# REPORT

## Units 12-18 Belsize Fire Station
## 36 Lancaster Grove
## London NW3

## Daylight and Sunlight
## to
## Proposed accommodation

## OCTOBER 2016

BROOKE VINCENT + PARTNERS

RICS

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**Appendices:** 1. Location Plan and CAD Model
2. Daylight and Sunlight Results – Proposed Accommodation

Drafted by:


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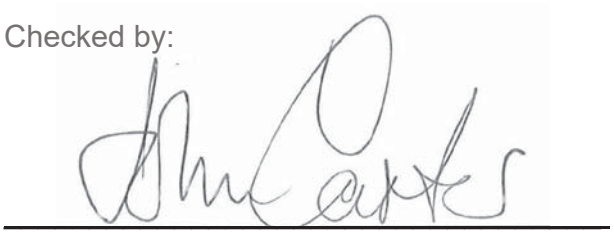
Checked by:

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20th October 2016

**Units 12-18 Belsize Fire Station, 36 Lancaster Grove, NW3 London**

**Daylight & Sunlight**

We are instructed to provide a report on the daylight and sunlight aspects of this Planning Application with regard to the proposed accommodation within this existing Grade* II Listed Building. Planning Approval has previously been granted for Units 1-11 (2016/0745/P) within the same building.

This report is based upon a 3D Model, scheme drawings prepared by Shaun Knight Architecture, survey information and photographs, together with daylight and sunlight studies prepared by Brooke Vincent + Partners.

## 1.0 SUMMARY

1.1 This report has been drafted by reference to the Building Research Establishment (BRE) publication (2011), *"Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice"* and local planning policy.

1.2 Daylight to the proposed accommodation would achieve BRE compliant or equivalent values in all but one location. The exception is the room's layout that must respond to what is possible within an existing Grade* II Listed Building.

1.3 Typically for Central London, Sunlight availability would vary in response to aspect but the architect has ensured the layouts satisfy the recommendations of both BRE and the London Plan.

## 2.0 PLANNING POLICY

### 2.1 London Borough of Camden

Core Strategy (2010)

2.1.1 Camden's *Local Development Framework (LDF), November 2010,* sets out the key elements of the Council's vision for the Borough through its Core Strategy. The relevant policies are listed below.

**POLICY CS5 – Managing the impact of growth and development**

The second part of this Policy confirms:

*"The Council will protect the amenity of Camden's residents and those working in and visiting the Borough by:*

*(e) Making sure that the impact of developments on their occupiers and neighbours is fully considered."*

In the explanatory notes following this Policy item 5.8 confirms: *"We will expect development to avoid harmful effects on the amenity of existing and future occupiers and nearby properties or, where this is not possible, to take appropriate measures to minimise potential negative impacts."*

Development Policies (2010)

**POLICY DP26 – Managing the impact of development on occupiers and neighbours**

*"The Council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity. The factors we will consider include;*

*(c) Sunlight, daylight and artificial light levels."*

## 2.2 The London Plan 2016 (Including Housing Standards minor alterations - March 2016)

2.2.1 The London Plan forms part of Camden 's Local Development Framework. The Housing Supplementary Planning Guidance (HSPG) 2016, defines in greater detail the London Plan's approach to Housing requirements and standards. Those aspects of the HSPG that are relevant to this report are mostly relevant to the London Plan **Policy 3.5 – Quality and Design of Housing Development**, and as detailed below.

**Housing Supplementary Planning Guidance – March 2016**

2.2.2 **Daylight and Sunlight**

**Standard 32** – *All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen/dining spaces should preferably receive direct sunlight.*

The explanatory notes that follow Standard 32 include the following comments:

2.3.45 "… In *addition to the above standards, BRE good practice guidelines and methodology can be used to assess the levels of daylight and sunlight achieved within new developments, taking into account guidance below and in Section 1.3*".

Section 1.3 is entitled *'Optimising Housing Potential'* and confirms that *"… 'optimisation' can be defined as 'developing land to the fullest amount consistent with all relevant planning objectives'...".*

2.3.46 "*Where direct sunlight cannot be achieved in line with Standard 32, developers should demonstrate how the daylight standards proposed within a scheme and individual units would achieve good amenity for residents*…".

2.3.47 "*BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognising the London Plan strategic approach to optimising housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with*

*good accessibility suitable for higher density development (Policy 3.3). Quantitative standards on daylight and sunlight should not be applied rigidly without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London*".

2.2.3 **Dual Aspect**

**Standard 29** – *Developments should minimise the number of single aspect dwellings. Single aspect dwellings that are north facing, or exposed to noise levels above which significant adverse effects on health and quality of life occur, or which contain three or more bedrooms should be avoided.*

The explanatory notes that follow Standard 29 include the following comments:

2.3.37 *"Dual aspect dwellings with opening windows on at least two sides have many inherent benefits. These include better daylight, a greater chance of direct sunlight for longer periods…".*

2.3.39 *"… The design of single aspect flats will need to demonstrate that all habitable rooms and the kitchen are provided with adequate ventilation, privacy and daylight and the orientation enhances amenity, including views. North facing single aspect dwellings should be avoided wherever possible. However, in applying this standard consideration should also be given to other planning and design objectives for a site, for example the aim to maximise active frontages and minimise inactive frontages".*

2.3.41 *"In single aspect dwellings with more than two bedrooms it is difficult to achieve adequate natural ventilation and daylight to all rooms in an efficient plan layout which avoids long internal corridors. Single aspect dwellings containing three or more bedrooms should therefore be avoided. The design of single aspect ground floor dwellings will require particular consideration to maintain privacy and adequate levels of daylight".*

2.2.4 The London Plan and HSPG do not provide numerical values for daylight or sunlight. Those given in this report are based upon the BRE guidance referred to above, in explanatory note 2.3.47 and more fully detailed in the item that follows this.

## 3.0 METHOD OF CALCULATION

### Building Research Establishment

3.1 The calculations and considerations within this report are based upon the Building Research Establishment (BRE) publication 2011 ‘’Site Layout Planning to Daylight and Sunlight. A Guide To Good Practice’’. BRE confirm that the Guide does not contain mandatory requirements and in the Introduction provides a full explanation of its purpose:-

*“The Guide is intended for building designers and their clients, consultants and planning officials.”*

*“The advice given here is not mandatory and this document should not be seen as an instrument of planning policy.”*

*“It aims to help rather than constrain the designer.”*

*“Although it gives numerical guidelines these should be interpreted flexibly since natural lighting is only one of many factors in site layout design.”*

*“In special circumstances the developer or planning authority may wish to use different target levels. For example, in an historic city centre, or in an area with high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.”*

### 3.2 Modelling and Results

3.2.1 Our analysis and subsequent results are produced by the application of our specialist software on our three-dimensional model, images of which are included in Appendix 1. This is based upon survey information, photographs, and the architect’s planning drawings also included in Appendix 2.

3.2.2 In this model, the neighbouring buildings are defined in green and the proposed building in magenta. This is further clarified by the architect’s layout plans in Appendix

2, which includes room references that can again be cross-referenced to the body of our report and the results sheets.

### 3.3 Daylight

3.3.1 Daylight is not specific to a particular direction, as it is received from the dome of the sky.

3.3.2 Reference is made in the BRE report to various methods of assessing the effect a development will have on diffused daylight.

3.3.3 The method of calculation for proposed accommodation is known as Average Daylight Factor (ADF). This is the most comprehensive of daylight calculations defined by BRE and is appropriate to proposed accommodation, because all relevant information is available.

3.3.4 The initial calculation is Vertical Sky Component which measures the value of daylight received at the centre of the window face. The area of glazing through which the light is transmitted and the transmission value of the glazing is then considered. Within the room the total surface area is calculated and a degree of reflection applied. The outcome is then compared to the values recommended by BRE. Assuming that the rooms are used in conjunction with artificial lighting the minimum recommended ADF levels are:-

| | |
|---|---|
| 2% | Kitchen or combined kitchen and living space where the kitchen is served by a local window. |
| 1.5% | Living room and study |
| 1% | Bedroom |

Where kitchens have been sited at the rear of the room these are to be served by task lighting in the modern mode.

3.3.5 Where a room is served by more than one window, ADF calculations are made in relation to each window and the individual results added together to provide the true ADF for that room. It should also be noted that full height glazing requires individual

ADF calculations for those parts above and below the reference plane of 850mm above floor level. Hence the designation 'L' and 'U' against some results. The lower reading is reduced in accordance with BRE guidance, to satisfy the reduced effect this portion of daylight has on daylight received at the reference plane.

3.3.6 The following assumptions have been made with regard to the various elements that together are computed to produce the ADF value;

- Glazing transmittance – 0.68 for the double glazing (BRE default reading);
  – 0.8 for the single glazing;
- Net glazed area of the window – British Standard 8206 References:
  – 0.6 (wooden frame panelled windows);
  – 0.8 (new glazed panes and dormers);
- Interior surface reflectance – 0.6 (BRE default 0.5)
- Reflectance beneath reference plane – 0.15 (BRE default reading)

**3.4 Sunlight**

3.4.1 The BRE *Guide to Good Practice* confirms the criteria relevant to proposed accommodation:

3.4.2 Proposed accommodation "*will appear reasonably sunlit provided*":-

- *at least one main window wall faces within 90° of due south; and*
- *the centre of at least one window to a main living room can receive 25% of annual probably sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.*
- *In housing, the main requirement for the sunlight is living rooms… It is viewed as less important in bedrooms and in kitchens.*

3.4.3 BRE acknowledges that a simple layout strategy can be an issue for flats:-

*"Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight. In both flats and houses, a sensible approach is to try to match internal room layout with*

*window/wall orientation. Where possible, living rooms should face the southern or western parts of the sky and kitchens towards the north or east.*

*The overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east or west. The aim should be to minimise the number of dwellings whose living rooms face solely north, north east or north west, unless there is some compensating factor such as an appealing view to the north."*

3.4.4 BRE then provides an example of "*careful layout design*" in which *"four out of the five flats shown have a south-facing living room".* This example is provided without having to consider the site constraints that impact upon most urban locations, left alone listed buildings.

## 4.0 DAYLIGHT ANALYSIS

### Proposed Accommodation

4.1 We have analysed ADF (which is fully explained in item 3.3.3 to 3.3.6) for all habitable rooms within Units 12-18 at ground and first floor level of the existing Grade* II Listed building. Due to the nature of the location, the existing fenestration and architectural form is of the foremost importance and therefore, other aspects inevitably demand a degree of compromise. The results are detailed within Appendix 2.

4.2 The results confirm ADF in all but one location would be above to the BRE's recommended values. The exception is bedroom R9 at ground floor level where the proposed ADF figure would be 0.86. This is only marginally below BRE recommended value of 1% for bedrooms. ADF within bedroom R9 at first floor level would be 0.99% that is, for all practical purposes, equivalent to 1% and therefore, is BRE compliant. BRE recognises the daylight to bedrooms is not as important as other habitable spaces.

4.3 An excellent set of results has been achieved when the Grade* II Listed Building constraints are taken into account. The exception is not sufficient to impact upon a planning approval.

### Daylight Summary

4.5 The internal planning of rooms responds to the building and achieves BRE recommended or equivalent values, in all but one location. This is a very good outcome within a listed building and as the BRE guidelines confirm, numerical values are not the only factor to consider. The outcome is BRE compliant.

## 5.0 SUNLIGHT ANALYSIS

### Proposed Accommodation

5.1 A central London location always makes sunlight availability recommendations difficult to achieve, particularly in this case where new residential units are located within an existing Grade* II Listed building.

5.2 By reference to items **3.4.3** and **3.4.4** of this report, BRE suggest a residential development may be assessed by counting how many dwellings have a window to a main living room facing south, east or west. BRE then provide an example which provides 4 out of 5 living rooms with a southerly aspect.

5.3 This has been fully considered by the architect and the designed layouts provide all of the 6 living rooms with at least one main window facing within 90° of due south. This is better than the layout example provided by BRE where, it should be noted, there were no site constraints. This is a very good outcome.

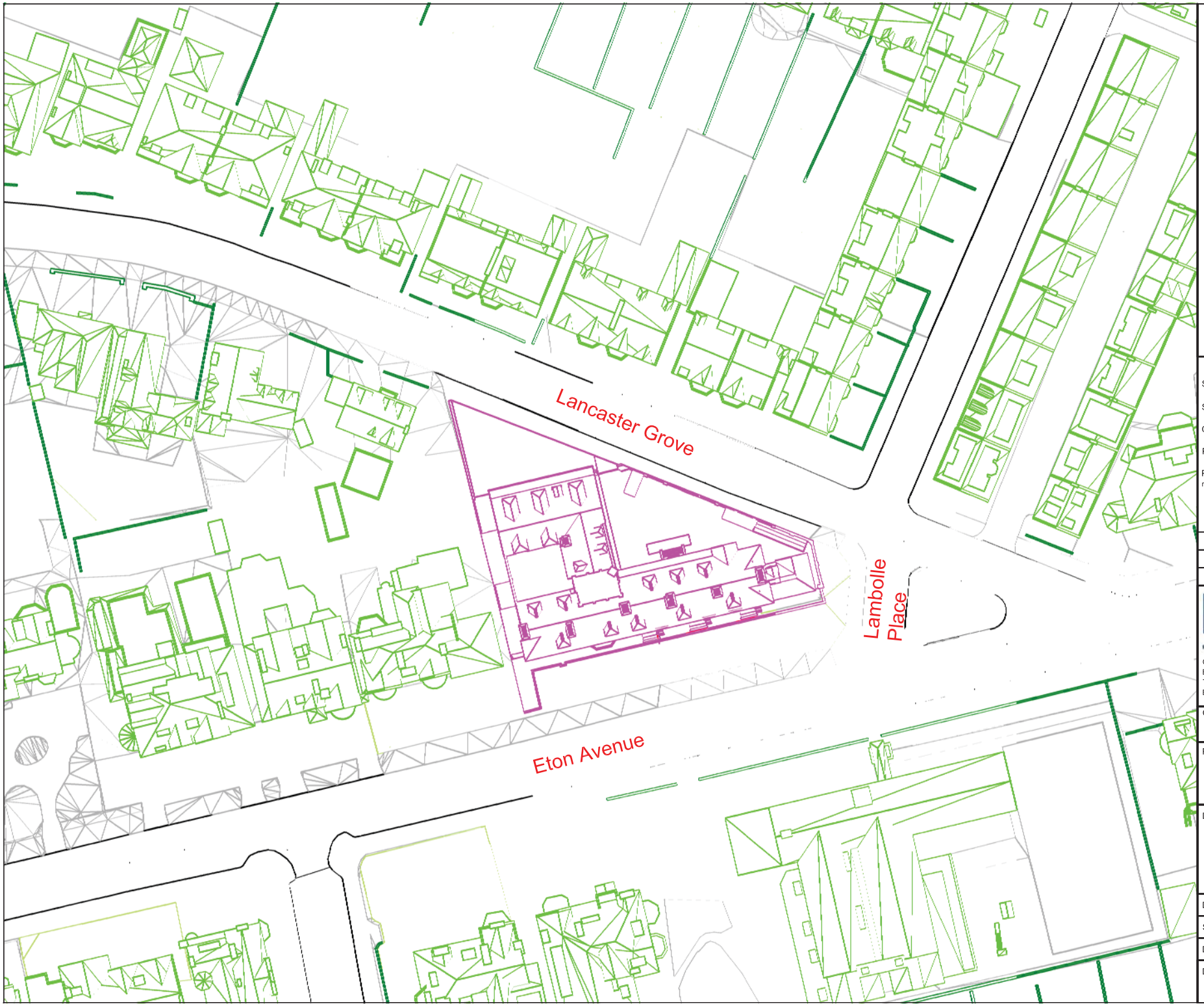
5.4 The London Plan also states in 'Standard 32'. Every flat would receive sunlight and is in accordance with the London Plan.

### Sunlight Summary

5.5 Despite the constraints imposed by location and the listed building sunlight availability would satisfy both BRE and London Plan criteria.

# APPENDIX 1

# 3D CAD MODEL




N

KEY:

Existing Neighbouring Buildings

Existing Site Building

Proposal

Sources of Information:

Survey- Survey Solution Drg.No. 16523 se

Council- Camden

Photos-

Proposed Drawings- Shaun Knight Architecture recieved: 30.09.2016 Drg. 005/504 SKA.dwg

| Rev. | Date | Description |
|---|---|---|
| | | |
| | | |

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CLIENT / ARCHITECT:
Shaun Knight Architecture

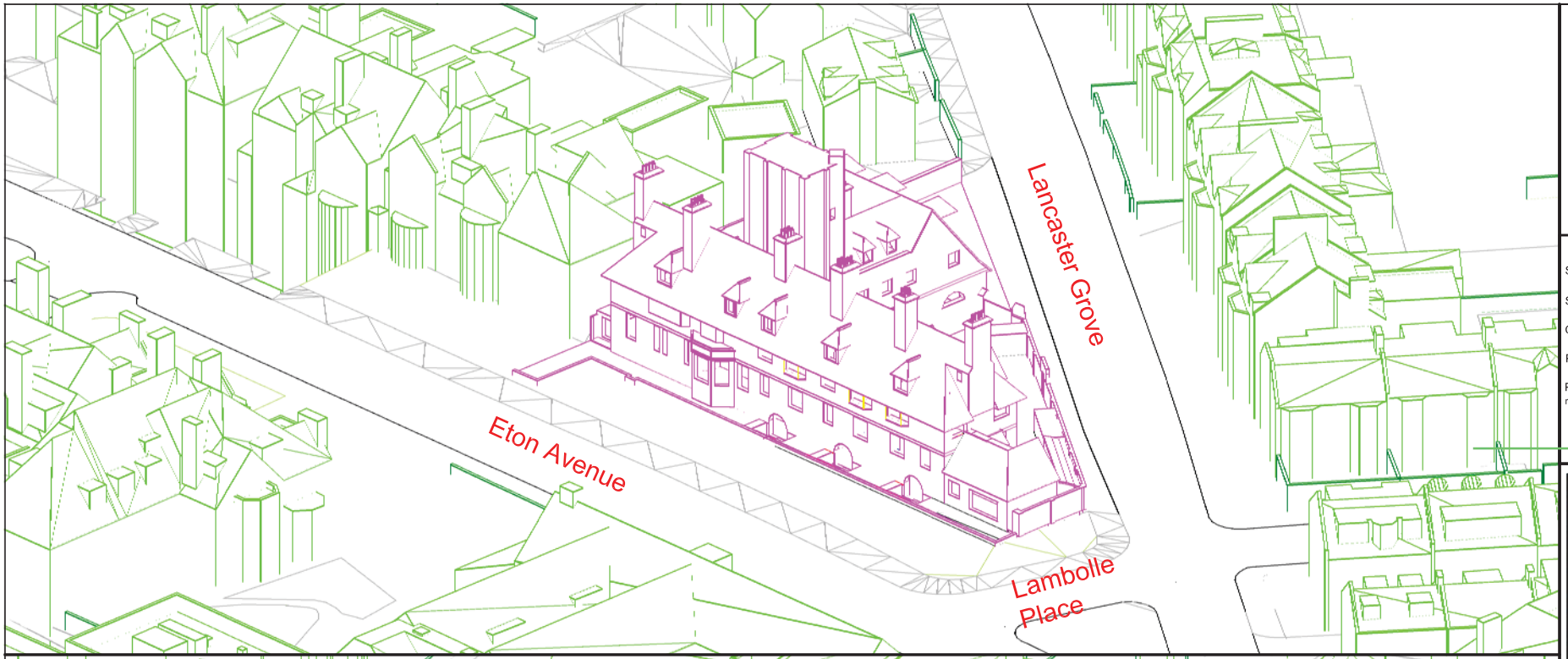
PROJECT:
Belsize Fire Station
36 Lancaster Grove
NW3

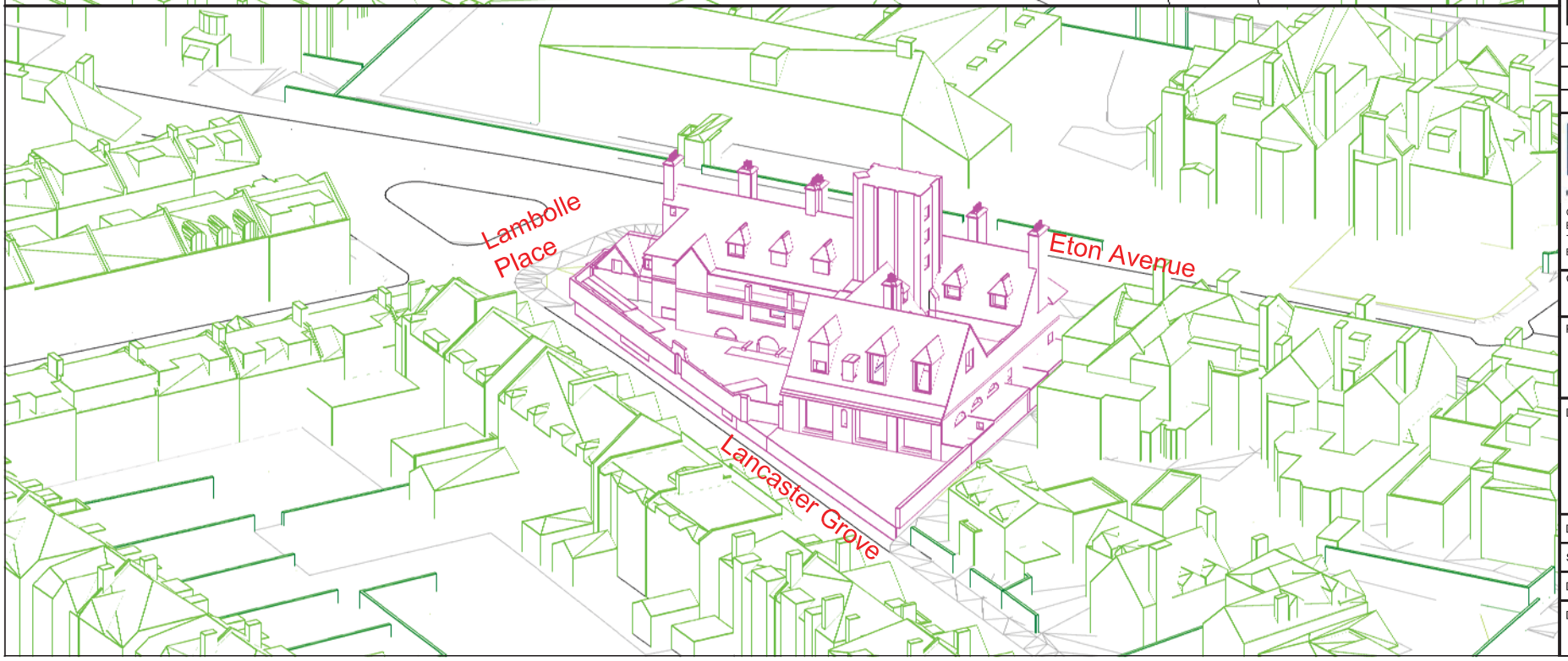
DRAWING:
Plan View
Proposed

| | |
|---|---|
| DRAWN: RM | PROJECT NO: 10801 |
| SCALE: NTS | |
| DATE: 19.10.2016 | |

DRAWING NO: 10801.201

REV:




KEY:

- Existing Neighbouring Buildings
- Existing Site Building
- Proposed Site Building

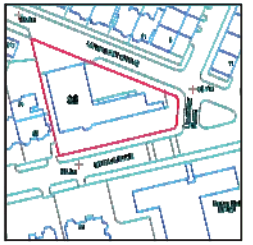
Sources of Information:

Survey- Survey Solution Drg.No. 16523 se

Council- Camden

Photos-

Proposed Drawings- Shaun Knight Architecture
recieved: 30.09.2016 Drg. 005/504 SKA.dwg



LOCATION PLAN

| Rev. | Date | Description |
|---|---|---|
| | | |
| | | |

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CLIENT / ARCHITECT:
Shaun Knight Architecture

PROJECT:
Belsize Fire Station
36 Lancaster Grove
NW3

DRAWING:
Perspective View
Proposed

| | |
|---|---|
| DRAWN: RM | PROJECT NO: 10801 |
| SCALE: NTS | |
| DATE: 19.10.2016 | |

DRAWING NO: 10801.202

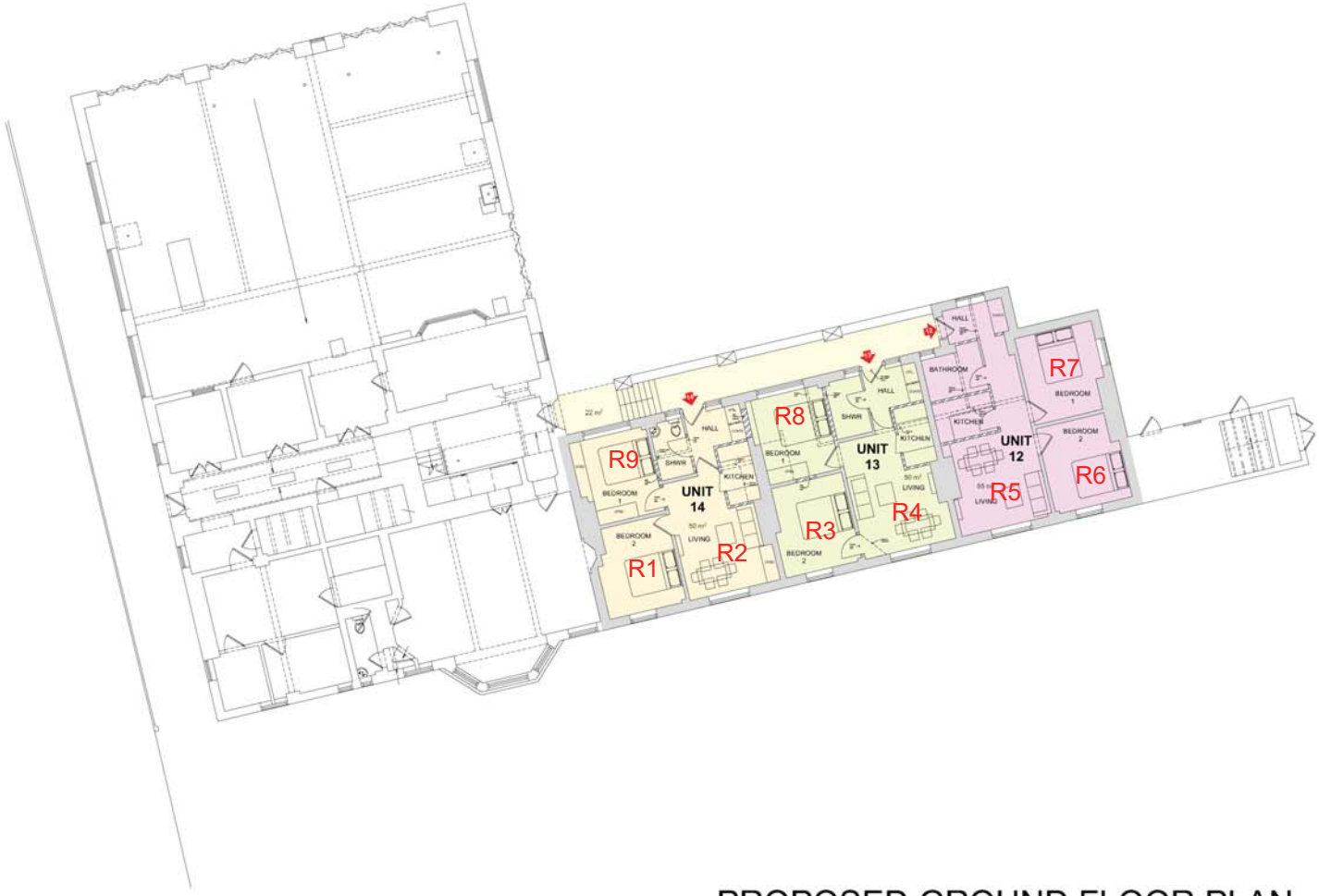
REV:

## APPENDIX 2

**Proposed Accommdation:**

- **Average Daylight Factor (ADF)**
- **Rooms location**

N




# PROPOSED GROUND FLOOR PLAN

0 3 6 9 12 15M

1:100

KEY

EXISTING RETAINED WALLS

PROPOSED WALLS

PLANNING

SHAUN KNIGHT ARCHITECTURE

40 FALCON ROAD,HAMPTON
TW12 2RA
07824 815 258M
0208 979 4949T
E:skarchitecture@hotmail.co.uk
W:shaunknightarchitecture.com

PROJECT: 36 LANCASTER GROVE

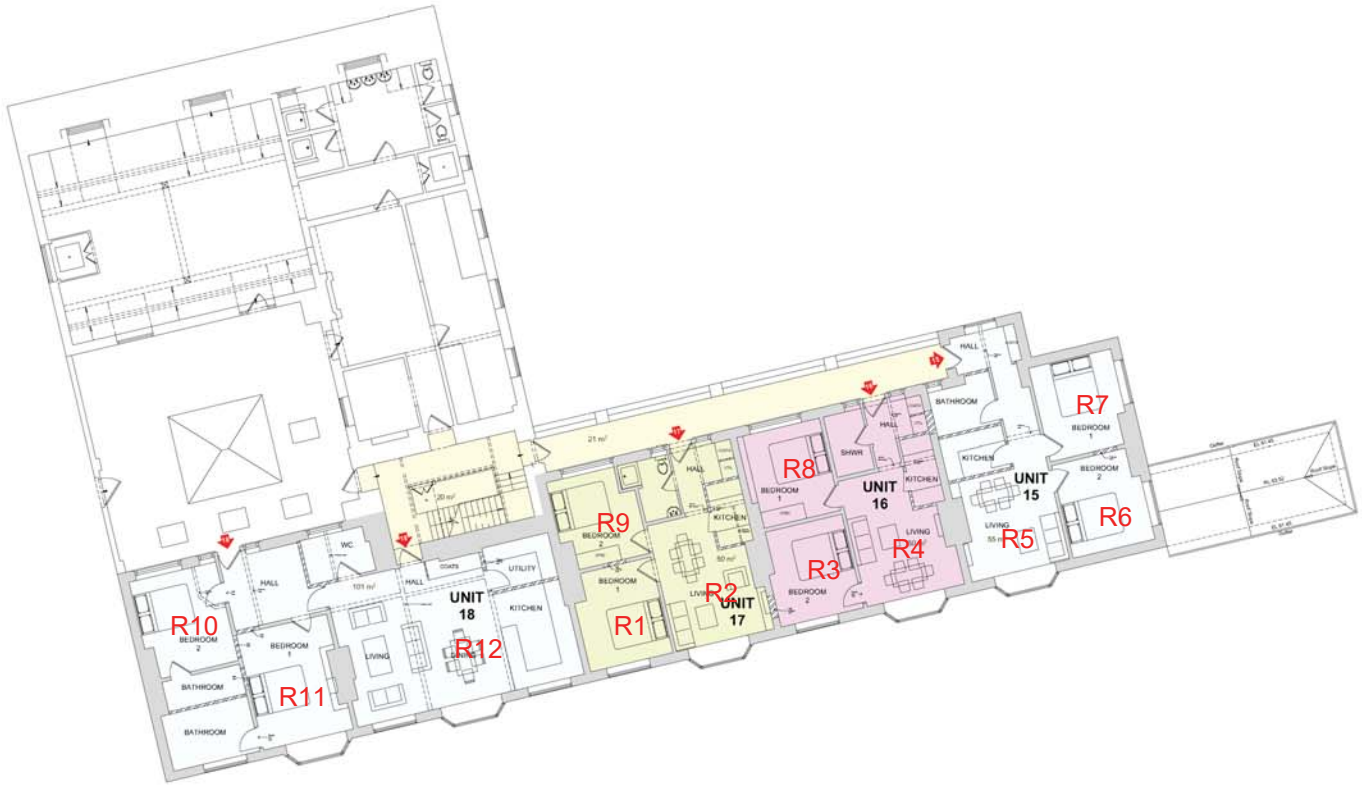
TITLE : PROPOSED GROUND FLOOR PLAN

Date: DECEMBER 2015

Scale: 1:100 AT A1 Drawn: SDK

DRAWING NUMBER: 504

N




# PROPOSED FIRST FLOOR PLAN

0 3 6 9 12 15M
1:100

**KEY**
EXISTING RETAINED WALLS
PROPOSED WALLS

PLANNING

SHAUN KNIGHT ARCHITECTURE
40 FALCON ROAD,HAMPTON
TW12 2RA
07824 815 258M
0208 979 4949T
E:skarchitecture@hotmail.co.uk
W:shaunknightarchitecture.com

PROJECT: 36 LANCASTER GROVE

TITLE : PROPOSED FIRST FLOOR PLAN

Date: DECEMBER 2015

Scale: 1:100 AT A1 Drawn: SDK

DRAWING NUMBER: 005

Project Name: Belsize Fire Station - Units 12-17
10801
Architect: Shaun Knight Architecture
Iteration Description: ADF proposed accommodation
Date of Analysis: 13/10/16 00:00:00

| Floor Ref. | Room Ref. | Room Attribute | Room Use. | Window Ref. | Glass Transmittance | Glazed Area | Clear Sky Angle Proposed | Room Surface Area | Average Surface Reflectance | Below Working Plane Factor | ADF Proposed | Req'd Value | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed** | | | | | | | | | | | | | |
| Ground | R1 | Unit 14 | Bedroom | W1-L | 0.80 | 0.05 | 74.13 | 57.63 | 0.60 | 0.15 | 0.01 | | |
| | | | | W1-U | 0.80 | 1.11 | 74.36 | 57.63 | 0.60 | 1.00 | 1.79 | | |
| | | | | | | | | | | | 1.80 | 1 | YES |
| Ground | R2 | Unit 14 | Living Room | W2-L | 0.80 | 0.07 | 75.43 | 71.91 | 0.60 | 0.15 | 0.01 | | |
| | | | | W2-U | 0.80 | 1.69 | 74.73 | 71.91 | 0.60 | 1.00 | 2.19 | | |
| | | | | | | | | | | | 2.20 | 1.5 | YES |
| Ground | R3 | Unit 13 | Bedroom | W3-L | 0.80 | 0.05 | 73.72 | 57.64 | 0.60 | 0.15 | 0.01 | | |
| | | | | W3-U | 0.80 | 1.11 | 73.97 | 57.64 | 0.60 | 1.00 | 1.78 | | |
| | | | | | | | | | | | 1.79 | 1 | YES |
| Ground | R4 | Unit 13 | Living Room | W4-L | 0.80 | 0.07 | 75.03 | 75.02 | 0.60 | 0.15 | 0.01 | | |
| | | | | W4-U | 0.80 | 1.69 | 74.39 | 75.02 | 0.60 | 1.00 | 2.09 | | |
| | | | | | | | | | | | 2.10 | 1.5 | YES |
| Ground | R5 | Unit 12 | Living Room | W5-L | 0.80 | 0.07 | 74.63 | 65.64 | 0.60 | 0.15 | 0.01 | | |
| | | | | W5-U | 0.80 | 1.67 | 74.04 | 65.64 | 0.60 | 1.00 | 2.36 | | |
| | | | | | | | | | | | 2.37 | 1.5 | YES |
| Ground | R6 | Unit 12 | Bedroom | W6-L | 0.80 | 0.04 | 73.01 | 56.72 | 0.60 | 0.15 | 0.01 | | |
| | | | | W6-U | 0.80 | 1.10 | 73.35 | 56.72 | 0.60 | 1.00 | 1.78 | | |
| | | | | | | | | | | | 1.79 | 1 | YES |
| Ground | R7 | Unit 12 | Bedroom | W7-L | 0.80 | 0.04 | 58.79 | 57.05 | 0.60 | 0.15 | 0.01 | | |
| | | | | W7-U | 0.80 | 1.12 | 63.33 | 57.05 | 0.60 | 1.00 | 1.56 | | |
| | | | | | | | | | | | 1.56 | 1 | YES |
| Ground | R8 | Unit 13 | Bedroom | W8 | 0.80 | 1.83 | 23.52 | 47.19 | 0.60 | 1.00 | 1.14 | | |
| | | | | | | | | | | | 1.14 | 1 | YES |
| Ground | R9 | Unit 14 | Bedroom | W9 | 0.80 | 1.86 | 16.63 | 44.92 | 0.60 | 1.00 | 0.86 | | |
| | | | | | | | | | | | 0.86 | 1 | |
| First | R1 | Unit 17 | Bedroom | W1 | 0.80 | 1.17 | 51.72 | 59.01 | 0.60 | 1.00 | 1.29 | | |
| | | | | | | | | | | | 1.29 | 1 | YES |
| First | R2 | Unit 17 | Living Room | W2 | 0.80 | 0.49 | 55.90 | 77.17 | 0.60 | 1.00 | 0.44 | | |
| | | | | W3 | 0.80 | 1.29 | 78.88 | 77.17 | 0.60 | 1.00 | 1.64 | | |
| | | | | W4 | 0.80 | 0.49 | 55.39 | 77.17 | 0.60 | 1.00 | 0.44 | | |
| | | | | | | | | | | | 2.52 | 1.5 | YES |
| First | R3 | Unit 16 | Bedroom | W5 | 0.80 | 1.17 | 51.58 | 58.37 | 0.60 | 1.00 | 1.30 | | |
| | | | | | | | | | | | 1.30 | 1 | YES |
| First | R4 | Unit 16 | Living Room | W6 | 0.80 | 0.49 | 55.79 | 76.59 | 0.60 | 1.00 | 0.44 | | |
| | | | | W7 | 0.80 | 1.29 | 78.65 | 76.59 | 0.60 | 1.00 | 1.65 | | |
| | | | | W8 | 0.80 | 0.49 | 55.10 | 76.59 | 0.60 | 1.00 | 0.44 | | |
| | | | | | | | | | | | 2.53 | 1.5 | YES |
| First | R5 | Unit 15 | Living Room | W9 | 0.80 | 0.49 | 55.51 | 66.96 | 0.60 | 1.00 | 0.50 | | |
| | | | | W10 | 0.80 | 1.29 | 78.48 | 66.96 | 0.60 | 1.00 | 1.88 | | |
| | | | | W11 | 0.80 | 0.49 | 55.33 | 66.96 | 0.60 | 1.00 | 0.50 | | |
| | | | | | | | | | | | 2.89 | 1.5 | YES |
| First | R6 | Unit 15 | Bedroom | W12 | 0.80 | 1.19 | 52.74 | 57.71 | 0.60 | 1.00 | 1.36 | | |
| | | | | | | | | | | | 1.36 | 1 | YES |
| First | R7 | Unit 15 | Bedroom | W13 | 0.80 | 1.19 | 52.47 | 57.87 | 0.60 | 1.00 | 1.35 | | |
| | | | | | | | | | | | 1.35 | 1 | YES |
| First | R10 | Unit 18 | Bedroom | W22 | 0.80 | 0.53 | 36.33 | 55.28 | 0.60 | 1.00 | 0.44 | | |
| | | | | W23 | 0.80 | 1.51 | 35.68 | 55.28 | 0.60 | 1.00 | 1.22 | | |
| | | | | | | | | | | | 1.65 | 1 | YES |
| First | R11 | Unit 18 | Bedroom | W24 | 0.80 | 0.54 | 52.84 | 64.98 | 0.60 | 1.00 | 0.55 | | |
| | | | | W25 | 0.80 | 1.27 | 74.58 | 64.98 | 0.60 | 1.00 | 1.83 | | |
| | | | | W26 | 0.80 | 0.54 | 52.40 | 64.98 | 0.60 | 1.00 | 0.54 | | |
| | | | | | | | | | | | 2.92 | 1 | YES |
| First | R12 | Unit 18 | LKD | W27 | 0.80 | 1.18 | 50.61 | 157.63 | 0.60 | 1.00 | 0.48 | | |
| | | | | W28 | 0.80 | 0.49 | 51.91 | 157.63 | 0.60 | 1.00 | 0.20 | | |
| | | | | W29 | 0.80 | 1.29 | 71.63 | 157.63 | 0.60 | 1.00 | 0.73 | | |
| | | | | W30 | 0.80 | 0.49 | 51.59 | 157.63 | 0.60 | 1.00 | 0.20 | | |
| | | | | W31 | 0.80 | 1.18 | 50.90 | 157.63 | 0.60 | 1.00 | 0.48 | | |
| | | | | | | | | | | | 2.08 | 2 | YES |

Project Name: Belsize Fire Station - Units 12-17
10801
Architect: Shaun Knight Architecture
Iteration Description: ADF proposed accommodation
Date of Analysis: 13/10/16 00:00:00

| Floor Ref. | Room Ref. | Room Attribute | Room Use. | Window Ref. | Glass Transmittance | Glazed Area | Clear Sky Angle Proposed | Room Surface Area | Average Surface Reflectance | Below Working Plane Factor | ADF Proposed | Req'd Value | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed (solid overhang)** | | | | | | | | | | | | | |
| First | R8 | Unit 16 | Bedroom | W14 | 0.80 | 1.59 | 16.21 | 57.89 | 0.60 | 1.00 | 0.56 | | |
| | | | | | | | | | | | 0.56 | 1 | |
| First | R9 | Unit 17 | Bedroom | W15 | 0.80 | 1.52 | 12.97 | 55.13 | 0.60 | 1.00 | 0.45 | | |
| | | | | | | | | | | | 0.45 | 1 | |
| **Proposed (without overhang)** | | | | | | | | | | | | | |
| First | R8 | Unit 16 | Bedroom | W14 | 0.80 | 1.59 | 41.00 | 51.14 | 0.50 | 1.00 | 1.36 | | |
| | | | | | | | | | | | 1.36 | 1 | YES |
| First | R9 | Unit 17 | Bedroom | W15 | 0.80 | 1.52 | 33.83 | 48.69 | 0.50 | 1.00 | 1.13 | | |
| | | | | | | | | | | | 1.13 | 1 | YES |

ADF to the bedrooms at first floor have been tested following the procedure explained below:

- ADF calculated with the overhang above as a solid obstruction;
- ADF calculated with no overhang.

The differences between the two sets of ADF values have been reduced by 0.8 that is the diffuse light transmission, assuming a single glazed canopy.
The obtained figures have then been added to the ADF figures which considered the overhang as a solid obstruction.

The ADF within the two bedrooms, comprehensive of all the elements above, are therefore as detailed below:
R8: ADF=1.20 PASS
R9: ADF=0.99 EQUIVALENT