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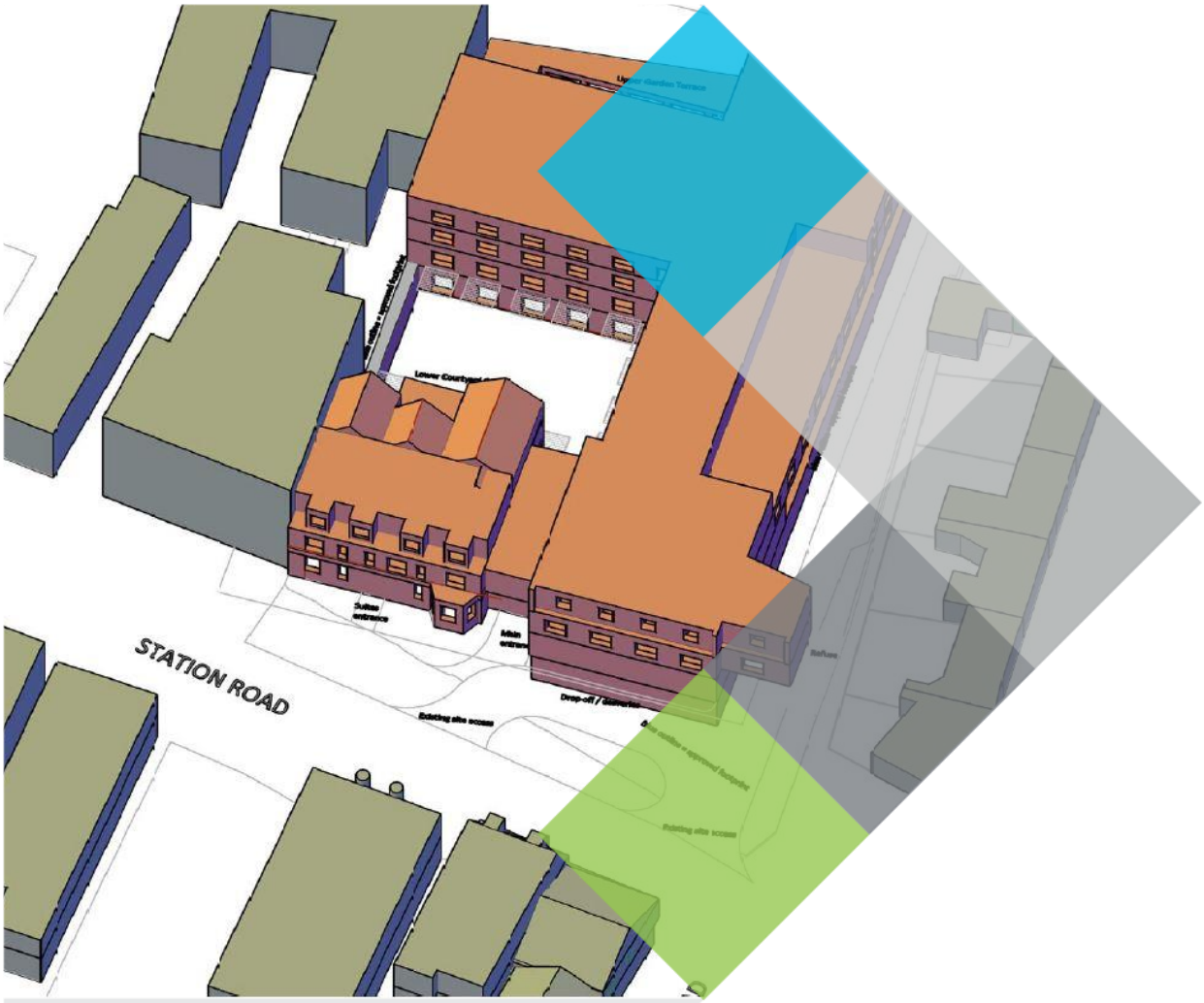

Daylight & Sunlight Report

Hampton Care Home Limited

Old Police Station, Hampton

Draft

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ABOUT HODKINSON CONSULTANCY

Our team of technical specialists offer advanced levels of expertise and experience to our clients. We have a wide experience of the construction and development industry and tailor teams to suit each individual project.

We are able to advise at all stages of projects from planning applications to handover.

Our emphasis is to provide innovative and cost effective solutions that respond to increasing demands for quality and construction efficiency.

Executive Summary

Hodkinson Consultancy has been instructed to assess the impact of the proposed redevelopment of Old Police Station upon daylight and sunlight received by dwellings and amenity areas surrounding the site, and to demonstrate the predicted internal daylight levels of the proposed dwellings and amenity spaces.

The methodology for this assessment is based on the BRE Guidelines 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' (2011). The BRE guidance states that it is intended for designers, their clients, consultants and planning officials and should not be seen as instrument of planning policy; therefore, any failure to achieve the recommended numerical factors does not necessarily mean that the development is unsuitable.

The proposed redevelopment is to include the partial retention of the locally listed Police Station frontage building, and demolition of all other buildings location within the site, with proposed construction of a 67 bedroom care home, plus 22 care suites, with ancillary communal accommodation, staff and back of house facilities, plus connected outbuildings and car parking on site.

A summary of the daylight-sunlight findings is presented below:

Proposed – Internal Daylight levels: A total of 108 (equal to 89%) out of 121 assessed habitable rooms (including bedrooms, suites bedrooms and living room, and communal living/dining rooms) are adequately daylit with ADF values passing the BRE targets.

Proposed – Sunlight 100% and 93% rooms within 90-degree of due south rooms meet the BRE criteria for sunlight in the annual and winter periods respectively.

Proposed Amenities: Given the location below the ground of the proposed two external amenity spaces it is expected that those spaces do not achieve the sunlight BRE criteria for the 21st March. However, the main courtyard will receive adequate level of sunlight on the 21st of June (for 71% of its area) when it is more likely that the external spaces will be used by the occupants.

Surroundings – Daylight: The results of the VSC show that three existing properties (QBC building 1, 2 and 3) can experience a daylight loss within a range of 0.73 to 0.78 of their former value, which fails slightly below the BRE target. However, it was possible to assess the internal daylight distribution of the existing QBC building 1 against the no-sky view metric as the internal layout was available. The results show that the proposed building is not expected to affect the daylight availability of QCB building 1 and adequate level of daylight will be maintained. Whilst internal layouts were not available for QBC Building 2and QBC Building 3 a similar good level of daylight can be expected.

Overall, in comparing the above daylight results with those of the previous Daylight/Sunlight report submitted with the extant residential consent (Former Hampton Traffic Unit). The impact of the current

proposal on the surrounding properties is considered similar or moderately less than the design of the extant consent.

Surroundings – Sunlight: The proposed development does not significantly impact the sunlight levels of any of the assessed surrounding properties.

Surroundings Amenities: The proposed development does not significantly impact the sunlight levels of the surrounding amenities.

In Conclusion, the impact of the current proposal is similar to the extant scheme, and complies with the Residential Development Standards SPD, which states that “if no substantial loss of sunlight or daylight to adjoining dwellings and gardens occurs residential development will generally be acceptable”, as well as Policy LP8, which states that “good standards of daylight and sunlight [should] be achieved in new development”.

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CONTENTS

1. INTRODUCTION

1.1 This Daylight and Sunlight report has been prepared by Hodkinson Consultancy, a specialist energy and environmental consultancy for planning and development, appointed by Hampton Care Home Limited.

1.2 This report reviews the daylight and sunlight impact on the surrounding properties and amenity spaces of the proposed redevelopment of Old Police Station in the London Borough of Richmond upon Thames. It also aims to investigate how the proposed scheme accords with internal daylight levels and the sunlight access.

Site Location

1.3 The proposed redevelopment at Old Police Station in the London Borough of Richmond upon Thames is located on Station Road (Approximately 0.3 miles from Hampton railway station). The site is currently occupied by the disused former Police Station building on the south-west of the site, while the remainder of the space is used as a parking area (Figure 1).

1.4 The wider surrounding area is mixed, comprising residential, retail and other small commercial and employment uses along with areas of open space.

1.5 The proposed redevelopment is to include the partial retention of the locally listed Police Station frontage building, and demolition of all other buildings located within the site, with proposed construction of a 67 bedroom care home, plus 22 care suites, with ancillary communal accommodation, staff and back of house facilities, plus connected outbuildings and car parking on site.

1.6 A 3D view of the proposed development and the surrounding proprieties is illustrated in Figure 2.

Figure 1: Site Location (source: Maps data Google 2019)

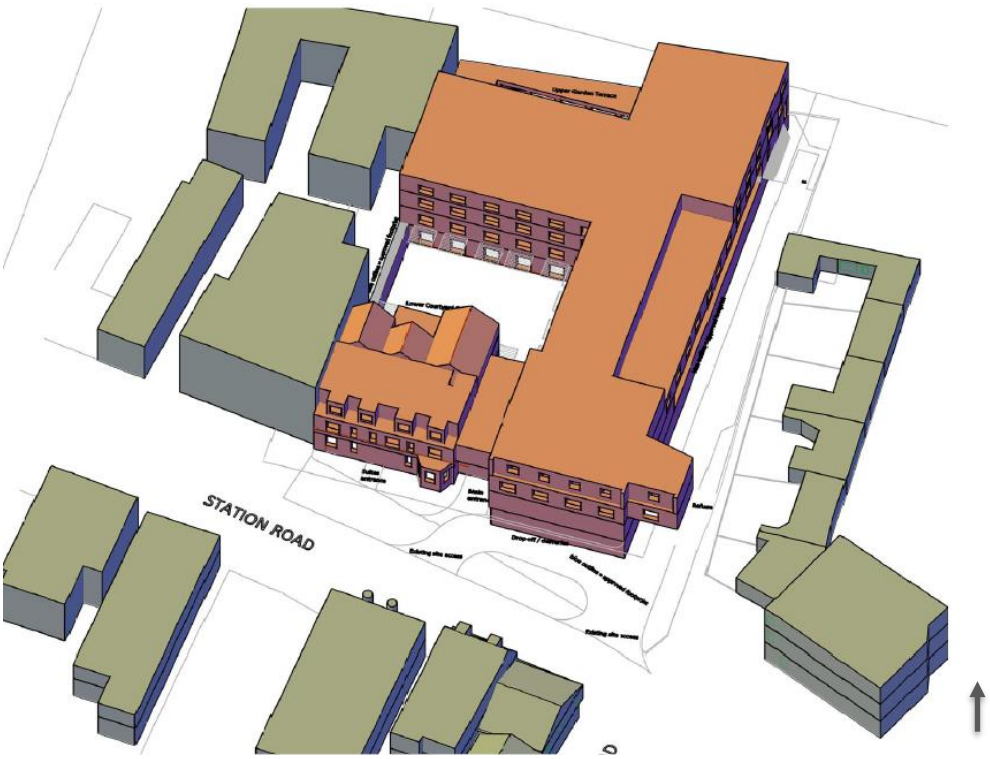

Figure 2: 3D view of the site including the proposal (in amber) and the surrounding properties (in grey).

PLANNING POLICY

1.7 The following policies are considered relevant to this report:

National Planning Policy Framework (NPPF)

1.8 The revised National Planning Policy Framework (NPPF) was published in February 2019 and sets out the Government's planning policies for England.

1.9 **Paragraph 1.23 (c)** states that when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).

London Plan (March 2016)

1.10 The existing London Plan sets out an integrated economic, environmental, transport and social framework for the development of London.

1.11 **Policy 7.6 – Architecture – Planning decisions:** buildings should not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and microclimate. This is particularly important for tall buildings.

Draft London Plan (2017)

1.12 Minor modifications to the Draft London Plan were published in August 2018 and the Examination in Public for the Draft New London Plan commenced in January 2019.

1.13 While only in draft, it remains a material planning consideration although it can only be afforded limited weight. Once adopted, it will inform decisions on London's developments between 2019 and 2041.

1.14 **Policy D4 -Housing Quality and standards:** The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity.

Local Policy: London Borough of Richmond upon Thames (2018)

1.15 **Policy LP 8 Amenity and Living Conditions:** All development will be required to protect the amenity and living conditions for occupants of new, existing, adjoining and neighbouring properties. The Council will ensure the design and layout of buildings enables good standards of daylight and sunlight to be achieved in new development and in existing properties affected by new

development; where existing daylight and sunlight conditions are already substandard, they should be improved where possible. Applicants are expected to have regard to the guidance set out within the Council's SPDs relating to design, including Village Planning Guidance, SPDs on extensions, infill and backland developments, housing mix and standards as well as residential development standards.

1.16 **Section 4.8.5** In assessing whether sunlight and daylight conditions are good, both inside buildings and in gardens and open spaces, the Council will have regard to the most recent Building Research Establishment guidance, both for new development, and for properties affected by new development. In some circumstances, mathematical calculations to assess daylighting and sunlighting may be an inappropriate measure, and an on-site judgement will often be necessary.

Supplementary Planning Documents: London Borough of Richmond upon Thames

1.17 The following policies from the **Residential Development Standards and House Extensions and External Alterations** Supplementary Planning Documents adopted on March 2010 and May 2015 respectively, are considered relevant to this report:

1.18 **Section 3.1.1 of the Residential Development Standards:** If no substantial loss of sunlight or daylight to adjoining dwellings and gardens occurs residential development will generally be acceptable subject to the overall design quality, impact on the character of the area and sustainability of the proposal.

1.19 **Section 3.1.2 of the Residential Development Standards:** Residential development should create good living conditions and should not cause any significant loss of daylight or sunlight to habitable rooms or gardens in neighbouring properties. In deciding the acceptability of proposals, the council will be guided by the Building Research Establishment (BRE) standards. Regard will also be made to the impact on residential amenity and the patterns of use of the rooms and gardens.

1.20 **Section 3.3 Sunlight and Daylight of the House Extensions and External Alterations:** Residential development should create good living conditions and should not cause any significant loss of daylight or sunlight to habitable rooms or gardens in neighbouring properties. When accessing such, the Council will be guided by the Building Research Establishment (BRE) standards. Extensions should pass the BRE assessments which include the 25-degree and 45-degree tests.

BRE METHODOLOGY

1.21 The Building Research Establishment (BRE) has set out in their handbook '**Site Layout Planning for Daylight and Sunlight a Guide to Good Practice (2011)**' guidelines and methodology for the measurement and assessment of daylighting amenity around and within dwellings.

1.22 This document states that it is also intended to be used in conjunction with the interior daylight recommendations found within the **British Standard BS8206-2:2008 - Lighting for Buildings**.

1.23 The guidance states that it should not be seen as instrument of planning policy and therefore, any failure to achieve the recommended numerical factors does not necessarily mean that the development is unsuitable.

1.24 In addition, design features such as deep recesses, balconies or open internal layout configurations may reduce internal daylighting levels, but on the other hand can be beneficial to other aspects of health and well-being of the occupants, e.g. provision of private amenity space, overheating mitigation, modern lifestyle and architectural functionality.

Daylight

Proposed Development

1.25 To ensure that future residents will benefit from the adequately lit rooms, an assessment of daylight into residential rooms within the proposed development should be carried out through the Average Daylight Factor (ADF) methodology.

Average Daylight Factor (ADF)

> The BRE guidance sets out detailed tests that assess the interior daylight conditions of rooms; this includes the calculation of the ADF which is a quantitative metric of the overall amount of daylight in a space. The ADF calculation methodology, the design input (BRE chart in Appendix A) and minimum values per room (Table 1) are summarized in the British Standards BS 8206-2:2008.

> The BS guidance states: Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen (LDK spaces) the minimum ADF should be 2%.

Table 1: Minimum ADF recommended targets - BS8206-2:2008	
Room Type	**Minimum Average Daylight Factor (ADF)**
Bedrooms	**1.0%**
Living Rooms	**1.5%**
Kitchens	**2.0%**
LDK spaces	**2.0%**

Existing Buildings

1.26 BRE suggests a set of recommendations to safeguard the daylight to main rooms (living rooms, kitchens and bedrooms) of nearby buildings when a new development or extension is proposed. It provides a decision chart (Appendix A) with sequential tests to be used to determine the impact upon daylight availability of the existing dwellings before and after the new development. The assessment metrics and the methodology are as follows:

Preliminary Test - 25° Obstruction Angle Rule

> If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. If the profile of the building subtends an angle greater than 25° then the VSC test is to be applied in order to investigate the level of harm further.

Vertical Sky Component (VSC) Rule

> Any reduction in the total amount of skylight can be calculated by finding the VSC at the centre of each main window. The BRE guidance advises that a pass rate of 27% is required to demonstrate that daylighting levels are acceptable; if the VSC is less than 27% but greater than 0.8 times its former value **(80% rule)**, occupants of the existing building will be unlikely to notice the reduction in the amount of skylight.

No Sky Line (NSL) - Daylight Distribution Line (DDL)/No-sky view

> Where rooms layouts are known, the sky line in each of the main rooms can be calculated. If the area of the working plane in a room which can receive direct daylight is reduced to less than 0.8 times its former value, then the room will appear poorly lit.

1.27 It should be noted that **this assessment has not considered 'Right of Light'** which is not a material planning consideration.

Sunlight

Proposed Buildings

1.28 The BRE provides guidance in respect of sunlight quality for new development stating the greater importance of adequate sunlight throughout the day in living rooms rather than in bedrooms and kitchens where people value its presence during early morning hours. For interiors the sunlight access can be quantified based on the below criteria:

Deviation from South

> At least one main window wall faces within 90° of due south.

Annual Probable Sunlight Hours (APSH)

> Reasonable sunlight is provided if at least one window to a main living room can receive 25% of annual probable sun light hours (APSH), including at least 5% of annual probable sunlight hours in the winter months (WSPH) between 21 September and 21 March.

Existing Buildings

1.29 The BRE guidance states that obstruction to sunlight may become an issue if some part of a new development is situated within 90° of due south of a main window wall of an existing building. As summarised:

Deviation from South

> If a living room of an existing dwelling has a main window facing 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 sunlight of the existing dwelling may be adversely affected. In this case the ASPH metric should be measured.

Annual Probable Sunlight Hours (APSH/WSPSH)

> Sunlight will be affected if the centre of the window receives less than 25% of annual probable sunlight hours, or less than 5% of probable sunlight hours between 21 September and 21 March, and less than 0.8 times its former sunlight hours during either period and has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

1.30 It is also worth noting that with regards to sunlight duration the degree of satisfaction is related to the expectation of sunlight (paragraph 5.3, BS 8206-2); if a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when it is excluded.

Amenity Spaces

1.31 Good sunlight conditions should be also provisioned for spaces between buildings such as gardens or amenity spaces. The BRE guidance recommends assessing the sunlight availability as below:

Two Sun Hours contour

> At least 50% of a garden or amenity area should receive two hours of direct sunlight on the 21stMarch. If sunlight hours are reduced to less than 0.8 times its former value in existing gardens, this further loss of sunlight is significant, and the garden or amenity area will tend to appear more overshadowed.

> As an optional addition, the BRE guidance recommends that may be helpful to assess the sunlight on the 21st of June as it represents the best case with minimum shadows. The sunlight availability for the proposed amenity spaces has also been assessed on the 21st June as this represents the time of the year when the sun is higher in the sky and the external spaces are more likely to be used and receive good level of daylight.

MODELLING APPROACH

Model inputs

Sources of Data

1.32 The following sources of data have been used to set-up the site, the existing and the proposed 3D models:

> Internal layouts and elevations of the proposed redevelopment as received by PRC Architects on 31st of July 2019 and 13st of August 2019 respectively;

> The detailed 3D model of the surroundings including windows positioning was constructed based on photos from the site visit on 2nd of August and Google map data (Imagery ©2017 Google, Map data ©2018 Google). Information from a previous Daylight and Sunlight Assessment carried out for a different development proposal within the same site produced in February 2016 was also used (Former Hampton Traffic Unit - Daylight and Sunlight Report, February 2016).

> The internal layout of one of the surrounding property (QBC Building 1) was made available from a previous Daylight and Sunlight Assessment carried out for another development proposal on the same site (Former Hampton Traffic Unit - Daylight and Sunlight Report, February 2016). This information along with photographs from the site visit was used to carry-out the Daylight Distribution Level (DD)/No-sky view study.

> A 3D view of the proposal as modelled and assessed can be found in Appendix B. Note that modelling assumptions have been made where information was not available.

Software

1.33 Specialist 3D modelling and daylighting software has been used to predict internal daylight and levels for the proposed scheme against the BRE metrics recommended by the planning authorities.

1.34 The spaces were initially tested against the ADF metric using the BRE calculation methodology. Detailed internal calculations through the Radiance engine were deemed necessary to capture the impact of the lightwells.

Simulation Inputs for ADF calculations

1.35 Light coloured finishing for the internal and external surfaces were used are shown in Table 2 below.

1.36 Reflectance values and glass light transmittance values for the ADF calculations were based on Tables A.1-A.6 (BS 8206-2:2008).

Table 2: Surface Reflectances and Light Transmittance Values	
Material	**Average Reflectance**
Surrounding Ground (Earth dry/Paving)	0.2
Surrounding Neighbouring Buildings (Typical London brickwork)	0.2
External Walls (Medium Coloured Surfaces)	0.4
Internal Walls (Medium/Light Coloured Surfaces)	0.5
Internal Ceiling (Light Grey Plaster)	0.7
Internal Floor (light coloured wood or carpet)	0.3
Glazing - all windows	**Glass Transmittance**
	0.68

Assessment selection

Assessed Surrounding Properties

1.37 Habitable neighbouring buildings that may be impacted by the new development were assessed against daylight and sunlight.

1.38 Non-residential schemes surrounding the development do not fall into the BRE eligible category for daylight assessment.

1.39 Initial 25-degree angle test was used to identify surroundings properties that could be impacted by the new development. The neighbouring properties selected for more detailed daylight and sunlight calculations, where applicable, are illustrated in Figure 3 and Table 3.

1.40 The impact on the internal daylight levels of the surrounding habitable rooms was assessed through the Daylight Distribution Levels / No sky line metric where required and when possible. The internal layout of only one out of the three existing buildings that failed the VSC test was available. In line with the BRE Guidance -section 2.2.8 and the BRE decision chart (Appendix A) the impact upon daylight was tested through the VSC metric for all selected surrounding properties (Table 3) and the DD/No-sky test for one property.

1.41 Sunlight calculations were undertaken only for south facing facades as per the BRE guidance (Table 3).

Table 3: Assessed Properties for Daylight - Sunlight Calculations - BRE method		
Named Properties	**Daylight (relevant metric)**	**Sunlight (relevant metric)**
77 to 81 Station Road	VSC	n/a
75 Station Road	VSC	n/a
73 Station Road	VSC	(ASPH & WSPH) where applicable
2a Plevna Road	VSC	(ASPH & WSPH)
Queen Bench Cottages – Building 1	VSC	n/a
Queen Bench Cottages – Building 2	VSC	n/a
Queen Bench Cottages – Building 3	VSC	(ASPH & WSPH) where applicable
Queen Bench Cottages – Building 4	VSC	n/a
Queen Bench Cottages – Building 5	VSC	n/a
Queen Bench Cottages - Building 6	VSC	(ASPH & WSPH) where applicable

Proposed building

1.42 All proposed habitable rooms of the Old Police Station building, and their respective windows were assessed for internal daylight and sunlight availability. The full results are presented in Tables F1 and F2 in Appendix F.

1.43 It should be noted that the assessment includes 67 bedrooms, 22 private suites which comprise of bedrooms and living rooms as well as communal living/dining rooms from the basement up to the Second Floor, with the exception for the café/Bistro on the ground floor as the space is intended to be mainly used by visitors. All rooms were modelled in accordance with the floor layouts and elevations drawings as provided by the architects.

1.44 Window and room referencing can be found in Appendix G.

Figure 3: Site Plan which identifies the surrounding buildings which were tested (Source: PRC Architects).

SUMMARY OF RESULTS

Proposed Building

1.45 A total of 121 individual habitable rooms including 95 bedrooms and suite bedrooms, 21 private living rooms, and 5 communal living/dining spaces were assessed. Detailed tables of results and rooms referencing can be found in Appendices F and G.

1.46 **Internal average daylight**: A total of 108 habitable rooms meet the BRE criteria of daylight. Overall 90% of the assessed rooms meet the BRE targets.

> Bedrooms: ADF results show that 89 out of 95 assessed bedrooms (94%) meet the BRE threshold of 1%.

> Private and Communal living/dining rooms: ADF results show that 20 out of 26 assessed spaces meet the BRE target of 1.5%.

1.47 It should be noted that one bedroom (Room R19 on the ground floor) out of the 12 failing rooms achieve an ADF of 0.9% which is considered a marginal fail, however the overall ADF results for the proposed shown above accounts of those bedrooms as a failure.

1.48 **Sunlight:**

> **Annual and Winter Probable Sunlight Hours (APSH/WPSH)**: 100% and 93% rooms facing 90-degree of due south meet the BRE criteria for sunlight throughout the year and in the winter period respectively. Five windows on the basement level failed the WPSH criteria. However, 3 out of 5 failing windows achieve 4 hours of sun in the winter, which is slightly below the BRE target of 5 hours and therefore are considerable a marginal failure.

Existing Dwellings

1.49 A total of 10 adjacent properties were assessed. Detailed tables of results and windows referencing can be found in Appendices D and E.

1.50 **Daylight:**

> **25-degree test**: The initial 25-degree plan test identified a potential reduction in daylight caused by the proposed building on two of the existing properties facing the site to the east (QBC Building 1 and QBC building 2). The location of those dwellings is illustrated in figures C1 and C2 in

Appendix C. It is important to note that a similar impact on the existing QBC buildings to the east of the site was detected in the daylight/sunlight report of the extant residential scheme.

> **Vertical Sky Component (VSC)**: A total of 35 windows within the existing 10 buildings selected were assessed against the VSC metric. The VSC results showed that 31 out of 35 tested windows (equal to 89%) will meet the BRE targets. Some windows on the QBC building 1, QBC building 2 and QBC building 3 will experience daylight loss within a range of 0.73 to 0.78 their former value compared with the recommended BRE target of 0.8. It should be noted that the internal daylight levels are not expected to be dramatically impacted by the proposed building as the VSC on those windows is slightly higher than the recommended BRE target. Detailed results of the assessment are presented in Table D1 in Appendix D.

> **Daylight Distribution (DD)/No-Sky View:** In order to further demonstrate that the proposed building does not significantly reduce the daylight availability of the existing 'QBC buildings 1, and 3', the BRE guidance recommends the DD/no-sky view test should be carried out only when internal layout is available. As explained in **section 4.9** of this report the DD/no-sky view test has been undertaken only for one surrounding property (QBC building 1) as the information on the internal layout was available. All main rooms within the QBC building 1 were tested against the No-view sky metric. The results indicate that all assessed rooms within the QBC building 1 will maintain good levels of daylight and will not notice a reduction in the amount of skylight. Therefore, the proposed building will not have an impact on the daylight availability of the adjacent QBC building 1. The result of the daylight distribution on QBC building 1 are likely to be valid also for the other two existing building that failed the VSC (QBC building 2 and QBC building 3) as they failed within a similar range compared with their former values. However, it should be noted that it cannot be demonstrated that the proposed building will not have any impact on the existing QBC building 2 and QBC building 3 as internal layouts are not available and therefore the no-sky view cannot be carried out. The full results of the assessment are presented in Table D3 in Appendix D.

1.51 **Sunlight:** All windows of the existing properties facing south will receive good sunlight levels throughout the year. Detailed results of the assessment are presented in Table D2 in Appendix D.

Amenity spaces

Proposed Amenity Spaces

1.52 The assessment of the amount of sunlight received by the two proposed amenity external spaces identified that both spaces will not receive the BRE recommended hours of sun on the 21st March. This result is mainly caused by their location below the ground level and the proposed buildings surrounding the amenity space.

1.53 As a demonstration that an effort has been made by the design team to maximise amenity spaces and access to sunlight an additional test was carried out on the 21st of June. The summer equinox represents the moment of the year when the sun is higher in the sky, and when is more likely that external spaces will be used by the occupants. The results of the test show improved levels of sunlight, with the bigger communal garden (A1) receiving more than 2 hours of sun on 71% of the area during the summer period. The full results are presented in Table H2 in Appendix H.

Existing Amenity Spaces

1.54 All existing amenity spaces receive adequate sunlight throughout the year and meet the BRE targets. The full results are presented in Table H1 in Appendix H.

CONCLUSION

1.55 Hodkinson Consultancy has been instructed to assess the impact of the proposed redevelopment of Old Police Station upon daylight and sunlight received by dwellings and amenity areas surrounding the site, and to demonstrate the predicted internal daylight levels of the proposed dwellings and amenity spaces.

1.56 The methodology for this assessment is based on the BRE Guidelines 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' (2011). The BRE guidance states that it is intended for designers, their clients, consultants and planning officials and should not be seen as instrument of planning policy; therefore, any failure to achieve the recommended numerical factors does not necessarily mean that the development is unsuitable.

1.57 The proposed redevelopment is to include the partial retention of the locally listed Police Station frontage building, and demolition of all other buildings location within the site, with proposed construction of a 67 bedroom care home, plus 22 care suites, with ancillary communal accommodation, staff and back of house facilities, plus connected outbuildings and car parking on site.

1.58 **Proposed Redevelopment**:

> **Internal Daylight:** A total of 108 (equal to 89%) out of 121 assessed habitable rooms (Including bedrooms, suites bedrooms and living room, and communal living/dining rooms) are adequately daylit with ADF values passing the BRE targets. Rooms that are failing mostly face the inner courtyard with only one window and have a deep internal layout.

> **Sunlight:** 100% and 93% of the rooms within 90-degree of due south meet the BRE criteria for sunlight in the annual and winter periods.

> **Amenities:** Given the location below the ground of the proposed two external amenity spaces it is expected that those spaces do not achieve the sunlight BRE criteria for the 21st March. However, the main courtyard will receive adequate level of sunlight (71% of the area) on the 21st of June when is more likely that external spaces will be used by the occupants.

1.59 **Existing dwellings**:

> **Daylight:** The initial 25-degree plan test show that the proposed building can affect the daylight availability on two of the surrounding properties to the east of the site (QCB building 1 and QBC building 2) as the 25-degree plan drawn from the lower windows intersected the proposed building. It should be noted that a similar result was also identified in the extant scheme.

> The VSC results showed that 31 out of 35 tested windows (equal to 89%) will meet the BRE targets. The results of the VSC show that three existing properties QBC building 1, 2 and 3 can experience a

daylight loss within a range of 0.73 to 0.78 of their former value, which fails slightly below the BRE target. With the internal layout available the internal daylight distribution of the existing QBC building 1 was assessed against the no-sky view metric. The results show that the proposed building is not expected to affect the daylight availability of QCB building 1 and adequate level of daylight will be maintained. It is therefore anticipated that a similar result to the QCB building 1 is expected for QCB building 2 and QCB building 3 (Internal layouts were not available) and good levels of daylight will be maintained. Overall the results above demonstrate that the proposal is not expected to have an adverse impact on the daylight of the existing properties to the east of the site similar to the extant residential scheme.

> **Sunlight:** The proposed development does not significantly impact the sunlight levels of any of the assessed surrounding properties.

> **Amenities:** The proposed development does not significantly impact the sunlight levels of the surrounding amenities.

1.60 In Conclusion, the impact of the current proposal is similar or overall minor than the extant residential scheme, and complies with the Residential Development Standards SPD, which states that “if no substantial loss of sunlight or daylight to adjoining dwellings and gardens occurs residential development will generally be acceptable”, as well as Policy LP8, which states that “good standards of daylight and sunlight [should] be achieved in new development”.

2. GLOSSARY

The following terms are referenced throughout the report. They are described below as stated in the BRE guidance:

> **Average Daylight Factor (ADF)**: Ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky. Thus a 1%ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance.

> **Daylight**: Combined skylight and sunlight.

> **Obstruction Angle**: The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.

> **Probable Sunlight Hours**: The long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground.

> **Vertical Sky Component (VSC)**: Ratio of that part of illuminance, at a point on a given vertical plan, that is received directly from an overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky.

> **Working Plane:** Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 0.85m above the floor in houses and factories, 0.7m above the floor in offices.

> **No sky line:** The outline of the working plane of the area from which no sky can be seen. It indicated how good the distribution of daylight is in a room.

> **Daylight Distribution:** The impact on the daylight distribution in existing building can be found by plotting the “no sky line” in each of the main rooms.

> **Daylight Factor:** It describes the ratio of outside illuminance over inside illuminance, expressed in per cent. The higher the DF, the more natural light is available in the room. It is expressed as such: DF = 100 * Ein / Eext. A daylight factor can also be expressed as an average using experimental formulas. *(source: https://www.new-learn.info/packages/clear/visual/daylight/analysis/hand/daylight_factor.html)*

APPENDICES

Appendix A: BRE chart

Appendix B: 3D view of the proposed

Appendix C: 25-degree plane test results

Appendix D: Table of results - Surroundings

Appendix E: Window Referencing - Surroundings

Appendix F: Table of results - Proposed

Appendix G: Room and window Referencing – Proposed

Appendix H: Amenity spaces – Proposed and Surrounding

Appendix E: Site visit photos

Appendix A: BRE Chart

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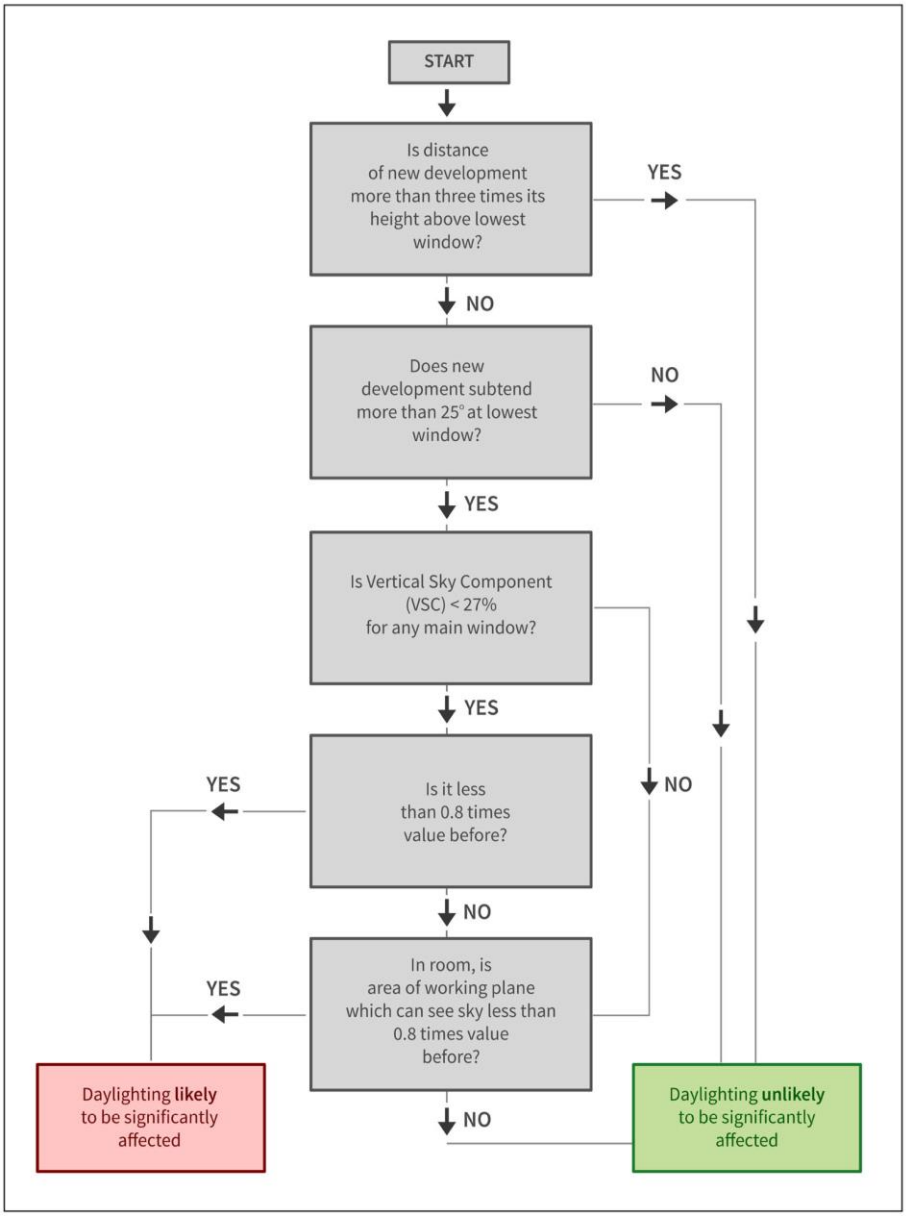
BRE DECISION CHART

BRE provides a decision chart for the assessment of impact upon daylight on surroundings



Decision Chart - Daylight in Existing Buildings (BRE Guidance)

Appendix B: 3D view of the proposed

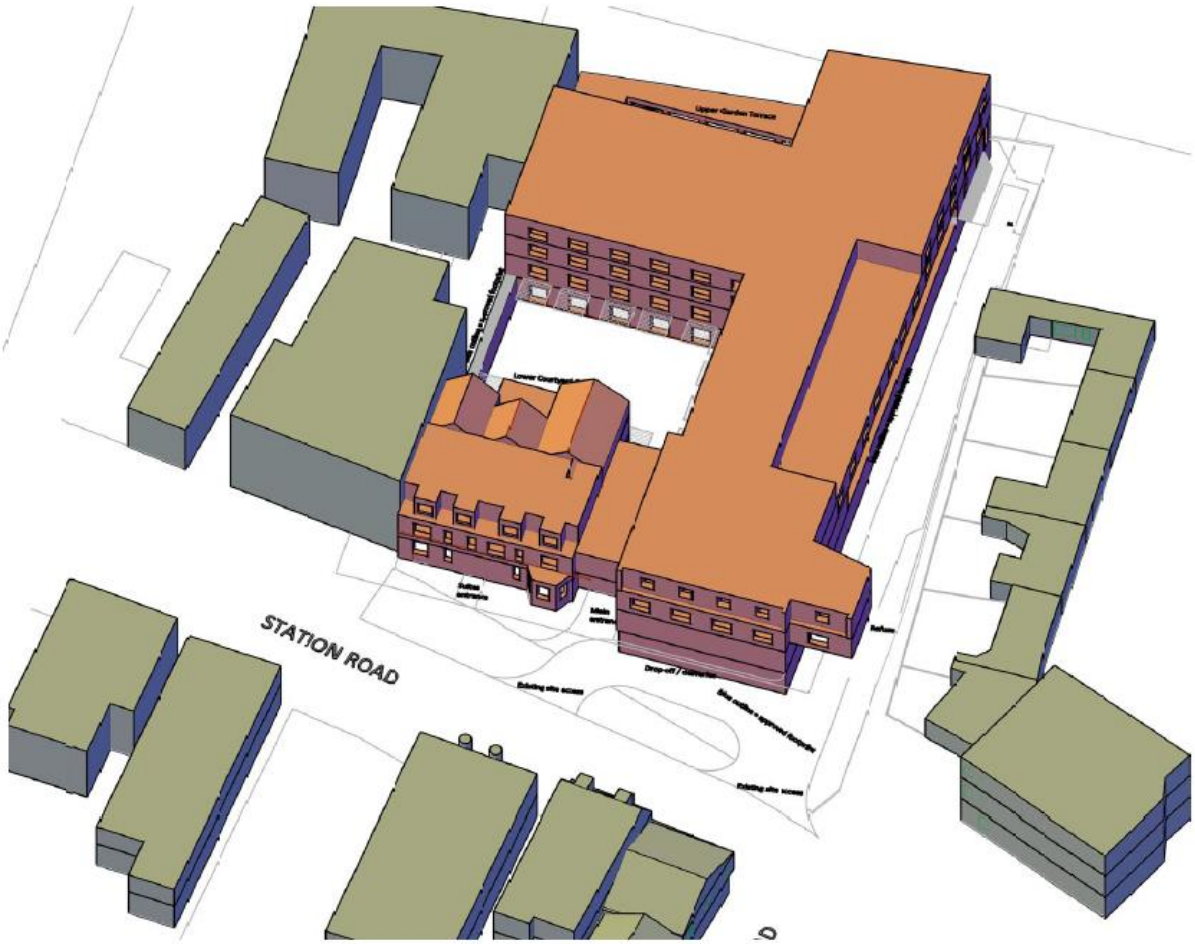


Figure B1: View of the proposed model (in amber) and its surrounding properties (in green)

Appendix C: 25-degree plane test

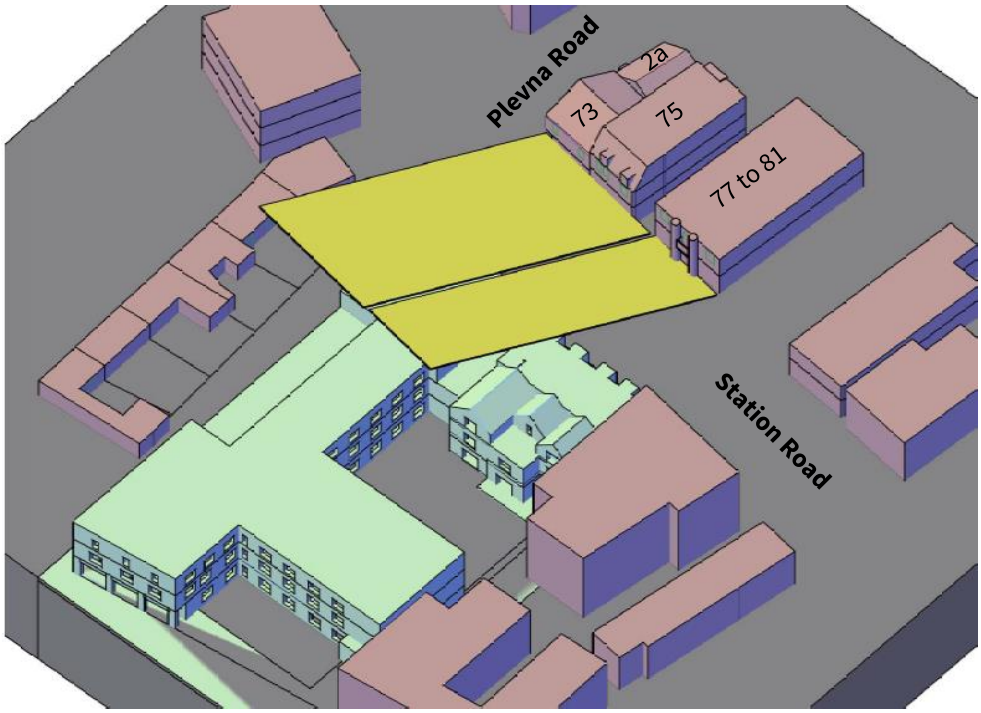


Figure C1: 25-degree plan test view of the existing properties opposite to the site.

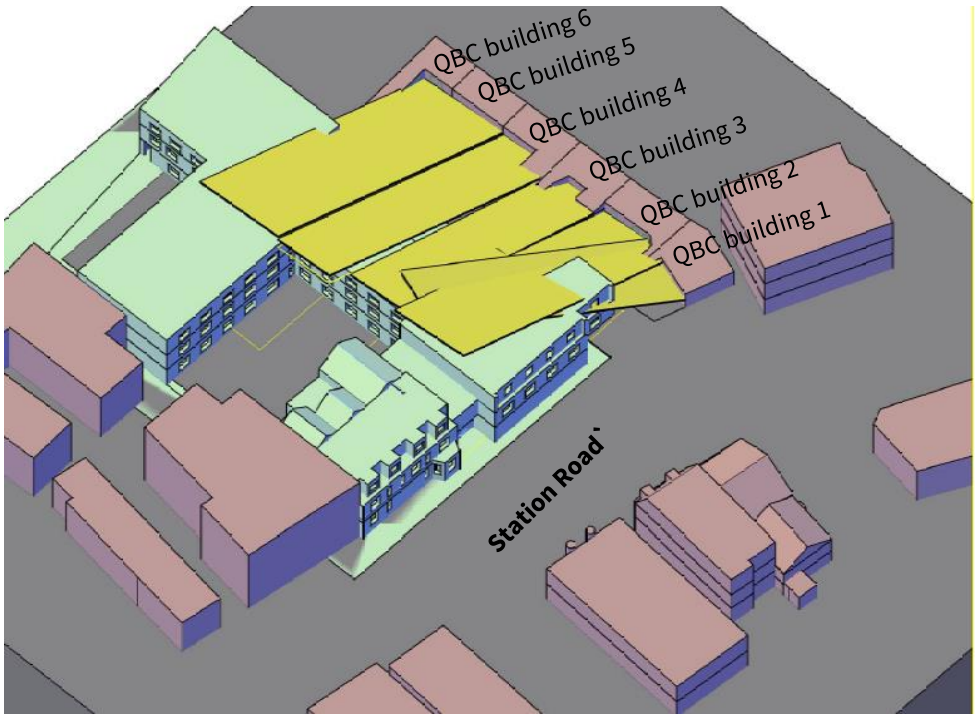


Figure C2: 25-degree plane test results view of the existing properties to the east of the site

TABLE C1: 25-degree plan analysis	
Buildings Name	**Does the 25-degree plan intersect the proposed building?**
QBC Building 1	**NO**
QBC Building 2	**NO**
QBC Building 3	**YES**
QBC Building 4	**YES**
QBC Building 5	**YES**
QBC Building 6	**MARGINAL FAIL**
73 Station Road	**YES**
7 Station Road	**YES**
77 to 81 station road	**YES**

Appendix D: Tables of results - Surroundings

TABLE D1: DAYLIGTH for surrounding buildings - Vertical Sky Component BRE calculations methodology						
Building Ref	Floor Ref	Window Ref	Annual Probable Sun Hours (APSH)			
			Existing	Proposed	Pr/Ex (Target >0.8)	Compliance (Targets VSC>27 OR Pr/Ex >0.8)
QBC Building 1	Ground	W1	31.9	24.0	0.75	NO
	Ground	W2	36.2	28.7	0.79	YES
	Ground	W3	36.3	29.0	0.80	YES
QBC Building 2	Ground	W1	32.5	24.7	0.76	NO
	Ground	W2	35.2	27.0	0.77	YES
	Ground	W3	31.9	24.8	0.78	NO
QBC Building 3	Ground	W1	31.3	27.3	0.87	YES
	Ground	W2	28.9	24.2	0.84	YES
	Ground	W3	22.3	19.0	0.85	YES
	Ground	W4	26.3	25.2	0.96	YES
	Ground	W5	35.5	25.9	0.73	NO
QBC Building 4	Ground	W1	34.5	29.0	0.84	YES
	Ground	W2	35.8	29.3	0.82	YES
QBC Building 5	Ground	W3	35.2	29.0	0.82	YES
	Ground	W4	28.0	23.7	0.84	YES
QBC Building 6	Ground	W1	34.0	32.6	0.96	YES
	Ground	W2	30.3	28.7	0.95	YES
	Ground	W3	0.0	0.0	1.00	YES
77 to 81 Station Rd	First	W1	35.8	34.4	0.96	YES
	First	W2	29.7	27.6	0.93	YES
	First	W3	36.5	34.6	0.95	YES
2a Plevna Rd	Ground	W1	34.4	34.4	1.00	YES
	Ground	W2	35.0	35.0	1.00	YES
	First	W1	37.3	37.3	1.00	YES
73 Station Rd	Ground	W1	34.8	34.8	1.00	YES
	First	W1	37.3	37.3	1.00	YES
	First	W2	37.4	37.4	1.00	YES
	First	W3	37.3	37.3	1.00	YES

	First	W4	37.7	34.9	0.93	YES
	First	W5	37.6	35.3	0.94	YES
75 Station Rd	First	W1	38.0	35.5	0.93	YES
	First	W2	38.0	35.5	0.93	YES
	First	W3	38.7	37.3	0.96	YES
	First	W4	37.9	35.3	0.93	YES
	First	W5	38.6	37.2	0.96	YES

TABLE D2: SUNLIGHT for surrounding buildings - Probable Sun Hours BRE calculations methodology

Building Ref	Floor Ref	Window Ref	Annual Probable Sun Hours (APSH)			Winter Probable Sun Hours (WPSH)		
			Existing	Proposed	Compliance (Target >25)	Existing	Proposed	Compliance (Target >5)
QBC Building 1	Ground	W1	North	North	North	North	North	North
	Ground	W2	North	North	North	North	North	North
	Ground	W3	North	North	North	North	North	North
QBC Building 2	Ground	W1	North	North	North	North	North	North
	Ground	W2	North	North	North	North	North	North
	Ground	W3	North	North	North	North	North	North
QBC Building 3	Ground	W1	67.0	58.0	YES	19.0	13.0	YES
	Ground	W2	North	North	North	North	North	North
	Ground	W3	North	North	North	North	North	North
	Ground	W4	North	North	North	North	North	North
	Ground	W5	North	North	North	North	North	North
QBC Building 4	Ground	W1	North	North	North	North	North	North
	Ground	W2	North	North	North	North	North	North
QBC Building 5	Ground	W3	North	North	North	North	North	North
	Ground	W4	North	North	North	North	North	North
QBC Building 6	Ground	W1	81.0	78.0	YES	25.0	23.0	YES
	Ground	W2	66.0	63.0	YES	20.0	17.0	YES
	Ground	W3	North	North	North	North	North	North
77 to 81 Station Rd	First	W1	North	North	North	North	North	North
	First	W2	North	North	North	North	North	North
	First	W3	North	North	North	North	North	North
2a Plevna Rd	Ground	W1	55.0	55.0	YES	17.0	17.0	YES
	Ground	W2	55.0	55.0	YES	18.0	18.0	YES
	First	W1	58.0	58.0	YES	19.0	19.0	YES
73 Station Rd	Ground	W1	55.0	55.0	YES	17.0	17.0	YES
	First	W1	59.0	59.0	YES	20.0	20.0	YES
	First	W2	58.0	58.0	YES	19.0	19.0	YES
	First	W3	58.0	58.0	YES	19.0	19.0	YES
	First	W4	North	North	North	North	North	North
	First	W5	North	North	North	North	North	North
75 Station Rd	First	W1	North	North	North	North	North	North
	First	W2	North	North	North	North	North	North

	First	W3	North	North	**North**	North	North	**North**
	First	W4	North	North	**North**	North	North	**North**
	First	W5	North	North	**North**	North	North	**North**

TABLE D3: DAYLIGHT for surrounding buildings - Daylight Distribution/No-sky view

Building Ref	Floor Ref	Room Ref	Room type	Room Area	Existing Lit Area	Proposed Lit Area	Pr/Ex (Target >0.8)	Compliance
QBC Building 1	Ground	R1	Kitchen	6.0	6.0	6.0	1.00	**YES**
	Ground	R2	Living Room	18.1	18.1	18.1	1.00	**YES**
	Ground	R3	Bedroom	9.0	8.9	8.8	0.99	**YES**
	Ground	R4	Bedroom	9.1	9.1	9.1	1.00	**YES**

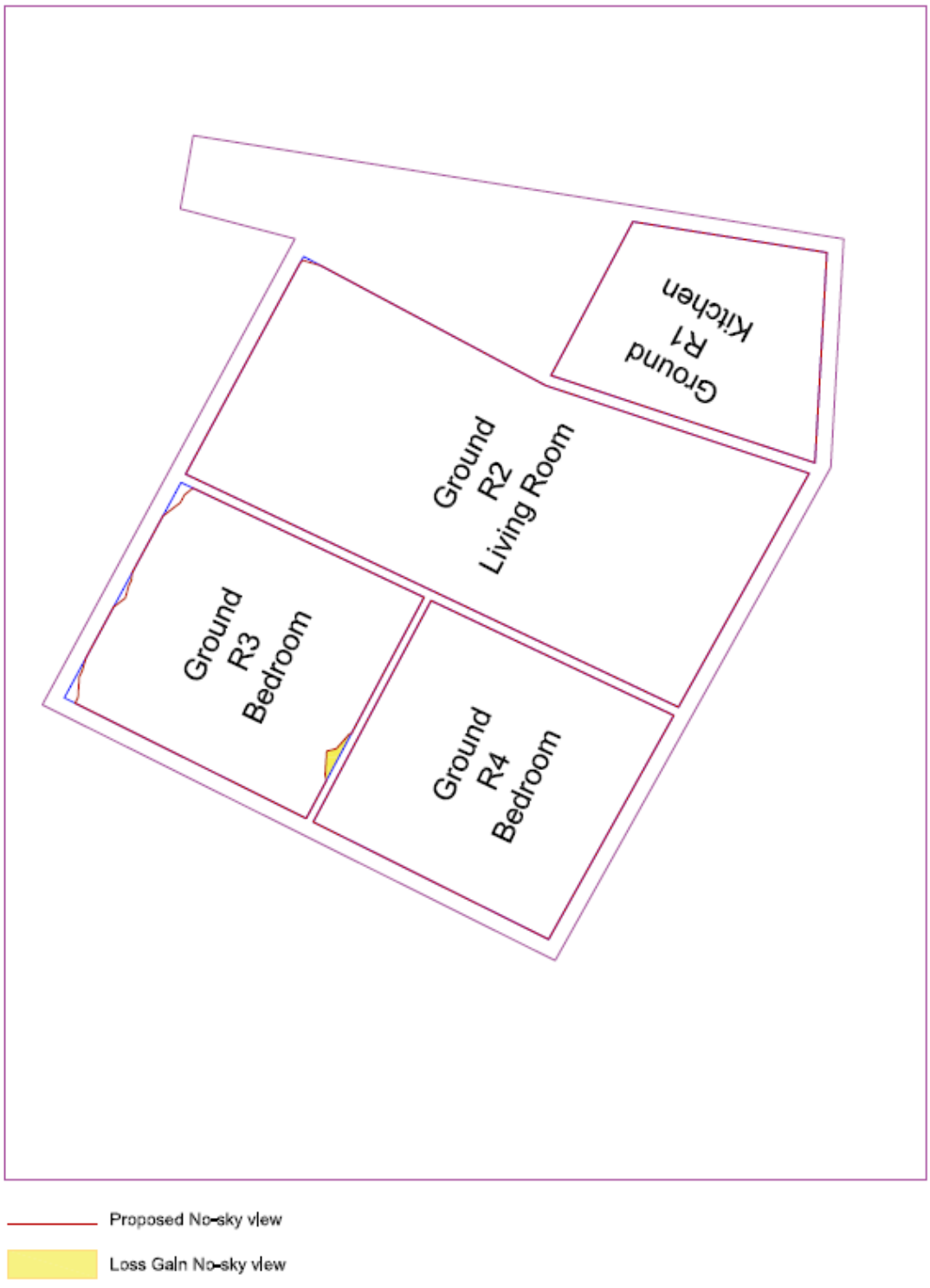
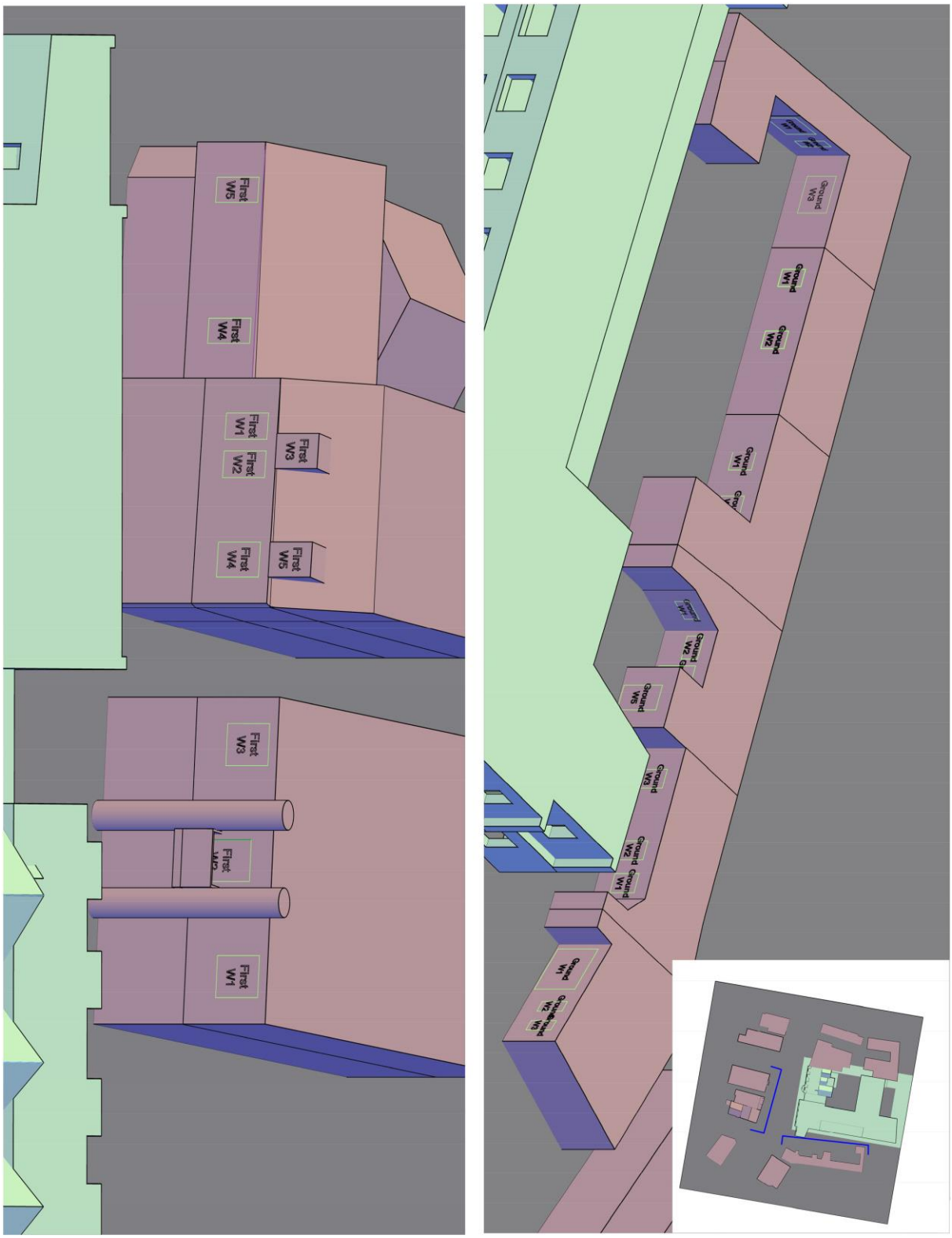


Figure D2: Results of the no-sky view test carried out on the existing property QBC building 1

Appendix E: Window referencing - Surroundings


First W5
First W4
First W1
First W2
First W3
First W4
First W5
First W3
First W1
Ground W3
Ground W1
Ground W2
Ground W1
Ground W2
Ground W3
Ground W3
Ground W2
Ground W1
Ground W1
Ground W2
Ground W3

Appendix F: Tables of results - Proposed

TABLE F1: INTERNAL DAYLIGHTING - Average Daylight Factor BRE calculations methodology						
Floor Level	**Room Ref**	**Room Type**	**Calculated ADF (%)**	**Target ADF (%)**	**Diff.**	**Compliance**
Below Ground	R1	Bedroom	1.3	1.0	0.3	YES
	R2	Bedroom	1.4	1.0	0.4	YES
	R3	Bedroom	1.4	1.0	0.4	YES
	R4	Bedroom	1.4	1.0	0.4	YES
	R5	Living Room	1.9	1.5	0.4	YES
	R6	Bedroom	2.1	1.0	1.1	YES
	R7	Bedroom	1.0	1.0	0.0	YES
	R8	Bedroom	1.3	1.0	0.3	YES
	R9	Bedroom	1.5	1.0	0.5	YES
	R10	Bedroom	1.4	1.0	0.4	YES
	R11	Bedroom	1.2	1.0	0.2	YES
	R12	Living Room	0.3	1.5	-1.2	NO
	R13	Bedroom	1.1	1.0	0.1	YES
	R14	Bedroom	0.7	1.0	-0.3	NO
	R15	Bedroom	0.5	1.0	-0.5	NO
	R16	Bedroom	1.7	1.0	0.7	YES
	R17	Bedroom	1.9	1.0	0.9	YES
	R18	Bedroom	2.0	1.0	1.0	YES
	R19	Bedroom	1.8	1.0	0.8	YES
	R20	Bedroom	1.2	1.0	0.2	YES
Ground Floor	R1	Bedroom	1.4	1.0	0.4	YES
	R2	Bedroom	1.7	1.0	0.7	YES
	R3	Bedroom	1.8	1.0	0.8	YES
	R4	Bedroom	1.8	1.0	0.8	YES
	R5	Bedroom	2.4	1.0	1.4	YES
	R6	Living Room	1.9	1.5	0.4	YES
	R7	Living Room	1.7	1.5	0.2	YES
	R8	Bedroom	2.8	1.0	1.8	YES
	R9	Bedroom	1.0	1.0	0.0	YES
	R10	Living Room	4.1	1.5	2.6	YES
	R11	Bedroom	1.6	1.0	0.6	YES
	R12	Bedroom	1.7	1.0	0.7	YES

	R13	Bedroom	1.8	1.0	0.8	YES
	R14	Bedroom	1.8	1.0	0.8	YES
	R15	Bedroom	1.7	1.0	0.7	YES
	R16	Living Room	3.0	1.5	1.5	YES
	R17	Bedroom	1.9	1.0	0.9	YES
	R18	Bedroom	1.0	1.0	0.0	YES
	R19	Bedroom	0.9	1.0	-0.1	MARGINAL FAIL
	R20	Bedroom	2.1	1.0	1.1	YES
	R21	Bedroom	2.1	1.0	1.1	YES
	R22	Bedroom	2.1	1.0	1.1	YES
	R23	Bedroom	2.0	1.0	1.0	YES
	R24	Bedroom	1.8	1.0	0.8	YES
First Floor	R1	Bedroom	1.4	1.0	0.4	YES
	R2	Bedroom	1.7	1.0	0.7	YES
	R3	Bedroom	1.8	1.0	0.8	YES
	R4	Bedroom	1.8	1.0	0.8	YES
	R5	Bedroom	1.7	1.0	0.7	YES
	R6	Living Room	1.3	1.5	-0.2	NO
	R7	Living Room	1.1	1.5	-0.4	NO
	R8	Bedroom	3.1	1.0	2.1	YES
	R9	Bedroom	1.5	1.0	0.5	YES
	R10	Living Room	3.3	1.5	1.8	YES
	R11	Bedroom	2.4	1.0	1.4	YES
	R12	Living Room	4.1	1.5	2.6	YES
	R13	Bedroom	1.5	1.0	0.5	YES
	R14	Bedroom	1.5	1.0	0.5	YES
	R15	Bedroom	1.5	1.0	0.5	YES
	R16	Bedroom	1.9	1.0	0.9	YES
	R17	Bedroom	2.0	1.0	1.0	YES
	R18	Bedroom	2.0	1.0	1.0	YES
	R19	Bedroom	2.0	1.0	1.0	YES
	R20	Bedroom	2.0	1.0	1.0	YES
	R21	Bedroom	2.0	1.0	1.0	YES
	R22	Bedroom	1.7	1.0	0.7	YES
	R23	Bedroom	1.8	1.0	0.8	YES

	R24	Bedroom	2.0	1.0	1.0	YES
	R25	Bedroom	1.8	1.0	0.8	YES
	R26	Bedroom	1.8	1.0	0.8	YES
	R27	Bedroom	2.0	1.0	1.0	YES
	R28	Bedroom	1.7	1.0	0.7	YES
	R29	Bedroom	2.0	1.0	1.0	YES
	R30	Bedroom	2.0	1.0	1.0	YES
	R31	Bedroom	2.0	1.0	1.0	YES
	R32	Bedroom	2.0	1.0	1.0	YES
	R33	Living Room	3.5	1.5	2.0	YES
	R34	Bedroom	1.8	1.0	0.8	YES
	R35	Bedroom	0.8	1.0	-0.2	NO
	R36	Bedroom	0.8	1.0	-0.2	NO
	R37	Bedroom	1.9	1.0	0.9	YES
	R38	Bedroom	2.0	1.0	1.0	YES
	R39	Bedroom	2.0	1.0	1.0	YES
	R40	Bedroom	1.9	1.0	0.9	YES
	R41	Bedroom	1.8	1.0	0.8	YES
Second Floor	R1	Bedroom	1.4	1.0	0.4	YES
	R2	Living Room	1.7	1.5	0.2	YES
	R3	Bedroom	1.7	1.0	0.7	YES
	R4	Living Room	1.7	1.5	0.2	YES
	R5	Living Room	1.7	1.5	0.2	YES
	R6	Living Room	1.5	1.5	0.0	YES
	R8	Bedroom	1.3	1.0	0.3	YES
	R9	Bedroom	1.4	1.0	0.4	YES
	R10	Bedroom	1.1	1.0	0.1	YES
	R11	Bedroom	1.2	1.0	0.2	YES
	R12	Bedroom	1.2	1.0	0.2	YES
	R13	Bedroom	1.3	1.0	0.3	YES
	R14	Living Room	1.3	1.5	-0.2	NO
	R15	Living Room	1.3	1.5	-0.2	NO
	R16	Bedroom	1.5	1.0	0.5	YES
	R17	Bedroom	1.9	1.0	0.9	YES
	R18	Living Room	1.7	1.5	0.2	YES
	R19	Living Room	1.6	1.5	0.1	YES

	R20	Bedroom	1.6	1.0	0.6	YES
	R21	Bedroom	1.6	1.0	0.6	YES
	R22	Living Room	1.6	1.5	0.1	YES
	R23	Living Room	1.7	1.5	0.2	YES
	R24	Bedroom	1.7	1.0	0.7	YES
	R25	Bedroom	1.7	1.0	0.7	YES
	R26	Bedroom	1.7	1.0	0.7	YES
	R27	Living Room	2.0	1.5	0.5	YES
	R28	Living Room	1.9	1.5	0.4	YES
	R29	Bedroom	1.5	1.0	0.5	YES
	R30	Living Room	1.2	1.5	-0.3	NO
	R31	Bedroom	0.7	1.0	-0.3	NO
	R32	Bedroom	0.8	1.0	-0.2	NO
	R33	Bedroom	1.7	1.0	0.7	YES
	R34	Living Room	1.7	1.5	0.2	YES
	R35	Living Room	1.7	1.5	0.2	YES
	R36	Bedroom	1.7	1.0	0.7	YES
	R37	Bedroom	1.7	1.0	0.7	YES

TABLE F2: SUNLIGHT for proposed - Probable Sun Hours BRE calculations methodology							
Floor Ref	Room Ref	Room Type	Window Ref	Annual Probable Sun Hours (APSH)		Winter Probable Sun Hours (WPSH)	
				Proposed	Compliance (Target >25)	Proposed	Compliance (Target >5)
Below Ground	R1	Bedroom	W1	37.0	YES	4.0	MARGINAL FAIL
	R2	Bedroom	W2	42.0	YES	4.0	MARGINAL FAIL
	R3	Bedroom	W3	41.0	YES	5.0	YES
	R4	Bedroom	W4	37.0	YES	3.0	NO
	R5	Livng Room	W5	North	North	North	North
			W6	North	North	North	North
			W7	North	North	North	North
	R6	Bedroom	W8	North	North	North	North
	R7	Bedroom	W9	North	North	North	North
	R8	Bedroom	W10	North	North	North	North
	R9	Bedroom	W11	North	North	North	North
	R10	Bedroom	W12	North	North	North	North
	R11	Bedroom	W13	North	North	North	North
	R12	Livng Room	W14	North	North	North	North
			W15	North	North	North	North
	R13	Bedroom	W16	North	North	North	North
	R14	Bedroom	W17	North	North	North	North
	R15	Bedroom	W18	28.0	YES	4.0	MARGINAL FAIL
	R16	Bedroom	W19	North	North	North	North
	R17	Bedroom	W20	North	North	North	North
	R18	Bedroom	W21	North	North	North	North
	R19	Bedroom	W22	North	North	North	North
	R20	Bedroom	W23	30.0	YES	2.0	NO
Ground Floor	R1	Bedroom	W1	67.0	YES	18.0	YES
	R2	Bedroom	W2	73.0	YES	22.0	YES
	R3	Bedroom	W3	74.0	YES	21.0	YES
	R4	Bedroom	W4	73.0	YES	21.0	YES
	R5	Bedroom	W5	North	North	North	North
	R6	Bedroom	W6	North	North	North	North
	R7	Bedroom	W7	North	North	North	North
	R8	Bedroom	W8	84.0	YES	27.0	YES

			W9	85.0	YES	28.0	YES
	R9	Bedroom	W10	68.0	YES	23.0	YES
	R10	Bedroom	W11	56.0	YES	19.0	YES
			W12	84.0	YES	27.0	YES
			W13	69.0	YES	22.0	YES
	R11	Bedroom	W14	North	North	North	North
	R12	Bedroom	W15	North	North	North	North
	R13	Bedroom	W16	North	North	North	North
	R14	Bedroom	W17	North	North	North	North
	R15	Bedroom	W18	North	North	North	North
	R16	Living Room	W19	58.0	YES	18.0	YES
			W20	58.0	YES	18.0	YES
			W21	North	North	North	North
			W22	North	North	North	North
			W23	North	North	North	North
			W24	North	North	North	North
	R17	Bedroom	W25	North	North	North	North
	R18	Bedroom	W26	North	North	North	North
	R19	Bedroom	W27	77.0	YES	22.0	YES
	R20	Bedroom	W28	North	North	North	North
	R21	Bedroom	W29	North	North	North	North
	R22	Bedroom	W30	North	North	North	North
	R23	Bedroom	W31	North	North	North	North
	R24	Bedroom	W32	73.0	YES	23.0	YES
First Floor	R1	Bedroom	W1	75.0	YES	20.0	YES
	R2	Bedroom	W2	80.0	YES	24.0	YES
	R3	Bedroom	W3	81.0	YES	25.0	YES
	R4	Bedroom	W4	81.0	YES	25.0	YES
	R5	Bedroom	W5	North	North	North	North
	R6	Bedroom	W6	North	North	North	North
	R7	Bedroom	W7	North	North	North	North
	R8	Bedroom	W8	87.0	YES	30.0	YES
			W9	87.0	YES	30.0	YES
	R9	Bedroom	W10	87.0	YES	30.0	YES
	R10	Bedroom	W11	87.0	YES	30.0	YES
			W12	87.0	YES	30.0	YES
	R11	Bedroom	W13	87.0	YES	30.0	YES

	R12	Living Room	W14	85.0	YES	30.0	YES
			W15	North	North	North	North
	R13	Bedroom	W16	87.0	YES	30.0	YES
	R14	Bedroom	W17	87.0	YES	30.0	YES
	R15	Bedroom	W18	86.0	YES	29.0	YES
	R16	Bedroom	W19	85.0	YES	28.0	YES
	R17	Bedroom	W20	85.0	YES	28.0	YES
			W21	North	North	North	North
	R18	Bedroom	W22	57.0	YES	17.0	YES
	R19	Bedroom	W23	58.0	YES	18.0	YES
	R20	Bedroom	W24	58.0	YES	18.0	YES
	R21	Bedroom	W25	58.0	YES	18.0	YES
	R22	Bedroom	W26	North	North	North	North
	R23	Bedroom	W27	North	North	North	North
	R24	Bedroom	W28	58.0	YES	18.0	YES
	R25	Bedroom	W29	North	North	North	North
	R26	Bedroom	W30	North	North	North	North
	R27	Bedroom	W31	58.0	YES	18.0	YES
	R28	Bedroom	W32	North	North	North	North
	R29	Bedroom	W33	58.0	YES	18.0	YES
	R30	Bedroom	W34	58.0	YES	18.0	YES
	R31	Bedroom	W35	58.0	YES	18.0	YES
	R32	Bedroom	W36	58.0	YES	18.0	YES
	R33	Living Room	W37	58.0	YES	18.0	YES
			W38	58.0	YES	18.0	YES
			W39	North	North	North	North
			W40	North	North	North	North
			W41	North	North	North	North
			W42	North	North	North	North
			W43	North	North	North	North
	R34	Bedroom	W44	North	North	North	North
	R35	Bedroom	W45	North	North	North	North
	R36	Bedroom	W46	76.0	YES	22.0	YES
	R37	Bedroom	W47	North	North	North	North
	R38	Bedroom	W48	North	North	North	North
	R39	Bedroom	W49	North	North	North	North
	R40	Bedroom	W50	North	North	North	North

	R41	Bedroom	W51	77.0	YES	23.0	YES
Second Floor	R1	Bedroom	W1	82.0	YES	25.0	YES
	R2	Bedroom	W2	83.0	YES	26.0	YES
	R3	Bedroom	W3	84.0	YES	27.0	YES
	R4	Bedroom	W4	85.0	YES	28.0	YES
	R5	Bedroom	W5	North	North	North	North
	R6	Bedroom	W6	North	North	North	North
	R8	Bedroom	W8	87.0	YES	30.0	YES
	R9	Bedroom	W9	87.0	YES	30.0	YES
	R10	Bedroom	W10	87.0	YES	30.0	YES
	R11	Bedroom	W11	87.0	YES	30.0	YES
	R12	Bedroom	W12	North	North	North	North
	R13	Bedroom	W13	87.0	YES	30.0	YES
	R14	Bedroom	W14	87.0	YES	30.0	YES
	R15	Bedroom	W15	87.0	YES	30.0	YES
	R16	Bedroom	W16	87.0	YES	30.0	YES
	R17	Bedroom	W17	87.0	YES	30.0	YES
			W18	North	North	North	North
	R18	Bedroom	W19	North	North	North	North
	R19	Bedroom	W20	North	North	North	North
	R20	Bedroom	W21	North	North	North	North
	R21	Bedroom	W22	North	North	North	North
	R22	Bedroom	W23	58.0	YES	18.0	YES
	R23	Bedroom	W24	58.0	YES	18.0	YES
	R24	Bedroom	W25	58.0	YES	18.0	YES
	R25	Bedroom	W26	58.0	YES	18.0	YES
	R26	Bedroom	W27	58.0	YES	18.0	YES
	R27	Bedroom	W28	58.0	YES	19.0	YES
			W29	North	North	North	North
	R28	Bedroom	W30	North	North	North	North
			W31	North	North	North	North
	R29	Bedroom	W32	North	North	North	North
	R30	Bedroom	W33	North	North	North	North
	R31	Bedroom	W34	North	North	North	North
	R32	Bedroom	W35	80.0	YES	23.0	YES
	R33	Bedroom	W36	North	North	North	North
	R34	Bedroom	W37	North	North	North	North

	R35	Bedroom	W38	North	**North**	North	**North**
	R36	Bedroom	W39	North	**North**	North	**North**
	R37	Bedroom	W40	83.0	**YES**	26.0	**YES**

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Appendix G: Room and window referencing - Proposed

Figure G1: Room reference – Basement level

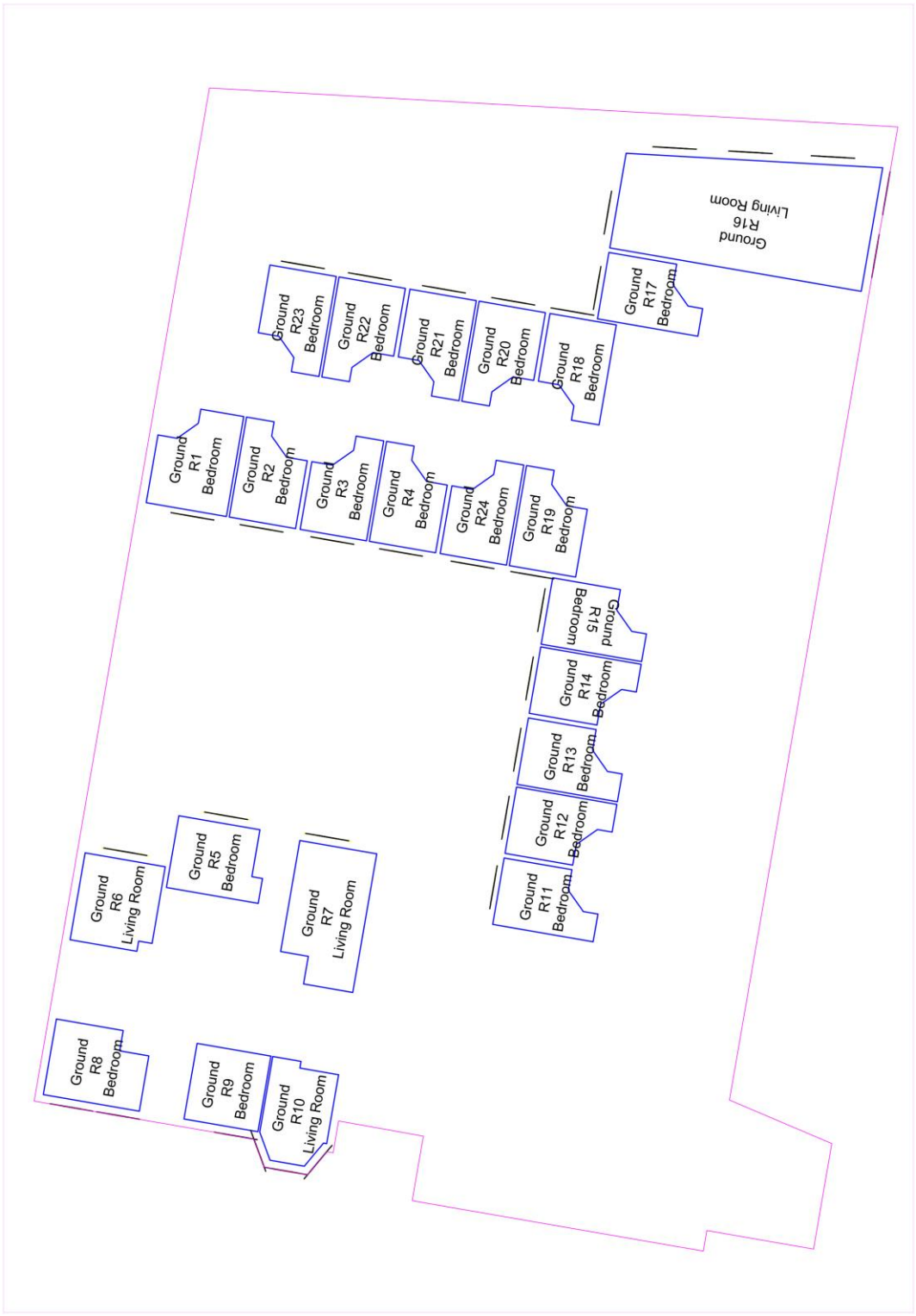


Figure G2: Room reference – Ground level

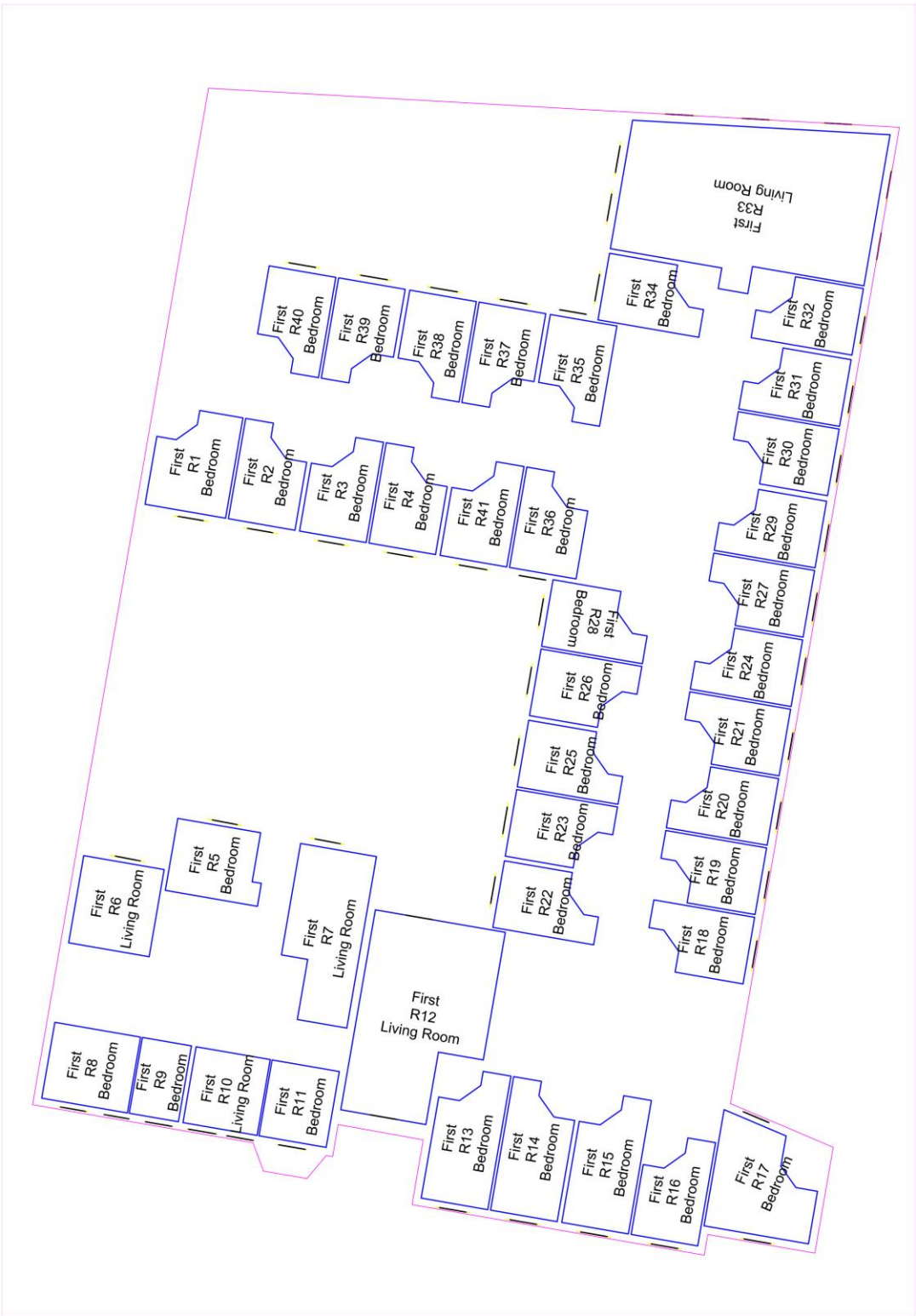


Figure G3: Room reference – first level

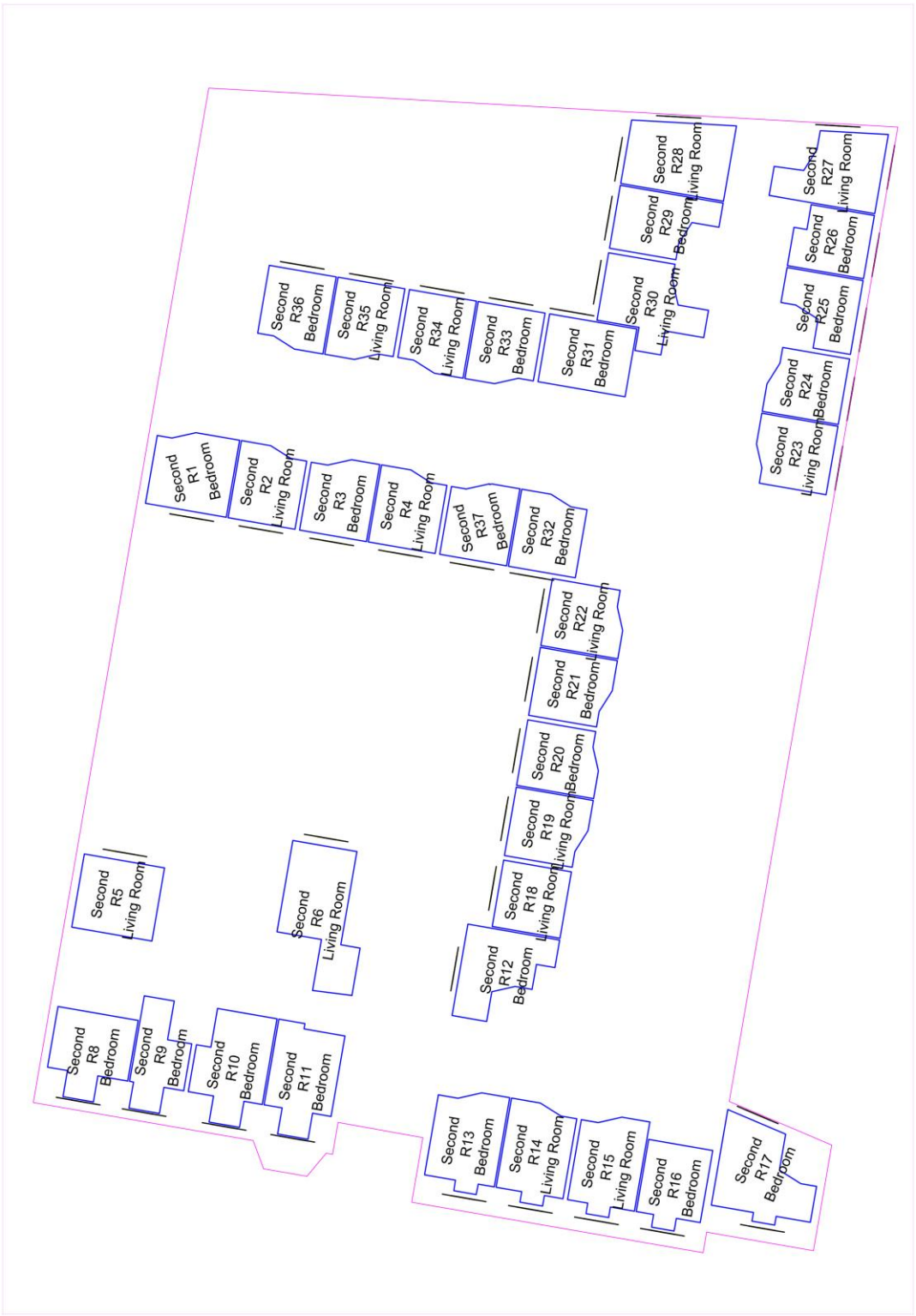
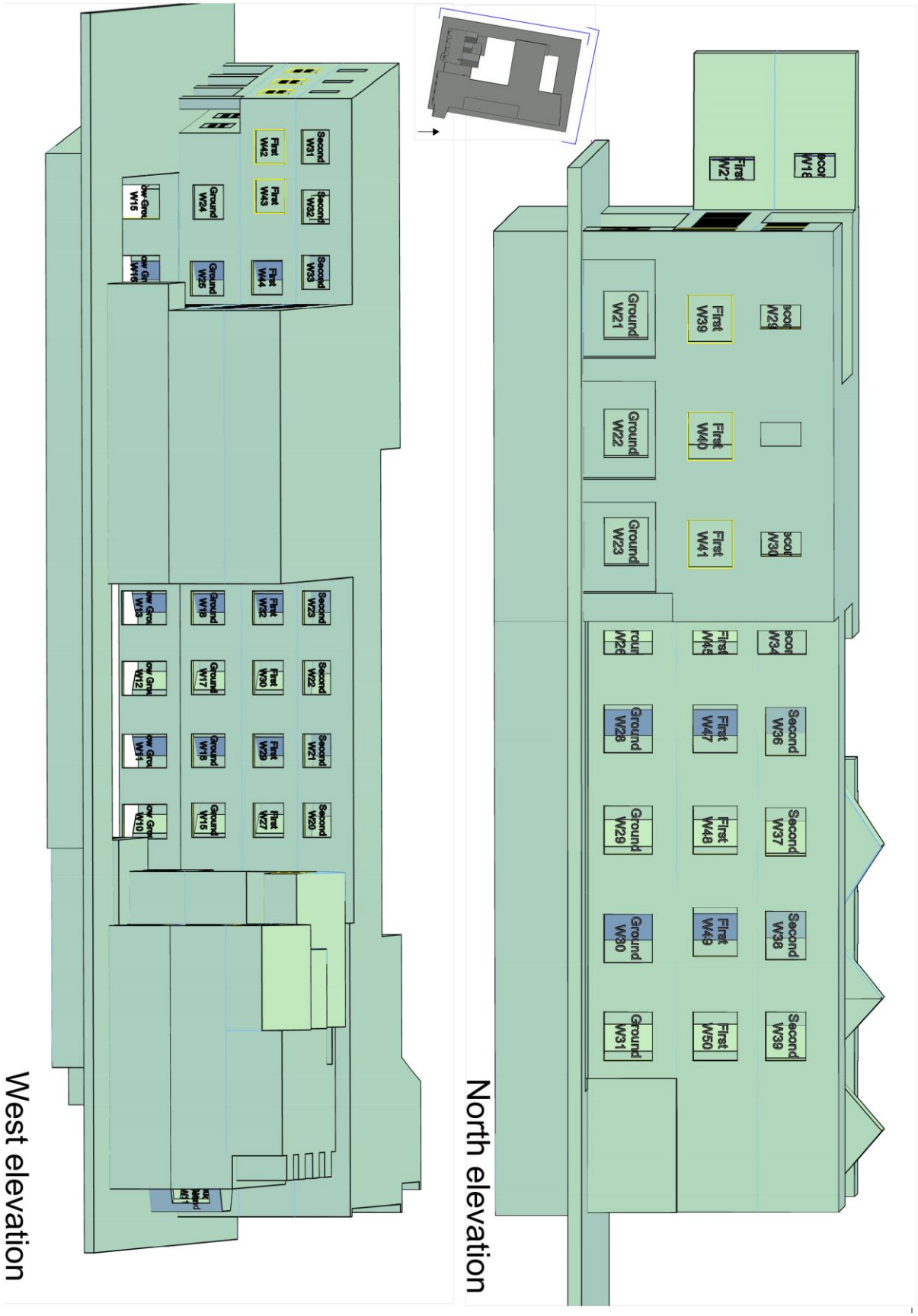
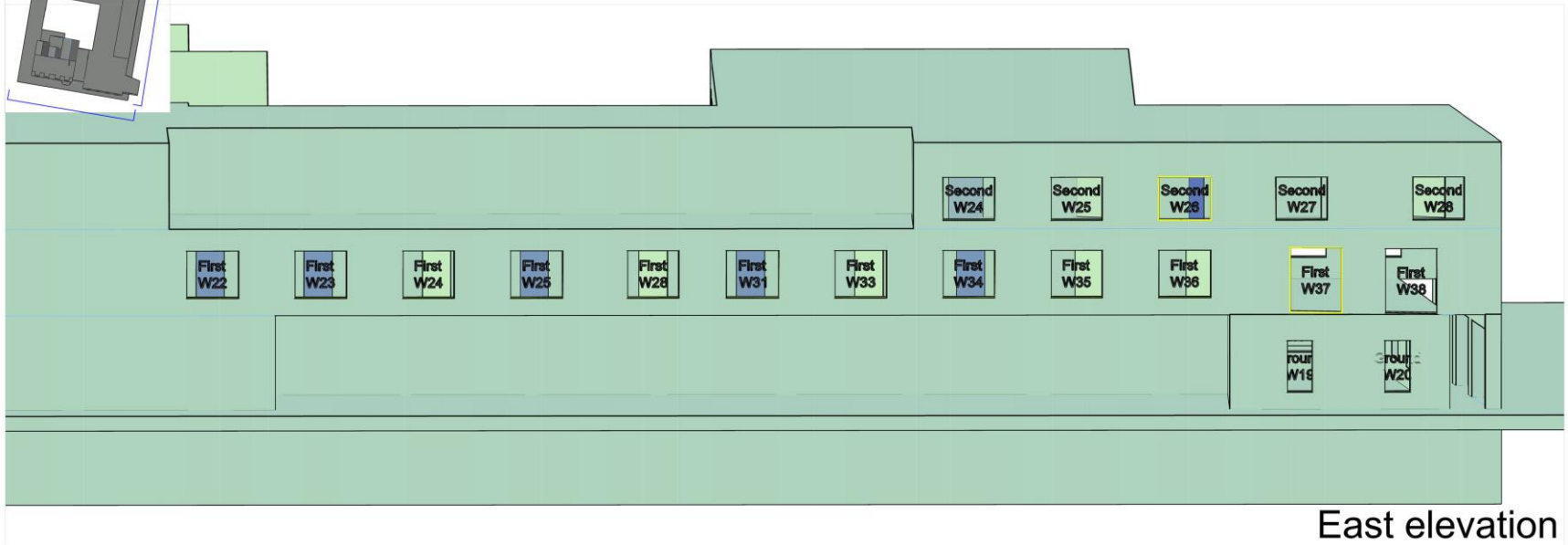


Figure G4: Room reference – Second level


West elevation
North elevation

South elevation



East elevation

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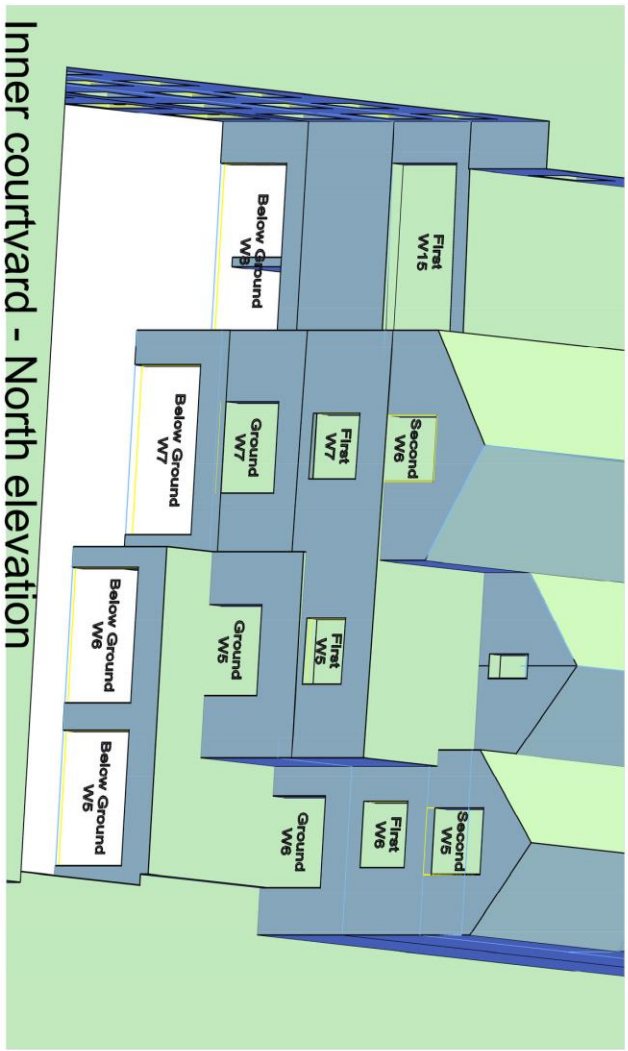
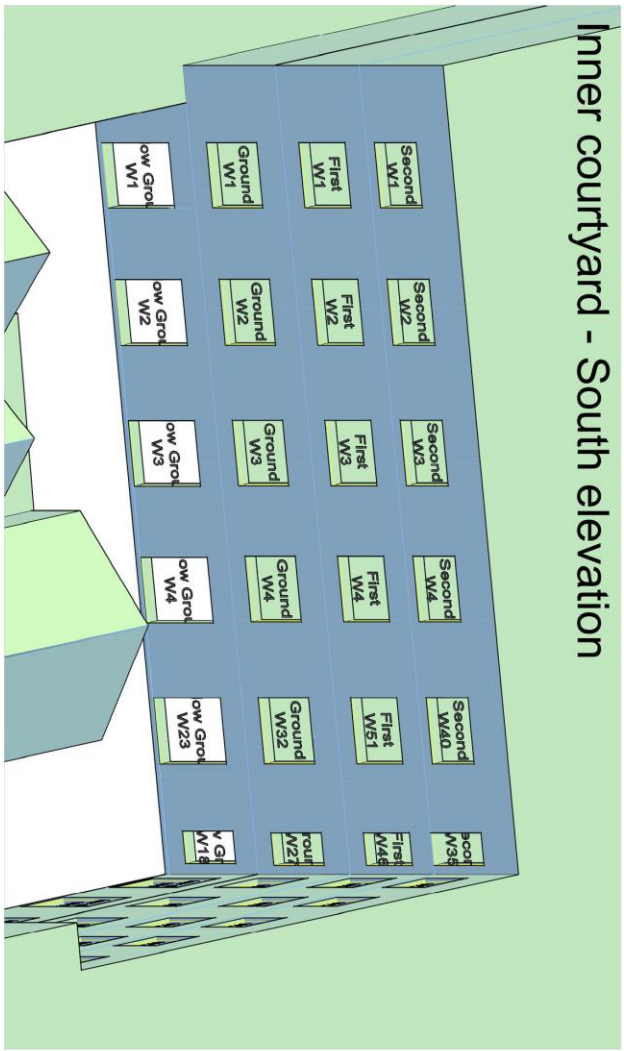
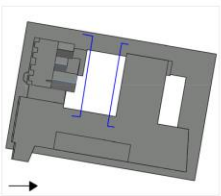

Inner courtyard - North elevation
Below Ground W8
First W15
Below Ground W7
Ground W7
First W7
Second W6
Below Ground W6
Ground W5
First W5
Below Ground W6
Ground W6
First W6
Second W5


Inner courtyard - South elevation
Second W1
First W1
Ground W1
Second W2
First W2
Ground W2
Second W3
First W3
Ground W3
Second W4
First W4
Ground W4
Second W40
First W51
Ground W32



Appendix H: Amenity spaces – Proposed and Surroundings

TABLE H1: SUNLIGHT for Existing amenity spaces - BRE methodology

Building Name	Floor Level	Amenity Ref	Area (m^2)	21st March					
				Existing Lit Area (m^2)	% Existing Lit Area	Proposed Lit Area (m^2)	% Proposed Lit Area	Proposed/ Existing	Compliance BRE criteria (>50% or >0.8 Pr/Ex)
QCB Building 6	Ground	A1	35.9	17.2	48%	17.2	48%	1.0	YES
QBC Building 5	Ground	A2	68.1	50.7	74%	50.7	74%	1.0	YES
QBC Building 4	Ground	A3	58.2	38.4	66%	35.2	61%	0.9	YES
QBC Building 3	Ground	A4	53.0	38.6	73%	34.6	65%	0.9	YES
QBC Building 2	Ground	A5	66.5	51.1	77%	50.1	75%	1.0	YES
QBC Building 1	Ground	A6	30.8	20.3	66%	20.3	66%	1.0	YES
54 Station Road	Ground	A7	29.9	29.9	100%	29.9	100%	1.0	YES

TABLE H2: SUNLIGHT for proposed amenity spaces

Building Name	Floor Level	Amenity Ref	Area (m^2)	21st March			21st June		
				Proposed Lit Area (m^2)	% Proposed Lit Area	Compliance (>50%)	Proposed Lit Area (m^2)	% Proposed Lit Area	Does it meet the BRE target? (>50%)
Old Police Station	Basement	A1	327.2	27.8	8%	NO	231.4	71%	YES
Old Police Station	Basement	A2	122.2	0.0	0%	NO	19.7	16%	NO

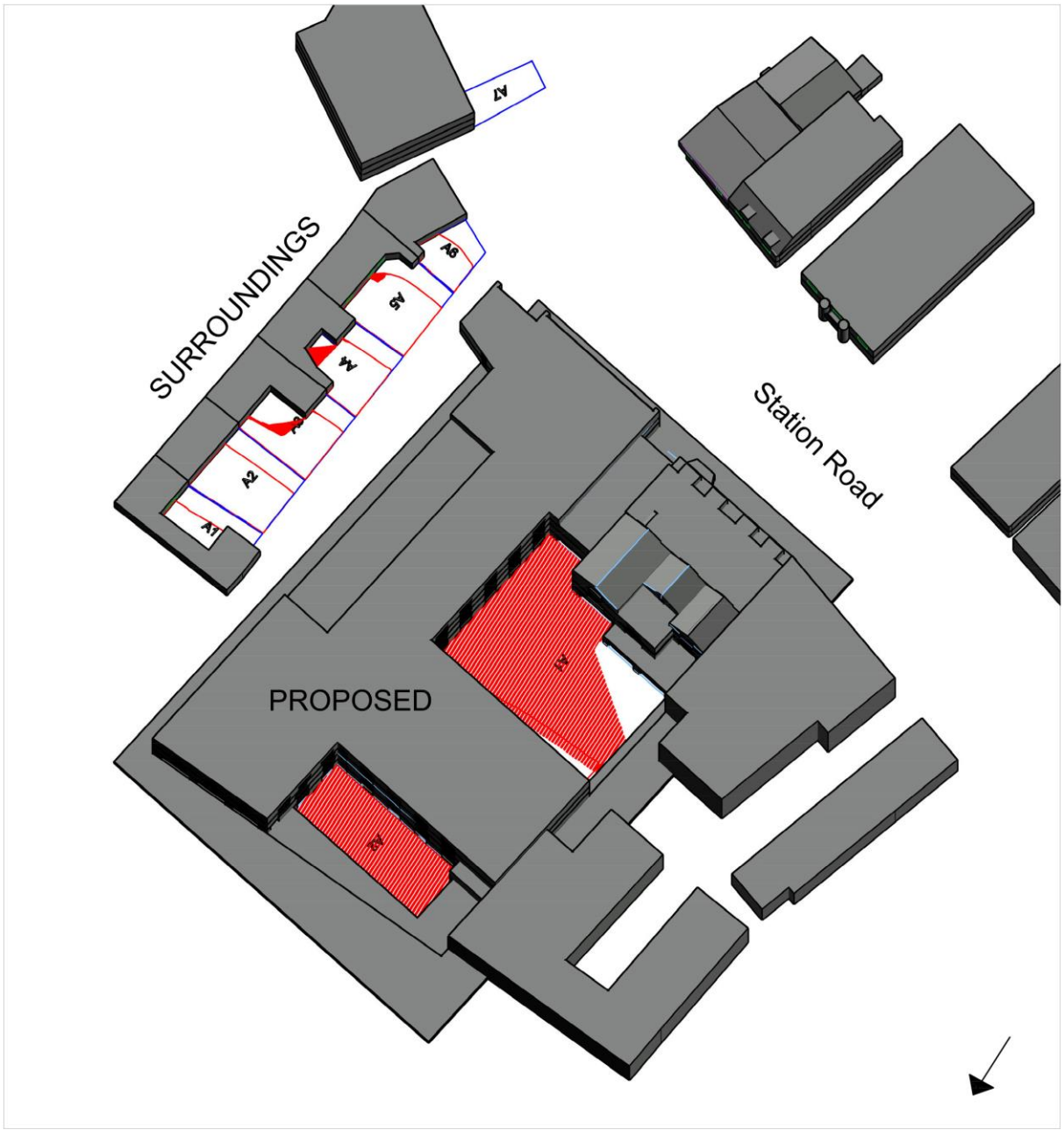


Figure H1: Sunlight results of the proposed and existing amenity spaces (21st March).

Appendix I: Site Visit photographs

Figure I0: Site Plan showing key site visit viewpoints

Figure I1: Existing properties on 2a Plevna Road (Source: Site Visit undertaken on the 2nd August 2019).

Figure I2: Existing properties 2a Plevna Road and 74 Station Road(Source: Site Visit undertaken on the 2nd August 2019).

Figure I3: Existing property 73 Station Road (Source: Site Visit undertaken on the 2nd August 2019).

Figure I4: Existing property on 77 to 81 Station Road (Source: Site Visit undertaken on the 2nd August 2019).

Figure I5: Existing property on 75 Station Road (Source: Site Visit undertaken on the 2nd August 2019).

Figure I6: Queen Bench Cottages pathway (Source: Site Visit undertaken on the 2nd August 2019).

Figure I7: Queen Bench Cottage (QBC) building 5 (Source: Site Visit undertaken on the 2nd August 2019).

Figure I8: Queen Bench Cottage building 6 (Source: Site Visit undertaken on the 2nd August 2019).