40 Drummond Crescent

Internal Daylight and Sunlight Report

Client:	The D*Haus Company Ltd
Prepared by:	Michael Harper
Reference:	1494
Date:	10th June 2014

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Contents

Executive Summary

- This report provides analysis of the internal daylight and sunlight for the proposed 4th and 5th floor extension to 40 Drummond Crescent, into a residential apartment. The proposal is shown on the attached drawing 1494-05 and -06 in Appendix 1.
- The analysis is based on the methods laid out in the BRE Guidelines, used by planning officers to determine acceptability of daylight and sunlight.
- The internal daylight and sunlight results that all windows and rooms on the fourth and fifth meet the BRE Guidelines in terms of ADF and APSH, respectively. In relation to sunlight, all windows facing within 90° due south receive very good levels of sunlight, well in excess of the BRE Guidelines' criteria.
- Therefore, the daylight and sunlight internal to the proposed 4th and 5th floor will be in accordance with the BRE Guidelines and thus planning policy for internal daylight and sunlight.

1. Introduction

This report provides analysis of the internal daylight and sunlight for proposed 4th and 5th floor extension at 40 Drummond Crescent, London, for The D*Haus Company Ltd. The layout of the proposal is shown on drawings 1494-05 and -06 in Appendix 1, with the results of the analysis in Appendix 2. Window maps of the proposal are included in Appendix 1 on drawings 1494-01 to -04.

The report has been written by Waldrams Chartered Surveyors, specialists in provision of daylight and sunlight reports.

This report has been written for planning purposes to demonstrate that the proposal meets acceptable levels of daylight and sunlight as specified within the BRE Guidelines and thus local planning policy.

Method for analysing acceptable daylight and sunlight internal to the scheme itself

The method for assessing internal daylight to the scheme is:

- Average Daylight Factor (ADF) based on the criteria for room use or where this is not known a criteria of 1.5% ADF (i.e. living room) has been used;

and for internal sunlight it is:

- Annual Probable Sunlight Hours (APSH).

The ADF measure of daylight takes into account the main factors which affect the actual daylight appearance of a room including the area of the window.

ADF provides an absolute measure of daylight expressed as a ratio of daylight for the room in question as a proportion of the daylight outside at any moment in time. The ADF for a living room should be above 1.5% (i.e. the room should enjoy a minimum of 1.5% of the average external daylight at any moment in time), whilst that for a bedroom and kitchen should be in excess of 1% and 2% respectively. ADF is dependent on the area of sky visibility, which is closely related to VSC, the area of the window serving the room, the glazing transmittance, the total area of the room's surfaces and the internal reflectance of the room.

Where a room is an open-plan living room/kitchen/dining room with the kitchen part at the rear of the room, we consider that there is no real expectation for direct skylight to the rear kitchen element and, as such, it is appropriate to consider the criteria for such spaces as 1.5% ADF i.e. the ADF requirement for a living room. This is particularly the case since, in modern flats of this type, the kitchen element will be very well artificially lit when in use for task-based activities.

The test for sunlight is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less that 25% of the total APSH across the whole year or less that 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st).

Method used for calculating the daylight and sunlight results

The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the internal daylight sunlight following the methods specified in the revised 2011 BRE Guidelines to correctly calculate the daylight and sunlight to all rooms and windows within the scheme. A three dimensional accurate computer model has been created for the existing site.

References:

BRE Guidelines (BR 209):- Site layout planning for daylight and sunlight: a guide to good practice, by PJ Littlefair (2011).

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in the Introduction (Section 1) above of this report.

2. Sources of information used in the report

D*Haus
40 Drummond Crescent.pdf
DC_DAS_LOW RES.pdf
DC_DRAWINGS.pdf
Received 16/5/14
Drummond Crescent 3d model.dwg
Drummond Crescent 20140529.dwg
Received 29/5/14

Waldrams
Site photos
Ordnance Survey

3. The Existing Site

The site is shown below in Figure 1.

Figure 1: The existing site

4. Internal Daylight and Sunlight Analysis

The rooms layouts used for the internal daylight and sunlight analysis are shown on drawings 1494-05 and -06 in Appendix 1, with the results shown in Appendix 2.

The BRE Guidelines makes clear that ADF is the appropriate measure for daylight for new build accommodation such as this and APSH is the measure for sunlight.

In terms of daylight, all rooms meet the BRE Guidelines in terms of ADF, on the basis that living room/kitchen/dining room has a requirement of 1.5% ADF, which is the criteria for a living room, and a bedroom has a requirement of 1% ADF.

In relation to sunlight, all windows facing within 90° due south receive very good levels of sunlight, well in excess of the BRE Guidelines' criteria.

Therefore, the daylight and sunlight internal to the proposed 4th and 5th floor will be in accordance with the BRE Guidelines and thus planning policy for internal daylight and sunlight.

5. Conclusion

This report provides analysis of the internal daylight and sunlight for the proposed 4th and 5th floor extension to 40 Drummond Crescent, into a residential apartment. The proposal is shown on the attached drawing 1494-05 and -06 in Appendix 1.

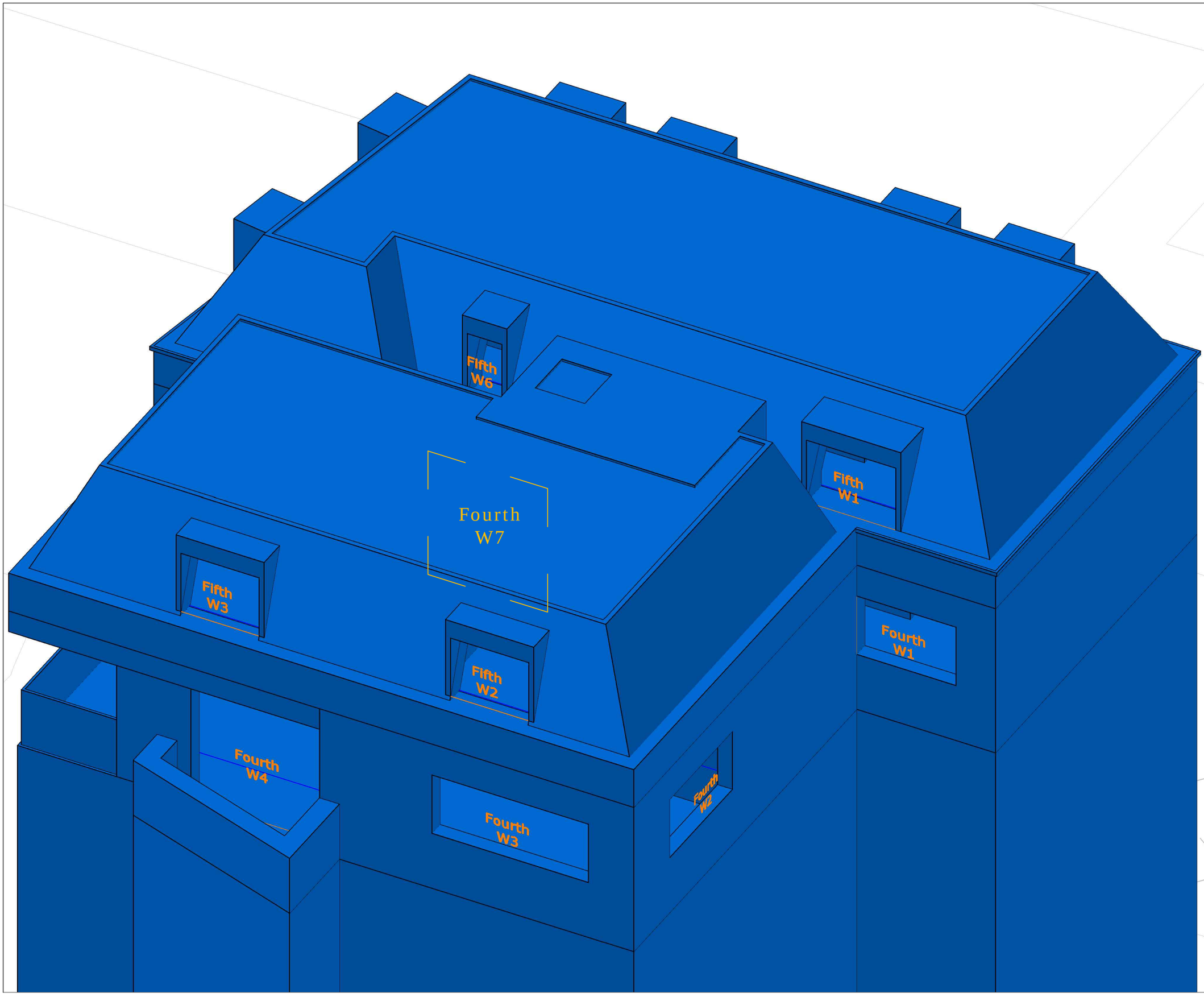
The analysis is based on the methods laid out in the BRE Guidelines, used by planning officers to determine acceptability of daylight and sunlight.

The internal daylight and sunlight results that all windows and rooms on the fourth and fifth meet the BRE Guidelines in terms of ADF and APSH, respectively. In relation to sunlight, all windows facing within 90° due south receive very good levels of sunlight, well in excess of the BRE Guidelines' criteria.

Therefore, the daylight and sunlight internal to the proposed 4th and 5th floor will be in accordance with the BRE Guidelines and thus planning policy for internal daylight and sunlight.

Appendix 1

Drawings



SOURCES OF INFORMATION:

D*Haus Company Limited
IR01
IR02

Ordnance Survey map

Site Photography

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PROJECT
40 DRUMMOND CRESCENT
LONDON NW1

DRAWING
WINDOW MAP
PROPOSED SCHEME

DATE	SCALE
10.06.14	NTS
DRAWN BY: MF	REVISION: A

PROJECT No.	DRAWING No.	RELEASE
1494	01	01

SOURCES OF INFORMATION:

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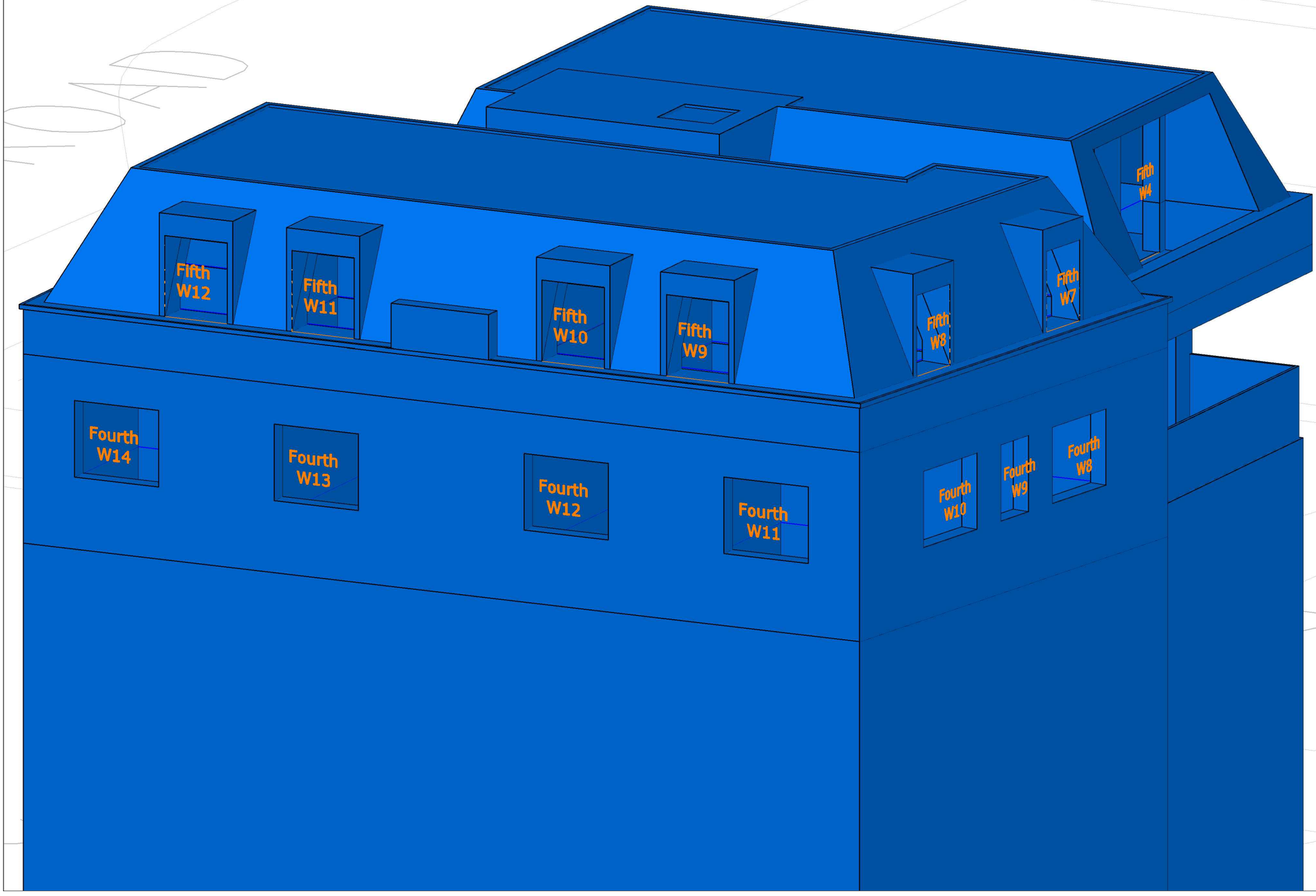
PROJECT
40 DRUMMOND CRESCENT
LONDON NW1

DRAWING
WINDOW MAP
PROPOSED SCHEME

DATE	SCALE
10.06.14	NTS
DRAWN BY	REVISION
MF	A

PROJECT No.	DRAWING No.	RELEASE
1494	02	01



SOURCES OF INFORMATION:

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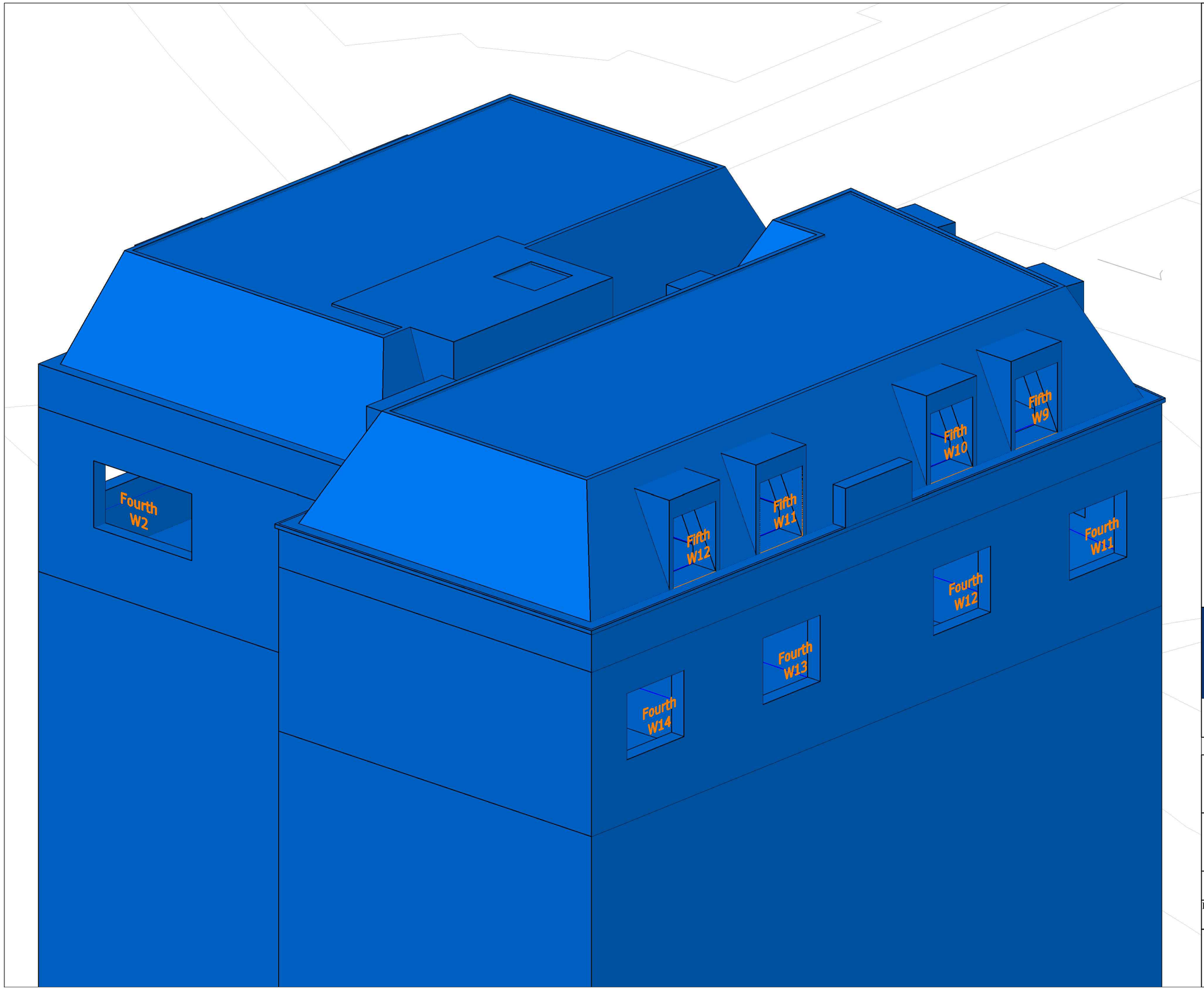
PROJECT
40 DRUMMOND CRESCENT
LONDON NW1

DRAWING
WINDOW MAP
PROPOSED SCHEME

DATE	SCALE
10.06.14	NTS
DRAWN BY: MF	REVISION: A

PROJECT No.	DRAWING No.	RELEASE
1494	03	01



SOURCES OF INFORMATION:

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PROJECT
40 DRUMMOND CRESCENT
LONDON NW1

DRAWING
WINDOW MAP
PROPOSED SCHEME

DATE	SCALE
10.06.14	NTS
DRAWN BY	REVISION
MF	A

PROJECT No.	DRAWING No.	RELEASE
1494	04	01

SOURCES OF INFORMATION:

D*Haus Company Limited
IR01
IR02

Ordnance Survey map

Site Photography

N

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PROJECT	40 DRUMMOND CRESCENT LONDON NW1
DRAWING	4TH FLOOR PROPOSED LAYOUT
DATE: 10.06.14	SCALE: NTS
DRAWN BY: MF	REVISION: A

PROJECT No.	DRAWING No.	RELEASE
1494	05	01

SOURCES OF INFORMATION:

D*Haus Company Limited
IR01
IR02

Ordnance Survey map

Site Photography

N

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PROJECT	40 DRUMMOND CRESCENT LONDON NW1
DRAWING	5TH FLOOR PROPOSED LAYOUT
DATE: 10.06.14	SCALE: NTS
DRAWN BY: MF	REVISION: A

PROJECT No.	DRAWING No.	RELEASE
1494	06	01

Appendix 2

Daylight & Sunlight Results Internal to the Scheme

40 Drummond Crescent

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Glass Transmittance	Glazed Area	Clear Sky Angle Existing	Clear Sky Angle Proposed	Room Surface Area	Average Surface Reflectance	Below Working Plane Factor	ADF Proposed
Fourth	R1	LKD	W1	0.68	2.32	N/A	61.82	78.74	0.50	1.00	1.65
											1.65
Fourth	R2	LKD	W2	0.68	2.74	N/A	83.77	194.19	0.50	1.00	1.07
			W3	0.68	3.65	N/A	85.64	194.19	0.50	1.00	1.46
			W4-L	0.68	2.14	N/A	53.51	194.19	0.50	0.15	0.08
			W4-U	0.68	4.09	N/A	76.74	194.19	0.50	1.00	1.47
			W5-L	0.68	4.45	N/A	42.88	194.19	0.50	0.15	0.13
			W5-U	0.68	9.69	N/A	36.54	194.19	0.50	1.00	1.65
											5.86
Fourth	R3	LKD	W6	0.68	0.49	N/A	49.48	109.72	0.50	1.00	0.20
			W7-L	0.68	1.86	N/A	9.02	109.72	0.50	0.15	0.02
			W7-U	0.68	4.06	N/A	15.44	109.72	0.50	1.00	0.52
			W8	0.68	1.76	N/A	84.91	109.72	0.50	1.00	1.23
											1.97
Fourth	R4	Bathroom	W9	0.68	0.90	N/A	81.54	27.13	0.50	1.00	2.45
											2.45
Fourth	R5	Bedroom	W10	0.68	1.76	N/A	84.91	55.84	0.50	1.00	2.43
			W11	0.68	1.76	N/A	84.91	55.84	0.50	1.00	2.43
											4.85
Fourth	R6	Bedroom	W12	0.68	1.76	N/A	84.91	51.20	0.50	1.00	2.65
											2.65
Fourth	R7	Bedroom	W13	0.68	1.76	N/A	84.91	45.29	0.50	1.00	2.99
											2.99
Fourth	R8	Bedroom	W14	0.68	1.76	N/A	84.91	65.33	0.50	1.00	2.07
											2.07
Fifth	R1	LKD	W1-L	0.68	0.04	N/A	63.65	70.24	0.50	0.15	0.00
			W1-U	0.68	2.17	N/A	67.06	70.24	0.50	1.00	1.88
											1.88
Fifth	R2	Bedroom	W2	0.68	1.82	N/A	84.99	58.44	0.50	1.00	2.40
											2.40
Fifth	R3	Bedroom	W3	0.68	1.82	N/A	84.99	74.29	0.50	1.00	1.89
			W4-L	0.68	1.10	N/A	56.56	74.29	0.50	0.15	0.11
			W4-U	0.68	2.40	N/A	53.03	74.29	0.50	1.00	1.55
											3.55
Fifth	R4	Bedroom	W5-L	0.68	1.12	N/A	57.06	59.20	0.50	0.15	0.15
			W5-U	0.68	2.43	N/A	53.43	59.20	0.50	1.00	1.99
											2.14
Fifth	R5	LKD	W6-L	0.68	0.02	N/A	42.10	83.10	0.50	0.15	0.00
			W6-U	0.68	0.84	N/A	51.85	83.10	0.50	1.00	0.48
			W7-L	0.68	0.02	N/A	84.72	83.10	0.50	0.15	0.00
			W7-U	0.68	1.13	N/A	83.22	83.10	0.50	1.00	1.03
											1.51
Fifth	R6	Bedroom	W8-L	0.68	0.02	N/A	84.71	51.87	0.50	0.15	0.00
			W8-U	0.68	1.13	N/A	83.22	51.87	0.50	1.00	1.64
			W9-L	0.68	0.03	N/A	85.83	51.87	0.50	0.15	0.01
			W9-U	0.68	1.36	N/A	84.14	51.87	0.50	1.00	2.00
											3.66
Fifth	R7	Bedroom	W10-L	0.68	0.01	N/A	85.53	41.76	0.50	0.15	0.00
			W10-U	0.68	1.37	N/A	84.17	41.76	0.50	1.00	2.50
											2.51
Fifth	R8	Bedroom	W11-L	0.68	0.01	N/A	85.53	39.11	0.50	0.15	0.00
			W11-U	0.68	1.37	N/A	84.17	39.11	0.50	1.00	2.67
											2.68
Fifth	R9	Bedroom	W12-L	0.68	0.01	N/A	85.84	59.02	0.50	0.15	0.00
			W12-U	0.68	1.37	N/A	84.19	59.02	0.50	1.00	1.77
											1.77

40 Drummond Crescent

Floor Ref.	Room Ref.	Room	Use.	Window Ref.	Available Sunlight Hours	
					Annual %	Winter %
Fourth	R1	LKD		W1	*North Facing	
Fourth	R2	LKD		W2	*North Facing	
Fourth	R2	LKD		W3	*North Facing	
Fourth	R2	LKD		W4	*North Facing	
Fourth	R2	LKD		W5	N/A 25	N/A 15
Fourth	R3	LKD		W6	*North Facing	
Fourth	R3	LKD		W7	*North Facing	
Fourth	R3	LKD		W8	N/A 82	N/A 28
Fourth	R4	Bathroom		W9	N/A 82	N/A 28
Fourth	R5	Bedroom		W10	N/A 82	N/A 28
Fourth	R5	Bedroom		W11	N/A 68	N/A 24
Fourth	R6	Bedroom		W12	N/A 67	N/A 24
Fourth	R7	Bedroom		W13	N/A 67	N/A 24
Fourth	R8	Bedroom		W14	N/A 67	N/A 24
Fifth	R1	LKD		W1	*North Facing	
Fifth	R2	Bedroom		W2	*North Facing	
Fifth	R3	Bedroom		W3	*North Facing	
Fifth	R3	Bedroom		W4	N/A 48	N/A 23
Fifth	R4	Bedroom		W5	N/A 51	N/A 15
Fifth	R5	LKD		W6	*North Facing	
Fifth	R5	LKD		W7	N/A 82	N/A 28
Fifth	R6	Bedroom		W8	N/A 82	N/A 28
Fifth	R6	Bedroom		W9	N/A 68	N/A 24
Fifth	R7	Bedroom		W10	N/A 68	N/A 24
Fifth	R8	Bedroom		W11	N/A 68	N/A 24
Fifth	R9	Bedroom		W12	N/A 68	N/A 24