a meter. These design alterations combined changed the impact from a major adverse impact to a minor adverse impact.

1.8 Daylight to Proposed Development

For the daylight to proposed development assessment, one standard has been analysed: BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition). For completeness, IS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition) non-annex results have been included in Appendix B.

The results under BS EN 17037-2018+A1-2021 National Annex are summarised below.

BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 National Annex

In the UK, EN 17037-2018+A1-2021 was adopted to form “BS EN 17037-2018+A1-2021”. However, a National Annex was included which states:

“The UK committee supports the recommendations for daylight in buildings given in BS EN 17037:2018; however, it is the opinion of the UK committee that the recommendations for daylight provision in a space (see Clause A.2) 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 (for example, dwellings situated in a dense urban area or with tall trees outside), or for existing buildings being refurbished or converted into dwellings. This National Annex therefore provides the UK committee’s guidance on minimum daylight provision in all UK dwellings.”

There are two methods to assess daylight provision to the interior which are based on target values in either Table A.1 or Table A.3 of BS EN 17037-2018+A1-2021 which are summarised as follows:

Method 1: This calculation method uses the daylight factor targets on the reference plane as per Table A.3 (refer to Section 10.1.2 of this report). The assessment is carried out on a representative day and time during the year, i.e. 21st September @ 12:00 under standard CIE overcast sky conditions.

Method 2: This calculation method uses the illuminance targets on the reference plane as per Table A.1 (refer to Section 10.1.2 of this report). The assessment is carried out for each hour over the course of the year (8,760 hours) using a local weather file which accounts for varying sky conditions and sun positions throughout the year.

As outlined in Section 5.1.4 of the standard, the verification of daylight provision can be determined using either an adequate software or on-site measurements. When using a software, *“a representative model of the space is required together with the key parameters (such as any significant nearby obstructions, the assigned surface reflectance values and glazing transmissivity) that are a reasonable representation of those for the actual, completed building. This can be determined using either Method 1 or Method 2.”*

Based on the above criteria, the daylight provision to the proposed development has been assessed using an adequate software (i.e. IES VE), using the Method 2 climate-based approach and targeting the minimum recommended values outlined in Table A.1 of IS EN 17037-2018+A1-2021.

The Method 2 climate-based approach was selected as it is a far more accurate assessment method compared to Method 1. Climate based daylight modelling (CBDM) is more accurate compared to a calculation based on a single day during the year, i.e. Method 1. The amount of daylight varies throughout the year, primarily due to the sun's position, so it is essential the impact of daylight variance is properly considered. CBDM utilises an annual simulation linking location, shading, climate data (including solar intensity and cloud cover) together with the building properties. This provides a complete overview on how the daylight performance varies throughout the year due to changes in these factors.

The BS EN 17037-2018+A1-2021 National Annex provides target illuminance values for bedrooms, living rooms and kitchens within residential developments as per Table NA.1. It is also important to note that as the climate in Ireland is similar to the UK, the targets outlined in the BS EN National Annex could also be applied to dwellings in Ireland.

The BS National Annex also states:

“Where one room in a UK dwelling serves more than a single purpose, the UK committee recommends that the target illuminance is that for the room type with the highest value – for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lx.”

Therefore, combined LKDs were assessed using a 200-lux target illuminance (E_T).

Across the proposed development, 95% of the tested rooms within the proposed development are achieving the daylight provision targets in accordance with Table NA.1 of BS EN 17037-2018+A1-2021 using Method 2. When considering the Residential units and the Student Accommodation in isolation, there is a compliance rate of 93% for the Residential units and 98% for the Student Accommodation.

Where daylight is concerned, The Planning Design Standards for Apartments 2025 refers to the Sustainable Residential Development and Compact Settlements Guidelines 2024 Section 5.3.7 (b) Daylight, which states the following:

“(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.”

Furthermore, Section 3.2 of the Urban Development and Building Heights: Guidelines for Planning Authorities December 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.”

Having regard to the statements above, it should be noted that throughout the design process the design team worked hard to optimise the whole development to maximise the daylight within the proposed scheme. The following design optimisation solutions were tested in an attempt to improve daylight to the proposed apartments which included the following: -

- Alterations to layouts.
- Increase Opening Sizes

Design features have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces and are summarised as follows: -

- Percentage of apartments, triplexes or townhouses that are dual aspect (or greater) is 54.7% (128 out of 234)
- The amount of Communal Amenity Space provided for the residential plots is 1,689sqm this is 8.5% more than the recommended minimum of 1,556sqm for the residential plots.
- There is approximately Public Open Space of 7,817sqm to be provided in the proposals. This is over 15% of the site area.
- 78.2% of the residential homes are oversized (183 out of 234), exceeding the minimum floor area requirements set out in the *Design Standards for Apartments – Guidelines for Planning Authorities (2025)*.

Further to this, design features specific to each dwelling have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces. Please refer to the Compensatory Measures Table in Appendix A for each individual unit mitigation measures where relevant.

1.9 View Out

The View Out assessment is related to buildings such as offices or schools where seating layouts are typically fixed compared to domestic settings where an occupant can move around the space freely. In their own home occupants can choose to sit near to or even at a window which will inevitably provide the varying layers of a 'View Out' such as the ground, landscape or sky. This ability to choose their position within a domestic setting means they would always have access to a position in the apartment with the minimum requirements of 'View Out'. Therefore, all the properties would meet the minimum requirement as outlined in IS EN 17037-2018+A1-2021 / BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition).

1.10 Glare

As outlined in IS EN 17037-2018+A1-2021 / BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition), a Glare assessment is suggested in spaces where the *“expected activities are comparable to reading, writing or using display devices and the user is not able to choose freely their position and viewing direction”*. Given that occupants within a domestic setting are free to move around, on this basis a glare assessment for the proposed development has not been carried out.

1.11 Observations

It is important to note that the recommendations within the BRE Guide (3rd Edition) itself states *“although it gives numerical guidelines these should be interpreted flexibly because natural lighting is only one of many factors in site layout design”*, Although this is true appropriate and reasonable regard has still been taken to the BRE guide.

Whilst the results shown relate to the criteria as laid out in the BRE Guide (3rd Edition), it is important to note that the BRE targets are guidance only and should therefore be used with flexibility and caution when dealing with different types of sites.

In addition, BRE Guide 3rd Edition also notes:

“This report is a comprehensive revision of the 2011 edition of Site layout planning for daylight and sunlight: a guide to good practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location.”

Taking all of the above information into account and based on the results from each of the assessments undertaken, the proposed development performs well when compared to the recommendations in the BRE Guide 3rd Edition and BS EN 17037-2018+A1-2021 National Annex. With regards to the existing properties there is a negligible impact when considering sunlight and daylight as a result of the proposed development and the proposed development itself performs very well with the same regard.

2 Introduction

This report summarises the analyses undertaken to quantify the Sunlight and Daylight performance of the proposed residential development at the Cleeves Riverside Quarter site located in Limerick. The report focuses on measuring the daylight and sunlight impact to the existing surrounding dwellings as well as the daylight and sunlight performance within the proposed development.

2.1 Development Description

The proposed development seeks

A. Demolition of a number of structures to facilitate development and B. Construction and phased delivery of (i) buildings within the site ranging in height from 3 – 7 stories (with screened plant at roof level) including (a) 234 no. residential units; (b) 270 no. student bedspaces (PBSA) with ancillary resident services at ground floor level; (c) 256sqm of commercial floorspace; and (d) a creche; (ii) extensive public realm works, riverside canopy and heritage interpretative panels (iv) 3 no. dedicated bat houses; (v) Mobility Hub with canopy; (vi) pedestrian / cycle connectivity from North Circular Road to Condell Road; and (vii) all ancillary site development works including (a) water services, foul and surface water drainage and associated connections across the site and serving each development zone; (b) attenuation measures; (c) raising the level of North Circular Road; (d) car and bicycle parking; (e) public lighting; (f) telecommunications antennae; and (g) all landscaping works. Consent is also sought for use of the PBSA accommodation, outside of student term time, for short-term letting purposes.

3 BRE – Site Layout Planning for Daylight and Sunlight (3rd Edition)

Access to daylight and sunlight is a vital part of a healthy environment. Sensitive design should provide sufficient daylight and sunlight to new residential developments while not obstructing light to existing homes nearby.

The 3rd Edition of the BR 209 BRE Site Layout Planning for Daylight and Sunlight, advise on planning developments for good access to daylight and sunlight and is widely used by local authorities to help determine the performance of new developments.

3.1 Impact Classification Discussion

BRE guidance in Appendix H (BRE Guide 3rd Edition) – Environmental Impact Assessment suggests impact classifications as minor, moderate and major adverse. It provides further classifications of these impacts with respect to criteria summarised in the table below.

Where the loss of skylight or sunlight fully meets the guidelines in the BRE guide (3rd Edition), the impact is assessed as negligible or minor adverse. Where the loss of skylight or sunlight does not meet the BRE guidelines, the impact is assessed as minor, moderate or major adverse.

Impact	Description
<i>Negligible adverse impact</i>	• <i>Loss of light well within guidelines, or</i> • <i>only a small number of windows losing light (within the guidelines) or limited area of open space losing light (within the guidelines)</i>
<i>Minor adverse impact (a)</i>	• <i>Loss of light only just within guidelines and</i> ○ <i>a larger number of windows are affected or</i> ○ <i>larger area of open space is affected (within the guidelines)</i>
<i>Minor adverse impact (b)</i>	• <i>only a small number of windows or limited open space areas are affected</i> • <i>the loss of light is only marginally outside the guidelines</i> • <i>an affected room has other sources of skylight or sunlight</i> • <i>the affected building or open space only has a low-level requirement for skylight or sunlight</i> • <i>there are particular reasons why an alternative, less stringent, guideline should be applied</i>
<i>Major adverse impact</i>	• <i>large number of windows or large open space areas are affected</i> • <i>the loss of light is substantially outside the guidelines</i> • <i>all the windows in a particular property are affected</i> • <i>the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight (living rooms / playground)</i>

4 Methodology

4.1 Planning Authority Guidelines

Where daylight is concerned, The Planning Design Standards for Apartments 2025 refers to the Sustainable Residential Development and Compact Settlements Guidelines 2024 Section 5.3.7 (b) Daylight, which states the following:

“(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.”

The guidelines go on further to note the following:

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

With regards to daylighting, all methodologies have been employed for completeness to ensure appropriate and reasonable regard has been taken to address all assessments under all of the different standards. For clarity these are listed below and the following Section 4.2 denotes which standard is applicable for each assessment type:

- BRE Guide –3rd Edition of BR 209 BRE Site Layout Planning for Daylight and Sunlight
- BS EN 17037-2018+A1-2021 – Daylight in Buildings
 - This is the UK implementation of the European EN 17037-2018+A1-2021 standard. It supersedes BS 8206-2:2008 which is withdrawn in the UK. The BS EN standard includes a National Annex which addresses daylight requirements specific to dwellings which is notable as Ireland’s climate matches closely with the UK.
- For completeness, IS EN 17037-2018+A1-2021 – Daylight in Buildings has been assessed and results included in Appendix B.

Furthermore, the EN 17037-2018+A1-2021 standard has already been adopted in the UK to inform the BS EN 17037-2018+A1-2021 standard which supersedes BS 8206-2:2008 which is now withdrawn. It is important to note that BS EN 17037-2018+A1-2021 includes a National Annex which specifically addresses daylight provision in residential dwellings in the UK. A similar annex is not included in the IS EN 17037-2018+A1-2021 standard.

Finally, the latest BRE guide ‘Site Layout Planning for Daylight and Sunlight’ (3rd Edition) was published in June 2022. This now directly links to the new daylighting standards EN 17037-2018+A1-2021. Aside

refinements to the BRE guide, the assessments are the same to what is found within the BRE guide 2nd Edition.

Therefore, with regards to interior daylighting in particular, where different methodologies are found in each of the different standards, all have been carried out for completeness to ensure appropriate and reasonable regard has been taken to address all assessments under all of the different standards.

4.2 Reference Standards & Summary of Assessments Undertaken

The various daylight and sunlight assessments that were undertaken using the IES VE software are based on a number of different standards which are referenced in the individual sections of this report. For clarity, the assessments that were undertaken are summarised below as well as the reference standards that were used for each (where applicable):

- **Shadow Analysis**
 - Assessed using shadow images cast at key times throughout the year, i.e. March 21st, June 21st and December 21st to determine if any overshadowing impact occurs and to what extent to any existing neighbouring dwellings in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Amenity Spaces**
 - Assessed using annual Solar Exposure calculations to determine any impact to existing amenities and the sunlight received and also to assess the proposed developments amenity spaces to derive how much sunlight they can expect to receive in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Existing Buildings**
 - Assessed using the Annual Probable Sunlight Hours (APSH) method in accordance with the BRE Guide (3rd Edition) - to determine any impact to sunlight received to the existing neighbouring building main living areas.
- **Sunlight to Proposed Buildings**
 - Assessed using Solar Exposure calculations in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)
 - In both assessments above the aim is to derive how much sunlight proposed development can expect to receive.
- **Daylight to Existing Buildings**
 - Assessed using the Vertical Sky Component (VSC) method in accordance with the BRE Guide (3rd Edition) - to determine any impact to existing daylight received to the existing building neighbouring the site.
- **Daylight to Proposed Development**
 - Assessed in accordance with BS EN 17037-2018+A1-2021 National Annex Method 2 (BRE Guide 3rd Edition)
 - According to the BRE 3 Guidelines, BS EN 17037-2018+A1-2021 National Annex is the appropriate assessment methodology to satisfy minimum standards of daylight provision. For completeness, IS EN 17037 non-annex results have been included in Appendix B.
 - In all assessments above the aim is to derive how much daylight will be received within each of the apartments within the proposed development.
- **View Out**
 - Assessed in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)
- **Glare**
 - Assessed in accordance with IS/BS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition)

4.3 Orientation

The model orientation has been taken from drawings provided by the Architect with the resulting angle shown below used in the analysis.



4.4 Proposed Model

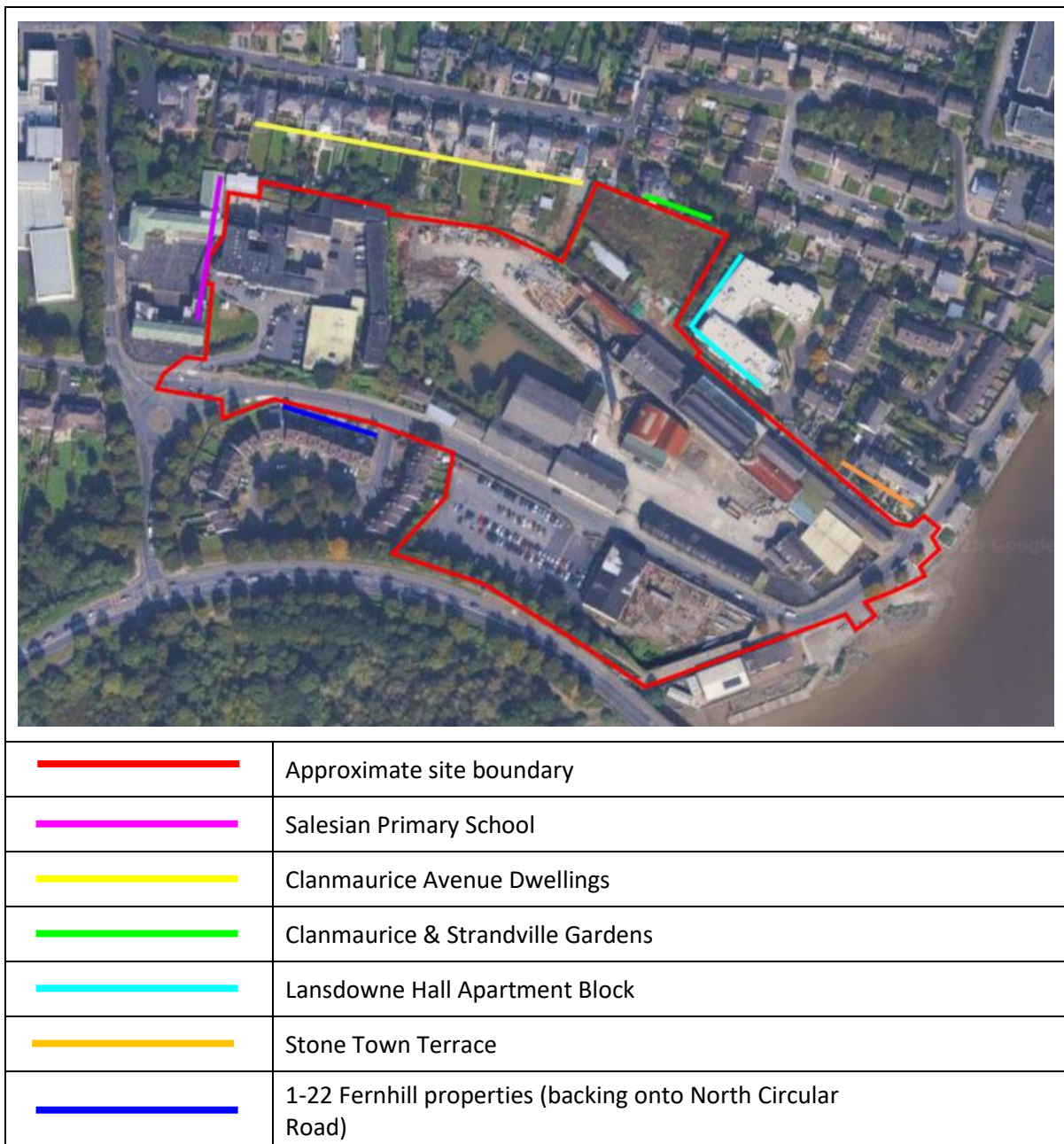
The following images illustrate the models created from the architectural information provided and the use of Google/Bing maps where information was absent.

	Existing Situation	Proposed Scheme
View looking from North of Site		
View looking from East of Site		
View looking from South of Site		
View looking from West of Site		

4.5 Potential Sensitive Receptors

To help understand the potential impact to surrounding buildings, potential sensitive receptors were identified as illustrated below. To the north are detached and semidetached dwellings on Clanmaurice Avenue and Strandville Gardens. Situated to the East of the development site are the Lansdowne Hall apartments and the terraced housing on Stone Town Terrace. To the south are dwellings at Fernhill and to the west the Salesian Primary School.

To note, the 4 terraced dwellings, Rosehill 21-24 have not been assessed as there are no changes to massing that would directly impact these properties and the neighbouring garages and shed likewise as noted in the BRE Guide section 2.2.2, “windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed”.



5 Shadow Analysis

The statistics of Met Eireann, the Irish Meteorological Service, show that the sunniest months in Ireland are May and June, based on 1981-2010 averages or latest:

<https://www.met.ie/climate/30-year-averages>.

The following can also be shown:

- During December a mean daily duration of 1.7 hours of sunlight out of a potential 7.3 hours sunlight each day is received (i.e. only 23% of potential sunlight hours).
- During June a mean daily duration of 5.8 hours of sunlight out of a potential 15.9 hours sunlight each day is received (i.e. only 36% of potential sunlight hours).

Therefore, the impacts caused by overshadowing are generally most noticeable during the summer months and least noticeable during the winter months.

This section will consider the shadows cast by the proposed development on the following dates:

- March 21st / September 21st (Equinox)
- June 21st (Summer Solstice)
- December 21st (Winter Solstice)

These images illustrate shadows cast for 'perfect sunny' conditions with no clouds and assumed that the sun is shining for every hour shown. Given the discussion above it is important to remember that this is not always going to be the case.

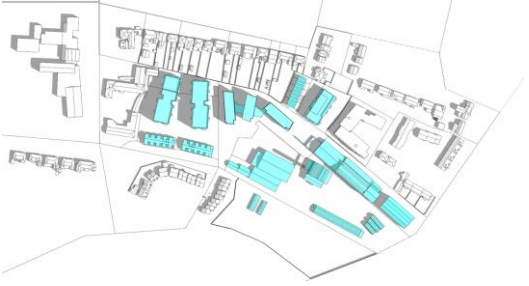
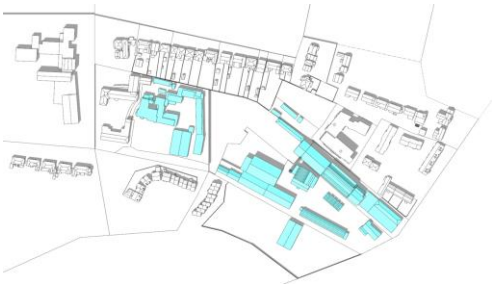
5.1 Plan View

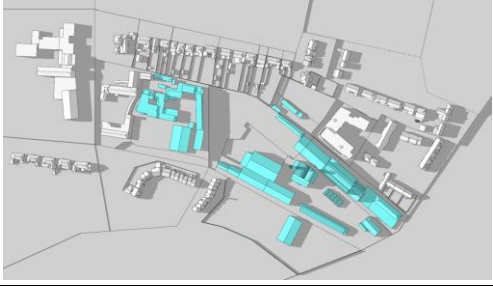
5.1.1 March 21st

	Existing	Proposed
March 21 st - 8:00		
March 21 st - 10:00		
March 21 st - 12:00		
March 21 st - 14:00		
March 21 st - 16:00		

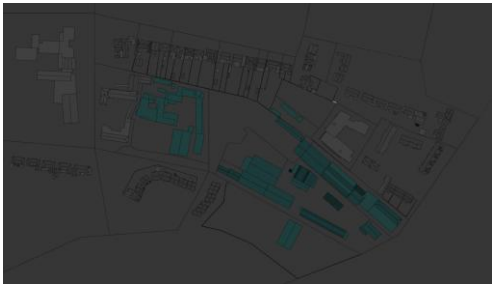
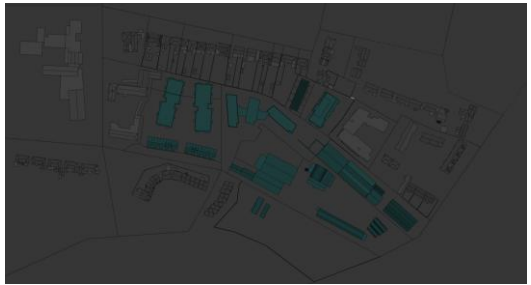
	Existing	Proposed
March 21 st - 18:00		

5.1.2 June 21st

	Existing	Proposed
June 21 st - 8:00		
June 21 st - 10:00		
June 21 st - 12:00		
June 21 st - 14:00		
June 21 st - 16:00		

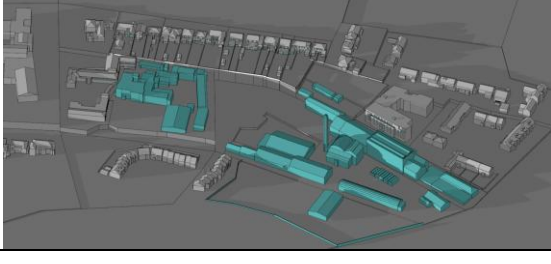
	Existing	Proposed
June 21 st - 18:00		
June 21 st - 20:00		

5.1.3 December 21st

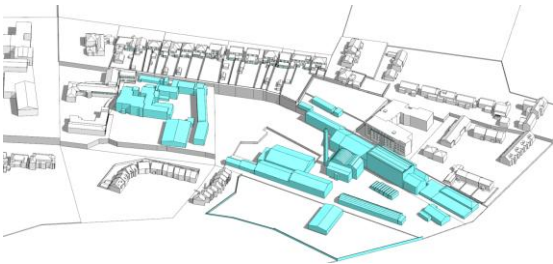
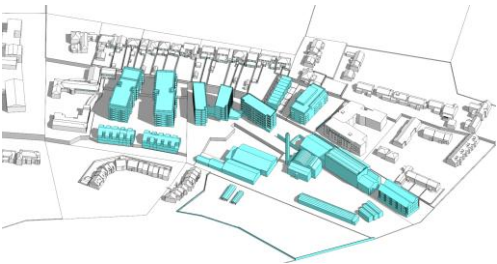
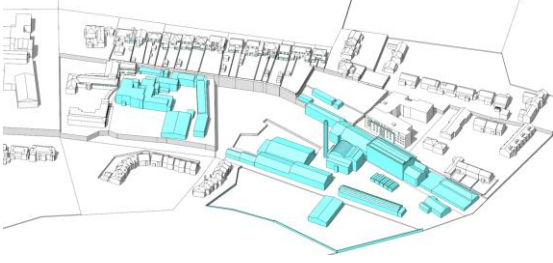
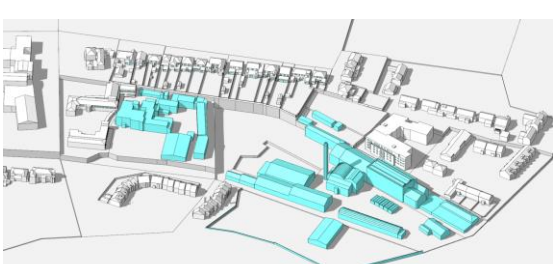
	Existing	Proposed
December 21 st - 8:00		
December 21 st - 10:00		
December 21 st - 12:00		
December 21 st - 14:00		
December 21 st - 16:00		

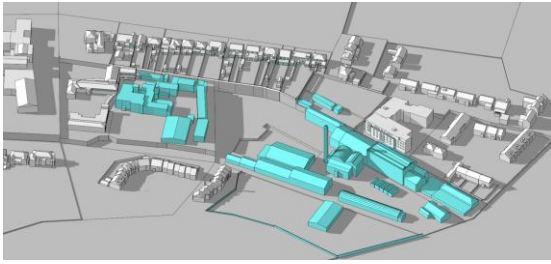
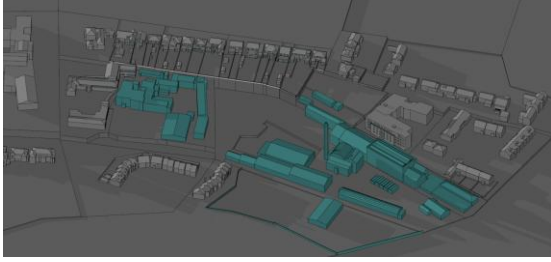
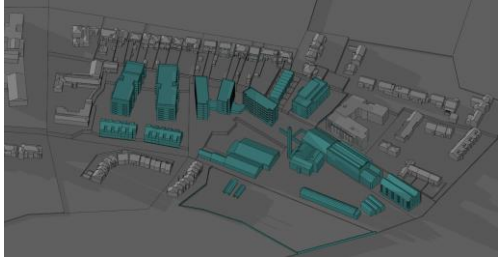
5.2 3D View

5.2.1 March 21st

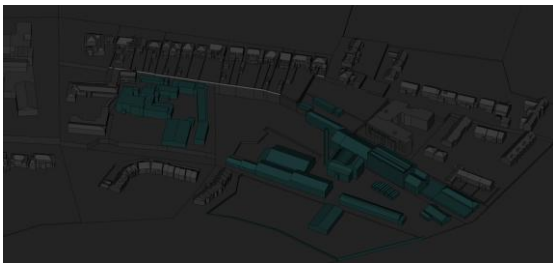
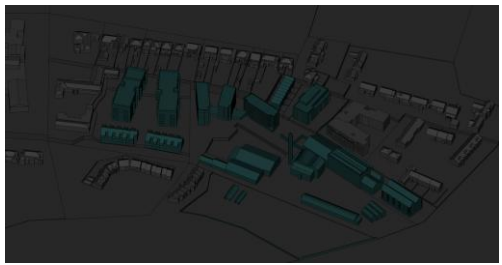
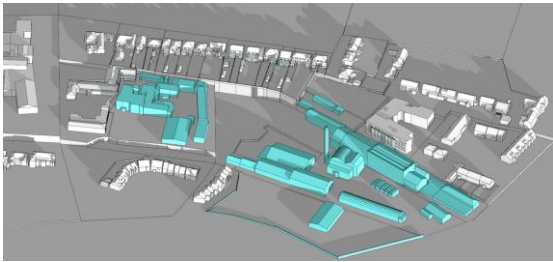
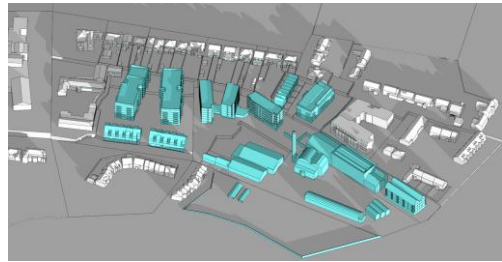
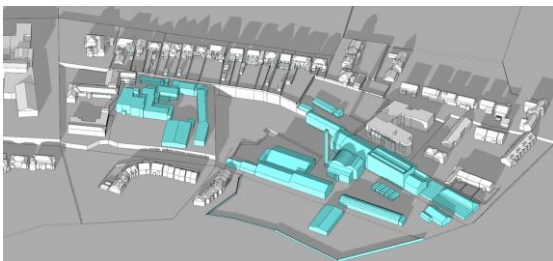
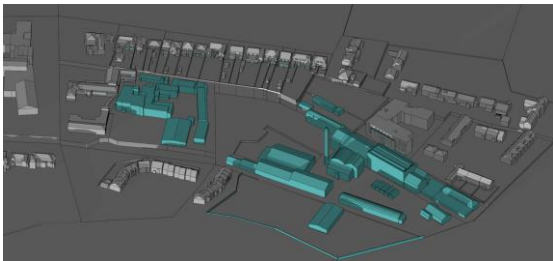
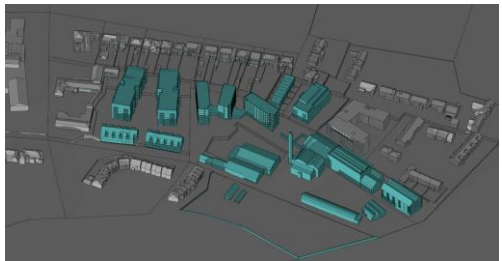
	Existing	Proposed
March 21 st - 8:00		
March 21 st - 10:00		
March 21 st - 12:00		
March 21 st - 14:00		
March 21 st - 16:00		
March 21 st - 18:00		

5.2.2 June 21st

	Existing	Proposed
June 21st - 8:00		
June 21st - 10:00		
June 21st - 12:00		
June 21st - 14:00		
June 21st - 16:00		

	Existing	Proposed
June 21 st - 18:00		
June 21 st - 20:00		

5.2.3 December 21st

	Existing	Proposed
December 21st - 8:00		
December 21st - 10:00		
December 21st - 12:00		
December 21st - 14:00		
December 21st - 16:00		

5.3 Discussion

The shadow analysis illustrates different shadows being cast at key times of the year (March 21st, June 21st and December 21st) for the Existing Situation and the Proposed Scheme. The results from the study are summarised as follows:

Salesian Primary School

Minimal additional shading visible from the proposed development on these buildings during March 0800-1200, June 1200 and December* 1000-1200. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Clanmaurice Avenue Dwellings

Minimal additional shading visible from the proposed development on these buildings during December* 1200-1400. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Clanmaurice & Strandville Gardens

Minimal additional shading visible from the proposed development on these buildings during March 1200-1600 and December* 1000-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Lansdowne Hall Apartment Block

Additional shading visible from the proposed development on these buildings during March 1800 and June 1800-2000. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

Stone Town Terrace

Additional shading visible from the proposed development on these buildings during March 1400-1800, June 1800 and December 1200-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period of the test days as specified in the BRE Guide.

1-22 Fernhill Properties (backing onto North Circular Road)

No additional shading is observed from the proposed development on these neighbouring properties throughout the year.

*Overshadowing is showing in December when the sun is lower in the sky and shadows cast are much longer. Although this is the case, overshadowing is least noticeable during the winter months as there is a lot less sunlight available at this time of year and so the overall impact is vastly reduced.



The potential shading impact is quantified via the “Sunlight to Amenity Spaces” and “Daylight to Existing Buildings” sections of this report as these tests will provide a quantitative set of results in line with the BRE Guidance.

6 Sunlight to Amenity Spaces

6.1 Guidance Requirements

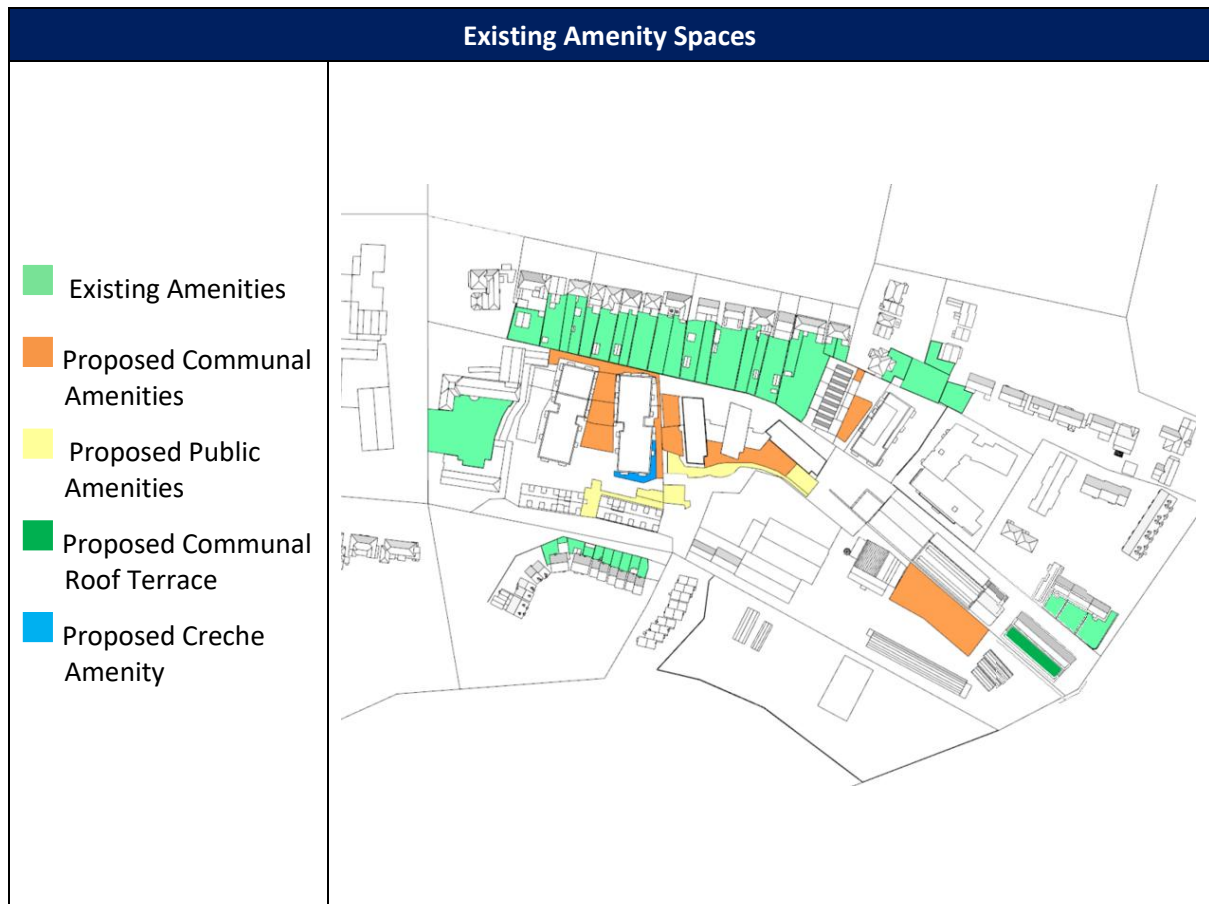
The impact of the proposed development on the sunlight availability to the amenity spaces will be considered to determine how the amenity spaces perform when assessed against the BRE Guide (3rd Edition) which states the following in Section 3.3.17:

Summary

3.3.17 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 that can receive two hours of sun on 21 March is less than 0.80 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.

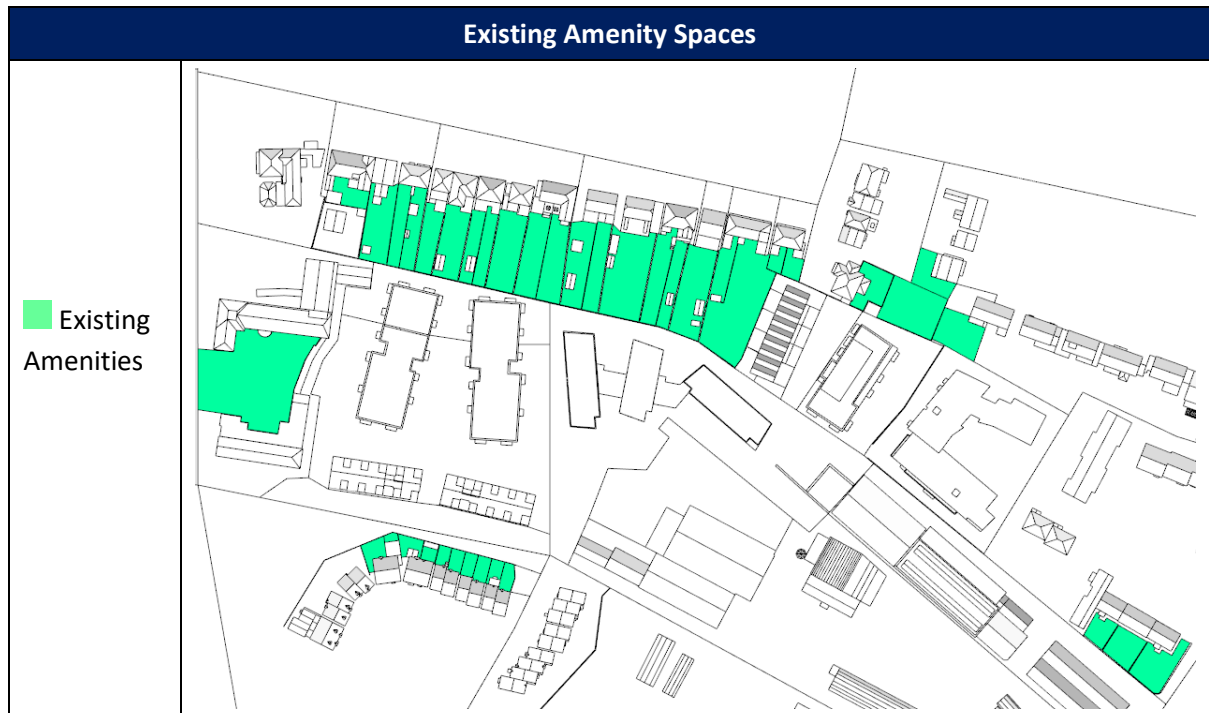
The BRE Guide (3rd Edition) states that for a space to appear adequately sunlit throughout the year, at least half of a garden or amenity space should receive at least 2 hours of sunlight on March 21st. In the case of existing amenity spaces, if they are already below the 50% threshold then the BRE recommends the results kept to within 80% of the existing situation.

6.2 Amenity Spaces



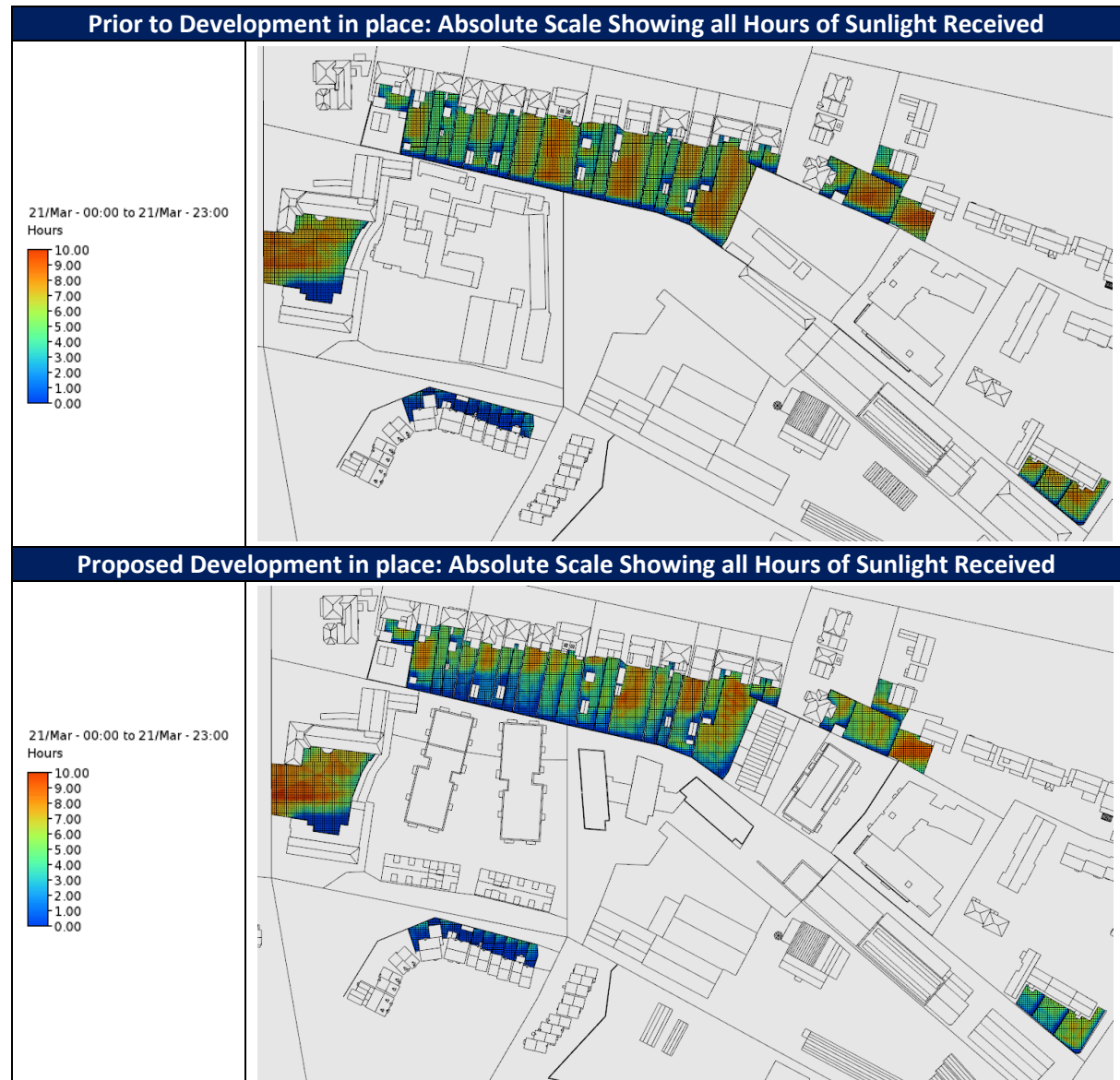
6.3 Existing Amenity Spaces

This analysis will be performed on the amenity space illustrated in the image below.



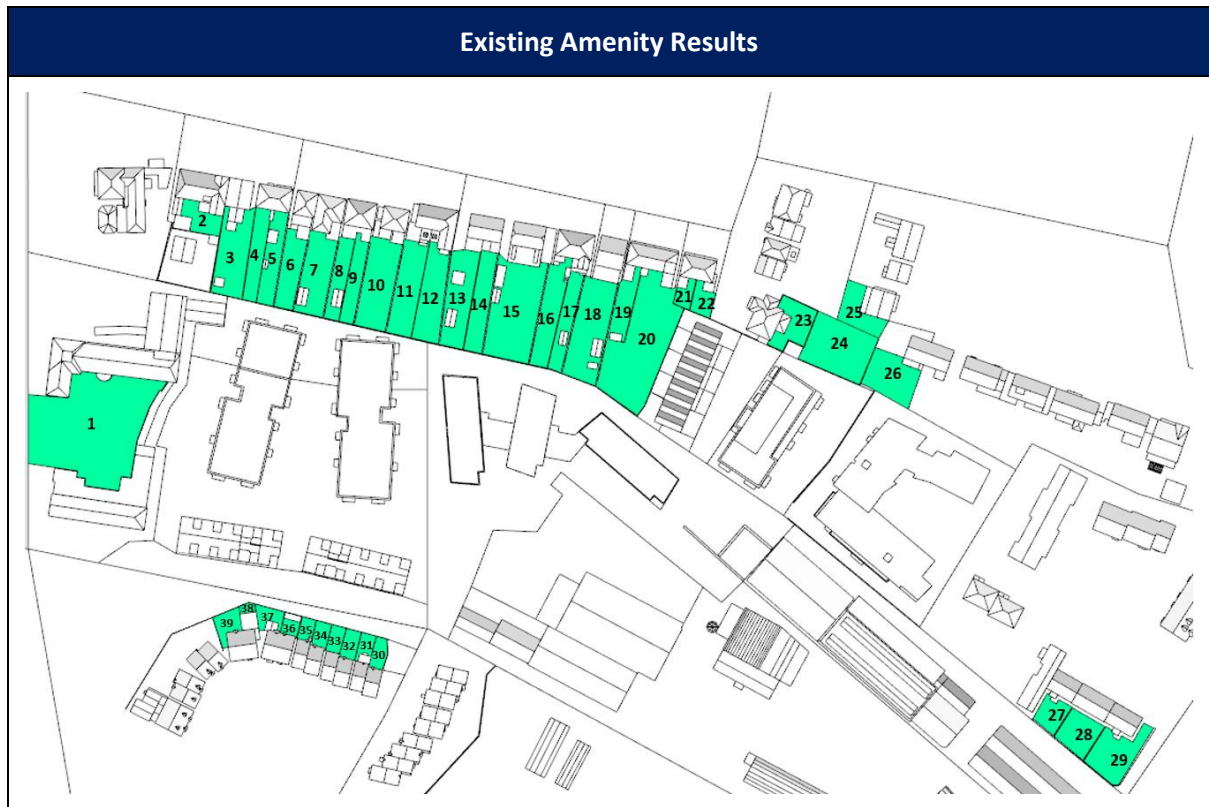
The following images illustrate the predicted results with respect to this space receiving at least 2 hours of sunlight on March 21st. Any areas that receive less than 2 hours of sunlight are colour-coded in grey.

6.3.1 Existing Amenity Spaces Results





6.3.2 Existing Amenity Results

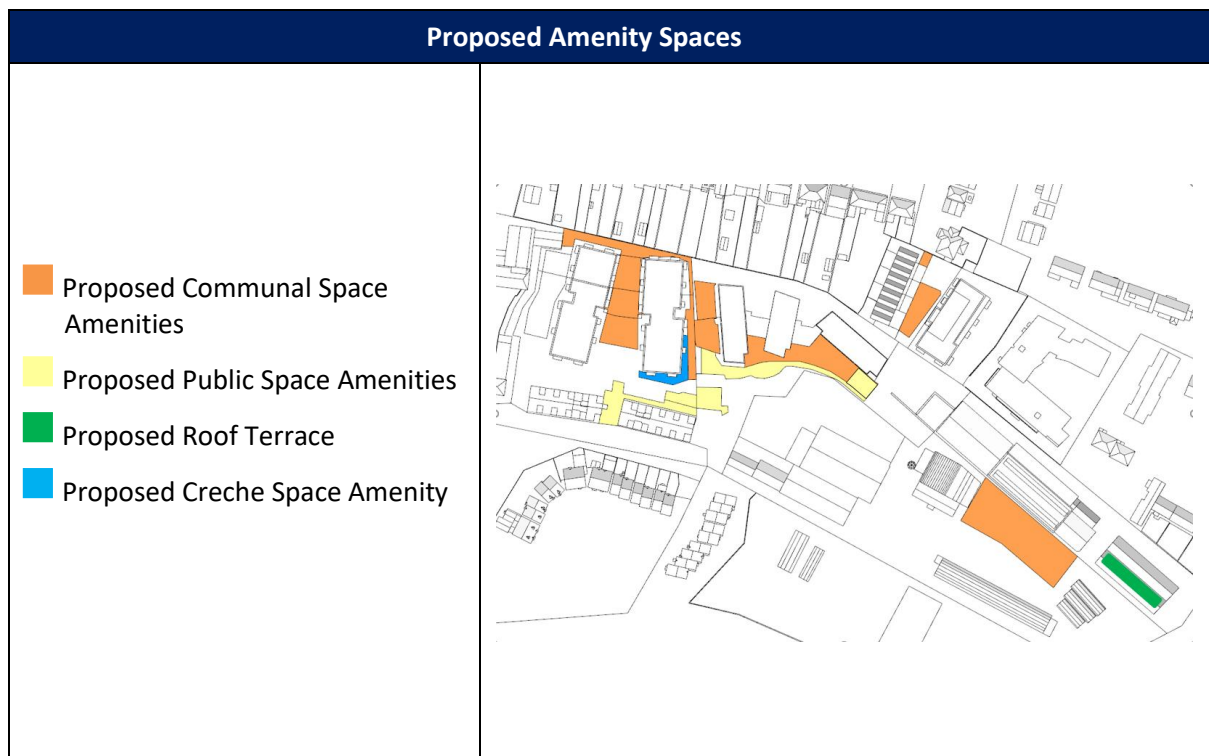


Ref	Area (m ²)	Existing Area >2 hrs		Existing Area with Proposed Development in Place >2 hrs		Proposed vs Existing (%)	Comment
		(m ²)	(%)	(m ²)	(%)		
1	1489	1323	89%	1323	89%	100%	✓
2	122	115	94%	93	76%	81%	✓
3	346	307	89%	289	84%	94%	✓
4	194	178	92%	170	88%	96%	✓
5	230	209	91%	173	75%	83%	✓
6	226	211	93%	140	62%	66%	✓
7	339	312	92%	275	81%	88%	✓
8	191	152	80%	132	69%	87%	✓
9	172	160	93%	102	59%	64%	✓
10	414	391	94%	306	74%	78%	✓
11	345	331	96%	296	86%	89%	✓
12	337	316	94%	299	89%	95%	✓
13	369	322	87%	297	80%	92%	✓
14	263	246	94%	225	86%	91%	✓
15	668	631	94%	621	93%	98%	✓
16	300	280	93%	261	87%	93%	✓
17	212	185	87%	171	81%	92%	✓
18	496	463	93%	435	88%	94%	✓

Ref	Area (m ²)	Existing Area >2 hrs		Existing Area with Proposed Development in Place >2 hrs		Proposed vs Existing (%)	Comment
		(m ²)	(%)	(m ²)	(%)		
19	178	155	87%	153	86%	99%	✓
20	894	875	98%	834	93%	95%	✓
21	57	42	74%	41	72%	98%	✓
22	83	65	78%	62	75%	95%	✓
23	197	173	88%	165	84%	95%	✓
24	473	441	93%	436	92%	99%	✓
25	185	156	84%	156	84%	100%	✓
26	288	265	92%	265	92%	100%	✓
27	124	114	92%	92	74%	81%	✓
28	200	191	96%	171	86%	90%	✓
29	303	293	97%	287	95%	98%	✓
30	61	19	30%	19	30%	100%	✓
31	48	9	19%	9	19%	100%	✓
32	63	10	16%	10	16%	100%	✓
33	54	7	13%	7	13%	100%	✓
34	54	5	9%	5	9%	100%	✓
35	43	0	0%	0	0%	100%	✓
36	51	0	0%	0	0%	100%	✓
37	66	7	10%	8	10%	100%	✓
38	20	0	0%	0	0%	100%	✓
39	89	13	15%	13	15%	100%	✓

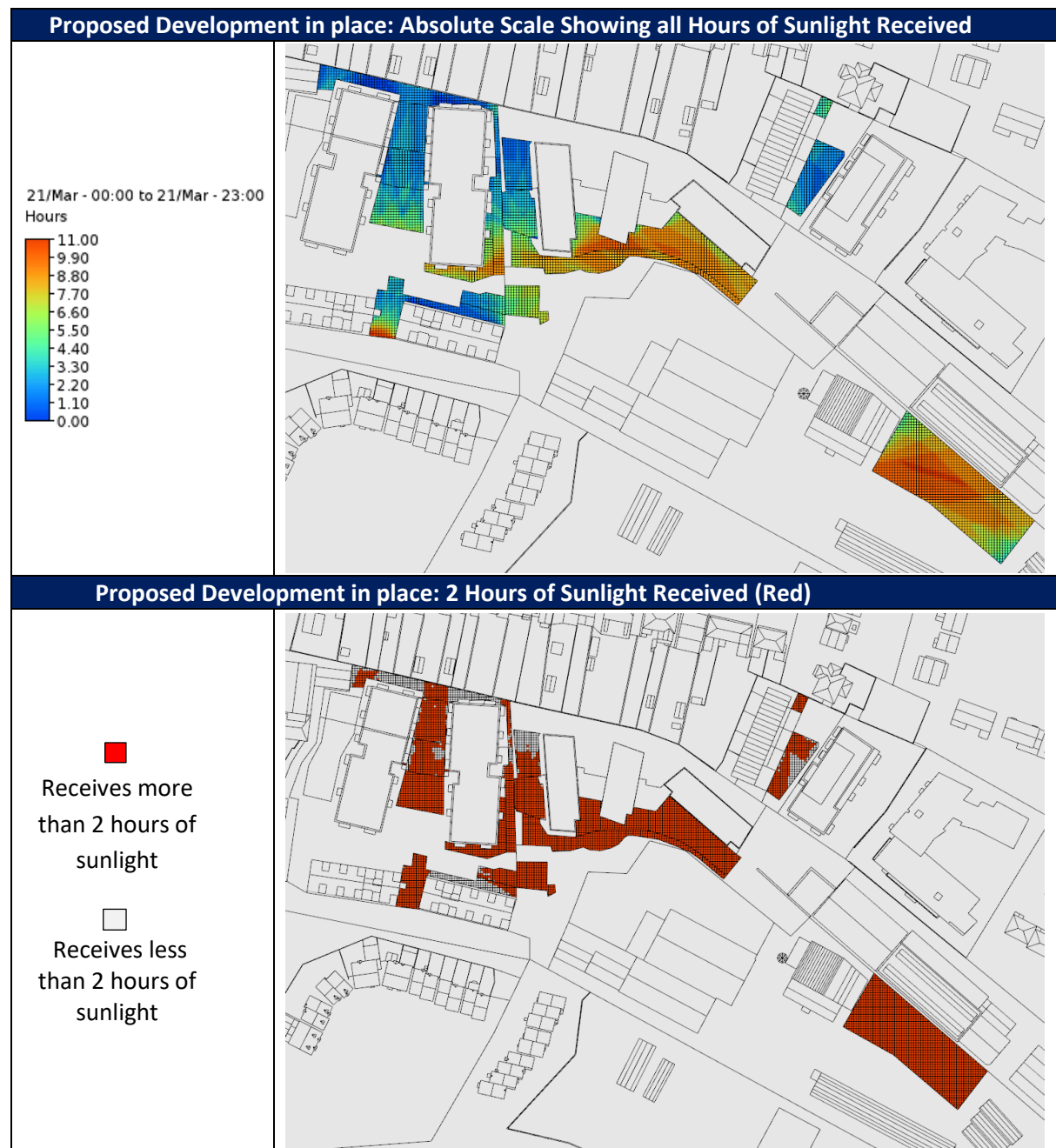
6.4 Proposed Amenity Spaces

This analysis will be performed on the amenity spaces illustrated in the image below.

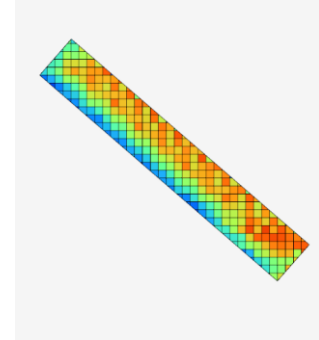
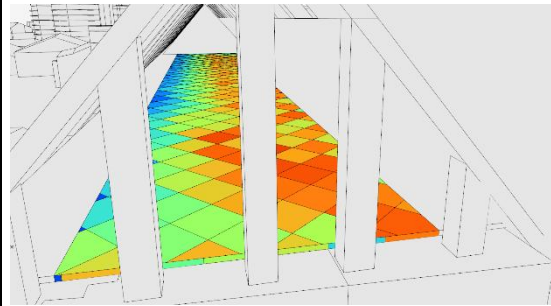
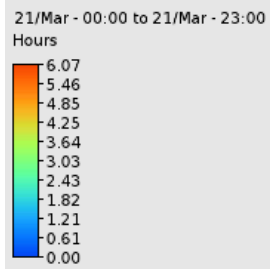


The following images illustrate the predicted results with respect to this space receiving at least 2 hours of sunlight on March 21st. Any areas that receive less than 2 hours of sunlight are colour-coded in grey.

6.4.1 Proposed Communal Public Amenity Space Results

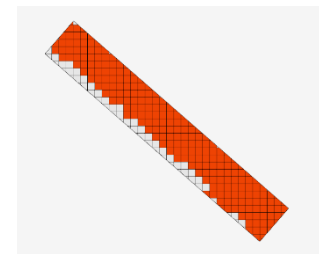
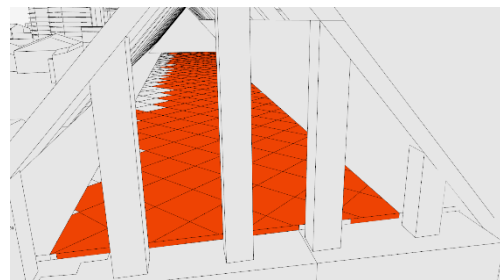


Proposed Development in place: Absolute Scale Showing all Hours of Sunlight Received

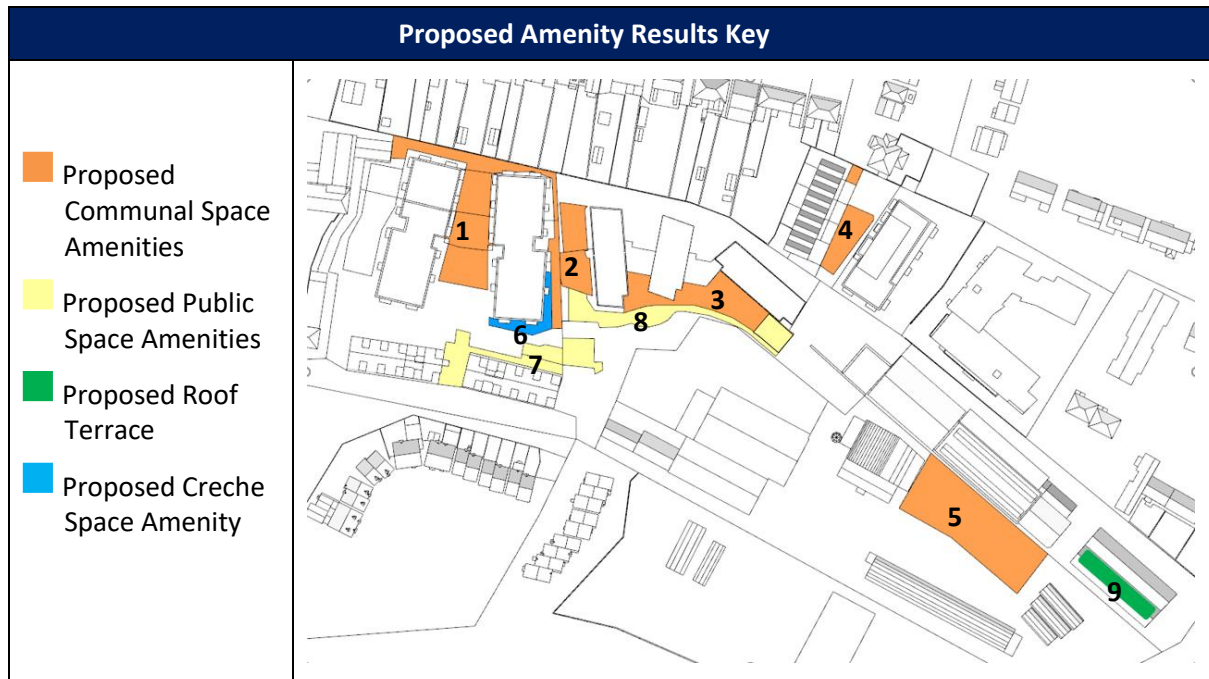


Proposed Development in place: 2 Hours of Sunlight Received (Red)

- ☒ Receives more than 2 hours of sunlight
- ☐ Receives less than 2 hours of sunlight



6.4.2 Proposed Amenity Results



Communal Amenity Results Table:

Ref	Total Area (m ²)	Area Receiving >2h (m ²)	Percent Receiving >2h	Comment
1	1212	966	80%	✓
2	384	286	74%	✓
3	768	596	100%	✓
4	299	215	72%	✓
5	1324	1324	100%	✓
Total	3987	3559	89%	✓

Creche Amenity Results Table:

Ref	Total Area (m ²)	Area Receiving >2h (m ²)	Percent Receiving >2h	Comment
6	172	172	100%	✓

Public Open Amenity Results Table:

Ref	Total Area (m ²)	Area Receiving >2h (m ²)	Percent Receiving >2h	Comment
7	578	478	82%	✓
8	603	603	100%	✓
Total	1181	1081	92%	✓

Roof Terrace Amenity Results Table:

Ref	Total Area (m ²)	Area Receiving >2h (m ²)	Percent Receiving >2h	Comment
9	236	215	91%	✓

6.5 Discussion

As outlined in Section 3.3.17 of the BRE Guide (3rd Edition), for a space to appear adequately sunlit throughout the year, at least half of the garden or amenity area should receive at least 2 hours of sunlight on March 21st. In the case of existing amenity spaces, if they are already below the 50% threshold then the BRE recommends the results kept to within 80% of the existing situation.

Existing Amenity Spaces

On March 21st, the existing amenity spaces will receive similar levels of sunlight with the proposed development in place when compared to the existing situation. In all cases the results comply with the recommendations in the BRE Guide outlined above. Overall the impact to the existing adjacent properties will be negligible.

Proposed Amenity Spaces

On the 21st March, 89% of the combined proposed communal amenity spaces will receive at least 2 hours of sunlight over their total area. 92% of the combined public amenity areas will receive at least 2 hours of sunlight on the 21st March. The creche amenity space has 100% of its area and the O'Callaghan Strand 91% of its communal roof terrace space above the recommendations of 2 hours of sunlight on the 21st March. Therefore, all proposed amenity spaces comply with the BRE recommendations and exceed the minimum recommended 50% of the spaces to achieve the 2 hours of sunlight on the 21st March. When considered individually, all amenity areas also exceed the minimum recommendations noted in the BRE guidelines and will be quality spaces in terms of sunlight for future occupants of the development.

7 Sunlight to Existing Buildings

7.1 Guidance – BRE Guide (3rd Edition)

The BRE Guide (3rd Edition) states that interiors where the occupants expect sunlight should receive at least one quarter (25%) of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months, between 21st September and 21st March.

Here 'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question.

If a window reference point can receive more than 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months between 21st September and 21st March, then the room should still receive enough sunlight. Any reduction in sunlight access below this level should be kept to a minimum.

If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months (21st September to 21st March) and reduction in sunlight across the year has a greater reduction than 4%, then the occupants of the existing building will notice the loss of sunlight.

Summary

3.2.13 If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;
- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

BRE 3rd Edition guidance document Site Layout Planning for Daylight and Sunlight

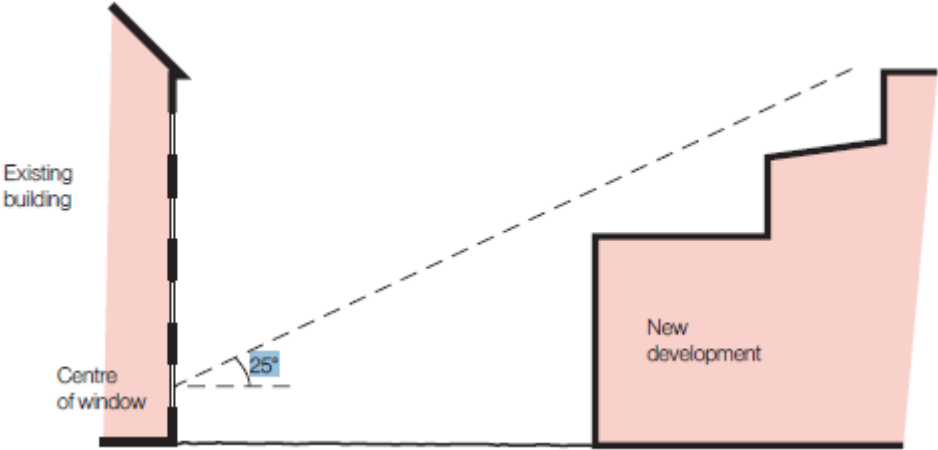
As such this study will compare the Existing Scheme and Proposed Schemes and consider if the values on the existing buildings meet the requirements outlined above when compared to their former value (that of the Existing scheme).

7.2 APSH Exclusions

The BRE recommendations note that if a new development sits within 90° of due south of any main living room window of an existing dwelling, then these should be assessed for APSH. However, there are several exceptional cases in which APSH is not required to be calculated, as indicated below:

3.2.9 It is not always necessary to do a full calculation to check sunlight potential. The guideline above is met provided either of the following is true:

- 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 (note: obstructions within 90° of due north of the existing window need not count here).
- The window wall faces within 90° of due south and no obstruction, measured in the section perpendicular to the window wall, subtends an angle of more than 25° to the horizontal (Figure 14 in section 2.2). Again, obstructions within 90° of due north of the existing window need not be counted.
- The window wall faces within 20° of due south and the reference point has a VSC (section 2.1) of 27% or more.



BRE 3rd Edition guidance document Site Layout Planning for Daylight and Sunlight

Consequently, APSH will only be calculated for adjacent windows which meet the following conditions:

1. The height distance rule is not met and the existing building has living room with a main window which faces within 90 degrees of due south with the 25° rule not being met either.
2. Existing building is located to the North, East, or West of the Proposed Development.
3. The existing main living room window lies within 20 degrees of due south and has a VSC of less than 27%.

Taking the above into consideration, the existing properties that are north facing have been excluded from this analysis. The existing dwellings which have living area windows that face within 90 degrees of South have been included in this assessment.

7.3 APSH Assessment

Based on the above criteria, the locations in the following sections have been modelled and analysed with the results also included.

Please note, the “Comment” symbol in each of the tables represents the following:

- ✓/✓ For these locations, both the Proposed Scheme annual and winter APSH results are greater than 25% and 5% respectively, or are greater than 0.8 times their former value or are less than 4% overall annual loss with the Proposed development in place.
- ✓/ x For these locations, the annual APSH results are greater than 25% or are greater than 0.8 times their former value with the Proposed development in place, or the annual reduction in sunlight received over the whole year of less than 4%. However, the winter results are below the Guidelines.
- x /✓ For these locations, the annual APSH results are less than the recommended values, however, the winter APSH results are greater than 5% or greater than 0.8 times their former value with the Proposed development in place.
- x / x For these locations, both the annual and winter APSH results are less than 25% and 5% respectively, and less than 0.8 times their former value or are greater than 4% overall annual loss with the Proposed development in place.

7.3.1 View 1 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	35.95	11.92	34.01	9.97	95%	84%	✓/✓
2	32.87	11.81	31.83	10.09	97%	85%	✓/✓

7.3.2 View 2 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	33.49	10.13	32.51	9.15	97%	90%	✓/ ✓
2	34.96	11.16	33.02	9.22	94%	83%	✓/ ✓
3	37.91	11.61	34.49	8.96	91%	77%	✓/ ✓

7.3.3 View 3 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	39.68	13.64	37.54	11.5	95%	84%	✓/ ✓
2	39.46	14.79	36.92	12.25	94%	83%	✓/ ✓
3	38.35	12.37	36.45	10.48	95%	85%	✓/ ✓

7.3.4 View 4 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	35.47	11.8	35.37	11.71	100%	99%	✓/ ✓
2	29.3	10.56	29.22	10.58	100%	100%	✓/ ✓
3	41.17	14.42	41.15	14.41	100%	100%	✓/ ✓

7.3.5 View 5 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	36.2	11.45	36.1	11.34	100%	99%	✓/ ✓
2	36.76	12	36.29	11.54	99%	96%	✓/ ✓
3	40.67	14.8	39.14	13.3	96%	90%	✓/ ✓

7.3.6 View 6 Clanmaurice Avenue Dwellings



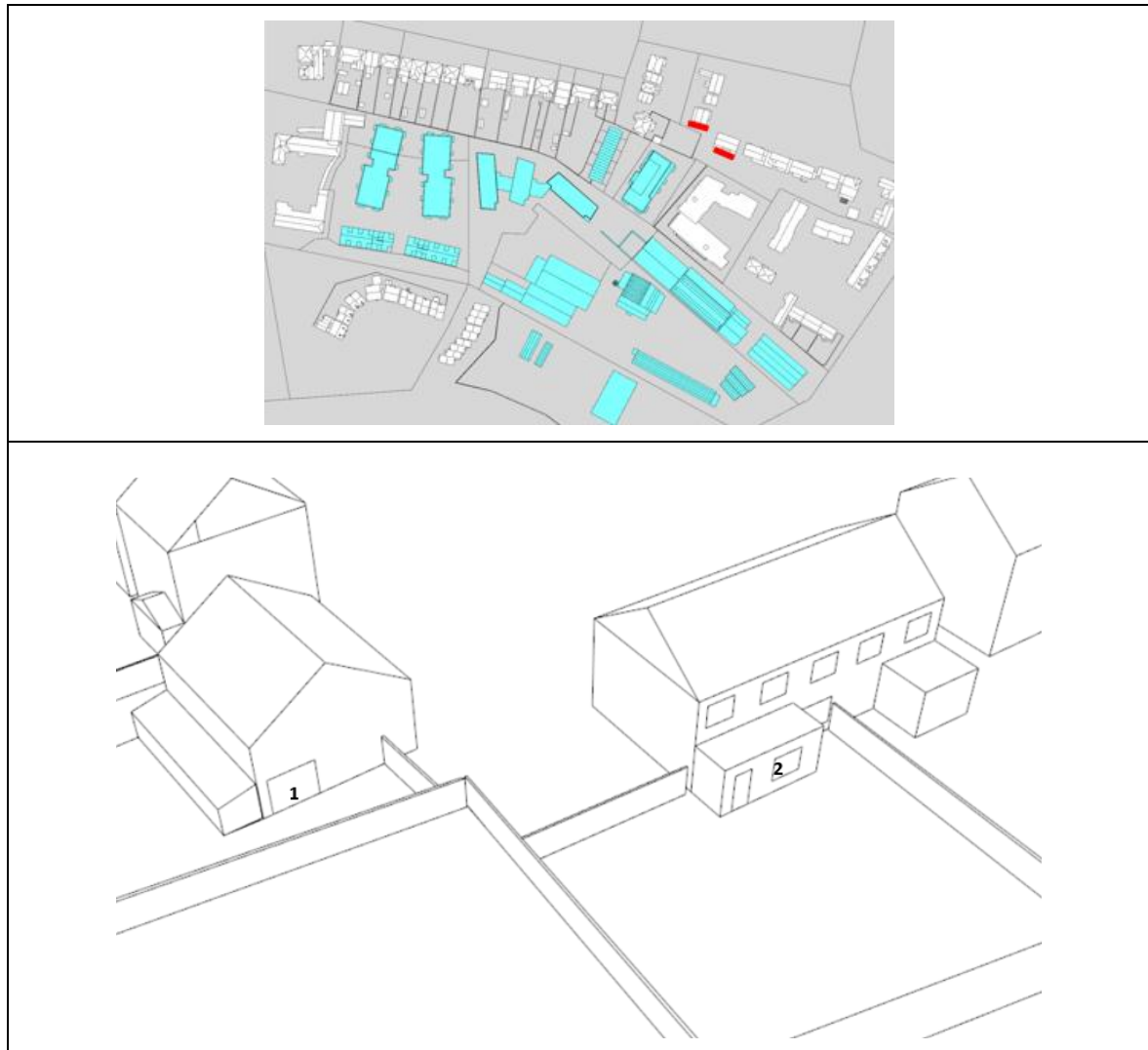
Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	36.89	14.75	34.81	12.67	94%	86%	✓/✓
2	37.88	11.89	36.83	10.84	97%	91%	✓/✓
3	41.3	15.24	39.06	13.01	95%	85%	✓/✓

7.3.7 View 7 Clanmaurice Avenue Dwellings



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	16.02	2.64	15.88	2.51	99%	95%	✓/✓
2	29.53	9.57	25.09	5.13	85%	54%	✓/✓

7.3.8 View 8 Strandville Gardens



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	53.95	14.65	53.46	14.15	99%	97%	✓/✓
2	62.64	22.13	60.26	21.44	96%	97%	✓/✓

7.3.9 View 9 Stone Town Terrace



Ref.	Existing Situation APSH		Proposed Scheme APSH		Proposed APSH as a % of Existing Situation		Comment
	Annual	Winter	Annual	Winter	Annual	Winter	
1	33.3	11.58	28.19	6.76	85%	58%	✓ / ✓
2	37.02	13.78	32.78	9.54	89%	69%	✓ / ✓
3	32.51	9.31	29.68	6.48	91%	70%	✓ / ✓

7.4 Discussion

This study considers existing dwellings sunlight and tests if the Annual Probable Sunlight Hours (APSH) results for the living room windows (existing properties) are greater than 25% annual and 5% winter sunlight or are greater than 0.8 times their former value with the proposed development in place or the reduction in sunlight across the year is less than 4% with the proposed development in place.

When compared to the Existing Scheme, 100% of the tested points (22no.) meet the BRE recommended values. These results highlight that the proposed development will have minimal impact to the sunlight received to these existing neighbouring properties. Overall the impact to the existing adjacent properties sunlight will be negligible.

8 Sunlight to Proposed Development

8.1 Guidance – BRE Guide 3rd Edition / IS/BS EN 17037-2018+A1-2021

Section 5.3.1 of IS/BS EN 17037-2018+A1-2021 states that “*exposure to sunlight is an important quality criterion of an interior space and can contribute to human well-being.*” Table A.6 from IS/BS EN 17037-2018+A1-2021 summarises the recommendation for daily sunlight exposure.

Table A.6 — Recommendation for daily sunlight exposure

Level of recommendation for exposure to sunlight	Sunlight exposure
Minimum	1,5 h
Medium	3,0 h
High	4,0 h

Within the context of a domestic property, BRE Guide 3rd Edition/IS EN 17037:2018 states that at least one habitable space within a dwelling should receive the recommended minimum value of 1.5 hours of sunlight on the 21st of March. The test is carried out on a clear, cloud free day.

8.2 Sunlight Exposure Assessment

Based on the above criteria for BRE Guide 3rd Edition/IS/BS EN 17037-2018+A1-2021, all main living room windows within the proposed development have been assessed with the results visually represented in the following images.

The windows highlighted in “red” achieve the minimum 1.5 hours of recommended sunlight on March 21st, while the windows highlighted in “blue” do not achieve the recommended value.

8.2.1 Salesians Apartment Block B2 View 01 – West Elevation



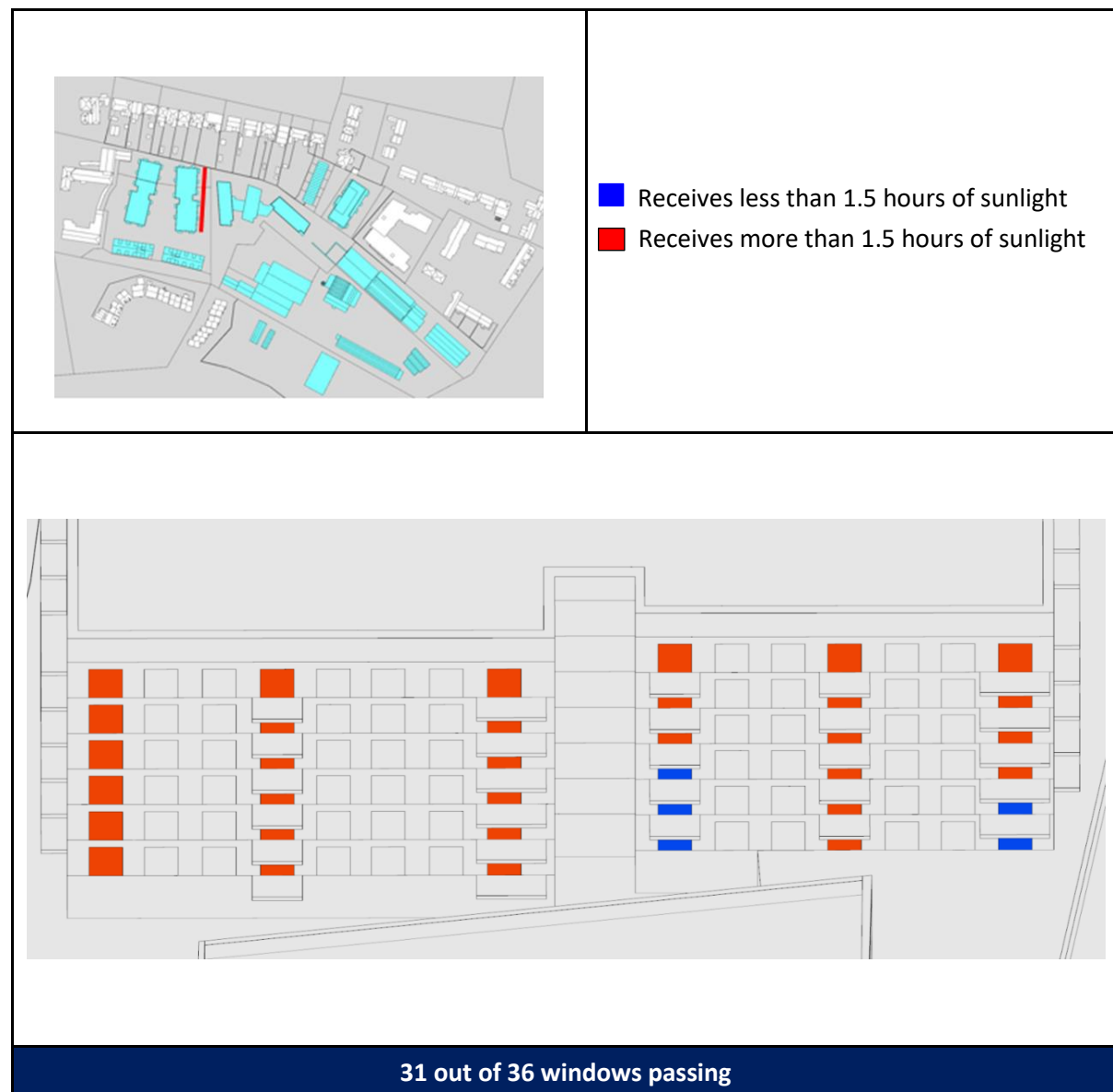
8.2.2 Salesians Apartment Block B2 View 03 – East Elevation



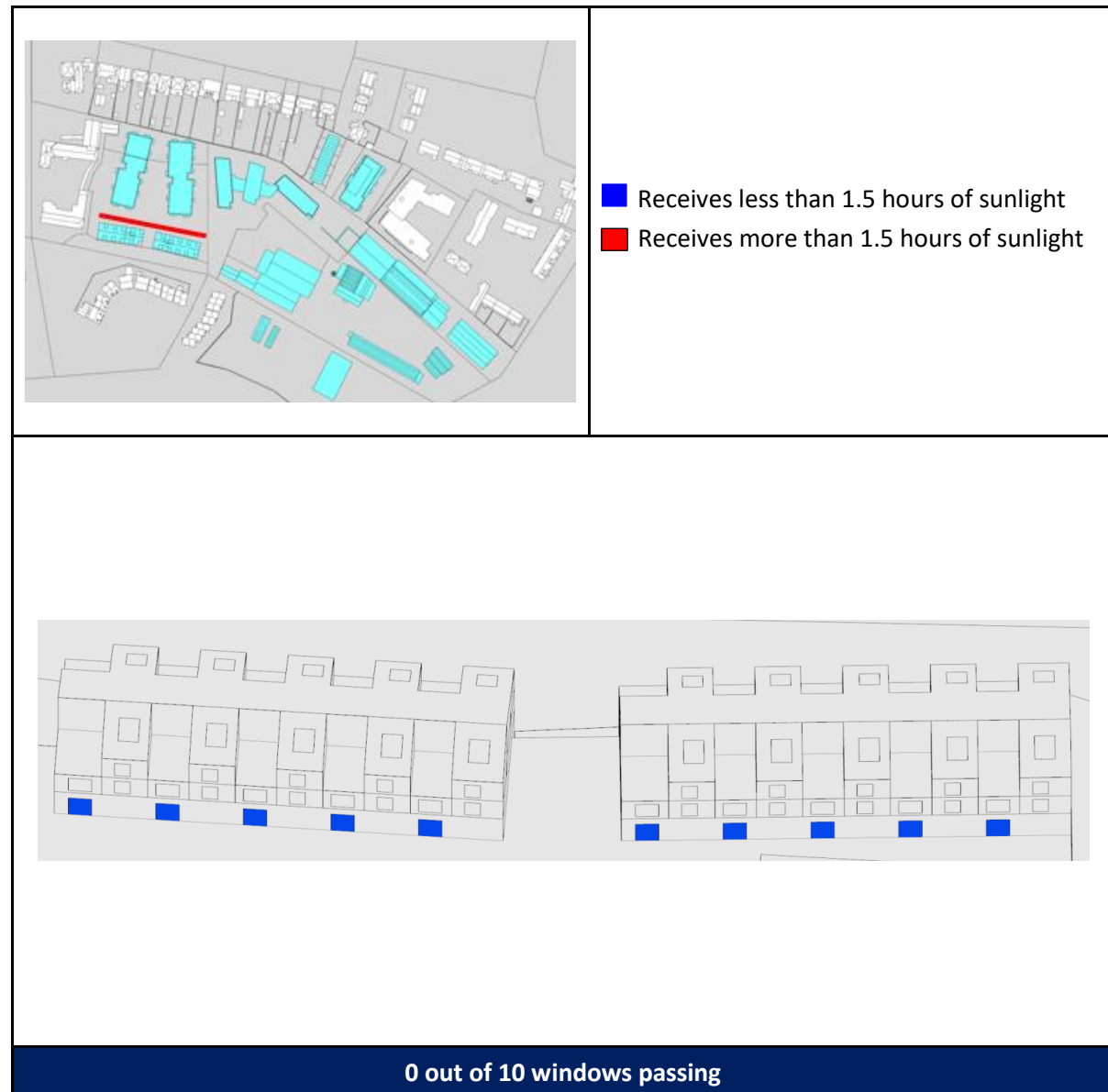
8.2.3 Salesians Apartment Block B1 View 04 – West Elevation



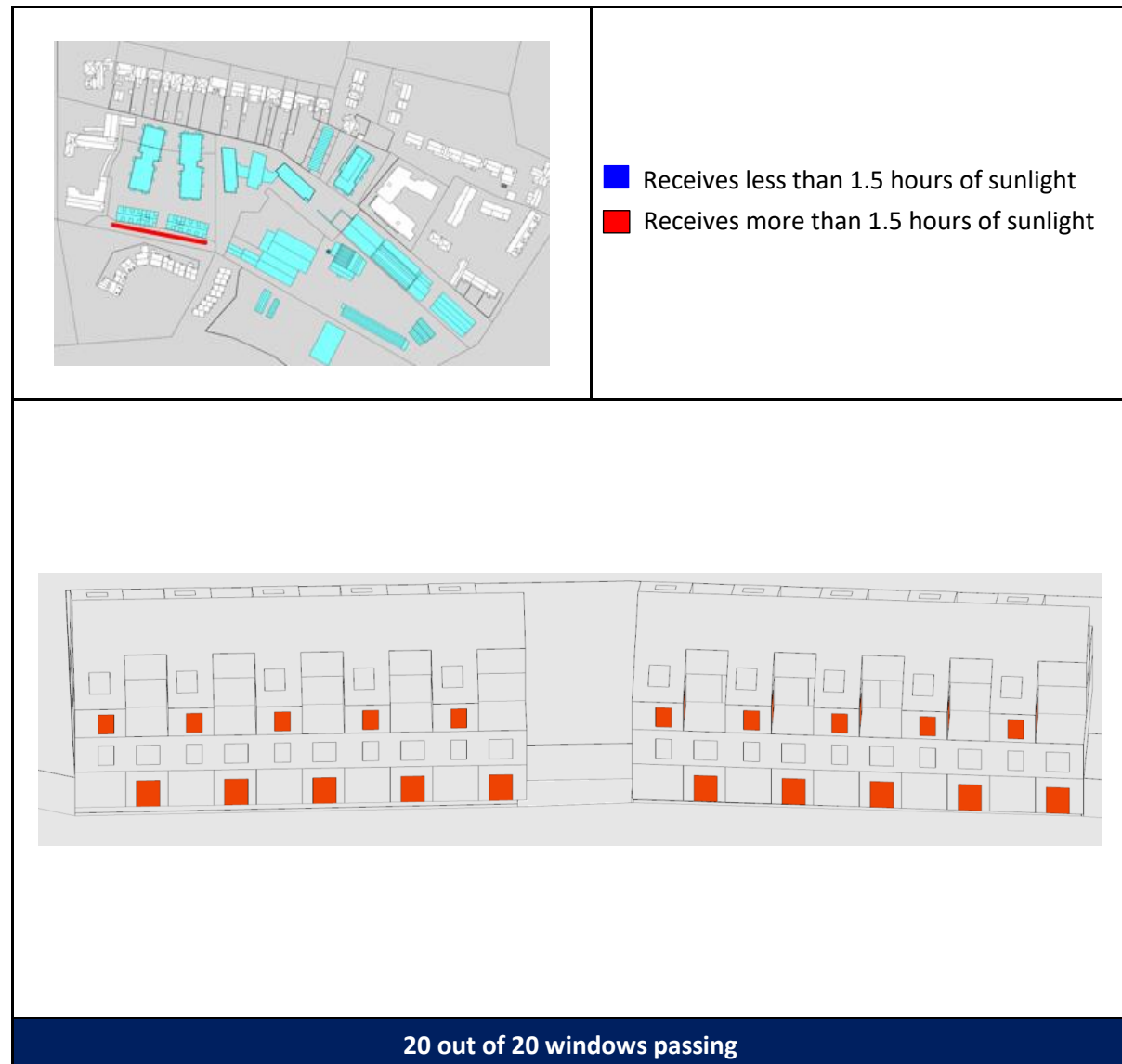
8.2.4 Salesians Apartment Block B1 View 05 – East Elevation



8.2.5 Salesians Townhouses View 06 – North Elevation



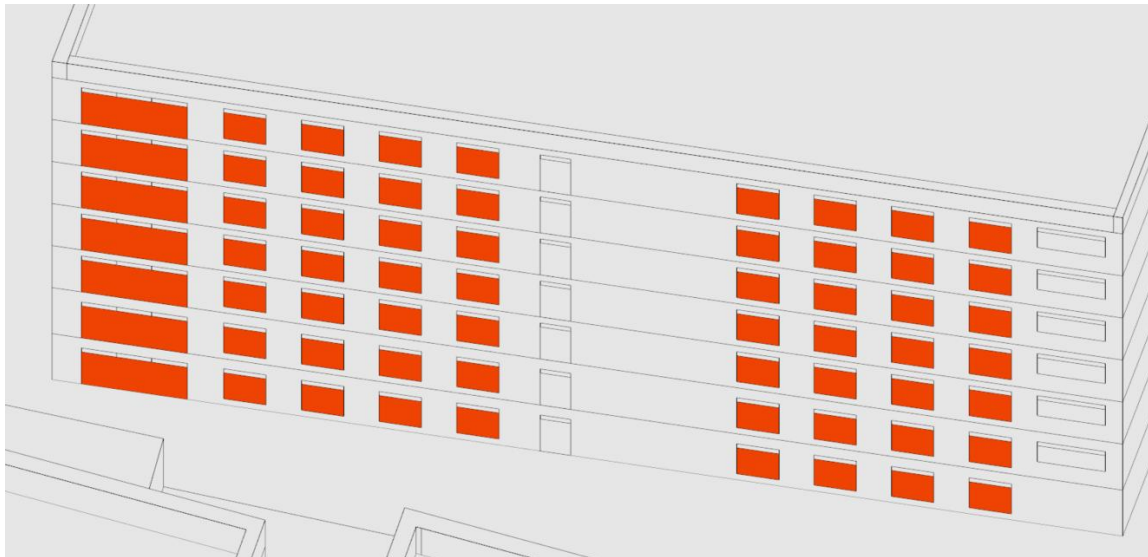
8.2.6 Salesians Townhouses View 07 – South Elevation



8.2.7 Students Block A View 08 – West Elevation

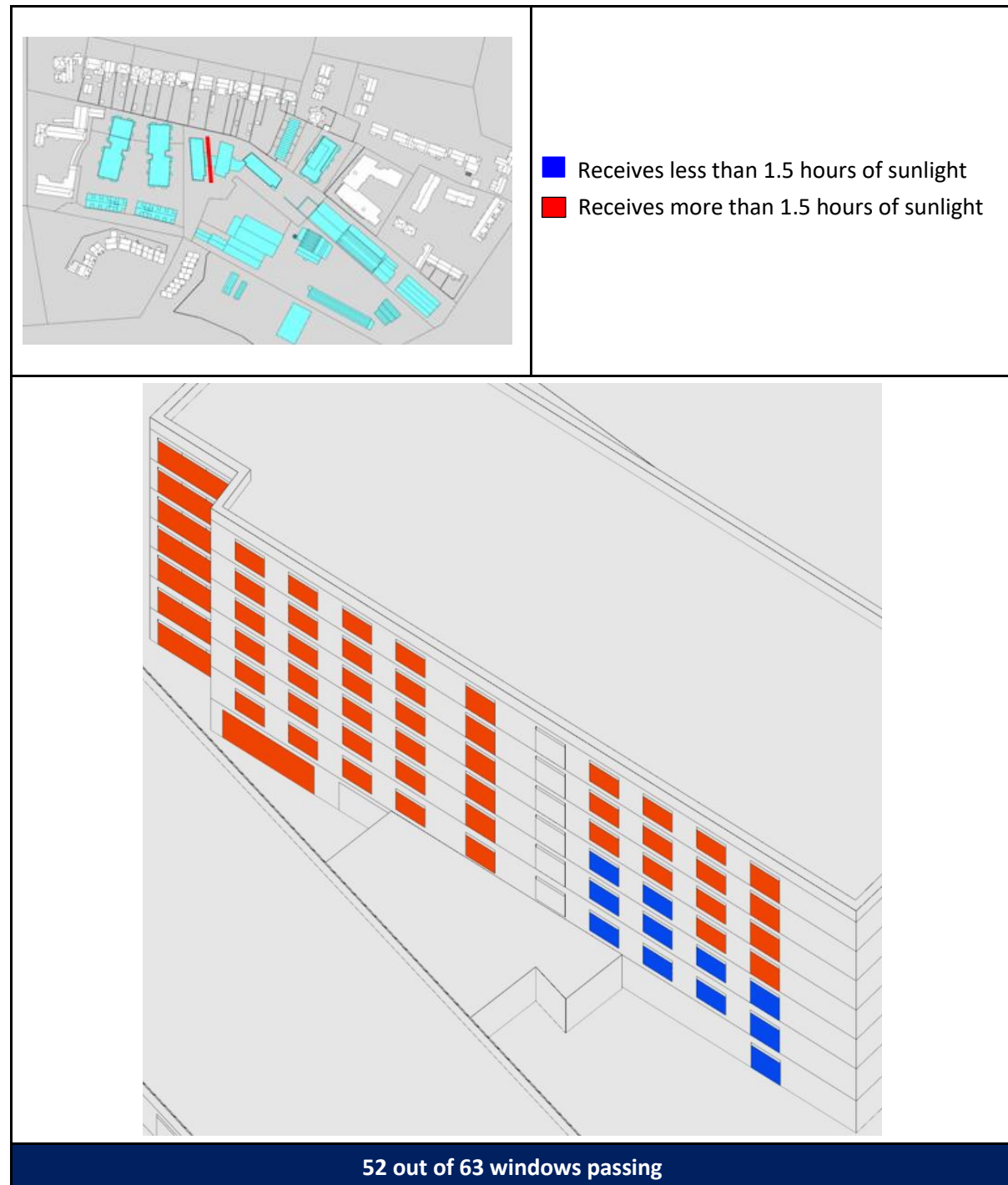


- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight



63 out of 63 windows passing

8.2.8 Students Block A View 09 – East Elevation



8.2.9 Students Block B View 10 – West Elevation



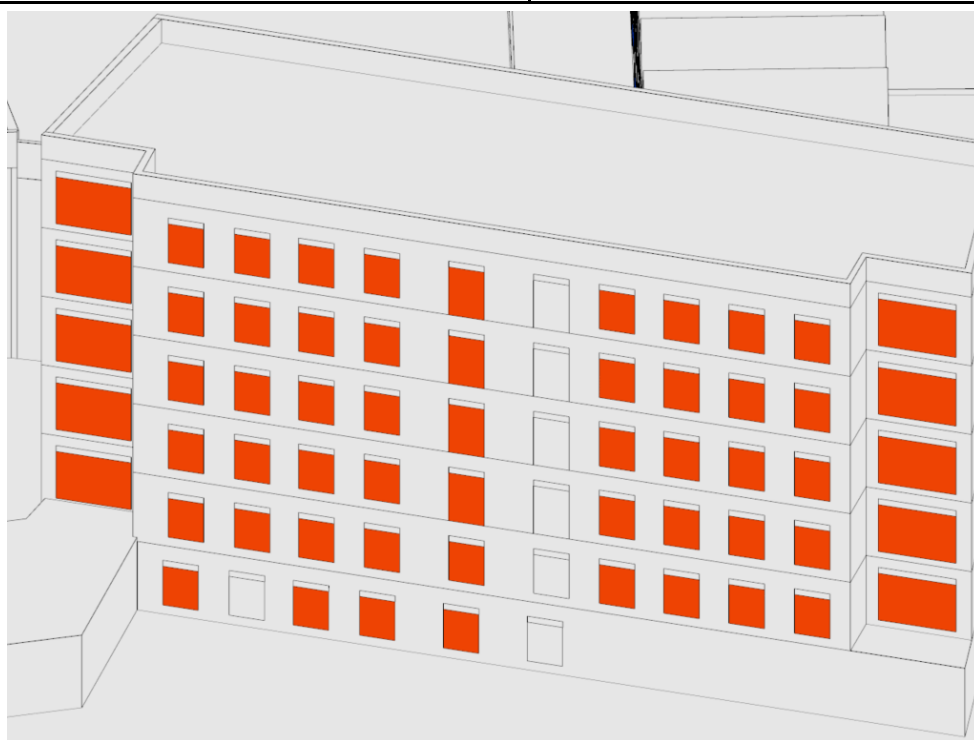
8.2.10 Students Block B View 11 – East Elevation



8.2.11 Students Block C View 12 – South Elevation



- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight



59 out of 59 windows passing

8.2.12 Students Block C View 13 – North Elevation



8.2.13 Stonetown Terrace Townhouses View 14 – East Elevation



- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight

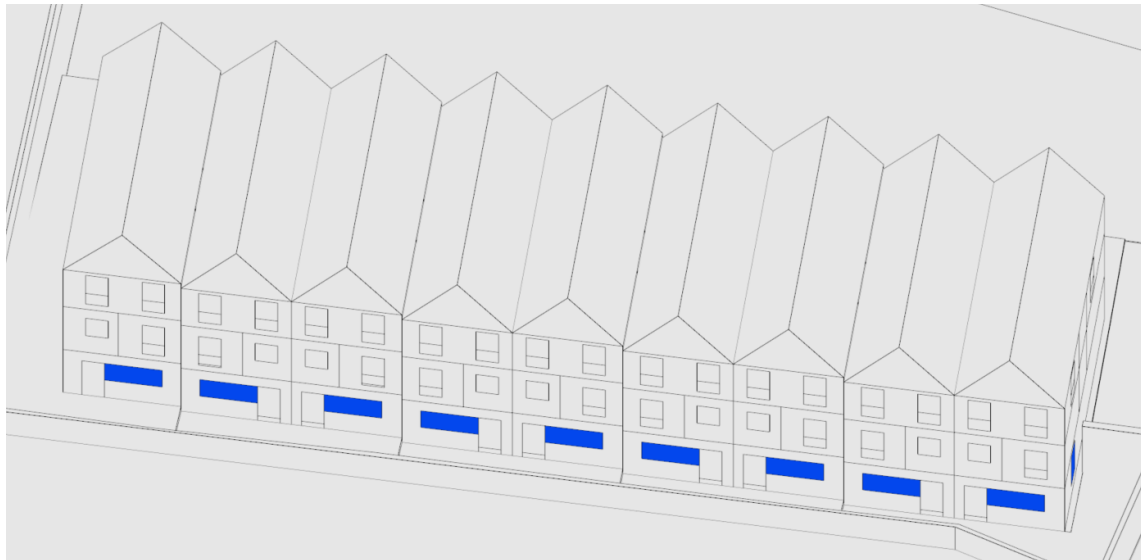


09 out of 09 windows passing

8.2.14 Stonetown Terrace Townhouses View 15 – West Elevation



- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight



00 out of 09 windows passing

8.2.15 Stonetown Terrace Apartments View 16 – East Elevation



- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight



19 out of 19 windows passing

8.2.16 Stonetown Terrace Apartments View 17 – West Elevation



8.2.17 O'Callaghan Strand Apartments View 18 – North Elevation

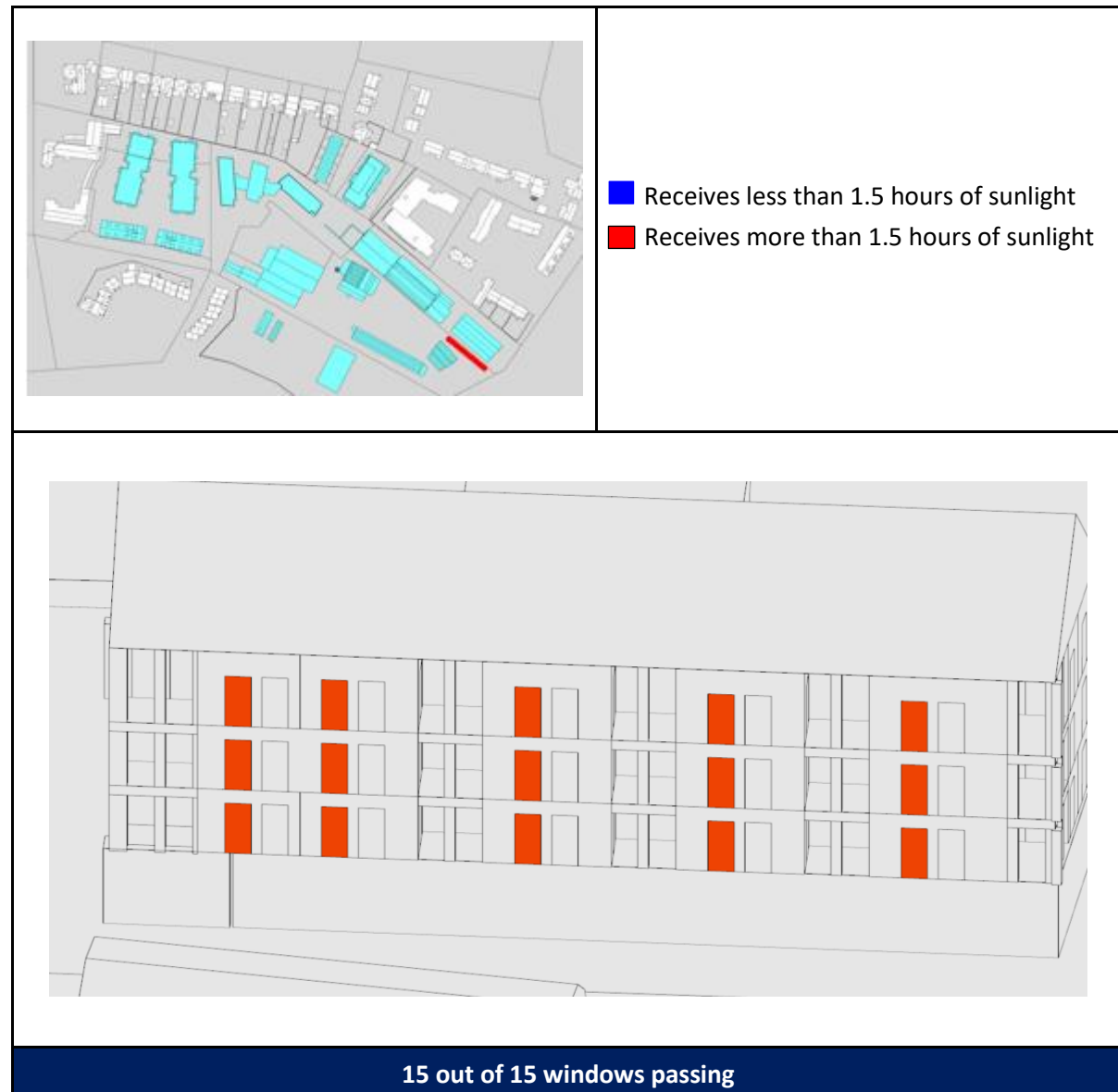


- Receives less than 1.5 hours of sunlight
- Receives more than 1.5 hours of sunlight



06 out of 06 windows passing

8.2.18 O'Callaghan Strand Apartments View 19 – South Elevation



8.3 Discussion

BRE Guide 3rd Edition / IS/BS EN 17037-2018+A1-2021

As the sunlight exposure assessment in accordance with BRE Guide 3rd Edition / IS/BS EN 17037-2018+A1-2021 considers the orientation of the rooms the following should be noted from section 3.1.11 of the guide.

“The BS EN 17037 criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met.”

Of the 561 no. points tested 84% (470 no.) meet the BRE Guide 3rd Edition / IS/BS EN 17037:2018 sunlight exposure recommendations of greater than 1.5 hours on March 21st. Where windows do not meet this recommendation, this is predominantly as a result of their orientation, or as a consequence of the impact of balcony projections.

It should be noted that in the development of any apartment type building in particular, achieving in the region of 75% to 80% for this assessment would be considered very high and factors such site constraints and ultimately orientation play a huge part to the outcome of this assessment. In some instance and particularly a scheme like this where you have apartments on either side of a rectangular block that is constrained by the site orientation, 50% would be a very high percentage achievable, with the apartments on one side not able to meet requirements purely on orientation as noted and the inclusion of balconies within the design scheme (as a requirement).

Overall, the sunlight provision results to the proposed development in accordance with IS/BS EN 17037:23018 are considered very positive due to the fact that not all living rooms can face south and the inclusion of balconies.

9 Daylight to Existing Buildings

9.1 Guidance – BRE Guide (3rd Edition) / IS/BS EN 17037-2018+A1 2021

When designing a new development, it is important to safeguard the daylight to nearby buildings. The BRE Guide provides numerical values that are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints. Another issue is whether the Existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light. Any reduction in the total amount of skylight can be calculated by determining the vertical sky component at the centre of key reference points. The vertical sky component definition from the BRE Guide (3rd Edition) is described below:

Vertical sky component (VSC)	This is a measure of the amount of light reaching a window. It is the ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.
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The maximum possible VSC value for an opening in a vertical wall, assuming no obstructions, is 40%. This VSC at any given point can be tested in RadianceIES, a module of IES VE.

For typical residential schemes the BRE Guide (3rd Edition) states the following in Section 2.2.7:

2.2.7 If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the VSC, with the new development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear more gloomy, and electric lighting will be needed more of the time.

As such this study will compare the Existing scheme and Proposed scheme and consider if the values on the Existing buildings are above 27% or not less than 0.8 times their former value (that of the Existing scheme).

It is also important to note that Section 2.1.6 of the BRE Guide states that if the VSC is between 15% and 27%, special measures such as larger windows can provide adequate daylight (refer to extract below).

2.1.6 The amount of daylight a room needs depends on what it is being used for. But roughly speaking, if θ is:

- greater than 65° (obstruction angle less than 25° or VSC at least 27%) conventional window design will usually give reasonable results.
- between 45° and 65° (obstruction angle between 25° and 45°, VSC between 15% and 27%) special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight.
- between 25° and 45° (obstruction angle between 45° and 65°, VSC between 5% and 15%) it is very difficult to provide adequate daylight unless very large windows are used.
- less than 25° (obstruction angle greater than 65°, VSC less than 5%) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.

9.2 Assessment

Based on the above criteria the neighbouring dwellings in view 1 required testing to assess the daylight received. The following sections highlight the analysis and results.

Please note, the “Comment” symbol in each of the tables represents the following:

- ✓ For these locations, the Proposed Scheme VSC value is greater than 27% or 0.8 times their former value (that of the existing).
- ✓¹ For these locations, the Proposed Scheme VSC value is less than 0.8 times its former value (that of the existing). However, the Proposed Scheme VSC values are between 15% and 27% and hence adequate daylight should still be expected (as per Section 2.1.6 of the BRE Guide) given the presence of larger than conventional windows.
- x For these locations, the Proposed Scheme VSC value is less than 15% and less than 0.8 times its former value (that of the existing), therefore, it does not achieve the BRE recommendations.

9.2.1 View 1 Salesian Primary School



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	37.77	31.77	84%	✓
2	36.63	27.49	75%	✓
3	37.6	31.16	83%	✓
4	36.34	26.87	74%	✓ ¹
5	37.05	30.89	83%	✓
6	35.45	28	79%	✓
7	37.02	30.97	84%	✓
8	35.62	28.17	79%	✓
9	36.46	30.03	82%	✓
10	34.71	27.69	80%	✓
11	35.72	28.97	81%	✓
12	33.6	26.78	80%	✓
13	34.85	27.79	80%	✓
14	32.16	25.53	80%	✓
15	35.87	28.51	80%	✓
16	33.02	26.54	80%	✓
17	30.12	24.13	80%	✓

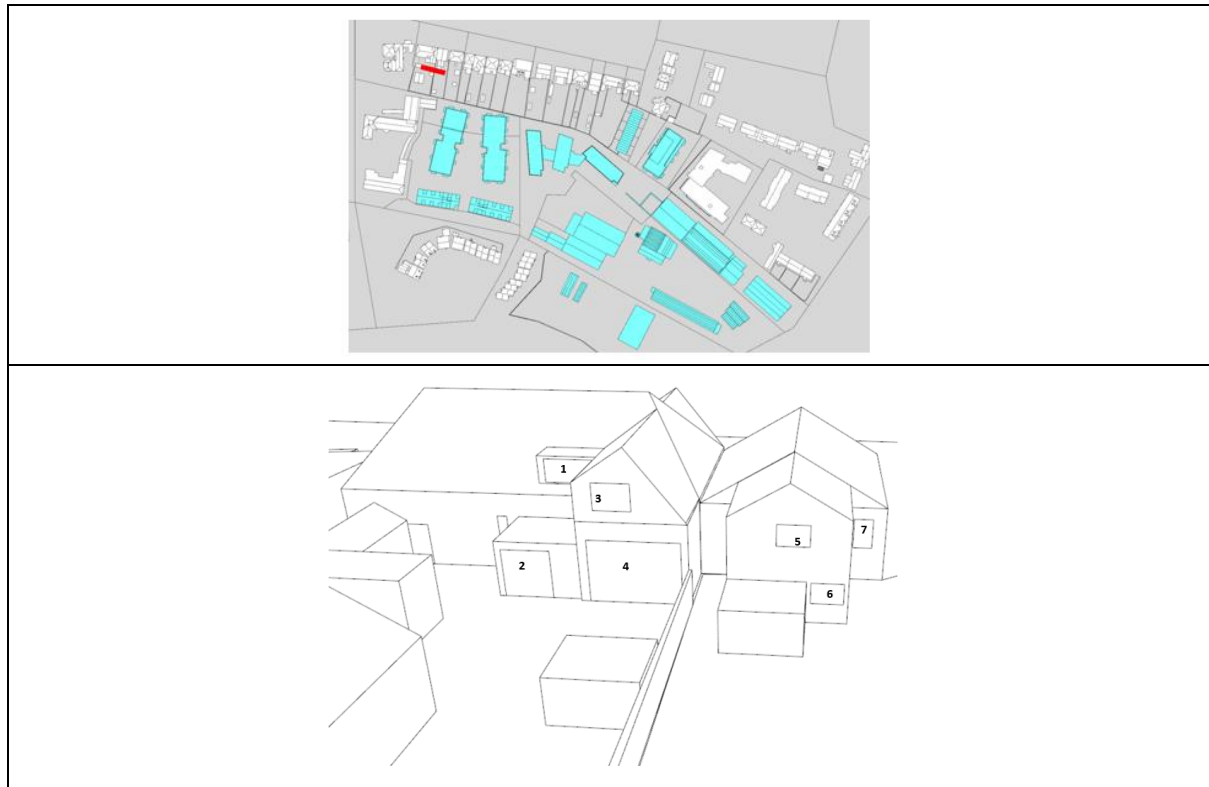
9.2.2 View 2 Salesian Primary School



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	35.42	34.78	98%	✓
2	35.2	34.36	98%	✓
3	34.15	34.21	100%	✓
4	33.13	33.82	102%	✓
5	32.08	33.2	103%	✓
6	30.56	32.81	107%	✓
7	32.05	32.36	101%	✓
8	28.6	30.51	107%	✓
9	18.05	21.21	118%	✓
10	11.43	18.19	159%	✓
11	34.64	26.67	77%	✓ ¹
12	23.29	19.79	85%	✓
13	31.38	23.31	74%	✓ ¹
14	32.27	23.84	74%	✓ ¹
15	30.47	22.26	73%	✓ ¹
16	25.52	17.63	69%	✓ ¹
17	8.3	7.41	89%	✓

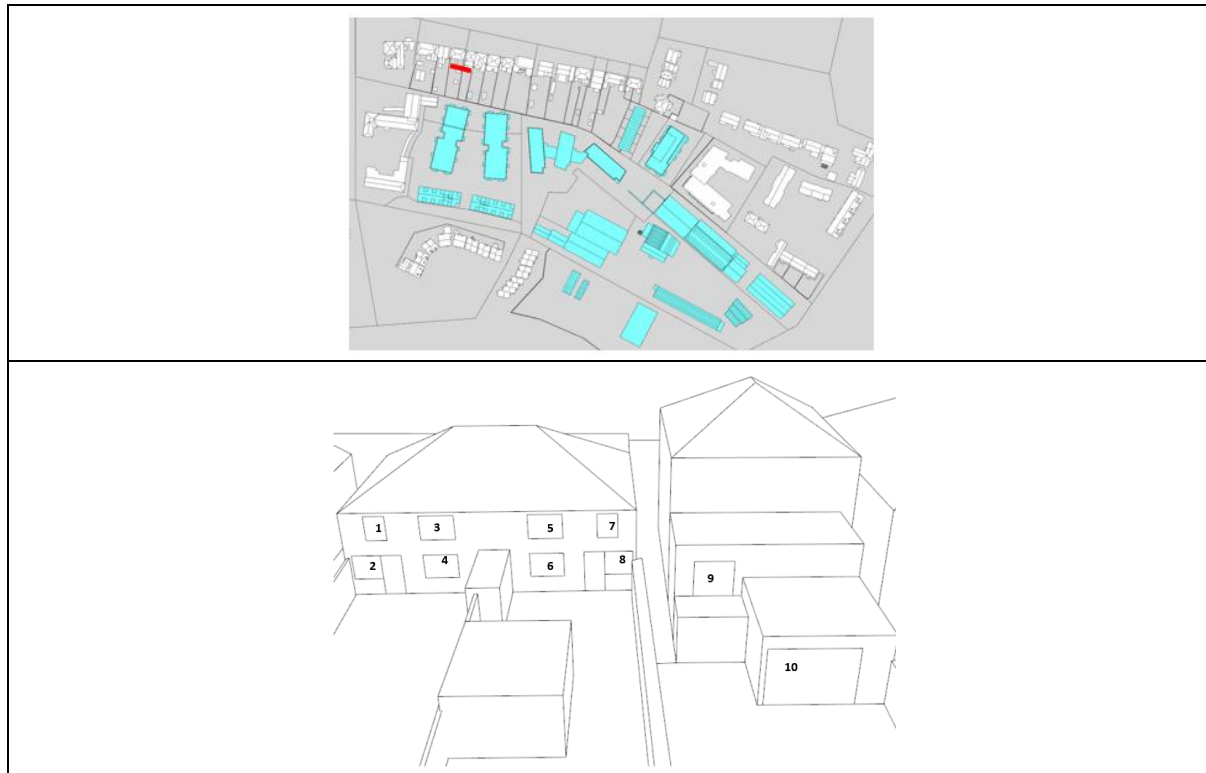
Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
18	32.79	29.91	91%	✓
19	33.6	29.94	89%	✓
20	34.25	29.33	86%	✓
21	27.72	24.47	88%	✓
22	34.25	28.05	82%	✓
23	27.87	24.1	86%	✓
24	34.24	26.52	77%	✓ ¹
25	27.86	23.08	83%	✓

9.2.3 View 3 Clanmaurice Avenue Dwellings



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	34.38	34.09	99%	✓
2	32.84	30.76	94%	✓
3	38.66	36.61	95%	✓
4	35.55	33.05	93%	✓
5	38.46	35.78	93%	✓
6	33.47	30.49	91%	✓
7	24.13	21.55	89%	✓

9.2.4 View 4 Clanmaurice Avenue Dwellings



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	36.6	33.59	92%	✓
2	31.6	28.93	92%	✓
3	37.31	34.4	92%	✓
4	33.1	31.87	96%	✓
5	37.88	34.71	92%	✓
6	33.03	30.3	92%	✓
7	37.2	34.49	93%	✓
8	29.69	28.27	95%	✓
9	37.82	33.88	90%	✓
10	35.41	30.65	87%	✓

9.2.5 View 5 Clanmaurice Avenue Dwellings



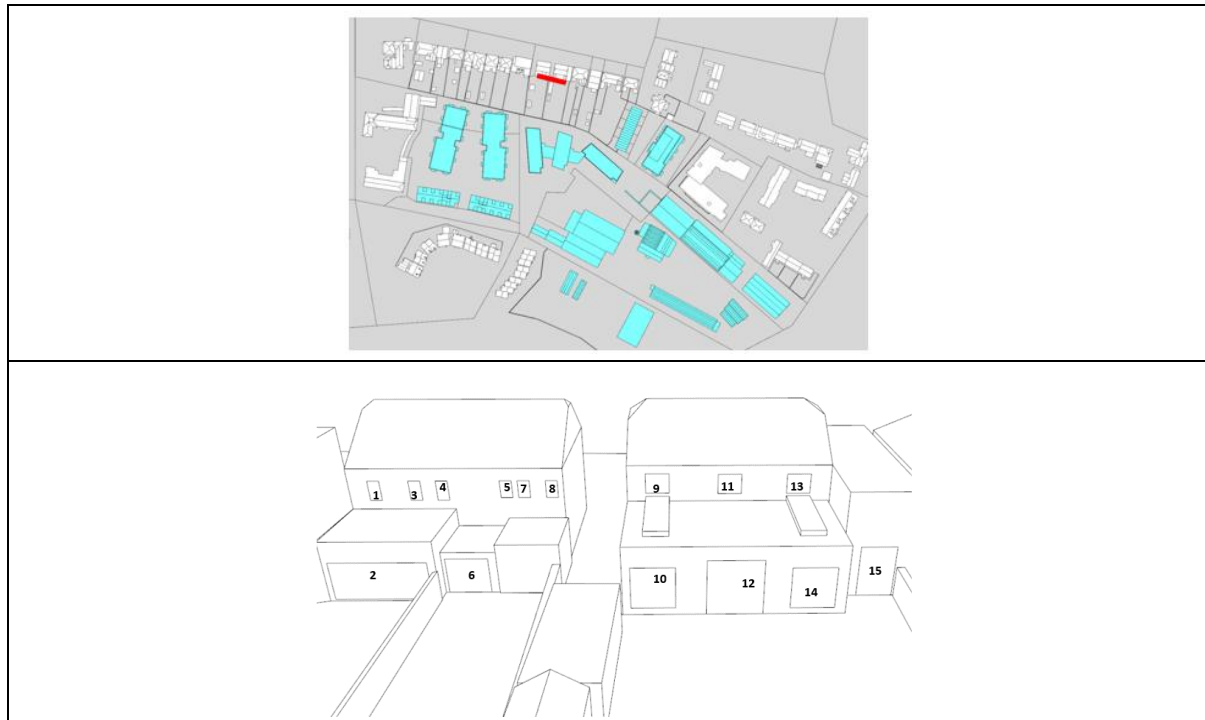
Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	38.74	34.51	89%	✓
2	37.65	31.82	85%	✓
3	34.96	32.25	92%	✓
4	37.84	33.7	89%	✓
5	38.46	34.5	90%	✓
6	37.45	32.03	86%	✓
7	38.84	34.53	89%	✓
8	38.79	34.58	89%	✓
9	37.3	31.45	84%	✓

9.2.6 View 6 Clanmaurice Avenue Dwellings



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	34.63	29.81	86%	✓
2	38.59	34.27	89%	✓
3	36.81	31.43	85%	✓
4	36.81	32.81	89%	✓
5	37.84	32.47	86%	✓
6	38.86	34.82	90%	✓
7	35.07	34.56	99%	✓
8	38.95	30.61	79%	✓
9	31.37	29.26	93%	✓
10	37.41	32.39	87%	✓
11	32.02	29.78	93%	✓
12	38.85	34.77	89%	✓

9.2.7 View 7 Clanmaurice Avenue Dwellings



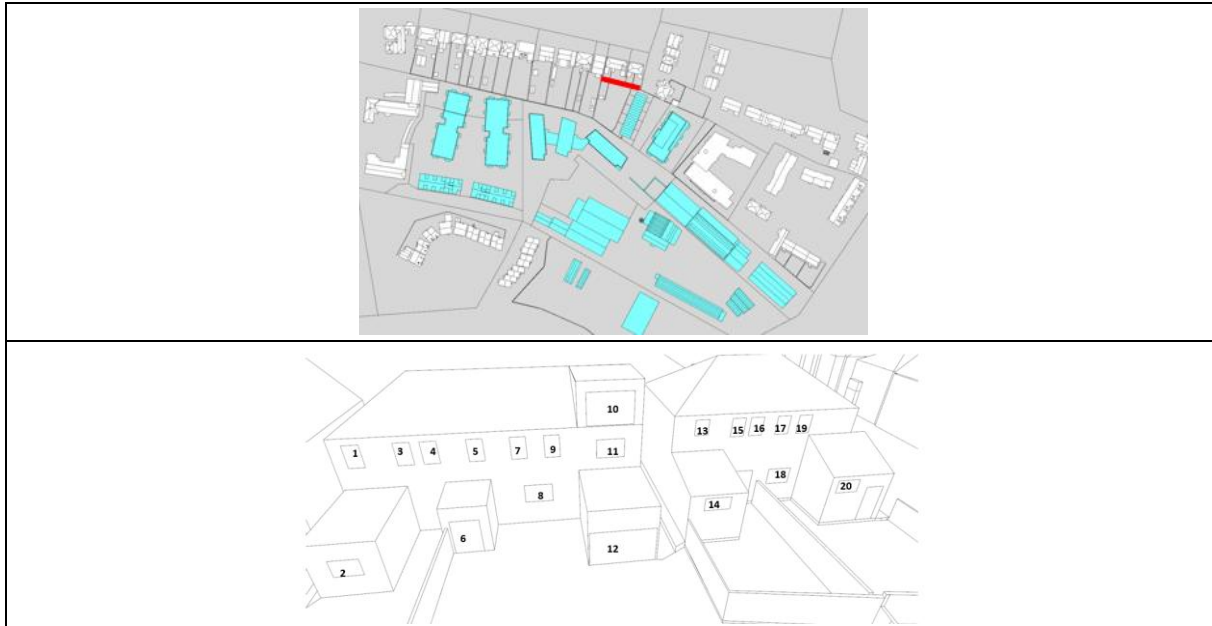
Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	37.49	34.32	92%	✓
2	35.97	32.69	91%	✓
3	38.18	34.77	91%	✓
4	38.52	34.98	91%	✓
5	38.74	35.27	91%	✓
6	31.02	29.22	94%	✓
7	38.75	35.31	91%	✓
8	38.76	35.38	91%	✓
9	38.76	35.76	92%	✓
10	34.29	32.04	93%	✓
11	38.43	35.76	93%	✓
12	37.42	33.71	90%	✓
13	34.93	32.36	93%	✓
14	37.72	33.8	90%	✓
15	32.8	29.89	91%	✓

9.2.8 View 8 Clanmaurice Avenue Dwellings



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	34.33	32.82	96%	✓
2	35.69	33.06	93%	✓
3	37.01	34.35	93%	✓
4	25.25	23.72	94%	✓
5	33.6	31.15	93%	✓
6	38.89	35.97	92%	✓
7	38.09	34.34	90%	✓
8	37.62	34.7	92%	✓
9	37.46	34.11	91%	✓
10	38.69	35.7	92%	✓
11	38.79	36.05	93%	✓
12	37.86	34.18	90%	✓

9.2.9 View 9 Clanmaurice Avenue Dwellings



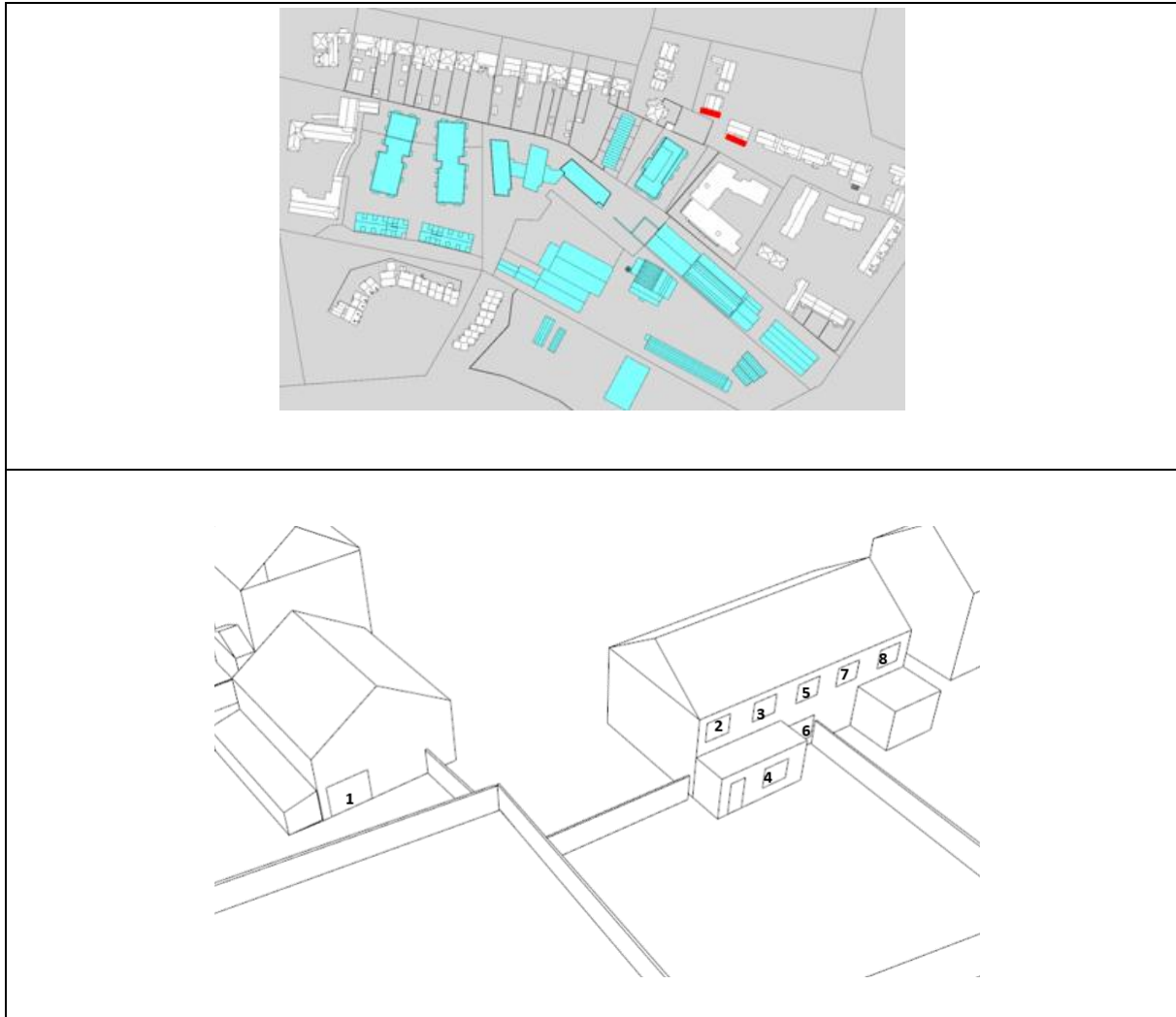
Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	34.8	32.99	95%	✓
2	36.64	32.87	90%	✓
3	38.52	35.93	93%	✓
4	38.63	36.11	93%	✓
5	38.72	36.32	94%	✓
6	33.17	30.68	92%	✓
7	38.86	36.39	94%	✓
8	34.09	31.58	93%	✓
9	38.72	36.3	94%	✓
10	38.99	37.1	95%	✓
11	38.88	36.01	93%	✓
12	37.04	33.49	90%	✓
13	38.88	36.72	94%	✓
14	38.3	34.39	90%	✓
15	38.87	36.47	94%	✓
16	38.88	36.43	94%	✓
17	38.8	36.31	94%	✓
18	29.27	26.37	90%	✓
19	38.89	36.54	94%	✓
20	38.39	33.17	86%	✓

9.2.10 View 10 Clanmaurice Avenue Dwellings



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	37.26	36.02	96.7	✓
2	34	31.62	93.0	✓
3	38.92	34.95	89.8	✓
4	33.97	28.87	85.0	✓

9.2.11 View 11 Strandville Gardens



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	28.12	28.11	100%	✓
2	36.56	34.72	95%	✓
3	36.3	34.97	96%	✓
4	33.12	31.85	96%	✓
5	36.34	35.26	97%	✓
6	28.37	28.52	101%	✓
7	36.1	35.11	97%	✓
8	36.16	35.05	97%	✓

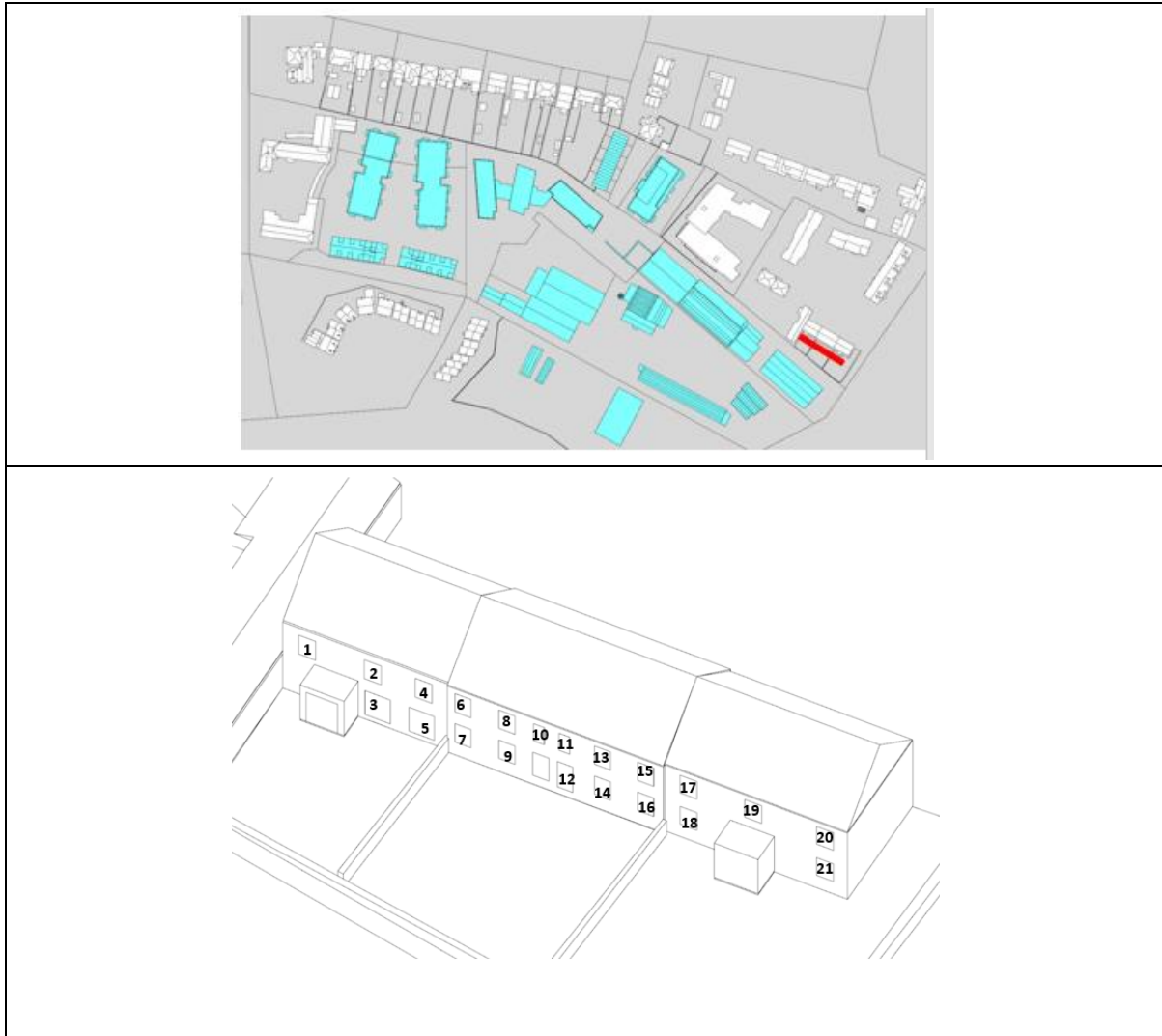
9.2.12 View 12 Lansdowne Hall Apartments



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	38.10	35.43	93%	✓
2	37.02	33.02	89%	✓
3	35.03	30.90	88%	✓
4	38.16	34.46	90%	✓
5	29.92	24.97	83%	✓
6	27.69	22.51	81%	✓
7	38.04	33.83	89%	✓
8	29.89	24.23	81%	✓
9	27.69	21.52	78%	✓ ¹
10	38.16	33.37	87%	✓
11	37.14	30.67	83%	✓
12	35.94	27.97	78%	✓

Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
13	38.16	32.81	86%	✓
14	37.47	30.27	81%	✓
15	36.08	27.66	77%	✓
16	38.19	32.10	84%	✓
17	37.56	29.43	78%	✓
18	35.61	27.04	76%	✓
19	38.24	31.70	83%	✓
20	36.74	28.51	78%	✓
21	35.46	25.71	73%	✓ ¹
22	37.99	31.14	82%	✓
23	29.82	20.83	70%	✓ ¹
24	28.26	17.90	63%	✓ ¹
25	38.61	34.60	90%	✓
26	37.39	31.29	84%	✓
27	36.21	28.19	78%	✓
28	34.59	25.08	73%	✓ ¹
29	38.67	34.89	90%	✓
30	37.96	32.89	87%	✓
31	37.27	29.06	78%	✓
32	35.68	27.13	76%	✓
33	38.74	35.20	91%	✓
34	38.06	32.36	85%	✓
35	37.14	29.85	80%	✓
36	35.41	27.39	77%	✓

9.2.13 View 13 Stone Town Terrace



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	36.3	27.58	76%	✓
2	36.26	27.88	77%	✓
3	26.68	19.77	74%	✓ ¹
4	36.56	28.03	77%	✓
5	33.8	25.43	75%	✓ ¹
6	36.88	28.44	77%	✓
7	34.54	26.58	77%	✓
8	37.17	28.67	77%	✓
9	34.75	26.74	77%	✓
10	37.25	29.32	79%	✓
11	37.27	29.69	80%	✓

Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
12	34.72	27.2	78%	✓
13	37.46	30.15	80%	✓
14	35.06	28.63	82%	✓
15	37.43	30.65	82%	✓
16	35.21	29.12	83%	✓
17	37.54	31.77	85%	✓
18	34.27	28.66	84%	✓
19	37.98	32.84	86%	✓
20	38.12	34.26	90%	✓
21	38.12	34.26	90%	✓

9.2.14 View 14 Fernhill (North Circular Road)



Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
1	35.55	31.8	89%	✓
2	32.15	29.37	91%	✓
3	35.2	31.48	89%	✓
4	35.76	32.12	90%	✓
5	31.13	28.74	92%	✓
6	35.54	31.9	90%	✓
7	34.9	31.59	91%	✓
8	31.86	28.92	91%	✓
9	34.27	30.78	90%	✓
10	34.91	30.89	88%	✓
11	33.97	30.29	89%	✓
12	28.53	26.11	92%	✓
13	30.21	30.39	101%	✓
14	33.74	27.73	82%	✓
15	33.79	29.97	89%	✓
16	33.99	30.42	89%	✓

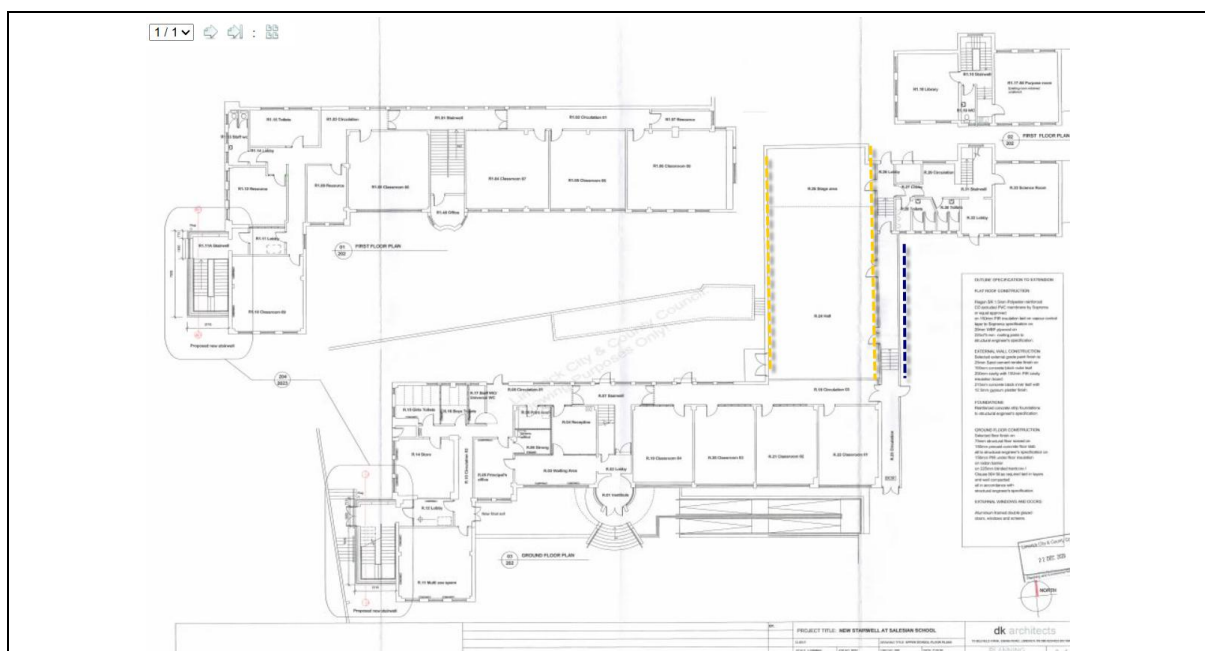
Ref.	Existing Situation	Proposed Scheme VSC	Proposed VSC as a % of Existing Situation	Comment
17	33.69	29.98	89%	✓
18	28.58	25.63	90%	✓
19	33.74	31.05	92%	✓
20	33.53	30.56	91%	✓
21	29.55	27.5	93%	✓
22	34.06	30.55	90%	✓
23	32.81	27.59	84%	✓
24	30.74	29.4	96%	✓
25	34.85	30.77	88%	✓
26	32.05	26.24	82%	✓
27	35.07	30.9	88%	✓
28	32.78	26.47	81%	✓
29	35.22	31.05	88%	✓
30	34.75	31	89%	✓

9.3 Discussion

This study considers the Proposed Scheme and tests if the VSC results are greater than 27% or not less than 0.8 times the value of the Existing Scheme.

When compared to the Existing Scheme, of the 226 no. points tested, 94% (212 points) have a Proposed VSC value greater than 27% or not less than 0.8 times their former value compared to the Existing Scheme, thus complying with the BRE Guidelines. It should be noted that none of the windows neighbouring the development fall into category three and have a VSC value of less than 15% and less than 0.8 times its former value. All results are positive.

7 windows below recommendation are located on the Salesians Primary School. 3 of these windows are above 26% and only marginally outside the recommended value of 27% (View 1 window 4 & View 2 windows 11 & 24) and therefore adequate daylight should still be received. The remaining 4 are windows to the same hall space within the School (orange dotted line highlighted in the image below) that is also lit from an array of windows on the other side (images of hall space windows below) of the hall and therefore there will be a negligible impact to the school hall space overall. To note the windows at ground level (blue dotted line marked on the floor plan below) have been omitted as these are to a circulation space and are not required to be assessed as noted in the BRE Guide section 2.2.2, "windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed".



Floor Plan of Salesians Primary School



Salesians Primary School Hall West



Salesians Primary School Hall East

5 windows below recommendation are located on the Lansdowne Hall apartments. 2 of the windows are to bedrooms and are above 25% and marginally outside recommendations and therefore there will be a minor adverse impact to these windows. The remaining 3 windows below recommendations have values between 18% and 21% and are located on living spaces with large floor to ceiling glass onto an outdoor balcony area. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible effect to these windows and to the building as a whole.

Finally, the remaining 2 windows below recommendations are located on properties on Stone Town Terrace. Both windows have percentages of between 18% and 25% and are marginally outside the recommended of 80% of the existing value. In addition to this both windows are larger than a conventional window and have floor to ceiling glass in place. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible impact to these windows and these neighbouring dwellings as a whole as result of the redevelopment of the proposed site.

The redevelopment of the proposed site will therefore overall have a negligible impact to daylight to exiting neighbouring receptors.

It should be noted, with regards to the existing neighbouring properties and in particular the Lansdowne Hall apartments, mitigation measures were taken with regards to the proposed design of the Stonetown Terrace apartment block to protect these existing neighbouring apartments daylight. An extensive design development was conducted considering multiple different massing options after the original design was noted to have a major impact to these dwellings. The mitigation measures included a sculpting of the massing on the upper floors, a reduction to the base floor levels from 11m to 9.5m to bring the overall building height down as well as moving the building away from the existing Lansdowne Hall building by half a meter. These design alterations combined changed the impact from a major adverse impact to a minor adverse impact.

10 Daylight to Proposed Development

This section addresses daylight provision to the proposed development residential units and also the student accommodations bedrooms and shared living/kitchen areas. The purpose of the calculations is to quantify an overall percentage of units which exceeds the daylight provision recommendations. Our proposed methodology is to complete the calculations for all the residential apartments, townhouses and student accommodation bedrooms and shared living/kitchen areas within the development. The objective of the design team is to maximise the number of units which exceed the minimum recommendations.

10.1 Reference Standards

The daylight provision to the proposed development was assessed against the following standard:

- BRE Guide (3rd Edition) / BS EN 17037-2018+A1-2021

There are two methods to assess daylight provision to the interior which are based on target values in Table A.3 of BS EN 17037-2018+A1-2021 which are summarised as follows:

Method 1: This calculation method uses the daylight factor targets on the reference plane as per Table A.3. The assessment is carried out on a representative day and time during the year, i.e. 21st September @ 12:00 under standard CIE overcast sky conditions.

Method 2: This calculation method uses the illuminance targets on the reference plane as per Table NA.1. The assessment is carried out for each hour over the course of the year (8,760 hours) using a local weather file which accounts for varying sky conditions and sun positions throughout the year.

As outlined in Section 5.1.4 of the standard, the verification of daylight provision can be determined using either an adequate software or on-site measurements. When using a software, *“a representative model of the space is required together with the key parameters (such as any significant nearby obstructions, the assigned surface reflectance values and glazing transmissivity) that are a reasonable representation of those for the actual, completed building. This can be determined using either Method 1 or Method 2.”*

Based on the above criteria, the daylight provision to the proposed development has been assessed using an adequate software (i.e. IES VE), using the Method 2 climate-based approach and targeting the minimum recommended values outlined in Table NA.1 of BS EN 17037-2018+A1-2021. (see section 10.1.1 for table NA.1)

The Method 2 climate-based approach was selected as it is a far more accurate assessment method compared to Method 1. Climate based daylight modelling (CBDM) is more accurate compared to a calculation based on a single day during the year, i.e. Method 1. The amount of daylight varies throughout the year, primarily due to the sun's position, so it is essential the impact of daylight variance is properly considered. CBDM utilises an annual simulation linking location, shading, climate data (including solar intensity and cloud cover) together with the building properties. This provides a complete overview on how the daylight performance varies throughout the year due to changes in these factors.

For completeness, IS EN 17037 non-annex results have been included in Appendix B.

The following sections summarise the requirements for the BS EN 17037-2018+A1-2021 standard.

10.1.1 BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 National Annex

In the UK, EN17037-2018+A1-2021 was adopted to form “BS EN 17037-2018+A1-2021”. However, a “National Annex NA” was included which states:

“The UK committee supports the recommendations for daylight in buildings given in BS EN 17037:2018; however, it is the opinion of the UK committee that the recommendations for daylight provision in a space (see Clause A.2) 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 (for example, dwellings situated in a dense urban area or with tall trees outside), or for existing buildings being refurbished or converted into dwellings. This National Annex therefore provides the UK committee’s guidance on minimum daylight provision in all UK dwellings.”

Whereas IS EN 17037-2018+A1-2021 does not provide different illuminance targets for different space types, the BS EN 17037:2018 National Annex provides target illuminance values for bedrooms, living rooms and kitchens within residential developments as per Table NA.1 below. It is also important to note that as the climate in Ireland is similar to the UK, the targets outlined in the BS EN National Annex could also be applied to dwellings in Ireland.

Table NA.1 — Values of target illuminance for room types in UK dwellings

Room type	Target illuminance E_T (lx)
Bedroom	100
Living room	150
Kitchen	200

The BS National Annex also states:

“Where one room in a UK dwelling serves more than a single purpose, the UK committee recommends that the target illuminance is that for the room type with the highest value – for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lx.”

Therefore, combined LKDs are to be assessed using a 200 lux target illuminance (E_T).

Finally, the BS National Annex also states that:

“It is the opinion of the UK committee that the recommendation in Clause A.2 – that a target illuminance level should be achieved across the entire (i.e. 95 %) fraction of the reference plane within a space – need not be applied to rooms in dwellings.”

Therefore, when assessing the daylight provisions in residential dwellings in accordance with BS EN 17037-2018+A1-2021, only the target illuminance (E_T) will be assessed for Bedrooms, Living Rooms,

Kitchens (or combined LKDs) on over 50% of the floor area over 50% of the available daylight hours.
The minimum target illuminance (E_{TM}) or minimum target daylight factor (D_{TM}) will not be assessed.

10.2 Daylight Model Inputs

The following inputs were used in the study:

BRE Guide (3rd Edition) / IS EN / BS EN 17037-2018+A1-2021

- Weather File: Limerick.epw (15-year average)

Common Inputs to all Standards

- Working Plane Height: 0.85m
- Glazing Light Transmittance: 70%
- Window Frame thickness: 50 mm

The following surface reflectance values are used in the study:

Material Surface	Reflectance
External Wall	0.20
Internal Partition – White Paint	0.80
Roof – Default	0.20
Ground – Default	0.20
Floor – Light Veneers	0.40
Ceiling – White Paint	0.80

10.3 Daylight Results

The following tables summarise the daylight provision results for the tested spaces within the proposed development. These include the Student Accommodation Blocks A, B, and C; Salesians Apartment Blocks B1 and B2; the Stonetown Terrace Apartment Block; Stonetown Terrace Townhouses; O'Callaghan Strand apartment Block; and the Salesian Townhouses. The assessment has been carried out in accordance with the BRE Guide (3rd Edition) and BS EN 17037:2018+A1:2021, using Method 2 – National Annex. To note BS EN 17037:2018+A1:2021 results have been included in Appendix B for completeness.

The objective of the design team is to maximise the number of units which exceed the recommendations. Individual room results can be viewed in Appendix A.

The results are summarised in the following tables:

10.3.1 Student Accommodation - Block A

A compliance rate of 100% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block A within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	105
Total No. LKDs Tested	15
Total No. Studio Tested	6
Total No. Spaces Tested	126

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	105	100%	-	0%
No. LKDs	15	100%	-	0%
No. Studio	6	100%	-	0%
Total No.	126	100%	0	0%

10.3.2 Student Accommodation - Block B

A compliance rate of 99% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in Block B within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	60
Total No. LKDs Tested	12
Total No. Studios Tested	6
Total No. Spaces Tested	78

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	59	99%	1	1%
No. LKDs	12	100%	-	-
No. Studios	6	100%	-	-
Total No.	77	99%	1	1%

10.3.3 Student Accommodation - Block C

A compliance rate of 96% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in Block C within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	87
Total No. LKDs Tested	11
Total No. Studios Tested	6
Total No. Spaces Tested	104

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	83	95%	4	5%
No. LKDs	11	100%	-	-
No. Studios	6	100%	-	-
Total No.	100	96%	4	4%

10.3.4 Salesians Apartment Block B1

A compliance rate of 86% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in Salesians Block 1 within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	107
Total No. LKDs Tested	72
Total No. Spaces Tested	179

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	107	100%	0	0%
No. LKDs	47	65%	25	35%
Total No.	154	86%	14	9%

10.3.5 Salesians Apartment Block B2

A compliance rate of 91% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in Salesians Block 2 within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	109
Total No. LKDs Tested	74
Total No. Spaces Tested	183

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	108	99%	1	1%
No. LKDs	58	78%	16	22%
Total No.	166	91%	14	8%

10.3.6 Salesian Townhouses

A compliance rate of 100% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Salesians Townhouses within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	60
Total No. LKDs Tested	10
Total No. KDs Tested	10
Total No. Living Tested	10
Total No. Spaces Tested	90

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	60	100%	0	0%
No. LKDs	10	100%	0	0%
No. KDs	10	100%	0	0%
No. Living	10	100%	0	0%
Total No.	90	100%	0	0%

10.3.7 Stonetown Terrace Apartment Block

A compliance rate of 100% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in the Stonetown Terrace Apartment Block within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	52
Total No. LKDs Tested	32
Total No. Studios Tested	6
Total No. Spaces Tested	90

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	52	100%	-	-
No. LKDs	32	100%	-	-
No. Studios	6	100%	-	-
Total No.	90	100%	-	-

10.3.8 Stonetown Terrace Townhouses

A compliance rate of 100% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in Stonetown Terrace Townhouses within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	27
Total No. LKDs Tested	9
Total No. KDs Tested	9
Total No. Study Rooms Tested	9
Total No. Spaces Tested	54

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	27	100%	-	0%
No Study rooms	9	100%	-	0%
No. LKDs	9	100%	-	0%
No. KDs	9	100%	-	0%
Total No.	54	100%	0	0%

10.3.9 O'Callaghan Strand Apartments

A compliance rate of 98% is achieved under BRE Guide 3rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex for tested spaces in O'Callaghan Strand Apartments within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	33
Total No. LKDs Tested	21
Total No. Spaces Tested	54

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	32	97%	1	3%
No. LKDs	21	100%	-	-
Total No.	53	98%	1	3%

10.3.10 Total – Student Accommodation

A compliance rate of 98% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for the tested spaces in the Student Accommodation blocks. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	252
Total No. LKDs Tested	38
Total No. Studios Tested	18
Total No. Spaces Tested	308

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	247	98%	5	2%
No. LKDs	38	100%	0	0%
No. Studios	18	100%	0	0%
Total No.	303	98%	5	2%

10.3.11 Total – Residential

A compliance rate of 93% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for the tested spaces in the Residential blocks. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	388
Total No. Study Rooms Tested	9
Total No. LKDs Tested	218
Total No. Studios Tested	6
Total No. KDs Tested	19
Total No. Living Tested	10
Total No. Spaces Tested	650

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	386	99%	2	1%
No. Study Rooms	9	100%	0	0%
No. LKDs	177	81%	41	19%
No. Studios	6	100%	0	0%
No. KDs	19	100%	0	47%
No. Living	10	100%	0	0%
Total No.	607	93%	43	7%

10.3.12 Total - Development

A compliance rate of 95% is achieved under BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 Method 2 National Annex for the tested spaces across the whole development. The daylight provision results are summarised below. When considering the Residential units and the Student Accommodation in isolation, there is a compliance rate of 93% for the Residential units and 98% for the Student Accommodation.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	640
Total No. Study Rooms Tested	9
Total No. LKDs Tested	256
Total No. Studios Tested	24
Total No. KDs Tested	19
Total No. Living Tested	10
Total No. Spaces Tested	958

BRE Guide 3 rd Edition / BS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	633	99%	7	1%
No. Study Rooms	9	100%	0	0%
No. LKDs	215	84%	41	16%
No. Studios	24	100%	0	8%
No. KDs	19	100%	0	0%
No. Living	10	100%	0	0%
Total No.	910	95%	48	5%

10.4 Compensatory Measures

Irish Standards and Design Development

Where daylight is concerned, The Planning Design Standards for Apartments 2025 refers to the Sustainable Residential Development and Compact Settlements Guidelines 2024 Section 5.3.7 (b) Daylight, which states the following:

“(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.”

Furthermore, Section 3.2 of the Urban Development and Building Heights: Guidelines for Planning Authorities December 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.”

Having regard to the statements above, it should be noted that throughout the design process the design team worked hard to optimise the whole development to maximise the daylight within the proposed scheme. The following design optimisation solutions were tested in an attempt to improve daylight to the proposed apartments which included the following: -

- Alterations to layouts.
- Increase Opening Sizes

Design features have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces and are summarised as follows: -

- Percentage of apartments, triplexes or townhouses that are dual aspect (or greater) is 54.7% (128 out of 234)
- The amount of Communal Amenity Space provided for the residential plots is 1,689sqm this is 8.5% more than the recommended minimum of 1,556sqm for the residential plots.
- There is approximately Public Open Space of 7,817sqm to be provided in the proposals. This is over 15% of the site area.
- 78.2% of the residential homes are oversized. (183 out of 234), exceeding the minimum floor area requirements set out in the *Design Standards for Apartments – Guidelines for Planning Authorities (2025)*.



Further to this, design features specific to each dwelling have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces. Please refer to the Compensatory Measures Table in Appendix A for each individual unit mitigation measures where relevant. To note IS EN 17037:2018+A1:2021 results have been included in Appendix B for completeness.

11 Conclusion

The following can be concluded based on the assessments undertaken:

11.1 Shadow Analysis

The shadow analysis illustrates different shadows being cast at key times of the year (March 21st, June 21st and December 21st) for the Existing Situation and the Proposed Scheme. The results from the study are summarised as follows:

Salesian Primary School

Minimal additional shading visible from the proposed development on these buildings during March 0800-1200, June 1200 and December* 1000-1200. No additional shading is observed from the proposed development on these neighbouring properties at any other period.

Clanmaurice Avenue Dwellings

Minimal additional shading visible from the proposed development on these buildings during December* 1200-1400. No additional shading is observed from the proposed development on these neighbouring properties at any other period.

Clanmaurice & Strandville Gardens

Minimal additional shading visible from the proposed development on these buildings during March 1200-1600 and December* 1000-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period.

Lansdowne Hall Apartment Block

Additional shading visible from the proposed development on these buildings during March 1800 and June 1800-2000. No additional shading is observed from the proposed development on these neighbouring properties at any other period.

Stone Town Terrace

Additional shading visible from the proposed development on these buildings during March 1400-1800, June 1800 and December 1200-1600. No additional shading is observed from the proposed development on these neighbouring properties at any other period.

1-22 Fernhill Properties (backing onto North Circular Road)

No additional shading is observed from the proposed development on these neighbouring properties throughout the year.

*Overshadowing is showing in December when the sun is lower in the sky and shadows cast are much longer. Although this is the case, overshadowing is least noticeable during the winter months as there is a lot less sunlight available at this time of year and so the overall impact is vastly reduced.

The potential shading impact is quantified via the “Sunlight to Amenity Spaces” and “Daylight to Existing Buildings” sections of this report.

11.2 Sunlight to Amenity Spaces

As outlined in Section 3.3.17 of the BRE Guide (3rd Edition), for a space to appear adequately sunlit throughout the year, at least half of the garden or amenity area should receive at least 2 hours of sunlight on March 21st. In the case of Existing amenity spaces, if they are already below the 50% threshold then the BRE recommends the results kept to within 80% of the existing situation.

Existing Amenity Spaces

On March 21st, the existing amenity spaces will receive similar levels of sunlight with the proposed development in place when compared to the existing situation. In all cases the results comply with the recommendations in the BRE Guide outlined above. Overall the impact to the existing adjacent properties will be negligible.

Proposed Amenity Spaces

On the 21st March, 89% of the combined proposed communal amenity spaces will receive at least 2 hours of sunlight over their total area. 92% of the combined public amenity areas will receive at least 2 hours of sunlight on the 21st March. The creche amenity space has 100% of its area and the O'Callaghan Strand 91% of its communal roof terrace space above the recommendations of 2 hours of sunlight on the 21st March. Therefore, all proposed amenity spaces comply with the BRE recommendations and exceed the minimum recommended 50% of the spaces to achieve the 2 hours of sunlight on the 21st March. When considered individually, all amenity areas also exceed the minimum recommendations noted in the BRE guidelines and will be quality spaces in terms of sunlight for future occupants of the development.

11.3 Sunlight to Existing Buildings

This study considers existing dwellings sunlight and tests if the Annual Probable Sunlight Hours (APSH) results for the living room windows (existing properties) are greater than 25% annual and 5% winter sunlight or are greater than 0.8 times their former value with the proposed development in place or the reduction in sunlight across the year is less than 4% with the proposed development in place.

When compared to the Existing Scheme, 100% of the tested points (22no.) meet the BRE recommended values. These results highlight that the proposed development will have minimal impact to the sunlight received to these existing neighbouring properties. Overall the impact to the existing adjacent properties sunlight will be negligible.

11.4 Sunlight to Proposed Development

As the sunlight exposure assessment in accordance with BRE Guide 3rd Edition / IS/BS EN 17037:2018+A1-2021 considers the orientation of the rooms the following should be noted from section 3.1.11 of the guide.

"The BS EN 17037 criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met."

Of the 492 no. points tested 96% (475 no.) meet the BRE Guide 3rd Edition / IS/BS EN 17037:2018 sunlight exposure recommendations of greater than 1.5 hours on March 21st. Where windows do not

meet this recommendation, this is predominantly as a result of their orientation, or as a consequence of the impact of balcony projections.

It should be noted that in the development of any apartment type building in particular, achieving in the region of 75% to 80% for this assessment would be considered very high and factors such as site constraints and ultimately orientation play a huge part in the outcome of this assessment. In some instances and particularly a scheme like this where you have apartments on either side of a rectangular block that is constrained by the site orientation, 50% would be a very high percentage achievable, with the apartments on one side not able to meet requirements purely on orientation as noted and the inclusion of balconies within the design scheme (as a requirement).

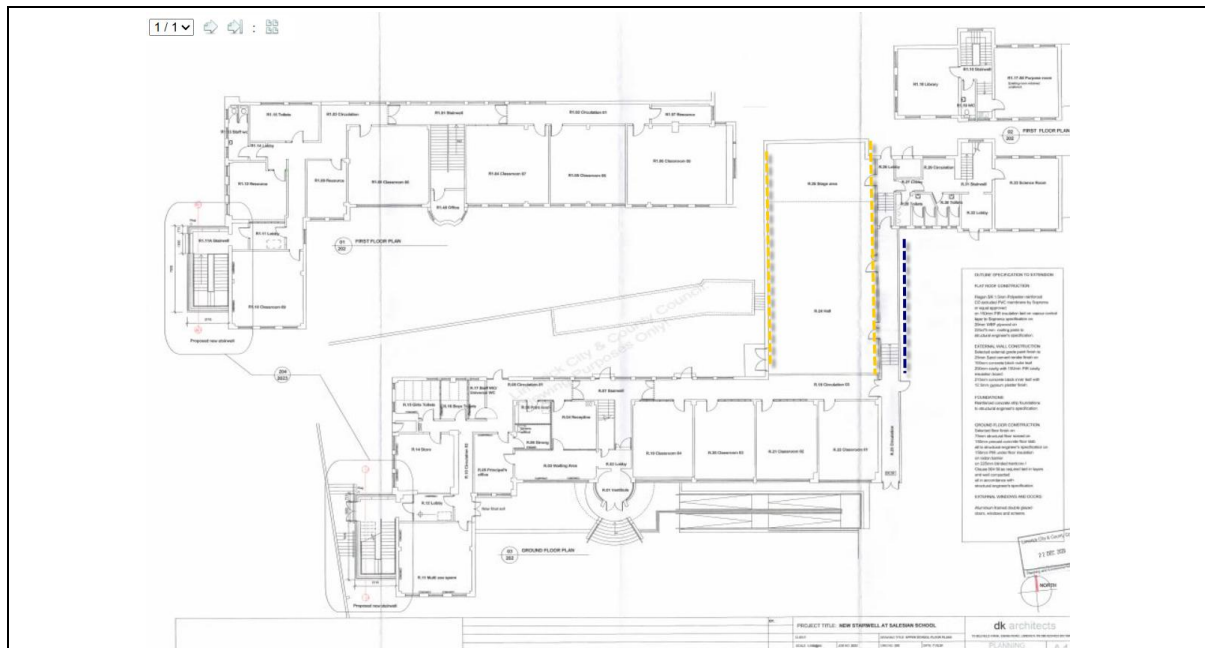
Overall, the sunlight provision results to the proposed development in accordance with BS EN 17037:2018 are considered very good due to the fact that not all living rooms can face south and the inclusion of balconies.

11.5 Daylight to Existing Buildings

This study considers the Proposed Scheme and tests if the VSC results are greater than 27% or not less than 0.8 times the value of the Existing Scheme.

When compared to the Existing Scheme, of the 226 no. points tested, 94% (212 points) have a Proposed VSC value greater than 27% or not less than 0.8 times their former value compared to the Existing Scheme, thus complying with the BRE Guidelines. It should be noted that none of the windows neighbouring the development fall into category three and have a VSC value of less than 15% and less than 0.8 times its former value. All results are positive.

7 windows below recommendation are located on the Salesians Primary School. 3 of these windows are above 26% and only marginally outside the recommended value of 27% (View 1 window 4 & View 2 windows 11 & 24) and therefore adequate daylight should still be received. The remaining 4 are windows to the same hall space within the School (orange dotted line highlighted in the image below) that is also lit from an array of windows on the other side (images of hall space windows below) of the hall and therefore there will be a negligible impact to the school hall space overall. To note the windows at ground level (blue dotted line marked on the floor plan below) have been omitted as these are to a circulation space and are not required to be assessed as noted in the BRE Guide section 2.2.2, "windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed".



Floor Plan of Salesians Primary School



Salesians Primary School Hall West



Salesians Primary School Hall East

5 windows below recommendation are located on the Lansdowne Hall apartments. 2 of the windows are to bedrooms and are above 25% and marginally outside recommendations and therefore there will be a minor adverse impact to these windows. The remaining 3 windows below recommendations have values between 18% and 21% and are located on living spaces with large floor to ceiling glass onto an outdoor balcony area. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible effect to these windows and to the building as a whole.

Finally, the remaining 2 windows below recommendations are located on properties on Stone Town Terrace. Both windows have percentages of between 18% and 25% and are marginally outside the recommended of 80% of the existing value. In addition to this both windows are larger than a conventional window and have floor to ceiling glass in place. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows. Therefore, there will be a negligible impact to these windows and these neighbouring dwellings as a whole as result of the redevelopment of the proposed site.

The redevelopment of the proposed site will therefore overall have a negligible impact to daylight to exiting neighbouring receptors.

It should be noted, with regards to the existing neighbouring properties and in particular the Lansdowne Hall apartments, mitigation measures were taken with regards to the proposed design of the Stonetown Terrace apartment block to protect these existing neighbouring apartments daylight. An extensive design development was conducted considering multiple different massing options after the original design was noted to have a major impact to these dwellings. The mitigation measures included a sculpting of the massing on the upper floors, a reduction to the base floor levels from 11m to 9.5m to bring the overall building height down as well as moving the building away from the existing Lansdowne Hall building by half a meter. These design alterations combined changed the impact from a major adverse impact to a minor adverse impact.

11.6 Daylight to Proposed Development

For the daylight to proposed development assessment, one standard has been analysed: BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition). For completeness, IS EN 17037-2018+A1-2021 (BRE Guide 3rd Edition) non-annex results have been included in Appendix B.

The results under BS EN 17037-2018+A1-2021 National Annex are summarised below.

BRE Guide 3rd Edition / BS EN 17037-2018+A1-2021 National Annex

In the UK, EN 17037-2018+A1-2021 was adopted to form “BS EN 17037-2018+A1-2021”. However, a National Annex was included which states:

“The UK committee supports the recommendations for daylight in buildings given in BS EN 17037:2018; however, it is the opinion of the UK committee that the recommendations for daylight provision in a space (see Clause A.2) 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 (for example, dwellings situated in a dense urban area or with tall trees outside), or for existing buildings being refurbished or converted into dwellings. This National Annex therefore provides the UK committee’s guidance on minimum daylight provision in all UK dwellings.”

There are two methods to assess daylight provision to the interior which are based on target values in either Table A.3 or Table NA.1 of BS EN 17037-2018+A1-2021 which are summarised as follows:

Method 1: This calculation method uses the daylight factor targets on the reference plane as per Table A.3. The assessment is carried out on a representative day and time during the year, i.e. 21st September @ 12:00 under standard CIE overcast sky conditions.

Method 2: This calculation method uses the illuminance targets on the reference plane as per Table NA.1. The assessment is carried out for each hour over the course of the year (8,760 hours) using a local weather file which accounts for varying sky conditions and sun positions throughout the year.

As outlined in Section 5.1.4 of the standard, the verification of daylight provision can be determined using either an adequate software or on-site measurements. When using a software, *“a representative model of the space is required together with the key parameters (such as any significant nearby obstructions, the assigned surface reflectance values and glazing transmissivity) that are a reasonable representation of those for the actual, completed building. This can be determined using either Method 1 or Method 2.”*

Based on the above criteria, the daylight provision to the proposed development has been assessed using an adequate software (i.e. IES VE), using the Method 2 climate-based approach and targeting the minimum recommended values outlined in Table NA.1 of BS EN 17037-2018+A1-2021.

The Method 2 climate-based approach was selected as it is a far more accurate assessment method compared to Method 1. Climate based daylight modelling (CBDM) is more accurate compared to a calculation based on a single day during the year, i.e. Method 1. The amount of daylight varies throughout the year, primarily due to the sun's position, so it is essential the impact of daylight variance is properly considered. CBDM utilises an annual simulation linking location, shading, climate data (including solar intensity and cloud cover) together with the building properties. This provides a complete overview on how the daylight performance varies throughout the year due to changes in these factors.

The BS EN 17037-2018+A1-2021 National Annex provides target illuminance values for bedrooms, living rooms and kitchens within residential developments as per Table NA.1. It is also important to note that as the climate in Ireland is similar to the UK, the targets outlined in the BS EN National Annex could also be applied to dwellings in Ireland.

The BS National Annex also states:

“Where one room in a UK dwelling serves more than a single purpose, the UK committee recommends that the target illuminance is that for the room type with the highest value – for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lx.”

Therefore, combined LKDs were assessed using a 200-lux target illuminance (E_T).

Across the proposed development, 95% of the tested rooms within the proposed development are achieving the daylight provision targets in accordance with Table NA.1 of BS EN 17037-2018+A1-2021 using Method 2. When considering the Residential units and the Student Accommodation in isolation, there is a compliance rate of 93% for the Residential units and 98% for the Student Accommodation.

Where daylight is concerned, The Planning Design Standards for Apartments 2025 refers to the Sustainable Residential Development and Compact Settlements Guidelines 2024 Section 5.3.7 (b) Daylight, which states the following:

“(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.”

Furthermore, Section 3.2 of the Urban Development and Building Heights: Guidelines for Planning Authorities December 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.”

Having regard to the statements above, it should be noted that throughout the design process the design team worked hard to optimise the whole development to maximise the daylight within the proposed scheme. The following design optimisation solutions were tested in an attempt to improve daylight to the proposed apartments which included the following: -

- Alterations to layouts.
- Increase Opening Sizes

Design features have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces and are summarised as follows: -

- Percentage of apartments, triplexes or townhouses that are dual aspect (or greater) is 54.7% (128 out of 234)
- The amount of Communal Amenity Space provided for the residential plots is 1,689sqm this is 8.5% more than the recommended minimum of 1,556sqm for the residential plots.
- There is approximately Public Open Space of 7,817sqm to be provided in the proposals. This is over 15% of the site area.
- 78.2% of the residential homes are oversized (183 out of 234), exceeding the minimum floor area requirements set out in the *Design Standards for Apartments – Guidelines for Planning Authorities (2025)*.

Further to this, design features specific to each dwelling have been incorporated into the development where rooms do not achieve the daylight provision targets in accordance with the standards they were assessed against. These design features again help to balance off and compensate the lower levels of daylight measured in the applicable spaces. Please refer to the Compensatory Measures Table in Appendix A for each individual unit mitigation measures where relevant.

11.7 View Out

The View Out assessment is related to buildings such as offices or schools where seating layouts are typically fixed compared to domestic settings where an occupant can move around the space freely. In their own home occupants can choose to sit near to or even at a window which will inevitably provide the varying layers of a 'View Out' such as the ground, landscape or sky. This ability to choose their position within a domestic setting means they would always have access to a position in the apartment with the minimum requirements of 'View Out'. Therefore, all the properties would meet the minimum requirement as outlined in IS EN 17037-2018+A1-2021 / BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition).

11.8 Glare

As outlined in IS EN 17037-2018+A1-2021 / BS EN 17037-2018+A1-2021 National Annex (BRE Guide 3rd Edition), a Glare assessment is suggested in spaces where the *“expected activities are comparable to*

reading, writing or using display devices and the user is not able to choose freely their position and viewing direction". Given that occupants within a domestic setting are free to move around, on this basis a glare assessment for the proposed development has not been carried out.

11.9 Observations

It is important to note that the recommendations within the BRE Guide (3rd Edition) itself states *"although it gives numerical guidelines these should be interpreted flexibly because natural lighting is only one of many factors in site layout design"*, Although this is true appropriate and reasonable regard has still been taken to the BRE guide.

Whilst the results shown relate to the criteria as laid out in the BRE Guide (3rd Edition), it is important to note that the BRE targets are guidance only and should therefore be used with flexibility and caution when dealing with different types of sites.

In addition, BRE Guide 3rd Edition also notes:

"This report is a comprehensive revision of the 2011 edition of Site layout planning for daylight and sunlight: a guide to good practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."

Taking all of the above information into account and based on the results from each of the assessments undertaken, the proposed development performs well when compared to the recommendations in the BRE Guide 3rd Edition and BS EN 17037-2018+A1-2021 National Annex. With regards to the existing properties there is a negligible impact when considering sunlight and daylight as a result of the proposed development and the proposed development itself performs very well with the same regard.

12 Appendix A – Daylight Provision Results

The tables in the following sections summarise the daylight provision results for the rooms that were assessed in the proposed development. Note, within the tables the code “LKD” equates to combined Living, Kitchen, Dining area.

The results for the following daylight standard are included in each table:

- BRE Guide (3rd Edition) / BS EN 17037-2018+A1-2021 National Annex

Please note, the “Comment” symbol in each of the tables represents the following:

BRE Guide (3rd Edition) / BS EN 17037-2018+A1-2021 National Annex

- ✓ These rooms achieve the target illuminance (E_T) over the minimum floor area requirements, i.e. 100 lux for over 50% of bedroom floor areas, and 200 lux for over 50% of LKD floor areas.
- x These rooms do not achieve the target illuminance (E_T) over the minimum floor area requirements.

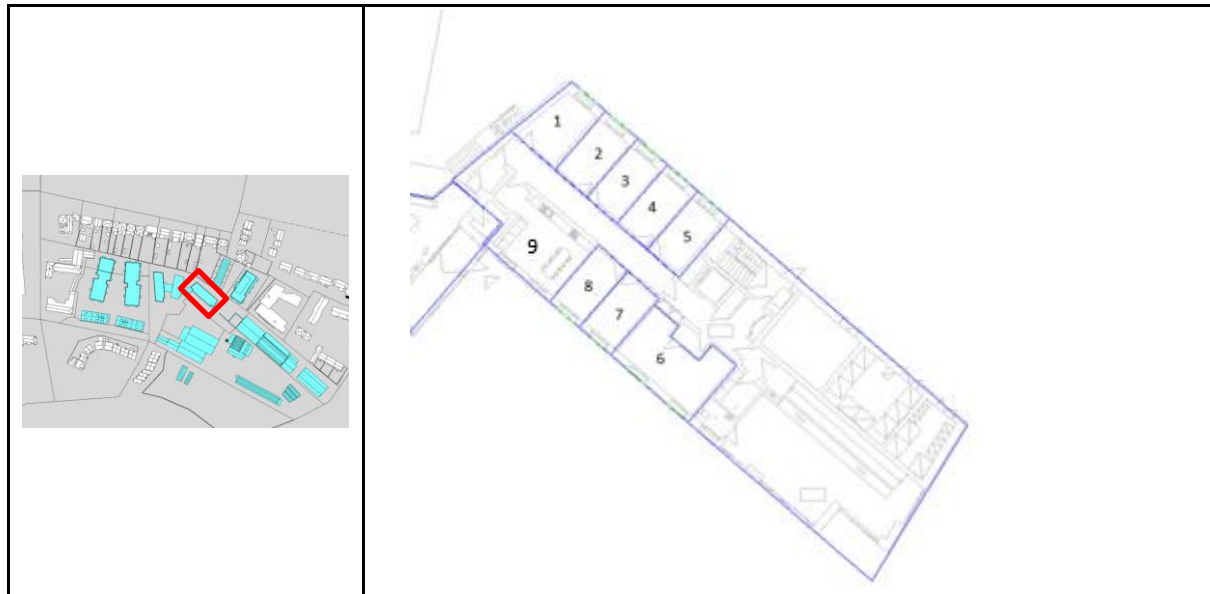
12.1 Student Accommodation Blocks

12.1.1 Block A & B - Level L00



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	LKD	100	✓
2	Bedroom	77	✓
3	Bedroom	82	✓
4	Bedroom	80	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	85	✓
12	LKD	100	✓

12.1.2 Block C - Level L00



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	44	x
2	Bedroom	36	x
3	Bedroom	42	x
4	Bedroom	43	x
5	Bedroom	56	✓
6	Studio	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	99	✓

12.1.3 Block A&B - Level L01



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	LKD	100	✓
2	Bedroom	84	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Studio	83	✓
16	Bedroom	100	✓
17	Bedroom	98	✓
18	Bedroom	100	✓
19	Bedroom	100	✓
20	LKD	99	✓
21	Bedroom	57	✓
22	Bedroom	47	x
23	LKD	100	✓
24	Studio	89	✓
25	Bedroom	86	✓
26	Bedroom	88	✓
27	Bedroom	87	✓

12.1.4 Block C - Level L01



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	83	✓
2	Bedroom	80	✓
3	Bedroom	85	✓
4	Bedroom	78	✓
5	Bedroom	97	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	100	✓
10	Bedroom	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Studio	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓

12.1.5 Block A&B - Level L02



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Studio	66	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓
20	LKD	100	✓
21	Bedroom	60	✓
22	Bedroom	66	✓
23	Bedroom	63	✓
24	Bedroom	75	✓
25	Bedroom	65	✓
26	Bedroom	100	✓
27	Bedroom	100	✓
28	Bedroom	100	✓
29	Studio	95	✓

Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
30	Bedroom	84	✓
31	Bedroom	100	✓
32	Bedroom	100	✓
33	LKD	100	✓

12.1.6 Block C - Level L02



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	98	✓
3	Bedroom	93	✓
4	Bedroom	88	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	100	✓
10	Bedroom	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Studio	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓

12.1.7 Block A&B - Level L03



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Studio	86	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓
20	LKD	100	✓
21	Bedroom	74	✓
22	Bedroom	68	✓
23	Bedroom	51	✓
24	Bedroom	59	✓
25	Bedroom	88	✓
26	Bedroom	100	✓
27	Bedroom	100	✓
28	Bedroom	100	✓
29	Studio	94	✓

Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
30	Bedroom	100	✓
31	Bedroom	100	✓
32	Bedroom	100	✓
33	LKD	100	✓

12.1.8 Block C - Level L03



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	100	✓
10	Bedroom	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Studio	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓

12.1.9 Block A&B - Level L04



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Studio	90	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓
20	LKD	100	✓
21	Bedroom	86	✓
22	Bedroom	80	✓
23	Bedroom	91	✓
24	Bedroom	78	✓
25	Bedroom	60	✓
26	Bedroom	100	✓
27	Bedroom	100	✓
28	Bedroom	100	✓
29	Studio	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
30	Bedroom	96	✓
31	Bedroom	100	✓
32	Bedroom	100	✓
33	LKD	100	✓

12.1.10 Block C - Level L04



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	100	✓
10	Bedroom	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Studio	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓

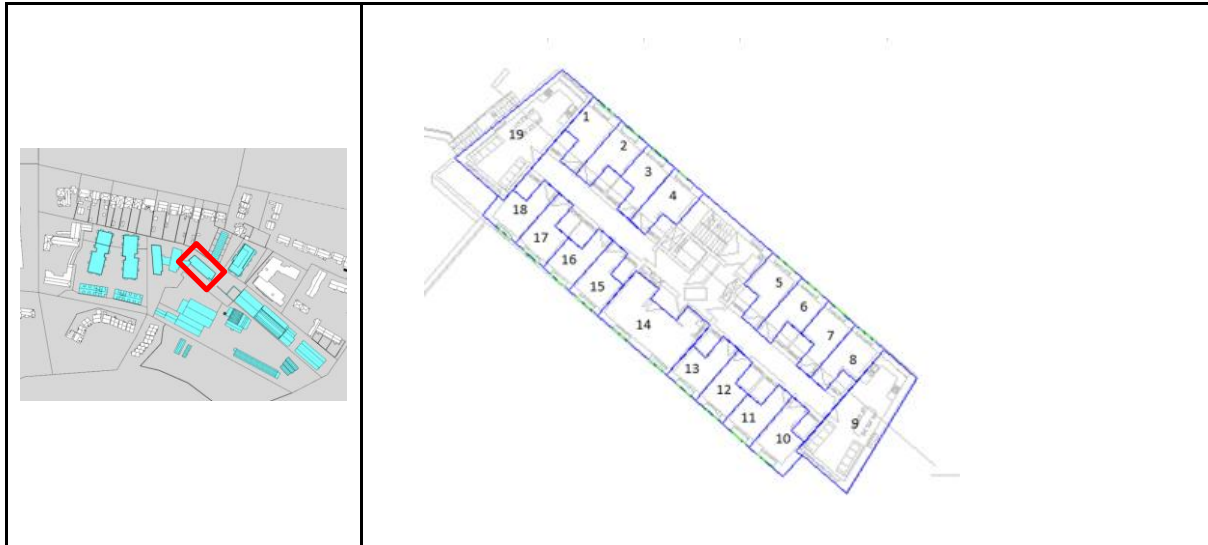
12.1.11 Block A&B - Level L05



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Studio	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓
20	LKD	100	✓
21	Bedroom	98	✓
22	Bedroom	91	✓
23	Bedroom	83	✓
24	Bedroom	75	✓
25	Bedroom	96	✓
26	Bedroom	100	✓
27	Bedroom	100	✓
28	Bedroom	100	✓
29	Studio	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
30	Bedroom	100	✓
31	Bedroom	100	✓
32	Bedroom	100	✓
33	LKD	96	✓

12.1.12 Block C - Level L05



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Bedroom	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	LKD	100	✓
10	Bedroom	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Studio	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓

12.1.13 Block A&B - Level L06



Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
1	Bedroom	100	✓
2	Bedroom	100	✓
3	Bedroom	100	✓
4	Bedroom	100	✓
5	Studio	100	✓
6	Bedroom	100	✓
7	Bedroom	100	✓
8	Bedroom	100	✓
9	Bedroom	100	✓
10	LKD	100	✓
11	Bedroom	100	✓
12	Bedroom	100	✓
13	Bedroom	100	✓
14	Bedroom	100	✓
15	Bedroom	100	✓
16	Bedroom	100	✓
17	Bedroom	100	✓
18	Bedroom	100	✓
19	LKD	100	✓
20	LKD	100	✓
21	Bedroom	100	✓
22	Bedroom	100	✓
23	Bedroom	100	✓
24	Bedroom	97	✓
25	Bedroom	100	✓
26	Bedroom	100	✓
27	Bedroom	100	✓
28	Bedroom	100	✓
29	Studio	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition	
		BS EN 17037:2018	
		Method 2 National Annex	
		Floor Area > E _T (%)	Comment
30	Bedroom	100	✓
31	Bedroom	100	✓
32	Bedroom	100	✓
33	LKD	100	✓

12.2 Salesians Apartment Blocks

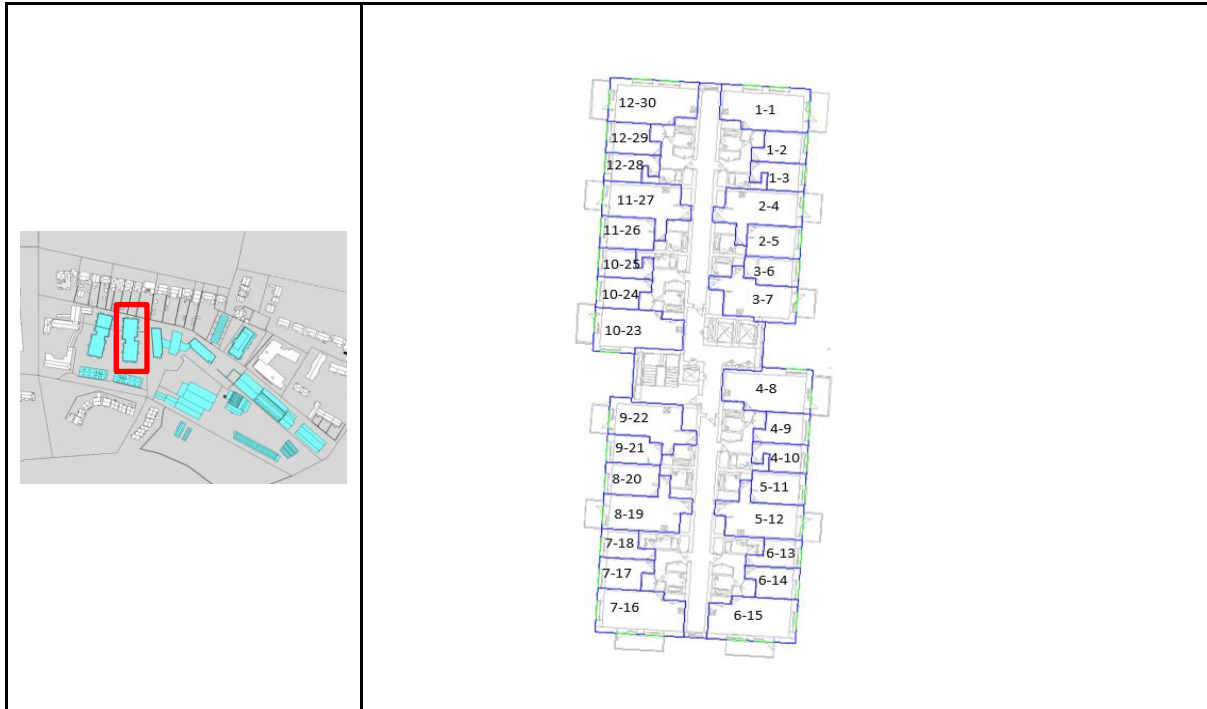
12.2.1 B1 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition	
			BS EN 17037:2018	
			Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	97	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	38	x
4	8	LKD	51	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	62	✓
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	28	x
	20	Bedroom	99	✓
9	21	Bedroom	100	✓
	22	LKD	19	x
10	23	LKD	25	x
	24	Bedroom	100	✓
11	25	Bedroom	100	✓
	26	LKD	9	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition	
			BS EN 17037:2018	
			Method 2 National Annex	
			Floor Area > E _T (%)	Comment
12	27	Bedroom	100	✓
	28	Bedroom	100	✓
	29	LKD	100	✓

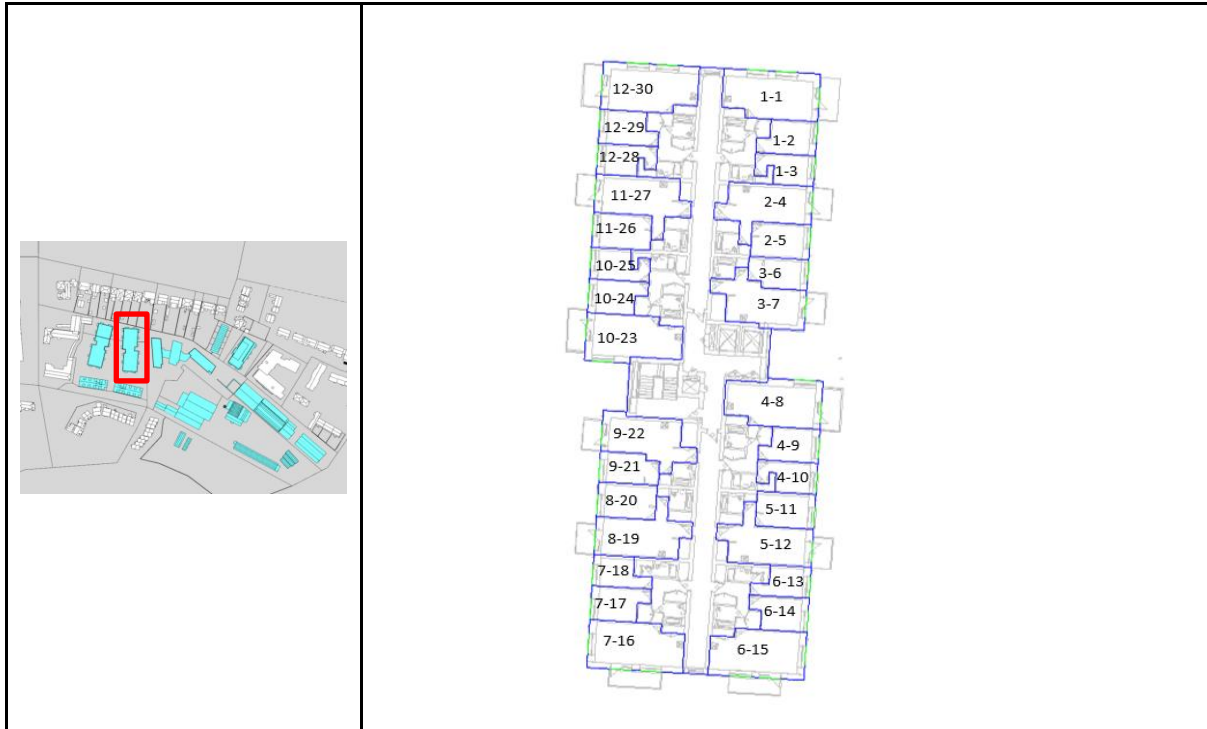
12.2.2 B1 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	93	✓
	5	Bedroom	100	✓
3	6	Bedroom	97	✓
	7	LKD	17	x
4	8	LKD	48	x
	9	Bedroom	97	✓
	10	Bedroom	98	✓
5	11	Bedroom	100	✓
	12	LKD	40	x
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	22	x
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	LKD	12	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
10	23	LKD	46	x
	24	Bedroom	81	✓
	25	Bedroom	93	✓
11	26	Bedroom	62	✓
	27	LKD	2	x
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

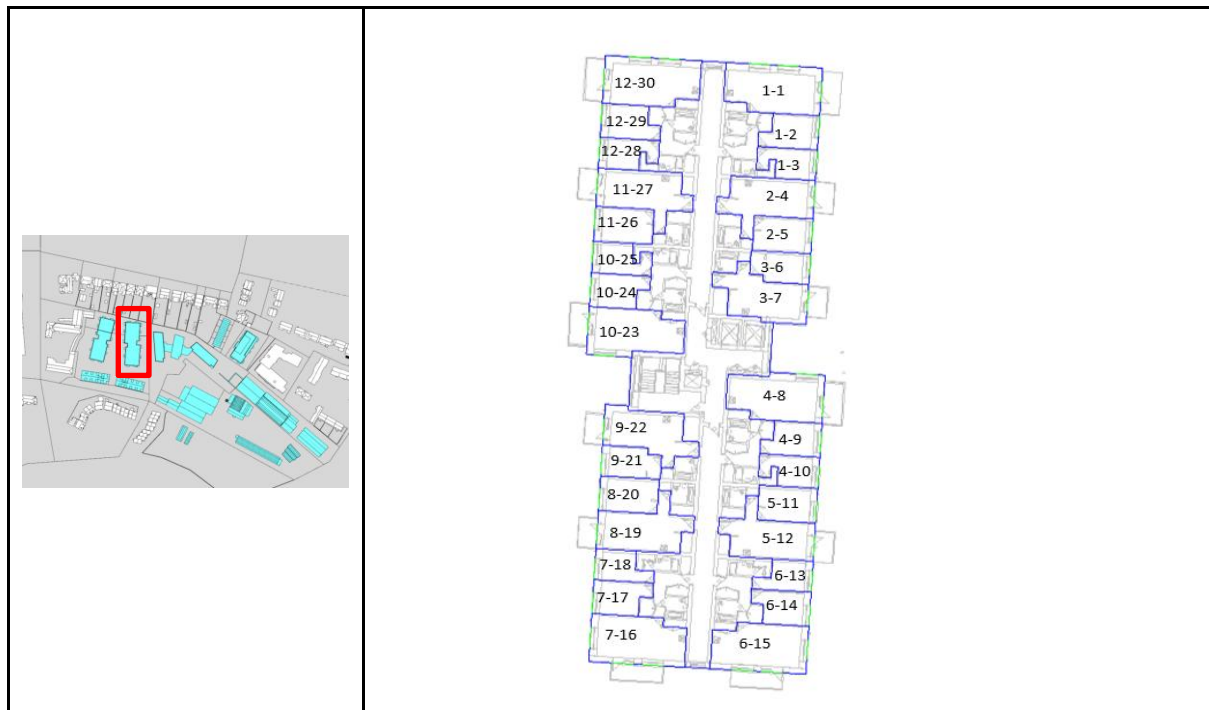
12.2.3 B1 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	98	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	31	X
4	8	LKD	53	✓
	9	Bedroom	100	✓
	10	Bedroom	98	✓
5	11	Bedroom	100	✓
	12	LKD	36	X
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	23	X
	20	Bedroom	100	✓
9	21	Bedroom	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
	22	LKD	13	x
10	23	LKD	46	x
	24	Bedroom	92	✓
	25	Bedroom	93	✓
11	26	Bedroom	58	✓
	27	LKD	8	x
12	28	Bedroom	100	✓
	29	Bedroom	99	✓
	30	LKD	100	✓

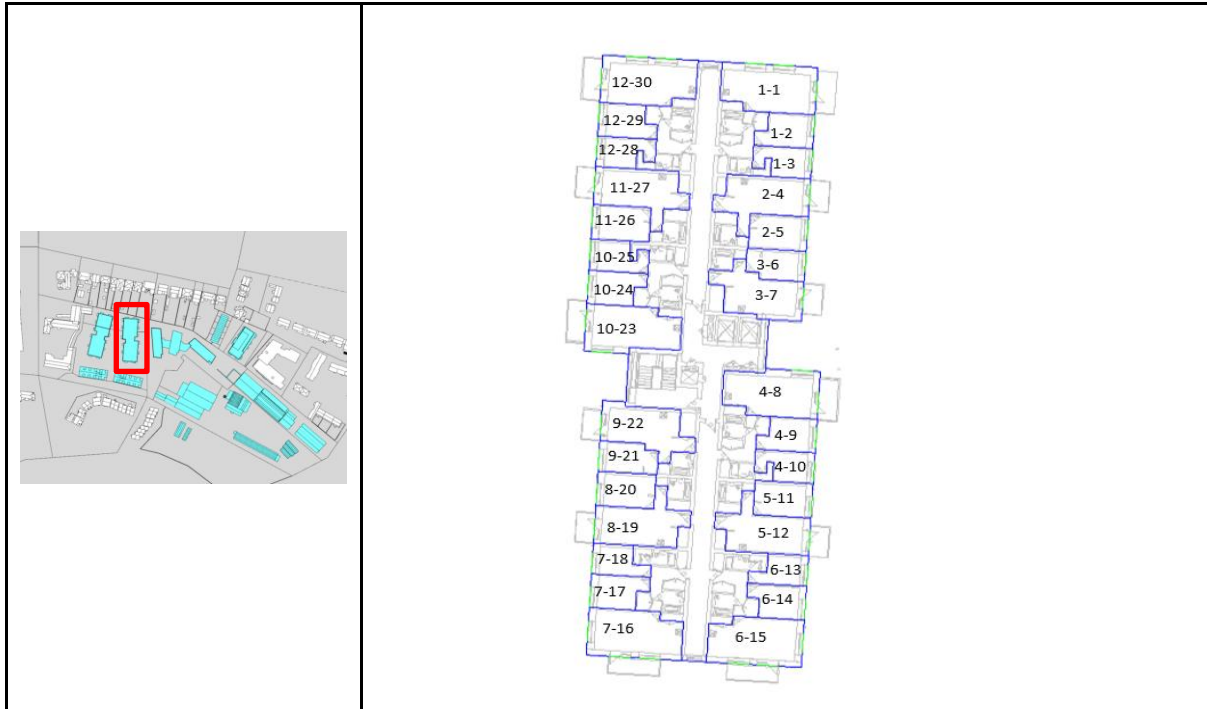
12.2.4 B1 Level L04



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	98	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	35	x
4	8	LKD	51	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	41	x
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	28	x
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	LKD	24	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
10	23	LKD	52	✓
	24	Bedroom	97	✓
	25	Bedroom	98	✓
11	26	Bedroom	87	✓
	27	LKD	14	x
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

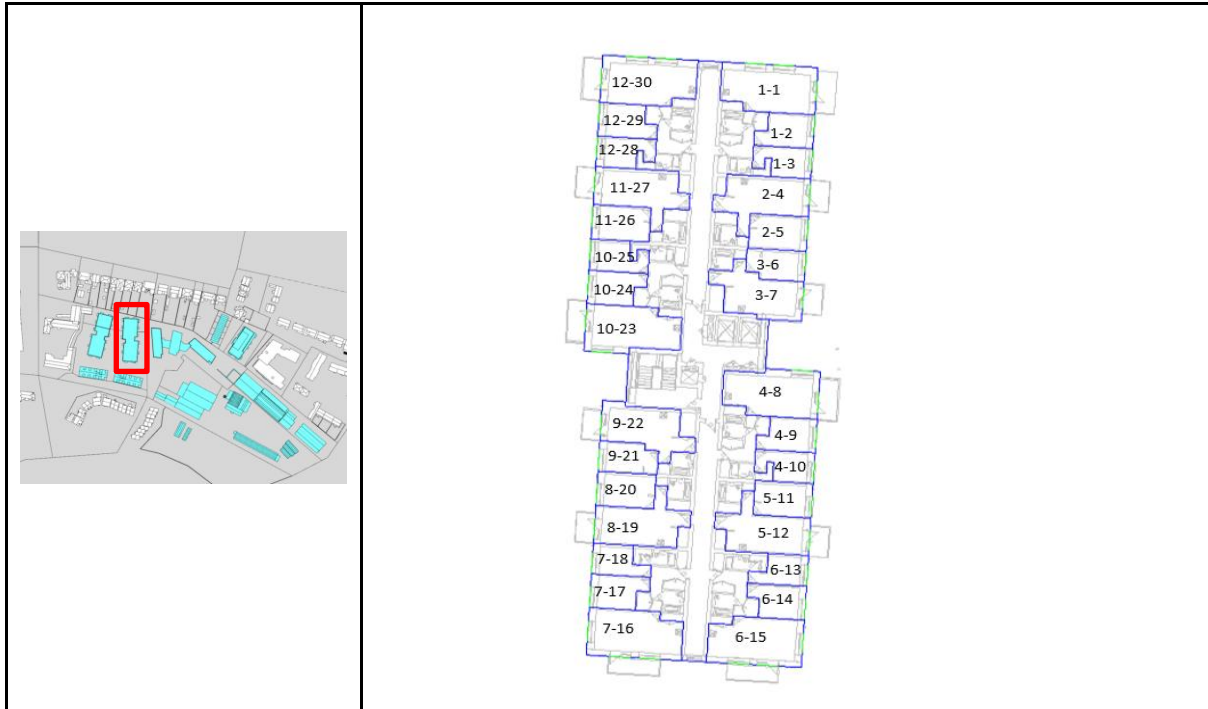
12.2.5 B1 Level L05



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	64	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	71	✓
4	8	LKD	66	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	52	✓
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	39	x
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	LKD	29	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
10	23	LKD	55	✓
	24	Bedroom	100	✓
	25	Bedroom	98	✓
11	26	Bedroom	100	✓
	27	LKD	39	x
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.6 B1 Level L06



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	100	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	100	✓
4	8	LKD	100	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	99	✓
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	57	✓
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	LKD	55	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
10	23	LKD	75	✓
	24	Bedroom	100	✓
	25	Bedroom	100	✓
11	26	Bedroom	100	✓
	27	LKD	51	✓
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.7 B2 Level L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	39	X
	2	Bedroom	100	✓
2	3	Bedroom	100	✓
	4	LKD	95	✓
3	5	Bedroom	100	✓
	6	Bedroom	100	✓
	7	LKD	100	✓
4	8	LKD	100	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	LKD	79	✓
	12	Bedroom	100	✓
6	13	Bedroom	97	✓
	14	LKD	96	✓

12.2.8 B2 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	97	✓
	2	Bedroom	98	✓
	3	Bedroom	100	✓
2	4	LKD	18	x
	5	Bedroom	100	✓
3	6	Bedroom	11	x
	7	LKD	15	x
4	8	LKD	25	x
	9	Bedroom	100	✓
5	10	Bedroom	100	✓
	11	LKD	57	✓
6	12	Bedroom	100	✓
	13	Bedroom	100	✓
	14	LKD	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
7	15	LKD	100	✓
	16	Bedroom	100	✓
	17	Bedroom	100	✓
8	18	LKD	53	✓
	19	Bedroom	100	✓
9	20	Bedroom	100	✓
	21	Bedroom	100	✓
	22	LKD	63	✓
10	23	LKD	48	x
	24	Bedroom	100	✓
11	25	Bedroom	100	✓
	26	LKD	54	✓
12	27	Bedroom	100	✓
	28	Bedroom	99	✓
	29	LKD	100	✓

12.2.9 B2 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	97	✓
	2	Bedroom	100	✓
	3	Bedroom	98	✓
2	4	LKD	3	x
	5	Bedroom	97	✓
3	6	Bedroom	100	✓
	7	Bedroom	86	✓
	8	LKD	38	x
4	9	LKD	16	x
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	51	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	85	✓
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	Bedroom	100	✓
	23	LKD	68	✓
10	24	LKD	48	x
	25	Bedroom	100	✓
11	26	Bedroom	100	✓
	27	LKD	100	✓
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.10 B2 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	97	✓
	2	Bedroom	100	✓
	3	Bedroom	98	✓
2	4	LKD	20	x
	5	Bedroom	96	✓
3	6	Bedroom	100	✓
	7	Bedroom	90	✓
	8	LKD	50	✓
4	9	LKD	20	x
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	52	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	63	✓
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	Bedroom	100	✓
	23	LKD	60	✓
10	24	LKD	44	x
	25	Bedroom	100	✓
11	26	Bedroom	100	✓
	27	LKD	88	✓
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.11 B2 Level L04



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	98	✓
2	4	LKD	27	x
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	Bedroom	94	✓
	8	LKD	42	✓
4	9	LKD	26	x
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	79	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	84	✓
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	Bedroom	100	✓
	23	LKD	80	✓
10	24	LKD	47	x
	25	Bedroom	100	✓
11	26	Bedroom	100	✓
	27	LKD	100	✓
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.12 B2 Level L05



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	98	✓
2	4	LKD	52	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	Bedroom	100	✓
	8	LKD	52	✓
4	9	LKD	53	✓
	10	Bedroom	100	✓
5	11	Bedroom	100	✓
	12	LKD	90	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
6	13	Bedroom	100	✓
	14	Bedroom	100	✓
	15	LKD	100	✓
7	16	LKD	100	✓
	17	Bedroom	100	✓
	18	Bedroom	100	✓
8	19	LKD	93	✓
	20	Bedroom	100	✓
9	21	Bedroom	100	✓
	22	Bedroom	100	✓
	23	LKD	100	✓
10	24	LKD	99	✓
	25	Bedroom	100	✓
11	26	Bedroom	100	✓
	27	LKD	63	✓
12	28	Bedroom	100	✓
	29	Bedroom	100	✓
	30	LKD	100	✓

12.2.13 B2 Level L06



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bedroom	100	✓
	2	Bedroom	100	✓
	3	LKD	88	✓
2	4	LKD	61	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	58	✓
4	8	Bedroom	100	✓
	9	Bedroom	100	✓
	10	LKD	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
5	11	LKD	100	✓
	12	Bedroom	100	✓
	13	Bedroom	100	✓
6	14	LKD	99	✓
	15	Bedroom	100	✓
7	16	Bedroom	100	✓
	17	Bedroom	100	✓
	18	LKD	76	✓
8	19	LKD	100	✓
	20	Bedroom	100	✓

12.3 Stonetown Terrace Apartments & Townhouses

12.3.1 Stonetown Apartments Level L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	100	✓
	5	Bedroom	100	✓
3	6	Bedroom	100	✓
	7	LKD	100	✓
4	8	LKD	100	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
5	11	Bedroom	94	✓
	12	LKD	93	✓
6	13	LKD	79	✓
	14	Bedroom	100	✓

12.3.2 Stonetown Apartments Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	94	✓
	5	Bedroom	100	✓
3	6	LKD	100	✓
	7	Bedroom	100	✓
	8	Bedroom	100	✓
4	9	Bedroom	100	✓
	10	Bedroom	100	✓
	11	LKD	100	✓
5	12	LKD	100	✓
	13	Bedroom	100	✓
	14	Bedroom	100	✓
6	15	Studio	100	✓
7	16	Bedroom	100	✓
	17	LKD	99	✓
8	18	Bedroom	100	✓
	19	Bedroom	100	✓
	20	LKD	100	✓

12.3.3 Stonetown Apartments Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	100	✓
	5	Bedroom	100	✓
3	6	LKD	100	✓
	7	Bedroom	100	✓
	8	Bedroom	100	✓
4	9	Bedroom	100	✓
	10	Bedroom	100	✓
	11	LKD	100	✓
5	12	LKD	100	✓
	13	Bedroom	100	✓
	14	Bedroom	100	✓
6	15	Studio	100	✓
7	16	Bedroom	100	✓
	17	LKD	100	✓
8	18	Bedroom	100	✓
	19	Bedroom	100	✓
	20	LKD	100	✓

12.3.4 Stonetown Apartments Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	LKD	100	✓
	5	Bedroom	100	✓
3	6	LKD	100	✓
	7	Bedroom	100	✓
	8	Bedroom	100	✓
4	9	Bedroom	100	✓
	10	Bedroom	100	✓
	11	LKD	100	✓
5	12	LKD	100	✓
	13	Bedroom	100	✓
	14	Bedroom	100	✓
6	15	Studio	100	✓
7	16	Bedroom	100	✓
	17	LKD	100	✓
8	18	Bedroom	100	✓
	19	Bedroom	100	✓
	20	LKD	100	✓

12.3.5 Stonetown Apartments Level L04



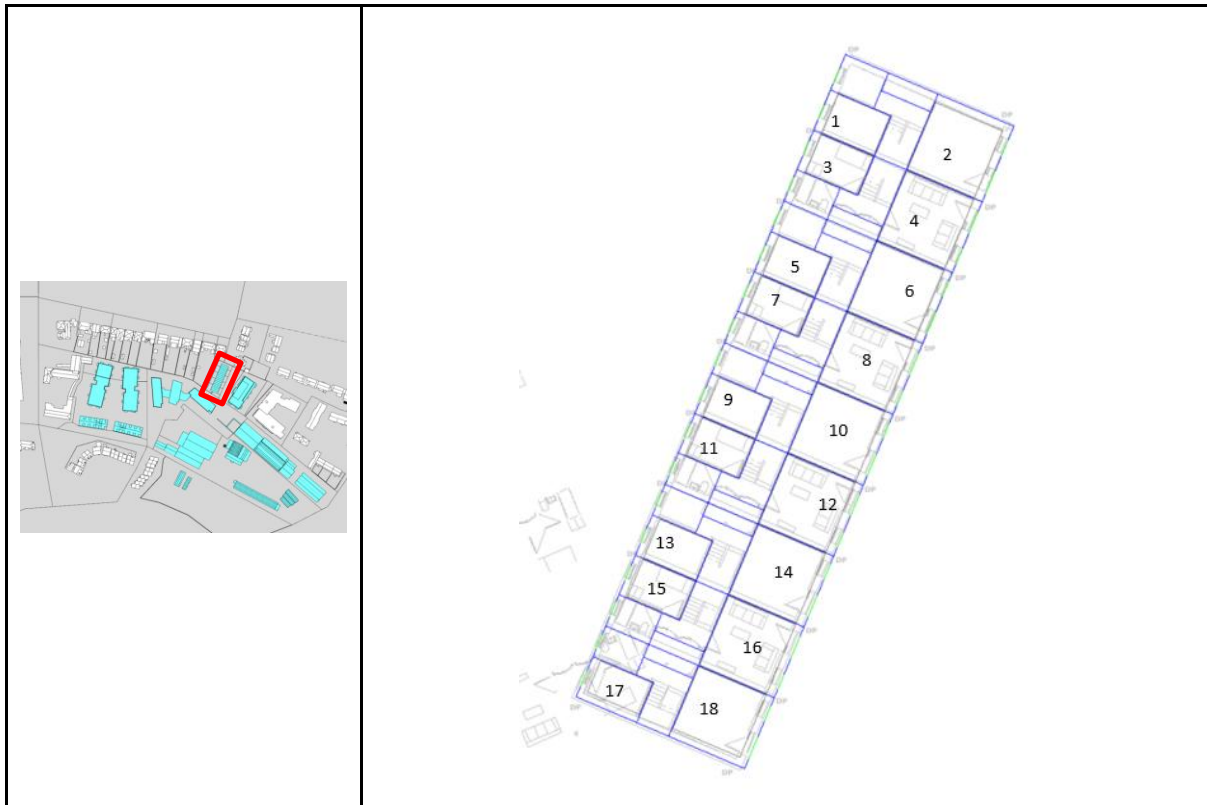
Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bedroom	100	✓
	2	LKD	100	✓
2	3	Studio	100	✓
3	4	Studio	100	✓
4	5	Bedroom	100	✓
	6	LKD	100	✓
	7	LKD	100	✓
5	8	LKD	100	✓
	9	Bedroom	100	✓
	10	Bedroom	100	✓
6	11	Studio	100	✓
7	12	Bedroom	100	✓
	13	LKD	100	✓
8	14	LKD	100	✓
	15	Bedroom	100	✓
9	16	Bedroom	100	✓

12.3.6 Stonetown Terrace Townhouses Level L00



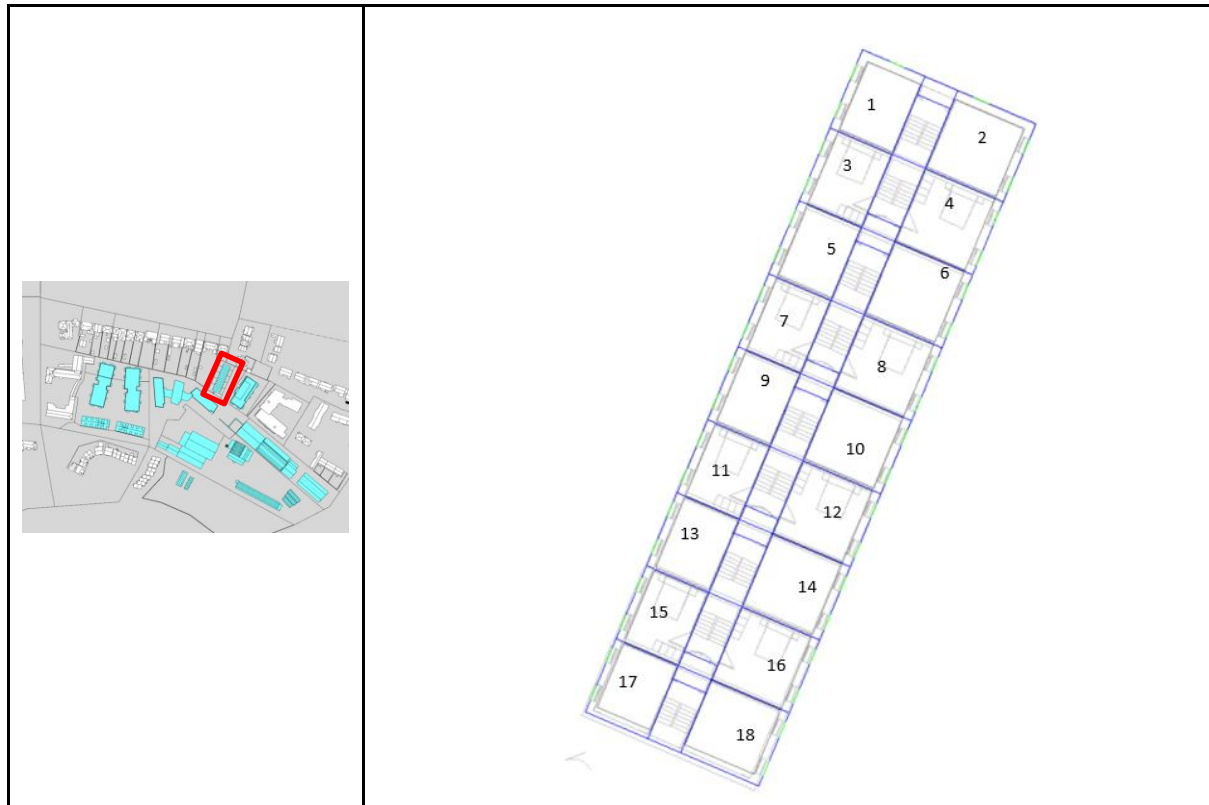
Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	KD	94	✓
	2	Study Room	100	✓
2	3	KD	58	✓
	4	Study Room	100	✓
3	5	KD	52	✓
	6	Study Room	100	✓
4	7	KD	57	✓
	8	Study Room	100	✓
5	9	KD	58	✓
	10	Study Room	100	✓
6	11	KD	58	✓
	12	Study Room	100	✓
7	13	KD	59	✓
	14	Study Room	100	✓
8	15	KD	59	✓
	16	Study Room	100	✓
9	17	KD	68	✓
	18	Study Room	100	✓

12.3.7 Stonetown Terrace Townhouses Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bedroom	79	✓
	2	Living	100	✓
2	3	Bedroom	55	✓
	4	Living	96	✓
3	5	Bedroom	65	✓
	6	Living	100	✓
4	7	Bedroom	50	✓
	8	Living	100	✓
5	9	Bedroom	65	✓
	10	Living	100	✓
6	11	Bedroom	74	✓
	12	Living	100	✓
7	13	Bedroom	65	✓
	14	Living	100	✓
8	15	Bedroom	53	✓
	16	Living	100	✓
9	17	Bedroom	62	✓
	18	Living	100	✓

12.3.8 Stonetown Terrace Townhouses Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bedroom	100	✓
	2	Bedroom	100	✓
2	3	Bedroom	100	✓
	4	Bedroom	100	✓
3	5	Bedroom	100	✓
	6	Bedroom	100	✓
4	7	Bedroom	100	✓
	8	Bedroom	100	✓
5	9	Bedroom	100	✓
	10	Bedroom	100	✓
6	11	Bedroom	100	✓
	12	Bedroom	100	✓
7	13	Bedroom	100	✓
	14	Bedroom	100	✓
8	15	Bedroom	100	✓
	16	Bedroom	100	✓
9	17	Bedroom	100	✓
	18	Bedroom	100	✓

12.4 O'Callaghan Strand Apartments

12.4.1 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	97	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	Bedroom	100	✓
	5	Bedroom	100	✓
	6	LKD	100	✓
3	7	Bedroom	100	✓
	8	Bedroom	100	✓
	9	LKD	100	✓
4	10	Bedroom	100	✓
	11	LKD	57	✓
5	12	Bedroom	100	✓
	13	LKD	74	✓
6	14	Bedroom	100	✓
	15	LKD	63	✓
7	16	LKD	89	✓
	17	Bedroom	32	x
	18	Bedroom	94	✓

12.4.2 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	Bedroom	100	✓
	5	Bedroom	100	✓
	6	LKD	100	✓
3	7	Bedroom	100	✓
	8	Bedroom	100	✓
	9	LKD	100	✓
4	10	Bedroom	100	✓
	11	LKD	83	✓
5	12	Bedroom	100	✓
	13	LKD	82	✓
6	14	Bedroom	100	✓
	15	LKD	85	✓
7	16	LKD	100	✓
	17	Bedroom	66	✓
	18	Bedroom	67	✓

12.4.3 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	LKD	100	✓
	2	Bedroom	100	✓
	3	Bedroom	100	✓
2	4	Bedroom	100	✓
	5	Bedroom	100	✓
	6	LKD	100	✓
3	7	Bedroom	100	✓
	8	Bedroom	100	✓
	9	LKD	100	✓
4	10	Bedroom	100	✓
	11	LKD	80	✓
5	12	Bedroom	100	✓
	13	LKD	89	✓
6	14	Bedroom	100	✓
	15	LKD	94	✓
7	16	LKD	100	✓
	17	Bedroom	97	✓
	18	Bedroom	92	✓

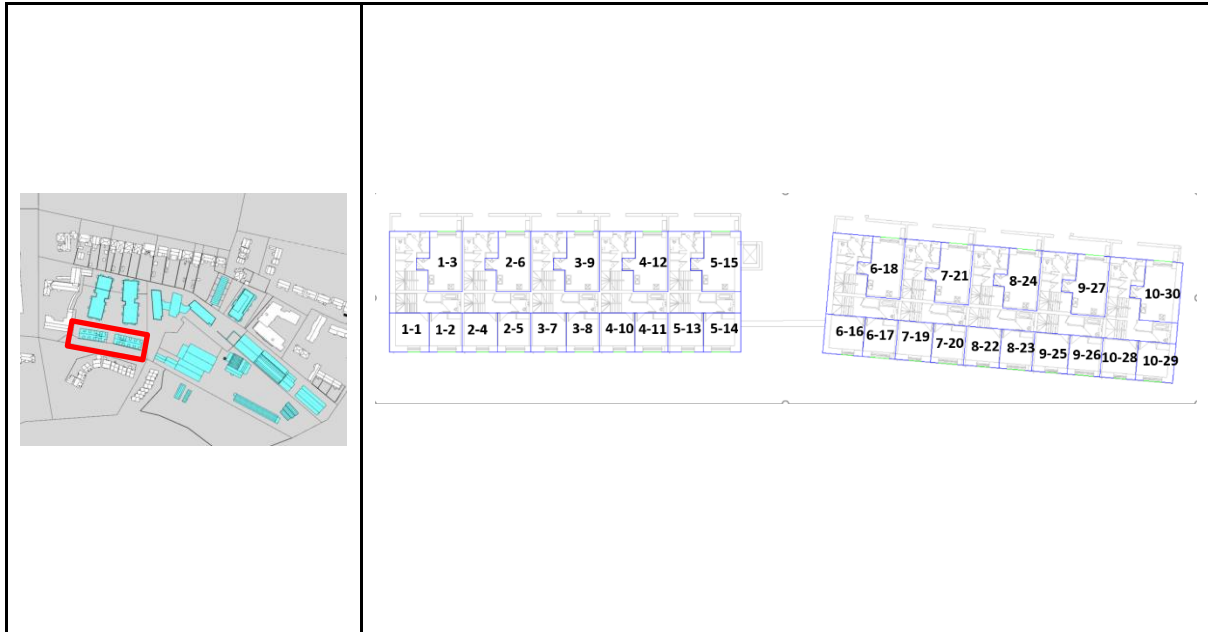
12.5 Salesians Townhouses

12.5.1 Level LB



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	KD	100	✓
2	2	KD	100	✓
3	3	KD	100	✓
4	4	KD	100	✓
5	5	KD	100	✓
6	6	KD	100	✓
7	7	KD	100	✓
8	8	KD	100	✓
9	9	KD	100	✓
10	10	KD	100	✓

12.5.2 Level L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bed	100	✓
	2	Bed	100	✓
	3	LKD	100	✓
2	4	Bed	100	✓
	5	Bed	100	✓
	6	LKD	100	✓
3	7	Bed	100	✓
	8	Bed	100	✓
	9	LKD	100	✓
4	10	Bed	100	✓
	11	Bed	100	✓
	12	LKD	100	✓
5	13	Bed	100	✓
	14	Bed	100	✓
	15	LKD	100	✓
6	16	Bed	100	✓
	17	Bed	100	✓
	18	LKD	100	✓
7	19	Bed	100	✓
	20	Bed	100	✓
	21	LKD	100	✓
8	22	Bed	100	✓
	23	Bed	100	✓
	24	LKD	100	✓
9	25	Bed	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
10	26	Bed	100	✓
	27	LKD	100	✓
	28	Bed	100	✓
	29	Bed	100	✓
	30	LKD	100	✓

12.5.3 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bed	100	✓
	2	Bed	100	✓
	3	Bed	100	✓
	4	LKD	100	✓
2	5	Bed	100	✓
	6	Bed	100	✓
	7	Bed	100	✓
	8	LKD	100	✓
3	9	Bed	100	✓
	10	Bed	100	✓
	11	Bed	100	✓
	12	LKD	100	✓
4	13	Bed	100	✓
	14	Bed	100	✓
	15	Bed	100	✓
	16	LKD	100	✓
5	17	Bed	100	✓
	18	Bed	100	✓
	19	Bed	100	✓
	20	LKD	100	✓
6	21	Bed	100	✓
	22	Bed	100	✓
	23	Bed	100	✓
	24	LKD	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
7	25	Bed	100	✓
	26	Bed	100	✓
	27	Bed	100	✓
	28	LKD	100	✓
8	29	Bed	100	✓
	30	Bed	100	✓
	31	Bed	100	✓
	32	LKD	100	✓
9	33	Bed	100	✓
	34	Bed	100	✓
	35	Bed	100	✓
	36	LKD	100	✓
10	37	Bed	100	✓
	38	Bed	100	✓
	39	Bed	100	✓
	40	LKD	100	✓

12.5.4 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition BS EN 17037:2018 Method 2 National Annex	
			Floor Area > E _T (%)	Comment
1	1	Bed	100	✓
2	2	Bed	100	✓
3	3	Bed	100	✓
4	4	Bed	100	✓
5	5	Bed	100	✓
6	6	Bed	100	✓
7	7	Bed	100	✓
8	8	Bed	100	✓
9	9	Bed	100	✓
10	10	Bed	100	✓

12.6 Compensatory Measures Table for BS EN 17037

Unit	IES Ref	Unit GIA (m²)	Compensatory Measures					
			Unit floor area > minimum standard	Unit floor area ≥ 10% minimum standard	Private amenity area ≥ minimum standard	Unit has direct access to amenity space	Unit overlooks public or communal open space	Floor to ceiling height in excess of 2.5m
Student Accommodation								
L00: SB_C_Bed 1	1	14.59	✓	✓	-	-	✓	✓
L00: SB_C_Bed 2	2	14.59	✓	✓	-	-	✓	✓
L00: SB_C_Bed 3	3	14.59	✓	✓	-	-	✓	✓
L00: SB_C_Bed 4	4	14.59	✓	✓	-	-	✓	✓
L01: SB_B_Bed 2	22	11.21	✓	-	-	-	✓	✓
Apartment B1 L01								
L01: BB_03_LKD	7	54.25	✓	✓	✓	-	✓	✓
L01: BB_08_LKD	19	54.25	✓	✓	✓	-	✓	✓
L01: BB_09_LKD	22	54.25	✓	✓	✓	-	✓	✓
L01: BB_10_LKD	23	54.25	✓	✓	✓	-	✓	✓
L01: BB_11_LKD	26	54.25	✓	✓	✓	-	✓	✓
Apartment B1 L02								
L02: BB_03_LKD	7	54.25	✓	✓	✓	-	✓	✓
L02: BB_04_LKD	8	82.13	✓	✓	✓	-	✓	✓
L02: BB_05_LKD	12	54.25	✓	✓	✓	-	✓	✓
L02: BB_08_LKD	19	54.25	✓	✓	✓	-	✓	✓
L02: BB_09_LKD	22	54.25	✓	✓	✓	-	✓	✓
L02: BB_10_LKD	23	82.13	✓	✓	✓	-	✓	✓
L02: BB_11_LKD	27	54.25	✓	✓	✓	-	✓	✓
Apartment B1 L03								
L03: BB_03_LKD	7	54.2	✓	✓	✓	-	✓	✓
L03: BB_05_LKD	12	54.25	✓	✓	✓	-	✓	✓
L03: BB_08_LKD	19	54.25	✓	✓	✓	-	✓	✓
L03: BB_09_LKD	22	54.25	✓	✓	✓	-	✓	✓
L03: BB_10_LKD	23	82.13	✓	✓	✓	-	✓	✓
L03: BB_11_LKD	27	54.25	✓	✓	✓	-	✓	✓
Apartment B1 L04								
L04: BB_03_LKD	7	54.2	✓	✓	✓	-	✓	✓
L04: BB_05_LKD	12	54.25	✓	✓	✓	-	✓	✓
L04: BB_08_LKD	19	54.25	✓	✓	✓	-	✓	✓
L04: BB_09_LKD	22	54.25	✓	✓	✓	-	✓	✓
L04: BB_11_LKD	27	54.25	✓	✓	✓	-	✓	✓
Apartment B1 L05								
L05: BB_08_LKD	19	54.25	✓	✓	✓	-	✓	✓
L05: BB_09_LKD	22	54.25	✓	✓	✓	-	✓	✓
L05: BB_11_LKD	27	54.25	✓	✓	✓	-	✓	✓
Apartment B2 L00								
L00: B2_01_LKD	1	54.25	✓	✓	✓	✓	✓	✓
Apartment B2 L01								
L01: B2_02_LKD	4	54.25	✓	✓	✓	-	✓	✓
L01: B2_03_BED	6	54.25	✓	✓	✓	-	✓	✓
L01: B2_03_LKD	7	54.25	✓	✓	✓	-	✓	✓
L01: B2_04_LKD	8	54.25	✓	✓	✓	-	✓	✓
L01: B2_10_LKD	23	54.25	✓	✓	✓	-	✓	✓

Unit	IES Ref	Unit GIA (m²)	Compensatory Measures					
			Unit floor area > minimum standard	Unit floor area ≥ 10% minimum standard	Private amenity area ≥ minimum standard	Unit has direct access to amenity space	Unit overlooks public or communal open space	Floor to ceiling height in excess of 2.5m
Apartment B2 L02								
L02: B2_02_LKD	4	54.25	✓	✓	✓	-	✓	✓
L02: B2_03_LKD	8	54.25	✓	✓	✓	-	✓	✓
L02: B2_04_LKD	9	54.25	✓	✓	✓	-	✓	✓
L02: B2_10_LKD	24	54.25	✓	✓	✓	-	✓	✓
Apartment B2 L03								
L03: B2_02_LKD	4	54.25	✓	✓	✓	-	✓	✓
L03: B2_04_LKD	9	54.25	✓	✓	✓	-	✓	✓
L03: B2_10_LKD	24	54.25	✓	✓	✓	-	✓	✓
Apartment B2 L04								
L04: B2_02_LKD	4	54.25	✓	✓	✓	-	✓	✓
L04: B2_03_LKD	8	54.25	✓	✓	✓	-	✓	✓
L04: B2_04_LKD	9	54.25	✓	✓	✓	-	✓	✓
L04: B2_10_LKD	24	54.25	✓	✓	✓	-	✓	✓
Stonetown Duplex L00								
L00: 3B_01_KD	1	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_02_KD	3	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_03_KD	5	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_04_KD	7	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_05_KD	9	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_06_KD	11	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_07_KD	13	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_08_KD	15	27.16	✓	✓	✓	✓	✓	✓
L00: 3B_09_KD	17	27.16	✓	✓	✓	✓	✓	✓
O'Callaghan Strand L01								
L01: OCS_07_Bed 01	17	90	✓	✓	✓	-	✓	✓

13 Appendix B – BRE Guide 3rd Edition / IS EN 17037-2018+A1 2021

13.1 Standard Requirements - IS EN 17037-2018+A1-2021

As outlined in Section 5.1.2 of the IS EN 17037-2018+A1-2021 standard:

“A space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours. In addition, for spaces with vertical or inclined daylight openings, a minimum target illuminance level is also to be achieved across the reference plane”.

Annex A of IS EN 17037-2018+A1-2021 gives three levels of recommendation for the assessment of daylight provision in interior spaces which are summarised as follows:

“The three levels are: minimum, medium and high, and the minimum recommendation should be provided.”

It is important to note that IS EN 17037-2018+A1-2021 does not provide different illuminance targets for different space types. Therefore, in the case of residential developments; bedrooms, living rooms, kitchens and combined LKDs all have the same daylight provision targets.

Table A.1 of IS EN 17037-2018+A1-2021 (included below) provides recommendations for daylight provision by daylight openings in vertical and inclined surfaces. Note, Table A.2 provides similar recommendations for daylight openings in horizontal surfaces, e.g. rooflights. As there are no rooflights in the proposed development, the recommendations in Table A.2 are not followed.

To achieve the minimum level of daylight provision for vertical and inclined openings as per Table A.1, the following must be achieved:

- A target illuminance (E_T) of 300 lux must be achieved on over 50% of the floor area for over 50% of the available daylight hours, and
- A minimum target illuminance (E_{TM}) of 100 lux must be achieved on over 95% of the floor area for over 50% of the available daylight hours.
- Both targets above must be satisfied for a space to be deemed compliant with the requirements.

Table A.1 — Recommendations of daylight provision by daylight openings in vertical and inclined surface

Level of recommendation for vertical and inclined daylight opening	Target illuminance E_T lx	Fraction of space for target level $F_{plane,\%}$	Minimum target illuminance E_{TM} lx	Fraction of space for minimum target level $F_{plane,\%}$	Fraction of daylight hours $F_{time,\%}$
Minimum	300	50 %	100	95 %	50 %
Medium	500	50 %	300	95 %	50 %
High	750	50 %	500	95 %	50 %
NOTE Table A.3 gives target daylight factor (D_T) and minimum target daylight factor (D_{TM}) corresponding to target illuminance level and minimum target illuminance, respectively, for the CEN capital cities.					

The recommendations in Table A.1 can also be expressed in terms of a daylight factor “D”. Table A.3 provides the corresponding daylight factor (D) relative to a recommended target illuminance E_T (lx) and target minimum illuminance E_{TM} (lx) depending on the location for daylight openings in vertical and inclined surfaces. Note, Table A.4 provides similar target values for openings in horizontal surfaces, e.g. rooflights. As there are no rooflights in the proposed development, the recommendations in Table A.4 are not followed.

The extract from Table A.3 below is for Dublin with the daylight factor targets highlighted, i.e. to achieve the target illuminance (E_T) of 300 lux outlined in Table A.1, an equivalent target daylight factor is 2.0%. Furthermore, to achieve the minimum target illuminance (E_{TM}) of 100 lux outlined in Table A.1, an equivalent target daylight factor is 0.7%.

Table A.3 — Values of D for daylight openings to exceed an illuminance level of 100, 300, 500 or 750 lx for a fraction of daylight hours $F_{time, \%} = 50 \%$ for 33 capitals of CEN national members

Nation	Capital ^a	Geographical latitude φ [°]	Median External Diffuse Illuminance $E_{V,d,med}$	D to exceed 100 lx	D to exceed 300 lx	D to exceed 500 lx	D to exceed 750 lx
Ireland	Dublin	53,43	14 900	0,7 %	2,0 %	3,4 %	5,0 %

Therefore, to achieve the minimum level of daylight provision for vertical and inclined openings as per Table A.3, the following must be achieved:

- A target daylight factor (D_T) of 2.0% must be achieved on over 50% of the floor area for over 50% of the available daylight hours, and
- A minimum target daylight factor (D_{TM}) of 0.7% must be achieved on over 95% of the floor area for over 50% of the available daylight hours.
- Both targets above must be satisfied for a space to be deemed compliant with the requirements.

There are two methods to assess daylight provision to the interior which are based on target values in either Table A.1 or Table A.3 which are summarised as follows:

Method 1: This calculation method uses the daylight factor targets on the reference plane as per Table A.3. The assessment is carried out on a representative day and time during the year, i.e. 21st September @ 12:00 under standard CIE overcast sky conditions.

Method 2: This calculation method uses the illuminance targets on the reference plane as per Table A.1. The assessment is carried out for each hour over the course of the year (8,760 hours) using a local weather file which accounts for varying sky conditions and sun positions throughout the year.

As outlined in Section 5.1.4, the verification of daylight provision can be determined using either an adequate software or on-site measurements. When using a software, *“a representative model of the space is required together with the key parameters (such as any significant nearby obstructions, the assigned surface reflectance values and glazing transmissivity) that are a reasonable representation of those for the actual, completed building. This can be determined using either Method 1 or Method 2.”*

Based on the above criteria, the daylight provision to the proposed development has been assessed using an adequate software (i.e. IES VE), using the Method 2 climate-based approach and targeting the minimum recommended values outlined in Table A.1 of IS EN 17037-2018+A1-2021.

The Method 2 climate-based approach was selected as it is a far more accurate assessment method compared to Method 1. Climate based daylight modelling (CBDM) is more accurate compared to a calculation based on a single day during the year, i.e. Method 1. The amount of daylight varies throughout the year, primarily due to the sun's position, so it is essential the impact of daylight variance is properly considered. CBDM utilises an annual simulation linking location, shading, climate data (including solar intensity and cloud cover) together with the building properties. This provides a complete overview on how the daylight performance varies throughout the year due to changes in these factors.

13.2 Daylight Provision Results

The tables in the following section summarise the daylight provision results for the rooms that were assessed in the proposed development. Note, within the tables the code "LKD" equates to combined Living, Kitchen, Dining area.

The results for the following daylight standard are included in each table:

- BRE Guide (3rd Edition) / IS EN 17037-2018+A1-2021

Please note, the "Comment" symbol in each of the tables represents the following:

BRE Guide (3rd Edition) / IS EN 17037-2018+A1-2021

- ✓ These rooms achieve both the target illuminance (E_T) and minimum target illuminance (E_{TM}) over the minimum floor area requirements, i.e. 300 lux for over 50% of their floor area (E_T) and 100 lux for over 95% of their floor area (E_{TM}).
- x These rooms do not achieve both the target illuminance (E_T) and minimum target illuminance (E_{TM}) over the minimum floor area requirements.

13.3 Student Accommodation Blocks

13.3.1 Block A & B - Level L00



Ref.	Room Activity	BRE Guide 3 rd Edition		
		IS EN 17037:2018+A1-2021		
		Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	LKD	57	100	✓
2	Bedroom	25	77	x
3	Bedroom	23	82	x
4	Bedroom	34	80	x
5	Bedroom	40	100	x
6	Bedroom	37	100	x
7	Bedroom	57	100	✓
8	Bedroom	63	100	✓
9	Bedroom	92	100	✓
10	LKD	100	100	✓
11	Bedroom	17	85	✓
12	LKD	99	100	✓

13.3.2 Block C - Level L00



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	11	44	x
2	Bedroom	14	36	x
3	Bedroom	15	42	x
4	Bedroom	16	43	x
5	Bedroom	30	56	x
6	Studio	100	100	✓
7	Bedroom	100	100	✓
8	Bedroom	84	100	✓
9	LKD	90	100	✓

13.3.3 Block A&B - Level L01



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	LKD	93	100	✓
2	Bedroom	34	84	x
3	Bedroom	37	100	x
4	Bedroom	34	100	x
5	Bedroom	71	100	✓
6	Bedroom	43	100	x
7	Bedroom	97	100	✓
8	Bedroom	100	100	✓
9	Bedroom	97	100	✓
10	LKD	100	100	✓
11	Bedroom	82	100	✓
12	Bedroom	63	100	✓
13	Bedroom	40	100	x
14	Bedroom	52	100	✓
15	Studio	22	100	x
16	Bedroom	45	100	x
17	Bedroom	35	98	x
18	Bedroom	81	100	✓
19	Bedroom	21	100	x
20	LKD	84	100	✓
21	Bedroom	22	57	x
22	Bedroom	20	47	x
23	LKD	100	100	✓
24	Studio	68	100	✓
25	Bedroom	45	86	x
26	Bedroom	44	88	x
27	Bedroom	51	87	x

13.3.4 Block C - Level L01



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	48	83	x
2	Bedroom	46	80	x
3	Bedroom	43	85	x
4	Bedroom	36	78	x
5	Bedroom	43	97	x
6	Bedroom	58	100	✓
7	Bedroom	64	100	✓
8	Bedroom	58	100	✓
9	LKD	100	100	✓
10	Bedroom	94	100	✓
11	Bedroom	96	100	✓
12	Bedroom	87	100	✓
13	Bedroom	92	100	✓
14	Studio	100	100	✓
15	Bedroom	81	100	✓
16	Bedroom	98	100	✓
17	Bedroom	76	100	✓
18	Bedroom	100	100	✓
19	LKD	98	100	✓

13.3.5 Block A&B - Level L02



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	29	100	x
2	Bedroom	82	100	✓
3	Bedroom	52	100	✓
4	Bedroom	30	100	x
5	Studio	17	100	x
6	Bedroom	34	100	x
7	Bedroom	40	100	x
8	Bedroom	100	100	✓
9	Bedroom	85	100	✓
10	LKD	100	100	✓
11	Bedroom	97	100	✓
12	Bedroom	100	100	✓
13	Bedroom	100	100	✓
14	Bedroom	78	100	✓
15	Bedroom	77	100	✓
16	Bedroom	42	100	x
17	Bedroom	53	100	✓
18	Bedroom	86	100	✓
19	LKD	100	100	✓
20	LKD	100	100	x
21	Bedroom	32	60	x
22	Bedroom	21	66	x
23	Bedroom	17	63	x
24	Bedroom	25	75	x
25	Bedroom	14	65	x
26	Bedroom	82	100	✓
27	Bedroom	82	100	✓
28	Bedroom	79	100	✓
29	Studio	75	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
30	Bedroom	63	84	x
31	Bedroom	66	100	✓
32	Bedroom	71	100	✓
33	LKD	100	100	✓

13.3.6 Block C - Level L02



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	71	100	✓
2	Bedroom	69	98	✓
3	Bedroom	79	93	x
4	Bedroom	57	88	x
5	Bedroom	44	100	x
6	Bedroom	73	100	✓
7	Bedroom	84	100	✓
8	Bedroom	76	100	✓
9	LKD	100	100	✓
10	Bedroom	86	100	✓
11	Bedroom	95	100	✓
12	Bedroom	82	100	✓
13	Bedroom	92	100	✓
14	Studio	98	100	✓
15	Bedroom	81	100	✓
16	Bedroom	100	100	✓
17	Bedroom	76	100	✓
18	Bedroom	84	100	✓
19	LKD	100	100	✓

13.3.7 Block A&B - Level L03



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	36	100	x
2	Bedroom	100	100	✓
3	Bedroom	79	100	✓
4	Bedroom	53	100	✓
5	Studio	55	100	✓
6	Bedroom	40	100	x
7	Bedroom	42	100	x
8	Bedroom	100	100	✓
9	Bedroom	100	100	✓
10	LKD	100	100	✓
11	Bedroom	89	100	✓
12	Bedroom	98	100	✓
13	Bedroom	100	100	✓
14	Bedroom	69	100	✓
15	Bedroom	77	100	✓
16	Bedroom	93	100	✓
17	Bedroom	100	100	✓
18	Bedroom	100	100	✓
19	LKD	100	100	✓
20	LKD	100	100	✓
21	Bedroom	26	74	x
22	Bedroom	24	68	x
23	Bedroom	13	51	x
24	Bedroom	17	59	x
25	Bedroom	12	88	x
26	Bedroom	72	100	✓
27	Bedroom	86	100	✓
28	Bedroom	73	100	✓
29	Studio	71	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
30	Bedroom	77	100	✓
31	Bedroom	81	100	✓
32	Bedroom	79	100	✓
33	LKD	100	100	✓

13.3.8 Block C - Level L03



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	100	100	✓
2	Bedroom	89	100	✓
3	Bedroom	86	100	✓
4	Bedroom	79	100	✓
5	Bedroom	71	100	✓
6	Bedroom	81	100	✓
7	Bedroom	93	100	✓
8	Bedroom	81	100	✓
9	LKD	100	100	✓
10	Bedroom	91	100	✓
11	Bedroom	100	100	✓
12	Bedroom	92	100	✓
13	Bedroom	91	100	✓
14	Studio	100	100	✓
15	Bedroom	82	100	✓
16	Bedroom	97	100	✓
17	Bedroom	79	100	✓
18	Bedroom	85	100	✓
19	LKD	100	100	✓

13.3.9 Block A&B - Level L04



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	100	100	✓
2	Bedroom	100	100	✓
3	Bedroom	81	100	✓
4	Bedroom	72	100	✓
5	Studio	66	100	✓
6	Bedroom	67	100	✓
7	Bedroom	49	100	x
8	Bedroom	100	100	✓
9	Bedroom	100	100	✓
10	LKD	100	100	✓
11	Bedroom	98	100	✓
12	Bedroom	100	100	✓
13	Bedroom	87	100	✓
14	Bedroom	100	100	✓
15	Bedroom	79	100	✓
16	Bedroom	78	100	✓
17	Bedroom	82	100	✓
18	Bedroom	79	100	✓
19	LKD	100	100	✓
20	LKD	100	100	✓
21	Bedroom	52	86	x
22	Bedroom	46	80	x
23	Bedroom	29	91	x
24	Bedroom	32	78	x
25	Bedroom	28	60	x
26	Bedroom	81	100	✓
27	Bedroom	93	100	✓
28	Bedroom	73	100	✓
29	Studio	96	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
30	Bedroom	73	96	✓
31	Bedroom	84	100	✓
32	Bedroom	91	100	✓
33	LKD	97	98	✓

13.3.10 Block C - Level L04



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	100	100	✓
2	Bedroom	80	100	✓
3	Bedroom	88	100	✓
4	Bedroom	88	100	✓
5	Bedroom	77	100	✓
6	Bedroom	81	100	✓
7	Bedroom	93	100	✓
8	Bedroom	79	100	✓
9	LKD	100	100	✓
10	Bedroom	89	100	✓
11	Bedroom	100	100	✓
12	Bedroom	89	100	✓
13	Bedroom	89	100	✓
14	Studio	100	100	✓
15	Bedroom	78	100	✓
16	Bedroom	89	100	✓
17	Bedroom	79	100	✓
18	Bedroom	87	100	✓
19	LKD	100	100	✓

13.3.11 Block A&B - Level L05



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	85	100	✓
2	Bedroom	100	100	✓
3	Bedroom	85	100	✓
4	Bedroom	86	100	✓
5	Studio	88	100	✓
6	Bedroom	87	100	✓
7	Bedroom	82	100	✓
8	Bedroom	84	100	✓
9	Bedroom	100	100	✓
10	LKD	100	100	✓
11	Bedroom	95	100	✓
12	Bedroom	100	100	✓
13	Bedroom	97	100	✓
14	Bedroom	100	100	✓
15	Bedroom	87	100	✓
16	Bedroom	86	100	✓
17	Bedroom	87	100	✓
18	Bedroom	86	100	✓
19	LKD	100	100	✓
20	LKD	100	100	✓
21	Bedroom	53	98	✓
22	Bedroom	56	91	x
23	Bedroom	51	83	x
24	Bedroom	47	75	x
25	Bedroom	48	96	x
26	Bedroom	85	100	✓
27	Bedroom	87	100	✓
28	Bedroom	86	100	✓
29	Studio	97	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
30	Bedroom	81	100	✓
31	Bedroom	96	100	✓
32	Bedroom	100	100	✓
33	LKD	78	98	✓

13.3.12 Block C - Level L05



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	82	100	✓
2	Bedroom	85	100	✓
3	Bedroom	84	100	✓
4	Bedroom	99	100	✓
5	Bedroom	79	100	✓
6	Bedroom	81	100	✓
7	Bedroom	83	100	✓
8	Bedroom	82	100	✓
9	LKD	100	100	✓
10	Bedroom	91	100	✓
11	Bedroom	95	100	✓
12	Bedroom	87	100	✓
13	Bedroom	87	100	✓
14	Studio	99	100	✓
15	Bedroom	90	100	✓
16	Bedroom	92	100	✓
17	Bedroom	83	100	✓
18	Bedroom	100	100	✓
19	LKD	100	100	✓

13.3.13 Block A&B - Level L06



Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	Bedroom	99	100	✓
2	Bedroom	100	100	✓
3	Bedroom	100	100	✓
4	Bedroom	98	100	✓
5	Studio	100	100	✓
6	Bedroom	98	100	✓
7	Bedroom	100	100	✓
8	Bedroom	100	100	✓
9	Bedroom	100	100	✓
10	LKD	100	100	✓
11	Bedroom	100	100	✓
12	Bedroom	100	100	✓
13	Bedroom	100	100	✓
14	Bedroom	100	100	✓
15	Bedroom	94	100	✓
16	Bedroom	97	100	✓
17	Bedroom	100	100	✓
18	Bedroom	94	100	✓
19	LKD	100	100	✓
20	LKD	100	100	✓
21	Bedroom	83	100	✓
22	Bedroom	68	100	✓
23	Bedroom	67	100	✓
24	Bedroom	70	97	✓
25	Bedroom	64	100	✓
26	Bedroom	85	100	✓
27	Bedroom	100	100	✓
28	Bedroom	100	100	✓
29	Studio	100	100	✓

Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
		Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
30	Bedroom	96	100	✓
31	Bedroom	86	100	✓
32	Bedroom	83	100	✓
33	LKD	100	100	✓

13.4 Salesians Apartment Blocks

13.4.1 B1 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	95	100	✓
	2	Bedroom	99	100	✓
	3	Bedroom	95	100	✓
2	4	LKD	52	100	✓
	5	Bedroom	100	100	✓
3	6	Bedroom	53	100	✓
	7	LKD	14	100	x
4	8	LKD	37	93	x
	9	Bedroom	66	100	✓
	10	Bedroom	94	100	✓
5	11	Bedroom	53	100	✓
	12	LKD	41	99	x
6	13	Bedroom	95	100	✓
	14	Bedroom	99	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	82	100	✓
	18	Bedroom	91	100	✓
8	19	LKD	12	71	x
	20	Bedroom	38	99	x
9	21	Bedroom	100	100	✓
	22	LKD	4	100	x
10	23	LKD	12	57	x
	24	Bedroom	15	100	x
11	25	Bedroom	8	100	x
	26	LKD	1	100	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
12	27	Bedroom	31	100	x
	28	Bedroom	64	100	✓
	29	LKD	92	100	✓

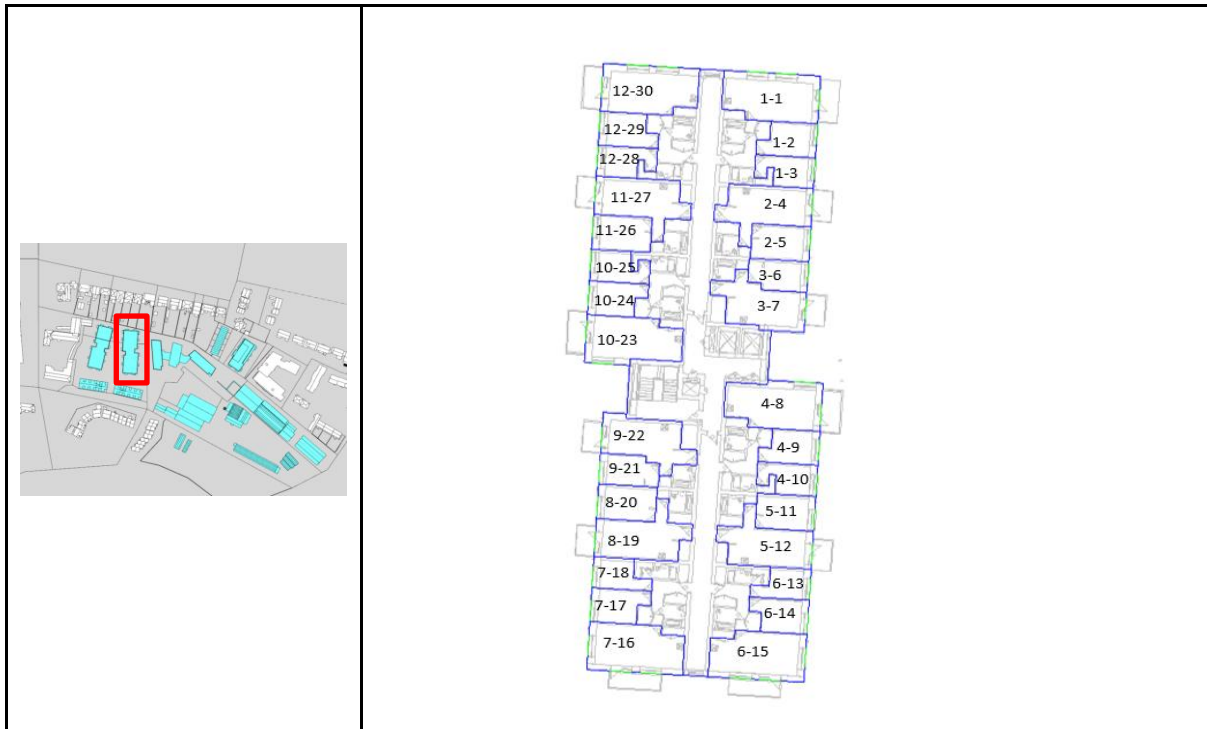
13.4.2 B1 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	95	100	✓
2	4	LKD	55	100	✓
	5	Bedroom	93	100	✓
3	6	Bedroom	39	97	x
	7	LKD	7	40	x
4	8	LKD	35	85	x
	9	Bedroom	47	97	x
	10	Bedroom	79	98	✓
5	11	Bedroom	54	100	✓
	12	LKD	25	65	x
6	13	Bedroom	95	100	✓
	14	Bedroom	100	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	97	100	✓
	18	Bedroom	89	100	✓
8	19	LKD	8	50	x
	20	Bedroom	29	100	x
9	21	Bedroom	33	100	x
	22	LKD	3	33	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
10	23	LKD	23	62	x
	24	Bedroom	19	81	x
	25	Bedroom	35	93	x
11	26	Bedroom	9	62	x
	27	LKD	1	22	x
12	28	Bedroom	45	100	x
	29	Bedroom	33	100	x
	30	LKD	97	100	✓

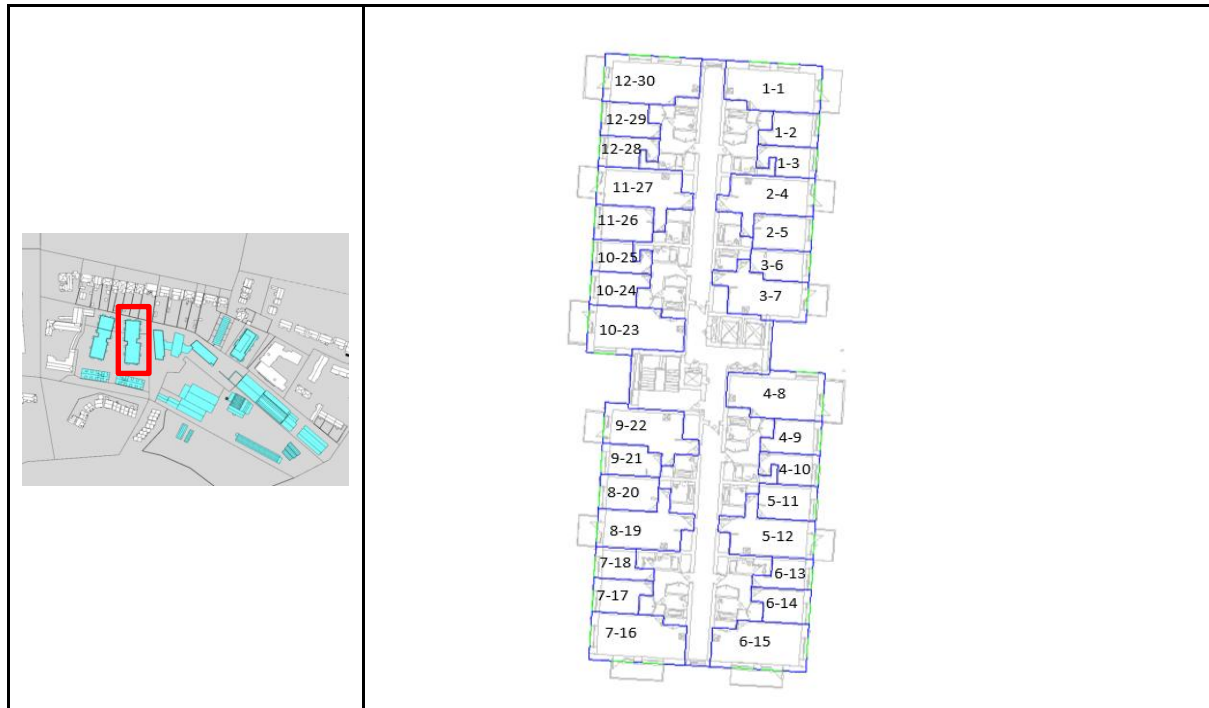
13.4.3 B1 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	98	100	✓
	2	Bedroom	94	100	✓
	3	Bedroom	95	100	✓
2	4	LKD	82	100	✓
	5	Bedroom	84	100	✓
3	6	Bedroom	61	100	✓
	7	LKD	19	60	x
4	8	LKD	39	88	x
	9	Bedroom	78	100	✓
	10	Bedroom	87	98	✓
5	11	Bedroom	63	100	✓
	12	LKD	24	62	x
6	13	Bedroom	95	100	✓
	14	Bedroom	100	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	94	100	✓
	18	Bedroom	89	100	✓
8	19	LKD	10	49	x
	20	Bedroom	28	100	x
9	21	Bedroom	42	100	x
	22	LKD	7	34	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
10	23	LKD	34	66	x
	24	Bedroom	28	92	x
	25	Bedroom	53	93	x
11	26	Bedroom	21	58	x
	27	LKD	1	34	x
12	28	Bedroom	62	100	✓
	29	Bedroom	36	99	x
	30	LKD	100	100	✓

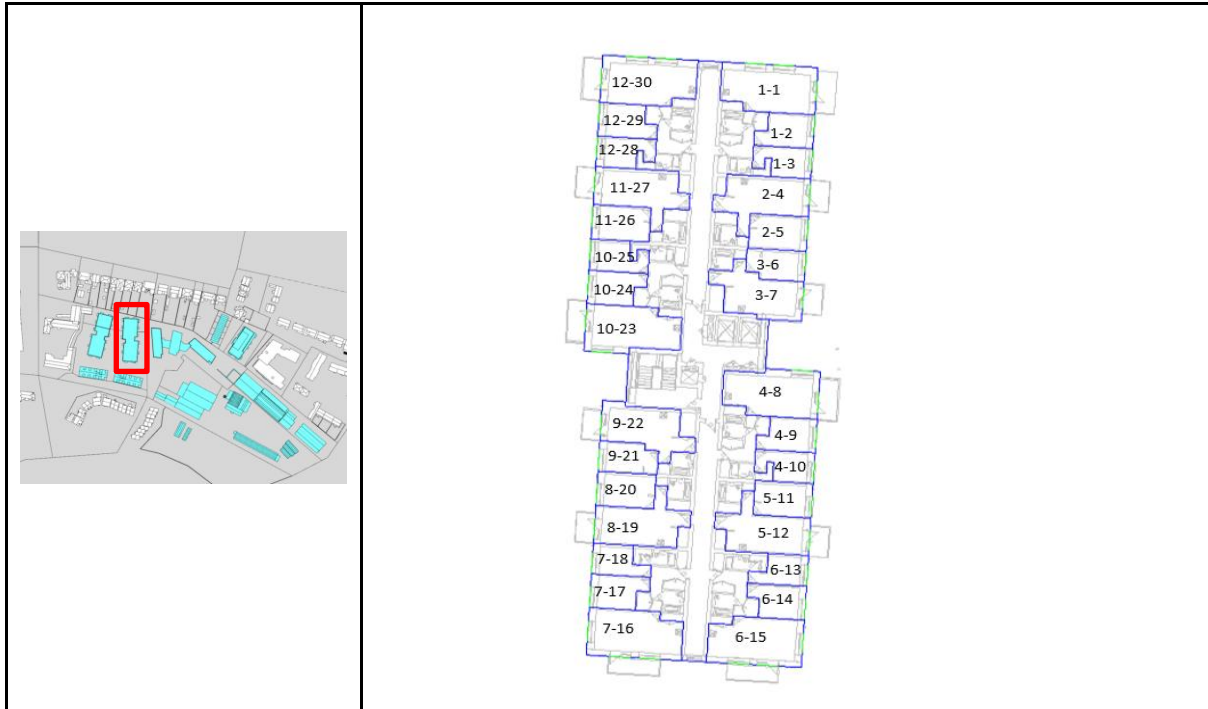
13.4.4 B1 Level L04



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	96	100	✓
	3	Bedroom	95	100	✓
2	4	LKD	61	100	✓
	5	Bedroom	97	100	✓
3	6	Bedroom	80	100	✓
	7	LKD	24	60	x
4	8	LKD	39	72	x
	9	Bedroom	89	100	✓
	10	Bedroom	94	100	✓
5	11	Bedroom	67	100	✓
	12	LKD	26	69	x
6	13	Bedroom	95	100	✓
	14	Bedroom	100	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	93	100	✓
	18	Bedroom	95	100	✓
8	19	LKD	16	52	x
	20	Bedroom	46	100	x
9	21	Bedroom	59	100	✓
	22	LKD	11	42	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
10	23	LKD	40	70	x
	24	Bedroom	50	97	✓
	25	Bedroom	72	98	✓
11	26	Bedroom	31	87	x
	27	LKD	5	36	x
12	28	Bedroom	90	100	✓
	29	Bedroom	45	100	x
	30	LKD	100	100	✓

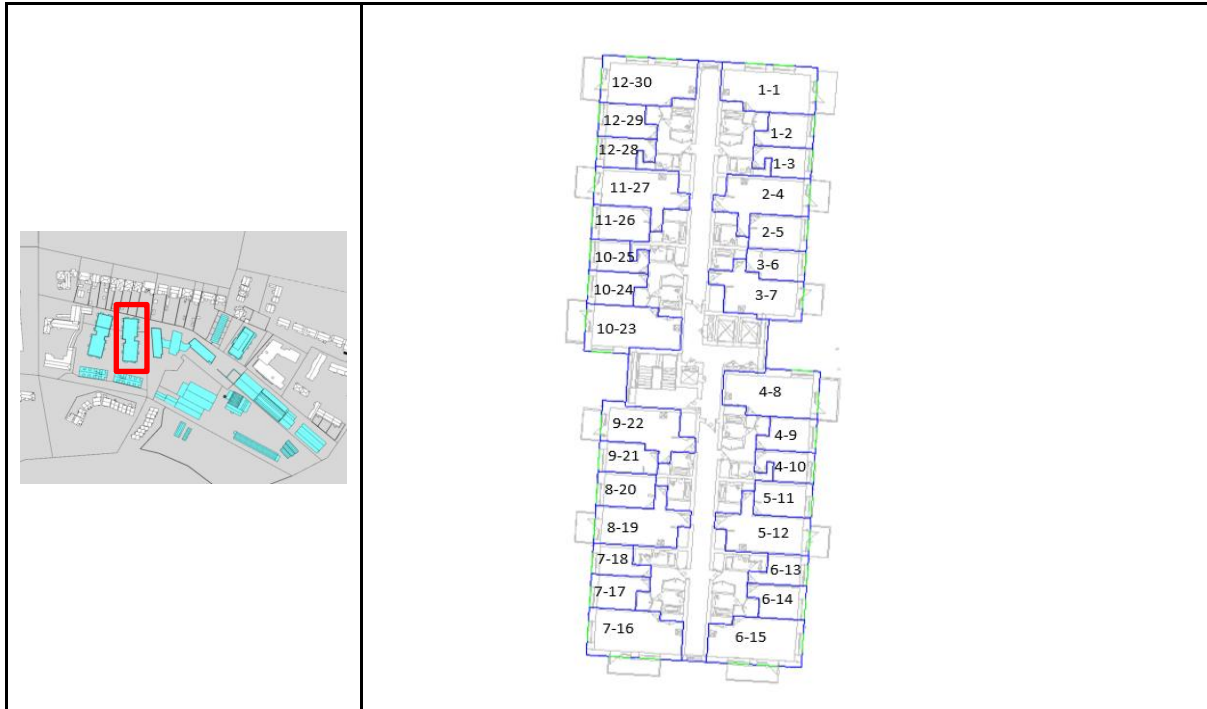
13.4.5 B1 Level L05



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	95	100	✓
2	4	LKD	46	100	✓
	5	Bedroom	94	100	✓
3	6	Bedroom	95	100	✓
	7	LKD	46	100	x
4	8	LKD	50	95	✓
	9	Bedroom	97	100	✓
	10	Bedroom	94	100	✓
5	11	Bedroom	96	100	✓
	12	LKD	31	90	x
6	13	Bedroom	95	100	✓
	14	Bedroom	100	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	91	100	✓
	18	Bedroom	95	100	✓
8	19	LKD	23	67	x
	20	Bedroom	52	100	✓
9	21	Bedroom	68	100	✓
	22	LKD	16	52	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _r (%)	Floor Area > E _{TM} (%)	Comment
10	23	LKD	45	77	x
	24	Bedroom	70	100	✓
	25	Bedroom	93	98	✓
11	26	Bedroom	38	100	x
	27	LKD	21	86	x
12	28	Bedroom	90	100	✓
	29	Bedroom	68	100	✓
	30	LKD	100	100	✓

13.4.6 B1 Level L06



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	100	100	✓
2	4	LKD	100	100	✓
	5	Bedroom	100	100	✓
3	6	Bedroom	100	100	✓
	7	LKD	99	100	✓
4	8	LKD	100	100	✓
	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
5	11	Bedroom	100	100	✓
	12	LKD	99	99	✓
6	13	Bedroom	100	100	✓
	14	Bedroom	100	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	94	100	✓
	18	Bedroom	95	100	✓
8	19	LKD	40	87	x
	20	Bedroom	100	100	✓
9	21	Bedroom	80	100	✓
	22	LKD	34	87	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
10	23	LKD	58	100	✓
	24	Bedroom	91	100	✓
	25	Bedroom	93	100	✓
11	26	Bedroom	60	100	✓
	27	LKD	36	88	x
12	28	Bedroom	93	100	✓
	29	Bedroom	96	100	✓
	30	LKD	100	100	✓

13.4.7 B2 Level L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	17	98	x
	2	Bedroom	100	100	✓
2	3	Bedroom	100	100	✓
	4	LKD	62	99	✓
3	5	Bedroom	100	100	✓
	6	Bedroom	99	100	✓
	7	LKD	100	100	✓
4	8	LKD	100	100	✓
	9	Bedroom	98	100	✓
	10	Bedroom	93	100	✓
5	11	LKD	56	99	✓
	12	Bedroom	56	100	✓
6	13	Bedroom	64	100	✓
	14	LKD	60	100	✓

13.4.8 B2 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	87	100	✓
	2	Bedroom	78	98	✓
	3	Bedroom	59	100	✓
2	4	LKD	1	28	x
	5	Bedroom	28	100	x
3	6	Bedroom	34	64	x
	7	LKD	10	35	x
4	8	LKD	9	39	x
	9	Bedroom	83	100	✓
5	10	Bedroom	100	100	✓
	11	LKD	29	89	x
6	12	Bedroom	98	100	✓
	13	Bedroom	100	100	✓
	14	LKD	100	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
7	15	LKD	100	100	✓
	16	Bedroom	91	100	✓
	17	Bedroom	100	100	✓
8	18	LKD	53	92	✓
	19	Bedroom	75	100	✓
9	20	Bedroom	96	100	✓
	21	Bedroom	96	100	✓
	22	LKD	78	100	✓
10	23	LKD	31	76	x
	24	Bedroom	73	100	✓
11	25	Bedroom	62	100	✓
	26	LKD	33	73	x
12	27	Bedroom	93	100	✓
	28	Bedroom	59	99	✓
	29	LKD	94	100	✓

13.4.9 B2 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	88	100	✓
	2	Bedroom	76	100	✓
	3	Bedroom	80	98	✓
2	4	LKD	5	52	x
	5	Bedroom	21	97	x
3	6	Bedroom	47	100	x
	7	Bedroom	26	86	x
	8	LKD	32	52	x
4	9	LKD	11	74	x
	10	Bedroom	97	100	✓
5	11	Bedroom	81	100	✓
	12	LKD	26	92	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
6	13	Bedroom	98	100	✓
	14	Bedroom	99	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	100	100	✓
	18	Bedroom	98	100	✓
8	19	LKD	67	99	✓
	20	Bedroom	100	100	✓
9	21	Bedroom	96	100	✓
	22	Bedroom	96	100	✓
	23	LKD	100	100	✓
10	24	LKD	40	73	x
	25	Bedroom	77	100	✓
11	26	Bedroom	81	100	✓
	27	LKD	64	100	✓
12	28	Bedroom	98	100	✓
	29	Bedroom	93	100	✓
	30	LKD	98	100	✓

13.4.10 B2 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	88	100	✓
	2	Bedroom	94	100	✓
	3	Bedroom	84	98	✓
2	4	LKD	6	57	x
	5	Bedroom	23	96	x
3	6	Bedroom	85	100	✓
	7	Bedroom	57	90	✓
	8	LKD	38	83	x
4	9	LKD	19	46	x
	10	Bedroom	52	100	✓
5	11	Bedroom	95	100	✓
	12	LKD	28	98	x

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
6	13	Bedroom	98	100	✓
	14	Bedroom	97	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	94	100	✓
	18	Bedroom	100	100	✓
8	19	LKD	39	99	x
	20	Bedroom	100	100	✓
9	21	Bedroom	98	100	✓
	22	Bedroom	97	100	✓
	23	LKD	83	96	✓
10	24	LKD	50	79	✓
	25	Bedroom	92	100	✓
11	26	Bedroom	89	100	✓
	27	LKD	51	69	x
12	28	Bedroom	98	100	✓
	29	Bedroom	93	100	✓
	30	LKD	100	100	✓

13.4.11 B2 Level L04



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	97	100	✓
	2	Bedroom	95	100	✓
	3	Bedroom	61	98	✓
2	4	LKD	12	57	x
	5	Bedroom	47	100	x
3	6	Bedroom	81	100	✓
	7	Bedroom	72	94	✓
	8	LKD	40	66	x
4	9	LKD	22	51	x
	10	Bedroom	70	100	✓
5	11	Bedroom	65	100	✓
	12	LKD	45	97	x
6	13	Bedroom	98	100	✓
	14	Bedroom	96	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	94	100	✓
	18	Bedroom	100	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
8	19	LKD	99	100	✓
	20	Bedroom	93	100	✓
9	21	Bedroom	100	100	✓
	22	Bedroom	97	100	✓
	23	LKD	55	100	✓
10	24	LKD	46	88	x
	25	Bedroom	90	100	✓
11	26	Bedroom	100	100	✓
	27	LKD	100	100	✓
12	28	Bedroom	98	100	✓
	29	Bedroom	94	100	✓
	30	LKD	100	100	✓

13.4.12 B2 Level L05



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	98	100	✓
	2	Bedroom	68	100	✓
	3	Bedroom	86	98	✓
2	4	LKD	48	89	x
	5	Bedroom	58	100	x
3	6	Bedroom	93	100	x
	7	Bedroom	68	100	✓
	8	LKD	42	75	x
4	9	LKD	32	99	x
	10	Bedroom	79	100	✓
5	11	Bedroom	83	100	✓
	12	LKD	68	95	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
6	13	Bedroom	98	100	✓
	14	Bedroom	97	100	✓
	15	LKD	100	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	100	100	✓
	18	Bedroom	100	100	✓
8	19	LKD	54	100	✓
	20	Bedroom	100	100	✓
9	21	Bedroom	100	100	✓
	22	Bedroom	97	100	✓
	23	LKD	100	100	✓
10	24	LKD	88	100	✓
	25	Bedroom	97	100	✓
11	26	Bedroom	100	100	✓
	27	LKD	100	100	✓
12	28	Bedroom	98	100	✓
	29	Bedroom	100	100	✓
	30	LKD	100	100	✓

13.4.13 B2 Level L06



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _r (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bedroom	93	100	✓
	2	Bedroom	92	100	✓
	3	LKD	65	100	✓
2	4	LKD	69	96	✓
	5	Bedroom	100	100	✓
3	6	Bedroom	100	100	✓
	7	LKD	55	100	✓
4	8	Bedroom	98	100	✓
	9	Bedroom	100	100	✓
	10	LKD	100	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
5	11	LKD	100	100	✓
	12	Bedroom	94	100	✓
	13	Bedroom	98	100	✓
6	14	LKD	97	99	✓
	15	Bedroom	100	100	✓
7	16	Bedroom	98	100	✓
	17	Bedroom	100	100	✓
	18	LKD	58	100	✓
8	19	LKD	91	100	✓
	20	Bedroom	79	100	✓

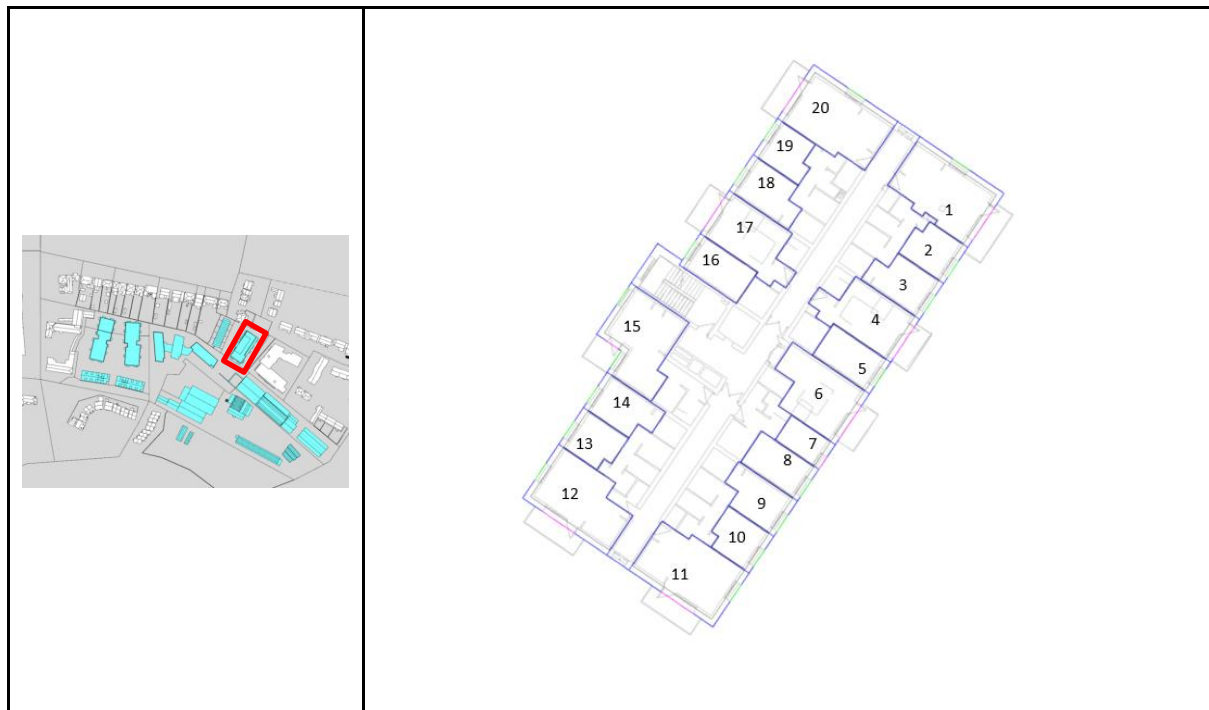
13.5 Stonetown Terrace Apartments & Townhouses

13.5.1 Stonetown Apartments Level L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	100	100	✓
2	4	LKD	100	100	✓
	5	Bedroom	100	100	✓
3	6	Bedroom	100	100	✓
	7	LKD	100	100	✓
4	8	LKD	100	100	✓
	9	Bedroom	93	100	✓
	10	Bedroom	47	100	x
5	11	Bedroom	33	94	x
	12	LKD	39	93	x
6	13	LKD	54	98	✓
	14	Bedroom	48	100	x

13.5.2 Stonetown Apartments Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _r (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	100	100	✓
2	4	LKD	82	100	✓
	5	Bedroom	100	100	✓
3	6	LKD	87	100	✓
	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
4	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
	11	LKD	100	100	✓
5	12	LKD	100	100	✓
	13	Bedroom	100	100	✓
	14	Bedroom	91	100	✓
6	15	Studio	100	100	✓
7	16	Bedroom	57	100	✓
	17	LKD	89	100	✓
8	18	Bedroom	100	100	✓
	19	Bedroom	85	100	✓
	20	LKD	76	100	✓

13.5.3 Stonetown Apartments Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	100	100	✓
2	4	LKD	100	100	✓
	5	Bedroom	100	100	✓
3	6	LKD	88	100	✓
	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
4	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
	11	LKD	100	100	✓
5	12	LKD	100	100	✓
	13	Bedroom	100	100	✓
	14	Bedroom	90	100	✓
6	15	Studio	100	100	✓
7	16	Bedroom	100	100	✓
	17	LKD	90	100	✓
8	18	Bedroom	100	100	✓
	19	Bedroom	89	100	✓
	20	LKD	100	100	✓

13.5.4 Stonetown Apartments Level L03



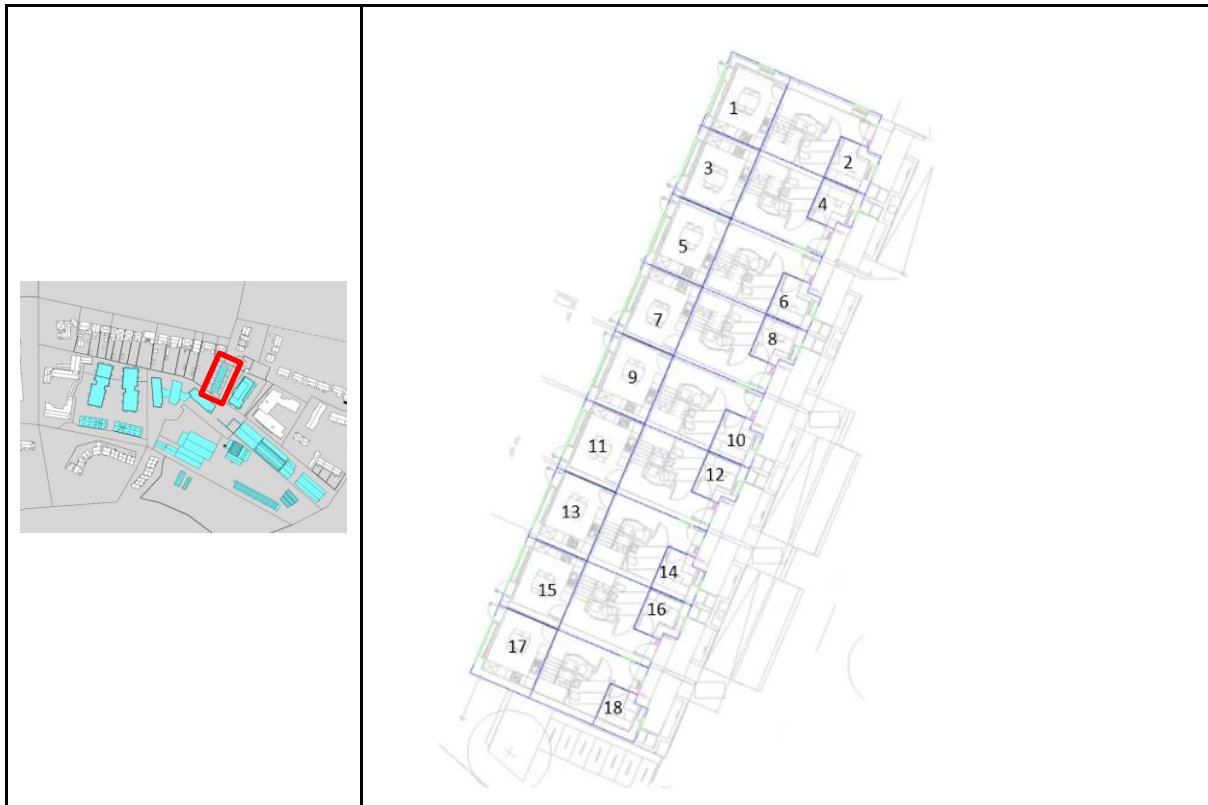
Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	100	100	✓
	3	Bedroom	100	100	✓
2	4	LKD	100	100	✓
	5	Bedroom	100	100	✓
3	6	LKD	100	100	✓
	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
4	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
	11	LKD	100	100	✓
5	12	LKD	100	100	✓
	13	Bedroom	100	100	✓
	14	Bedroom	100	100	✓
6	15	Studio	100	100	✓
7	16	Bedroom	100	100	✓
	17	LKD	100	100	✓
8	18	Bedroom	100	100	✓
	19	Bedroom	100	100	✓
	20	LKD	100	100	✓

13.5.5 Stonetown Apartments Level L04



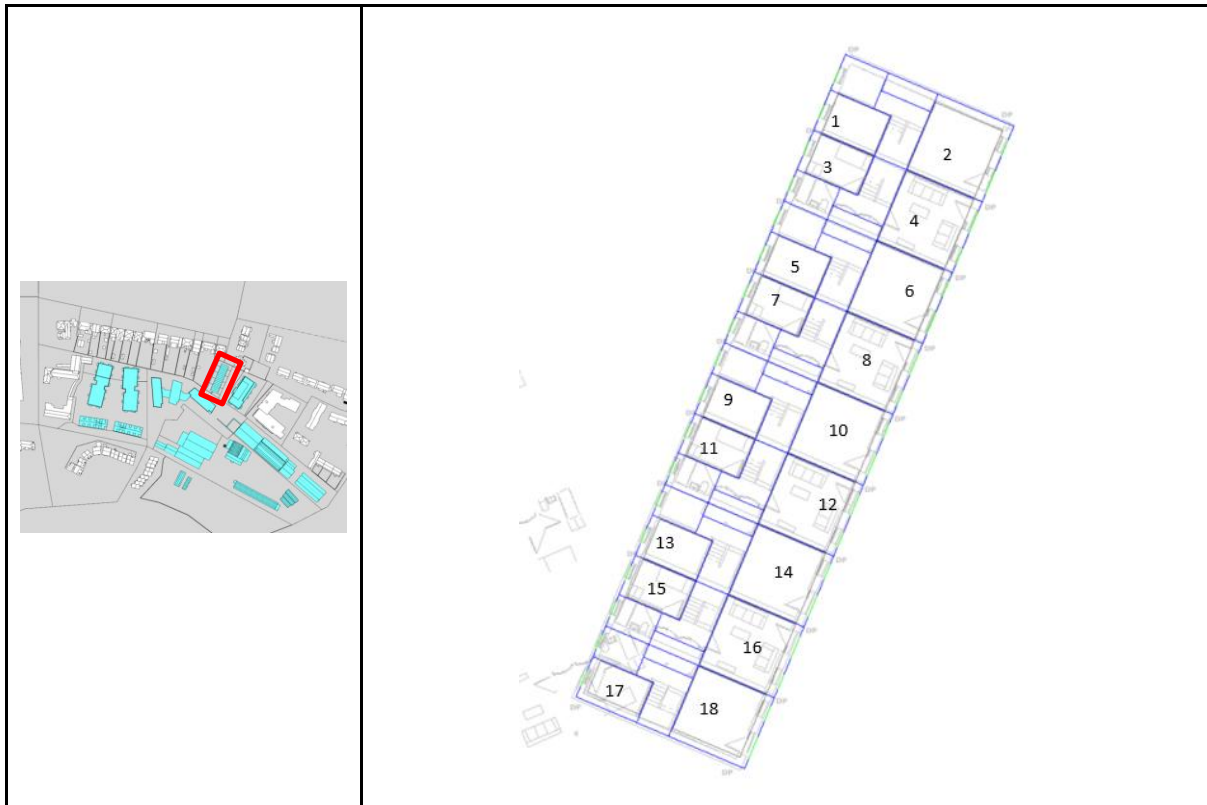
Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bedroom	100	100	✓
	2	LKD	100	100	✓
2	3	Studio	100	100	✓
3	4	Studio	100	100	✓
4	5	Bedroom	100	100	✓
	6	LKD	100	100	✓
	7	LKD	100	100	✓
5	8	LKD	100	100	✓
	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
6	11	Studio	100	100	✓
7	12	Bedroom	93	100	✓
	13	LKD	95	100	✓
8	14	LKD	100	100	✓
	15	Bedroom	100	100	✓
9	16	Bedroom	100	100	✓

13.5.6 Stonetown Terrace Townhouses Level L00



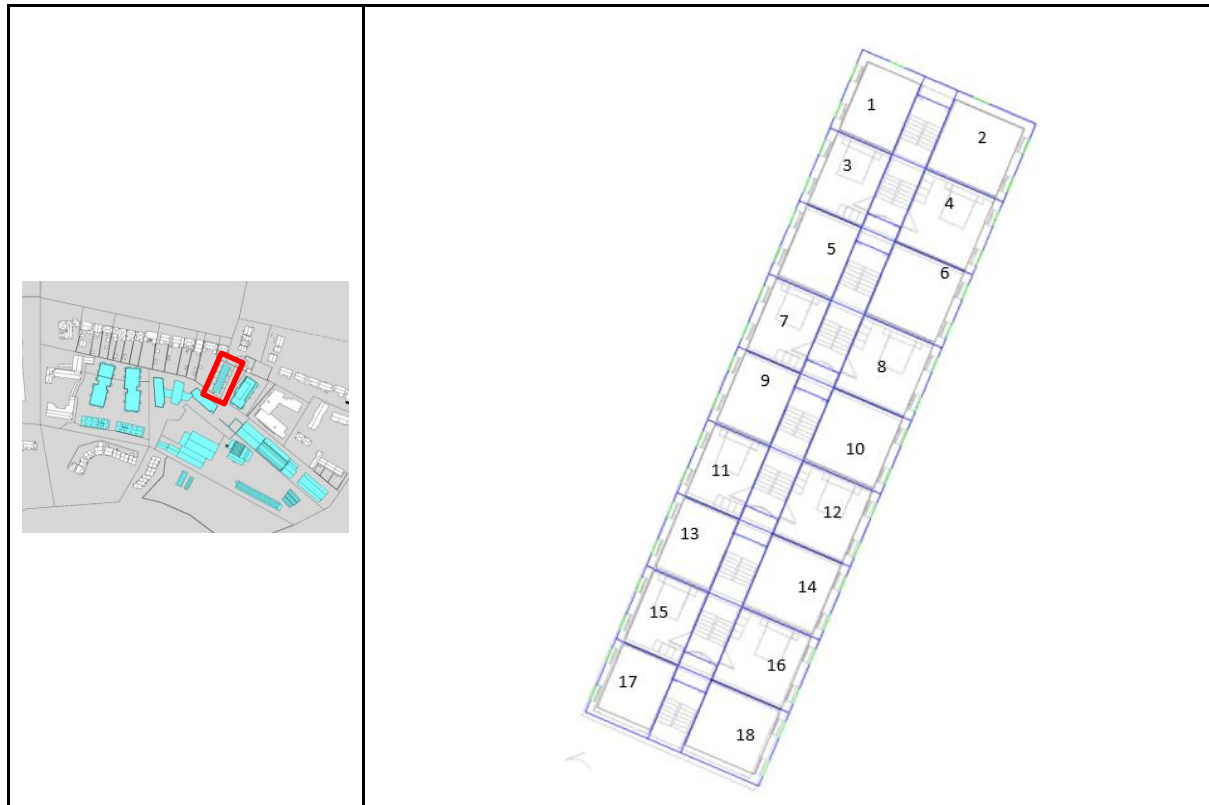
Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	KD	52	100	✓
	2	Study Room	100	100	✓
2	3	KD	25	100	x
	4	Study Room	100	100	✓
3	5	KD	29	1000	x
	6	Study Room	100	100	✓
4	7	KD	18	100	x
	8	Study Room	100	100	✓
5	9	KD	36	100	x
	10	Study Room	100	100	✓
6	11	KD	32	100	x
	12	Study Room	100	100	✓
7	13	KD	33	100	x
	14	Study Room	100	100	✓
8	15	KD	33	100	x
	16	Study Room	100	100	✓
9	17	KD	32	100	x
	18	Study Room	100	100	✓

13.5.7 Stonetown Terrace Townhouses Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _r (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bedroom	18	79	x
	2	Living	99	100	✓
2	3	Bedroom	15	55	x
	4	Living	61	100	✓
3	5	Bedroom	18	65	x
	6	Living	84	100	✓
4	7	Bedroom	15	50	x
	8	Living	65	100	✓
5	9	Bedroom	18	65	x
	10	Living	100	100	✓
6	11	Bedroom	15	74	x
	12	Living	100	100	✓
7	13	Bedroom	18	65	x
	14	Living	100	100	✓
8	15	Bedroom	18	53	x
	16	Living	88	100	✓
9	17	Bedroom	17	62	x
	18	Living	100	100	✓

13.5.8 Stonetown Terrace Townhouses Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _r (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bedroom	100	100	✓
	2	Bedroom	100	100	✓
2	3	Bedroom	100	100	✓
	4	Bedroom	100	100	✓
3	5	Bedroom	100	100	✓
	6	Bedroom	100	100	✓
4	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
5	9	Bedroom	100	100	✓
	10	Bedroom	100	100	✓
6	11	Bedroom	100	100	✓
	12	Bedroom	100	100	✓
7	13	Bedroom	100	100	✓
	14	Bedroom	100	100	✓
8	15	Bedroom	100	100	✓
	16	Bedroom	100	100	✓
9	17	Bedroom	100	100	✓
	18	Bedroom	100	100	✓

13.6 O'Callaghan Strand Apartments

13.6.1 Level L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	51	100	✓
	2	Bedroom	91	100	✓
	3	Bedroom	99	100	✓
2	4	Bedroom	100	100	✓
	5	Bedroom	99	100	✓
	6	LKD	100	100	✓
3	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
	9	LKD	100	100	✓
4	10	Bedroom	3	100	x
	11	LKD	38	93	x
5	12	Bedroom	1	100	x
	13	LKD	51	98	✓
6	14	Bedroom	0	100	x
	15	LKD	42	100	x
7	16	LKD	67	100	✓
	17	Bedroom	6	32	x
	18	Bedroom	9	94	x



13.6.2 Level L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	88	100	✓
	3	Bedroom	96	100	✓
2	4	Bedroom	100	100	✓
	5	Bedroom	100	100	✓
	6	LKD	100	100	✓
3	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
	9	LKD	100	100	✓
4	10	Bedroom	22	100	x
	11	LKD	50	100	✓
5	12	Bedroom	21	100	x
	13	LKD	52	100	✓
6	14	Bedroom	17	100	x
	15	LKD	52	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	13	66	x
	18	Bedroom	9	67	x

13.6.3 Level L03



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	LKD	100	100	✓
	2	Bedroom	91	100	✓
	3	Bedroom	97	100	✓
2	4	Bedroom	100	100	✓
	5	Bedroom	99	100	✓
	6	LKD	100	100	✓
3	7	Bedroom	100	100	✓
	8	Bedroom	100	100	✓
	9	LKD	100	100	✓
4	10	Bedroom	97	100	✓
	11	LKD	51	100	✓
5	12	Bedroom	88	100	✓
	13	LKD	53	100	✓
6	14	Bedroom	92	100	✓
	15	LKD	65	100	✓
7	16	LKD	100	100	✓
	17	Bedroom	25	97	x
	18	Bedroom	15	92	x

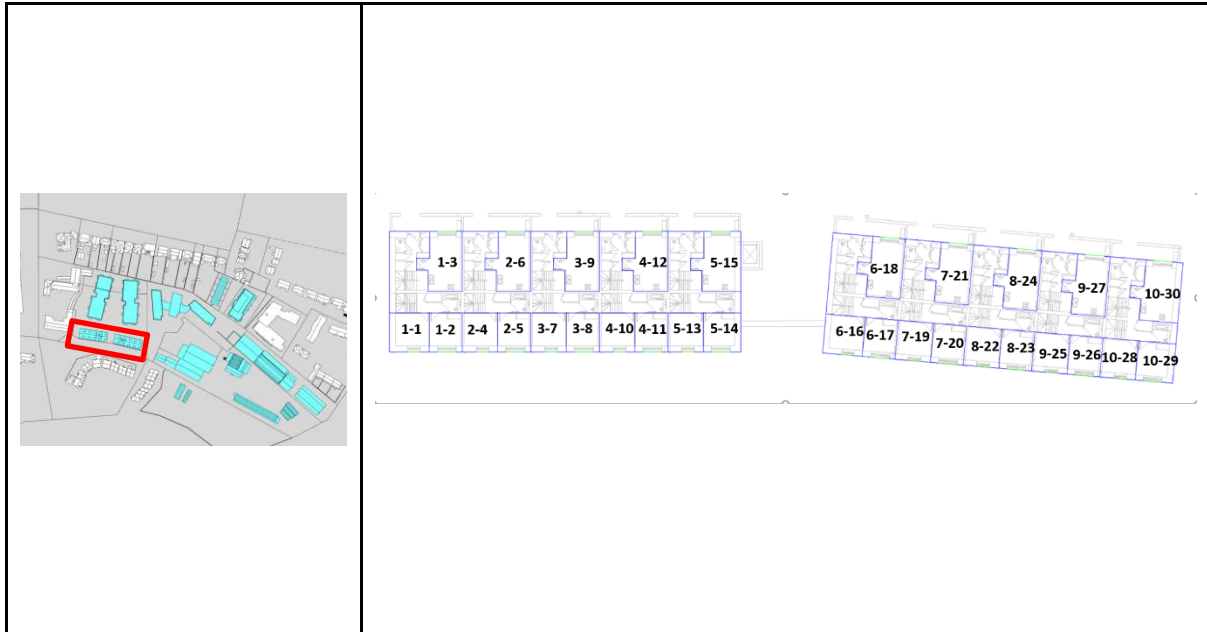
13.7 Salesians Townhouses

13.7.1 LB



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	KD	100	100	✓
2	2	KD	100	100	✓
3	3	KD	100	100	✓
4	4	KD	100	100	✓
5	5	KD	100	100	✓
6	6	KD	100	100	✓
7	7	KD	100	100	✓
8	8	KD	100	100	✓
9	9	KD	100	100	✓
10	10	KD	100	100	✓

13.7.2 L00



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bed	100	100	✓
	2	Bed	100	100	✓
	3	LKD	95	100	✓
2	4	Bed	100	100	✓
	5	Bed	100	100	✓
	6	LKD	100	100	✓
3	7	Bed	100	100	✓
	8	Bed	100	100	✓
	9	LKD	69	100	✓
4	10	Bed	100	100	✓
	11	Bed	100	100	✓
	12	LKD	51	100	✓
5	13	Bed	100	100	✓
	14	Bed	100	100	✓
	15	LKD	99	100	✓
6	16	Bed	100	100	✓
	17	Bed	100	100	✓
	18	LKD	100	100	✓
7	19	Bed	100	100	✓
	20	Bed	100	100	✓
	21	LKD	100	100	✓
8	22	Bed	100	100	✓
	23	Bed	100	100	✓
	24	LKD	75	100	✓
9	25	Bed	100	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
10	26	Bed	100	100	✓
	27	LKD	100	100	✓
	28	Bed	100	100	✓
	29	Bed	100	100	✓
	30	LKD	100	100	✓

13.7.3 L01



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bed	95	100	✓
	2	Bed	97	100	✓
	3	Bed	89	100	✓
	4	LKD	100	100	✓
2	5	Bed	100	100	✓
	6	Bed	58	100	✓
	7	Bed	100	100	✓
	8	LKD	100	100	✓
3	9	Bed	100	100	✓
	10	Bed	71	100	✓
	11	Bed	89	100	✓
	12	LKD	100	100	✓
4	13	Bed	100	100	✓
	14	Bed	79	100	✓
	15	Bed	89	100	✓
	16	LKD	100	100	✓
5	17	Bed	93	100	✓
	18	Bed	100	100	✓
	19	Bed	100	100	✓
	20	LKD	100	100	✓
6	21	Bed	51	100	✓
	22	Bed	80	100	✓
	23	Bed	100	100	✓
	24	LKD	100	100	✓

Unit	Ref.	Room Activity	BRE Guide 3 rd Edition		
			IS EN 17037:2018+A1-2021		
			Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
7	25	Bed	100	100	✓
	26	Bed	100	100	✓
	27	Bed	87	100	✓
	28	LKD	100	100	✓
8	29	Bed	99	100	✓
	30	Bed	100	100	✓
	31	Bed	87	100	✓
	32	LKD	100	100	✓
9	33	Bed	85	100	✓
	34	Bed	100	100	✓
	35	Bed	100	100	✓
	36	LKD	100	100	✓
10	37	Bed	100	100	✓
	38	Bed	100	100	✓
	39	Bed	100	100	✓
	40	LKD	100	100	✓

13.7.4 L02



Unit	Ref.	Room Activity	BRE Guide 3 rd Edition IS EN 17037:2018+A1-2021 Method 2 National Annex		
			Floor Area > E _T (%)	Floor Area > E _{TM} (%)	Comment
1	1	Bed	100	100	✓
2	2	Bed	100	100	✓
3	3	Bed	100	100	✓
4	4	Bed	100	100	✓
5	5	Bed	100	100	✓
6	6	Bed	100	100	✓
7	7	Bed	100	100	✓
8	8	Bed	100	100	✓
9	9	Bed	100	100	✓
10	10	Bed	100	100	✓

13.8 Daylight Results Tables – IS EN 17037

The following tables summarise the daylight provision results for the tested spaces within the proposed development. These include the Student Accommodation Blocks A, B, and C; Apartment Blocks B1 and B2; the Stonetown Apartment Block; Stonetown Terrace; O’Callaghan Strand; and the Salesian Townhouses. The assessment has been carried out in accordance with the BRE Guide (3rd Edition) and IS EN 17037:2018+A1:2021, using Method 2.

The results are summarised in the following tables:

Student Accommodation - Block A

A compliance rate of 80% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block A within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	105
Total No. LKDs Tested	15
Total No. Studio Tested	6
Total No. Spaces Tested	126

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	82	78%	23	22%
No. LKDs	15	100%	-	-
No. Studio	4	67%	2	33%
Total No.	101	80%	25	20%

Student Accommodation - Block B

A compliance rate of 68% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block B within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	60
Total No. LKDs Tested	12
Total No. Studios Tested	6
Total No. Spaces Tested	78

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	35	58%	25	42%
No. LKDs	12	100%	-	-
No. Studios	6	100%	-	-
Total No.	53	68%	25	32%

Student Accommodation - Block C

A compliance rate of 88% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block C within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	87
Total No. LKDs Tested	11
Total No. Studios Tested	6
Total No. Spaces Tested	104

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	74	85%	13	15%
No. LKDs	11	100%	-	-
No. Studios	6	100%	-	-
Total No.	91	88%	13	12%

Apartment Block B1

A compliance rate of 66% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	107
Total No. LKDs Tested	72
Total No. Spaces Tested	179

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	84	79%	23	21%
No. LKDs	34	47%	38	53%
Total No.	118	66%	61	34%

Apartment Block B2

A compliance rate of 79% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	109
Total No. LKDs Tested	74
Total No. Spaces Tested	183

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	100	92%	9	8%
No. LKDs	45	61%	29	39%
Total No.	145	79%	38	21%

Stonetown Apartment Block

A compliance rate of 96% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	52
Total No. LKDs Tested	32
Total No. Studios Tested	6
Total No. Spaces Tested	90

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	49	94%	3	6%
No. LKDs	31	97%	1	3%
No. Studio	6	100%	0	0%
Total No.	86	96%	4	4%

Stonetown Terrace

A compliance rate of 69% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	27
Total No. Study Rooms Tested	9
Total No. LKDs Tested	9
Total No. KDs Tested	9
Total No. Spaces Tested	54

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	18	67%	9	33%
No. Study Rooms	9	100%	0	0%
No. LKDs	9	100%	0	0%
No. KDs	1	11%	8	89%
Total No.	37	69%	17	31%

O'Callaghan Strand

A compliance rate of 70% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	33
Total No. LKDs Tested	21
Total No. Spaces Tested	54

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	21	64%	12	36%
No. LKDs	17	81%	4	19%
Total No.	38	70%	16	30%

Salesian Townhouses

A compliance rate of 100% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for tested spaces in Block D within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	60
Total No. LKDs Tested	10
Total No. KDs Tested	10
Total No. Living Tested	10
Total No. Spaces Tested	90

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	60	100%	0	0%
No. LKDs	10	100%	0	0%
No. KDs	10	100%	0	0%
No. Living	10	100%	0	0%
Total No.	90	100%	0	0%

Overall Development

A compliance rate of 79% is achieved under BRE Guide 3rd Edition / IS EN 17037-2018+A1-2021 Method 2 National Annex for the tested spaces on the first three floors of blocks A, B, C and D, within the proposed development. The daylight provision results are summarised below.

Rooms Tested	Total No. Rooms
Total No. Bedrooms Tested	640
Total No. Study Rooms Tested	9
Total No. LKDs Tested	256
Total No. Studios Tested	24
Total No. KDs Tested	19
Total No. Living Tested	10
Total No. Spaces Tested	958

BRE Guide 3 rd Edition / IS EN 17037:2018+A1-2021 Method 2 National Annex Assessment				
Room Type	Pass (No.)	Pass (%)	Fail (No.)	Fail (%)
No. Bedrooms	523	82%	117	18%
No. Study Rooms	9	100%	0	0%
No. LKDs	184	72%	72	28%
No. Studios	22	92%	2	8%
No. KDs	11	58%	8	42%
No. Living	10	100%	0	0%
Total No.	759	79%	199	21%

