DAYLIGHT & SUNLIGHT REPORT

relating to the

PROPOSED REDEVELOPMENT

of

152 ROYAL COLLEGE STREET, NW1

on behalf of

HENNING STUMMEL ARCHITECTS.

JULY 2015

Ref 100/BZ

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1.0 OVERVIEW

The proposed scheme is to redevelop a site which appears to have ad a building on it in the past but has been a cleared site for many years. The original building may have been destroyed by enemy action

Image 1 – General View of the site

As can be seen in this photograph, the wall now painted has clearly evident chimney breasts which would indicate that the wall was a party one separating buildings rather than a flank wall.

The proposal is now to build a new building on the site as shown in the extract from the 3D model which is shown below.

2.0 INSTRUCTIONS

Our instructions are to assess the effects of the proposed new building on the surrounding properties, to calculate the ADFs in the surrounding rooms where possible and to report on our findings for submission to the local planning authority.

3.0 EXECUTIVE SUMMARY

The findings detailed in this daylight and sunlight report shows that the proposals will have very minor effects on the standards of daylight and sunlight to the surrounding properties. The offices being converted into residential use at Bruges Place will maintain levels of VSC, ADF and sunlight which are more than compliant with the BRE Guide and the rear of No 154 Royal College Street will sustain only very minor reductions in daylight and ADF but to levels that would not be considered as “noticeable” by the BRE Guide.

4.0 DAYLIGHT & SUNLIGHT

4.1 BACKGROUND

Daylight and sunlight amenities are considerations that the local planning authority can take into account when determining planning applications. There is no national planning policy relating to daylight and sunlight and overshadowing impacts. General guidance is, however, given on the need to protect existing amenity as set out in the National Planning Policy Framework.

At a Regional level, the London Plan sets out at Policy 7.6 that buildings should " *not cause unacceptable harm to the surrounding land and buildings, particularly residential buildings…."* At Policy 7.7, it states " *tall and large buildings should not have an unacceptably harmful impact on their surroundings*." The proposals are not sufficiently high to be classed as "tall".

The local planning authority, The London Borough of Camden's, policies on sunlight and daylight is set out within its Core Development Strategy :-

Camden Core Strategy policy CS5 – *Managing the Impact of Growth and Development*
Camden Core Strategy policy CS14 – *Promoting high quality places and conserving our heritage*
Policy DP26 – *Managing the impact of development on occupiers and neighbours*

And in particular the following Supplementary Planning Document (SPDs) is applicable :-

Camden Planning Guidance (CPG) 6 – Amenity – Chapter 6 – Daylight & Sunlight

The key messages from *CPG 6 - Chapter 6 – Daylight & Sunlight* has the following "*key message"*:-

- ***We expect all buildings to receive adequate daylight and sunlight***
- ***Daylight and sunlight reports will be required where there is potential to reduce existing levels of daylight and sunlight***
- ***We will base our considerations on the Average Daylight Factor and Vertical Sky Component***

Paragraph 6.4 of *CPG 6 - Chapter 6 – Daylight & Sunlight* states that 'a daylight and sunlight report should assess the impact of the development following the **methodology set out in the most recent version of Building Research Establishment's (BRE) "Site layout planning for daylight and sunlight : A guide to good practice"**

When considering the Guide's requirements, it is important to remember that the Guide is not a set of planning rules, which are either passed or failed. Numerical values are given and used, not as proscriptive or prescriptive values but as a way of comparing situations and coming to a judgement. The Guide is conceived as an aid to planning officers and designers by giving objective means of making assessments. The values given as desirable in the Guide may not be obtainable in dense urban areas where the grain of development is tight while higher values might well be desirable in suburban or rural areas where the grain is contrastingly open.

4.2 METHODOLOGY

We have carried out an analysis of the proposed situations following the methodology set out in the BRE Guide on Sunlight and Daylight. We have considered daylight by means of the vertical sky component analysis and have then calculated the sunlight by the method set out in the Guide to determine the proportion of the annual probable sunlight hours that the surrounding windows will benefit from.

We have worked from the 3-D survey that was prepared for this purpose, the Ordnance Survey, the measured survey of the existing buildings obtained from Camden's Planning website and a series of photographs taken at our site visit

We have then used the design drawings to calculate the effects on the nearest surrounding properties..

We have not entered the surrounding buildings so have assessed their internal layouts from our observation on site, documents obtained and a degree of inference. As a result, some of our values may be slightly higher or lower than would be the case were detailed internal measurements taken. In addition, the calculation method makes assumptions as to the reflectivities of the internal surfaces of the walls, floors and ceilings. The assumptions are based on the ceilings being painted white, the walls a light colour such as magnolia and the floors being finished with a medium light floorcovering. If occupants paint their walls darker or lighter and lay lighter or darker carpets, these will affect the actual ADFs produced within the rooms. Similarly, the calculation makes assumptions as to the maintenance and cleanliness of the windows. Clearly, with a new building, the developer has charge of the finishes so the ADFs for the proposed new accommodation can be more accurately predicted but for existing buildings, it is necessary to work from average values.

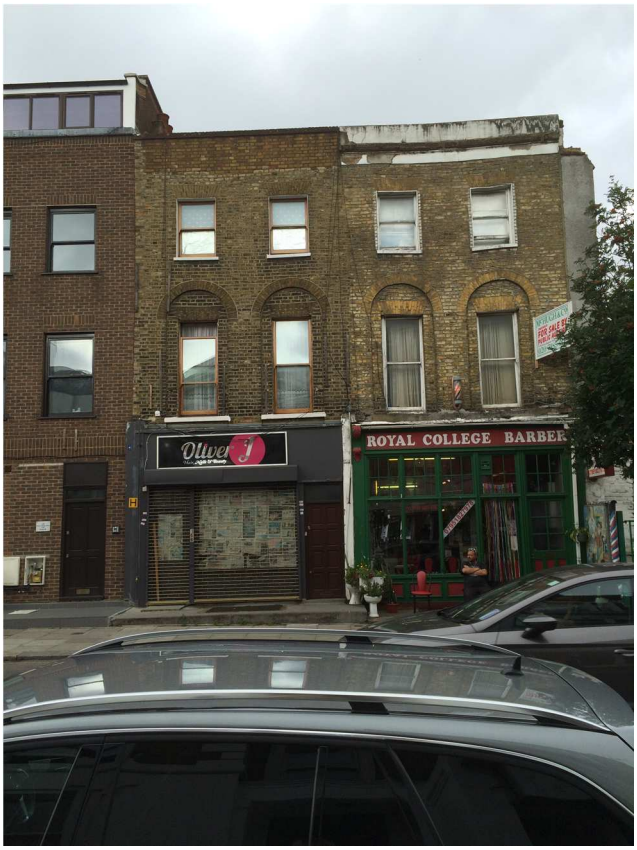
We have ascertained that planning consent has been granted for the conversion of the 1st floor of the Bruges Place buildings to be converted from B1 to C3 use. We believe that the

spaces will be divided up on the sort of basis that Pocket Developments have used elsewhere in the Borough but there are no specific layouts for the units to be converted in this instance.

A view of the Bruges Place building is shown below.

As can be seen in the photograph above, it is evident that the rooms along the back wall of the building are in the process of being completely gutted but there is no clear indication of future subdivision. As a result, we have assessed the spaces on the basis of their original layout as office spaces and we have considered Units 11 and 12 which are the units either side of the white dangling vent pipe visible in the photograph above.

In the case of 154 Royal College Street, we have considered the windows at the rear of the building. We have numbered the windows as W1 for the double storey height window which serves the staircase, then W2 to the right of that at ground floor level, W3 at 1st floor and W4 at 2nd floor level. We believe the Ground floor window serves the rear of the barbers' shop which fronts onto the road while the 1st and 2nd floor windows serve residential properties above the shop. The rear elevation is shown in the photograph below:



The lower photograph shows the front elevation of the building with the main shop-front at Ground floor level and net curtains at the 1st and 2nd floor windows indicating the likelihood of those floors being residential in use.

4.3 SURROUNDING BUILDINGS - DAYLIGHT

The BRE Guide sets out the first criterion for assessing the effects of a proposal on the existing built environment. The first is that if the proposals subtend an angle less than 25° from a point on the adjoining window wall 2m above ground level, no further consideration is necessary as there will be an adequate potential for good natural daylighting to the adjoining windows. Where the proposal subtends an angle greater than 25°, then more demanding calculations must be carried out to establish the nature of the effects of the proposals

The Guide recommends that points along the affected wall should have, or be within 4m of a point that has, a vertical sky component (VSC) of 27%. The vertical sky component is the area of the dome of the sky visible from the window plane. The maximum value obtainable at a flat window in a vertical wall is 39.6%. The Guide recommends that if proposals will still leave a window with 27% VSC or that the reduction of VSC is less than one fifth of the present value where either the present or proposed value is less than 27%, then there will be no noticeable effect on the window from the proposals.

Table 1 : Surrounding Buildings – Proposed VSC & Sunlight (see Appendix 1) sets out the results of our examination. This shows the proposed VSC and the annual probable sunlight hours and the winter proportion, in the existing and proposed situations, based on the Architects' drawing of the proposals to ascertain whether adequate daylight will reach the windows and what effects the alterations as proposed will have. We have assessed the effects on Units 11 and 12 in Bruges Place and to the rear of Royal College Barbers', 154 Royal College Street. .

From **Table 1** it can be seen that in terms of Unit 11, there will be a slight reduction in VSC available at the rear elevation window but the value of VSC as proposed will still exceed 27% by a comfortable margin at 32%. For Unit 12, the VSC will also exceed 27% by a comfortable margin at 30.5%.

At the rear of 154, the Ground floor window will sustain a reduction of VSC which will be noticeable leaving 0.62 times the existing value but we believe this to be a non-residential window but forms part of the shop so that it would not normally fall to be considered as a habitable room. At 1st floor level, there is a slight reduction in VSC but the proposed value will still be 0.83 times the existing so that the reduction will not be noticeable. At 2nd floor level, there is no alteration to the VSC caused by the proposals and the window maintains a value of VSC of 32% so that it is well in excess of the target value of 27%.

4.4 EXISTING ACCOMMODATION – ADF

We have assessed the existing accommodation to determine whether or not the proposed spaces will be provided with adequate daylight by reference to Average Daylight Factors (ADFs). The average daylight factor is a measurement of the VSC at the window face combined with the average reflectances of the surfaces inside the room, the area of the glazing and size of the room. This gives a more detailed assessment for the light that will be available in the space than VSC which gives details of the potential for reasonable daylighting within the space rather than an actual measure of the internal effects. BS 8206 Pt2, which is incorporated into the BRE Guide, recommends that interiors intended to have supplementary electric lighting – in other words, normal building interiors – should have an ADF of 2%. The BS sets minimum standards of 1% for bedrooms, 1.5% for living rooms and 2% for kitchens.

Examination of **Table 3 – Existing Accommodation ADFs** in Appendix 1 shows that Unit 11 has an ADF of 5.24% at present and this will be reduced slightly to 5.0%. This is more than compliant with the BRE and British Standard recommendations. Unit 12, which is an odd shaped space, has a present ADF of 2.44% and this will be reduced slightly to 2.28%. Again, this is a level which more than satisfies the BRE and British Standard recommendations. Both the closest units sustain no significant adverse effects and the other units will sustain progressively less and less effect as they become more distant, similarly, the existing residential units on the 2nd and 3rd floors are further away and will be even less affected than the 1st floor spaces now being converted and we have not, therefore, analysed the upper floor spaces.

In No 154, the Ground floor shop area behind W2 will see its ADF reduced from 1.73% to 1.31% while the 1st floor room will see its ADF changed from 1.89% to 1.69%. Although this is a reduction, it is only to 0.89 times the existing so would not class as noticeable in the BRE Guide. The 2nd floor room maintains its existing ADF of 1.25% unaltered by the proposals.

Taking the residential spaces only into account, the 1st floor maintains a value of 0.89 times the existing and the 2nd floor maintains its present ADF unaltered so that we would contend that this building is not adversely affected by the proposals.

4.5 SURROUNDING BUILDINGS – SUNLIGHT

The Guide recommends that windows facing within 90° of South be assessed for sunlight. This is to say, windows facing from 90° through 180 ° to 270°. Windows facing from 271°

through North to 89° are not assessed for sunlight. Within the tables above, were windows are noted as "n/a" this indicates that the windows concerned do not face the direction requiring an assessment.

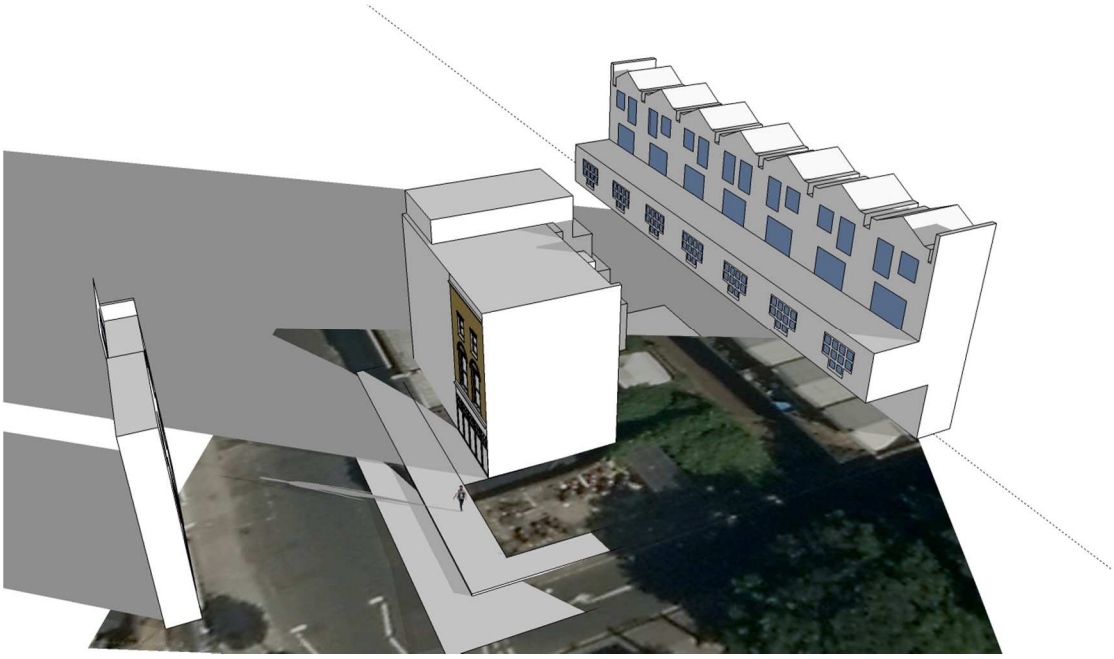
As can be seen from **Table 1 (Appendix 1)**, in terms of Unit 11, while there will be a very minor reduction in sunlight penetration, the window will still maintain sunlight of 49% of annual probable hours with 18% in the winter. This more than satisfies the BRE Guide recommendations of 25% of annual probable hours and with 5% during the winter. The proposed values are almost double the annual probable recommendation and over triple the winter level.

In Unit 12, the window will maintain an annual probable sunlight hours level of 48% with 17% during the winter. Although marginally less than Unit 11's level, this level of sunlight penetration is significantly greater than the BRE Guide recommendations.

The remaining windows, in 154 Royal College Street all face within 90° of North so do not fall to be considered for sunlight under the BRE Guide.

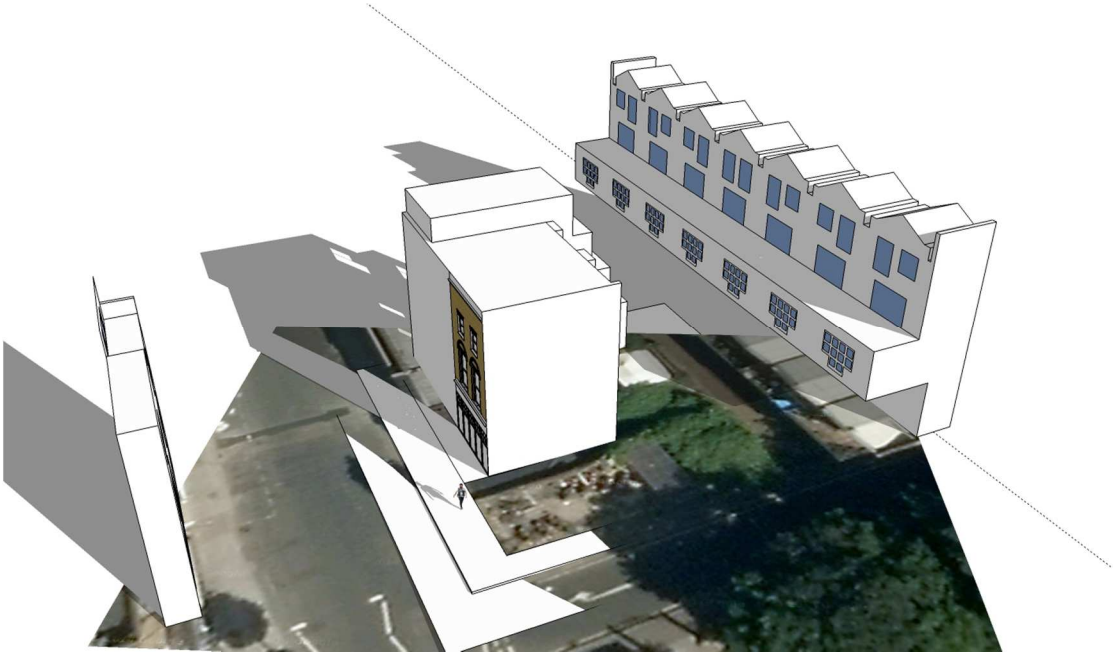
4.6 SUN ON THE GROUND AND SHADOWING

There are no specific gardens to residential properties immediately to the North of the proposal site we have, however, indicated the effects of the sun on the ground by reference to a sequence of the shadowing effects of the building taken at two-hourly intervals on the Equinox. This date is chosen as it is the "average" of the sunlight effects through the year as the shadows lengthen in the winter and shorten in the summer. The sequence commences at 07.00 GMT and runs to 17.00 GMT. This is used as it is the closest to solar time as told by a sundial.



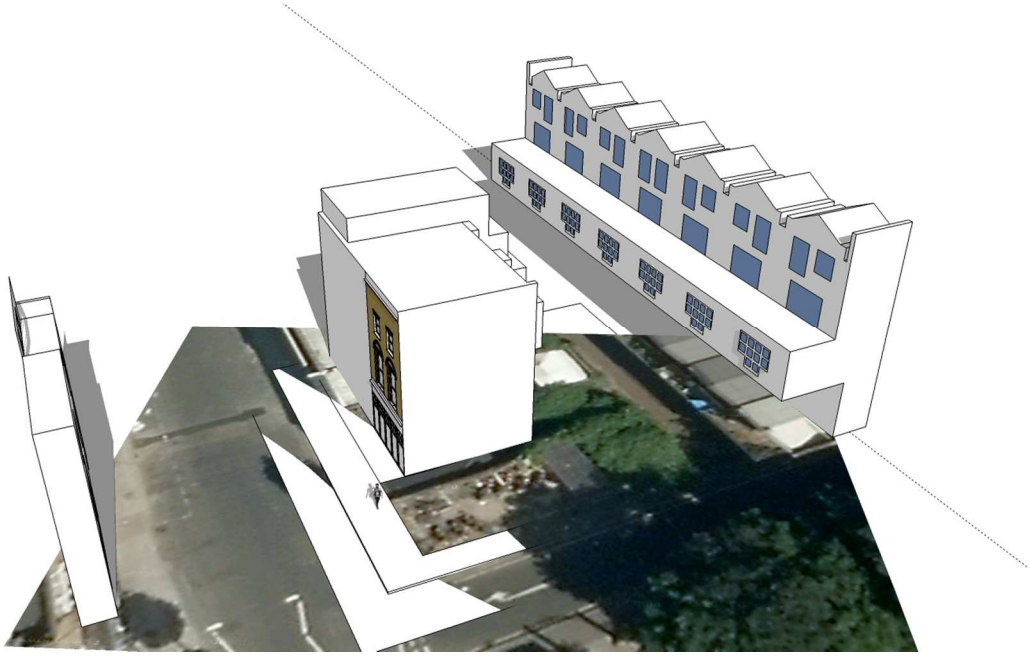
Shadow Diagram - 07.00 hours as existing on the Equinox

Shadow Diagram - 07.00 hours as proposed on the Equinox



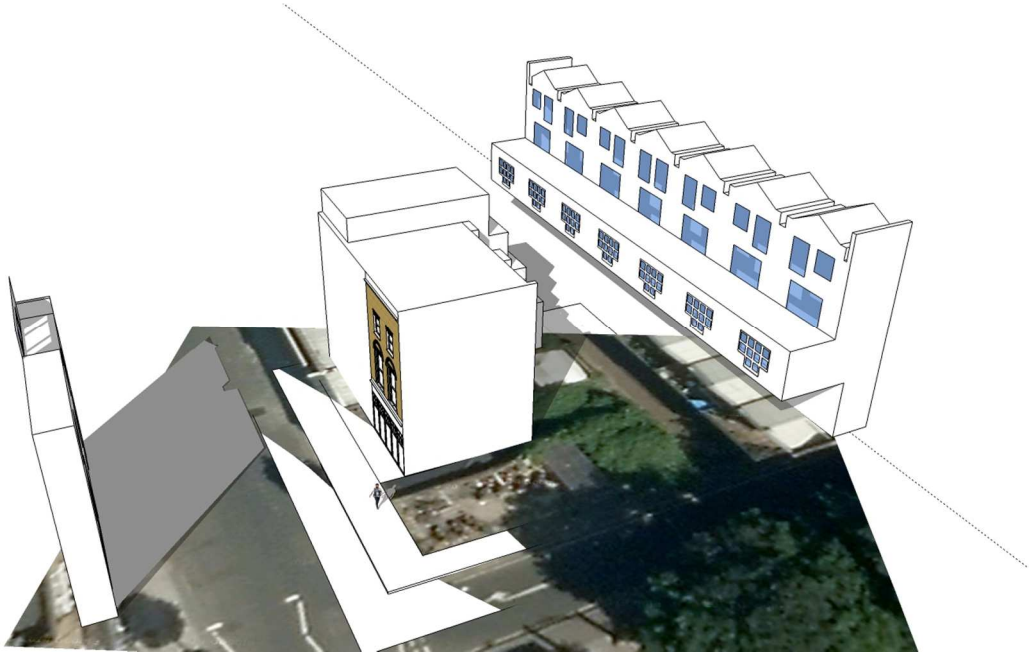
Shadow Diagram - 09.00 hours as existing on the Equinox

Shadow Diagram - 09.00 hours as proposed on the Equinox



Shadow Diagram - 11.00 hours as existing on the Equinox

Shadow Diagram - 11.00 hours as proposed on the Equinox



Shadow Diagram - 13.00 hours as existing on the Equinox

Shadow Diagram - 13.00 hours as proposed on the Equinox

Shadow Diagram - 15.00 hours as existing on the Equinox

Shadow Diagram - 15.00 hours as proposed on the Equinox

Shadow Diagram - 17.00 hours as existing on the Equinox

Shadow Diagram - 17.00 hours as proposed on the Equinox

As can be seen from the sequence, the terraces to the flats will sustain a slight increase in shadowing but only late in the afternoon and over half the area of the terraces will still benefit from more than two hours of sunshine on the Equinox.

5.0 CONCLUSIONS

Compliance with the BRE Guide is not a Planning Criterion and the foreword to the Guide is careful to make this point. The numerical values have to be interpreted carefully and not rigidly. The results of our examination show, however, that the proposals will have no significant adverse effects on any of the surrounding buildings. Within the new buildings to be created, the rooms will have good levels of daylight and sunlight and only two bedrooms in the rear block will have levels slightly below the target values. On this basis, and bearing in mind the location of the building, within a densely-developed part of Camden Town, we would consider that the results of this analysis show that the amenities of daylight and sunlight will be maintained with the grant of planning consent for the scheme as proposed.

Schroeders Begg Ltd
July 2015

6.0 APPENDICES

APPENDIX 1 - TABLES REFERRED TO IN THE TEXT (TABLES 1-2)

APPENDIX 1

TABLES REFERRED TO IN THE TEXT:-

Table 1 : Surrounding Buildings - Proposed VSC & Sunlight

Table 2 : Surrounding Buildings – Average Daylight Factor

Table 1 - VSC and Sun for Surrounding Buildings

Floor Ref.	Window Ref.		VSC	Proposed / Existing	Available Sunlight Hours Annual %	Winter %
Unit 11 Bruges Place						
1st	W1	Existing	35.00	0.91	51	19
		Proposed	32.00		49	18
1st	W2	Existing	38.00	1.00	88	30
		Proposed	38.00		88	30
Unit 12 Bruges Place						
Ground	W1	Existing	33.50	0.91	51	19
		Proposed	30.50		48	17
154 Royal College Street						
Ground	W2	Existing	22.50	0.62	n/a	n/a
		Proposed	14.00		n/a	n/a
Ground	W3	Existing	26.50	0.83	n/a	n/a
		Proposed	22.00		n/a	n/a
Ground	W4	Existing	32.00	1.00	n/a	n/a
		Proposed	32.00		n/a	n/a

Table 2 - Average Daylight Factor

Floor Ref.	Room Ref.	Room Use	Window Ref.	ADF Proposed	Req'd Value
Unit 11 Proposed					
First	R1	Unknown	W1	2.2	
			W2	0.5	
			W3	1.5	
			W4	0.8	
				5.0	1.5
Unit 12 Proposed					
First	R1	Unknown	W10	1.8	
			W13	0.5	
				2.3	1.0
154 Royal College St. Proposed					
Ground	R8	Retail	W24	1.3	
				1.3	1.5
First	R9	Living	W25	1.7	
				1.7	1.5
Second	R9	Bedroom	W25	1.3	
				1.3	1.0