

Daylight and Sunlight Report

Stability Investments Ltd

19-21 Great Queen Street London WC1B 5BE

25 July 2014

Prepared by

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Quality Standards Control

The signatories below verify that this document has been prepared in accordance with our quality control requirements. These procedures do not affect the content and views expressed by the originator.

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APPROVED

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Limitations

This document has been prepared for the stated objective and should not be used for any other purpose without the prior written authority of GL Hearn; we accept no responsibility or liability for the consequences of this document being used for a purpose other than for which it was commissioned.

1 INSTRUCTIONS AND BRIEF

- 1.1 In accordance with your instructions we have carried out a study to assess the effect of your proposed development on the daylight and sunlight amenity to the neighbouring residential as well as an assessment of the proposed internal units.
- 1.2 We have received the following documents and used them in preparing this report:
 - Proposal drawings from Stability Investments Ltd received July 2014
- 1.3 Our assessment is based on a visual inspection, the information detailed above and estimates of relevant distances, dimensions and levels which are as accurate as the circumstances allow.

2 PLANNING POLICY

2.1 The London Borough of Camden's Development Policies 2010-2025 which is part of the Local Development Framework states at 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:

- a) Visual privacy and overlooking;
- b) Overshadowing and outlook;
- c) Sunlight, daylight and artificial light levels;
- d) Noise and vibration levels:
- e) Odour, fumes and dust;
- f) Microclimate:
- g) The inclusion of appropriate attenuation measures."

It states at 26.3 of the same document:

"A development's impact on visual privacy, overlooking, overshadowing, outlook, access to daylight and sunlight and disturbance from artificial light can be influenced by its design and layout, the distance between properties, the vertical levels of onlookers or occupiers and the angle of views. These issues will also affect the amenity of the new occupiers. We will expect that these elements are considered at the design stage of a scheme to prevent potential negative impacts of the

development on occupiers and neighbours. To assess whether acceptable levels of daylight and sunlight are available to habitable spaces, the Council will take into account the standards recommended in the British Research Establishment' Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (1991)."

3 BRE REPORT "SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT: A GUIDE TO GOOD PRACTICE" SECOND EDITION (2011) ('THE REPORT')

- 3.1 Principles
- 3.1.1 The Second Edition of the Report replaces the 1991 document of the same name with effect from October 2011.
- 3.1.2 It is important to note that the introduction to the report stresses that the document is provided for guidance purposes only and it is not intended to be interpreted as a strict set of rules. It also suggests that it may be appropriate to adopt a flexible approach and alternative target values in dealing with "special circumstances" for example "in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings." This is amplified by the following extracts from the introduction (P1, para. 6) and Section 2.2:

"The advice given here is not mandatory and this document should not be seen as an instrument of planning policy; Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design..." (P1, para. 1.6)

"In special circumstances the Developer or Planning Authority may wish to use different target values." (P1, para. 1.6)

"Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylighting in an area viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light". (P7 para. 2.2.3)

3.1.3 The examples given in the Report can be applied to any part of the country: suburban, urban and rural areas. The inflexible application of the target values given in the Report may make reaching the BRE criteria difficult in a tight, urban environment where there is unlikely to be the same expectation of daylight and sunlight amenity as in a suburban or rural environment.

3.2 Daylight

3.2.1 In summary, the BRE Report states that:

"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 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- the vertical sky component ['VSC'] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; or
- the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, store rooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include, schools, hospitals, hotels and hostels, small workshops and some offices."

- 3.2.2 Appendix C of the Report provides details of BS8206: Part 2 British Standard for Daylighting and the Chartered Institution of Building Services Engineers (CIBSE) Applications Manual: Windows Design which provide advice and guidance on interior daylighting. The BRE Report is intended to be used in conjunction with these documents, and its guidance is intended to fit-in with their recommendations. The British Standard and the CIBSE manual put forward three main criteria for interior daylighting, one of which is the use of the Average Daylight Factor (df) calculation. Essentially, the documents recommend that, if a supplementary electric lighting is provided, a df value of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms should be attained.
- 3.2.3 The British Standard also suggests, that if a predominately daylit appearance is required, then df should be 5% or more if there is no supplementary electric lighting. However, in all modern living accommodation supplementary electric lighting is provided and, as such, df values detailed above are used as target values.

3.3 Sunlight

3.3.1 The BRE Report advises that new development should take care to safeguard access to sunlight for existing buildings and any non-domestic buildings where there is a particular requirement for sunlight. In summary, the report states:

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

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight over the whole year greater than 4% of annual probable sunlight hours"

3.3.2 The report also states that:

"...It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway." (3.2.3)

4 ASSESSMENT OF SURROUNDING PROPERTIES

- 4.1 Research to the surrounding properties shows that all adjacent properties with windows overlooking the site are commercial in usage. Historically, we do not normally analyse commercial properties for daylight/sunlight.
- 4.2 The BRE report states at paragraph 2.2.2:

"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices."

4.3 In our experience, the 'some offices' referred to has usually been applied to offices where daylight is more important such as fashion workshops or architects' offices. Our research has not highlighted any of the offices in the surrounding that would require a particular expectation of

daylight and therefore we have not carried out daylight/sunlight analyses to any of the surrounding properties.

4.4 It should be noted that the design has responded to maintaining light levels to the adjacent buildings by moving further away from 40-42 Parker Street and the overall mass has been tapered away from these buildings.

5 LIGHT LEVELS TO RESIDENTIAL ACCOMMODATION WITHIN THE PROPOSED SCHEME

5.1 Daylight

- 5.1.1 We have analysed the daylight levels received using the Average Daylight Factor assessment (ADF). As recommended by the BRE Report, we have used a glass transmittance value of 0.68 for standard double glazing and an internal reflectance value of 0.5. We have analysed all habitable rooms.
- 5.1.2 The location of the tested rooms and window references are shown on the drawings appended to this report; the results are also included in the appendices and relevant spreadsheets.
- 5.1.3 The analysis shows that of the 17 rooms in the proposed development, 16 would meet the ADF target values. The only transgression occurs to living room R2 on the second floor which achieves an ADF of 1.96%; this is only marginally below the target value of 2% and given the urban location and site constraints, is in excess of expectations for the area.

5.2 Sunlight

- 5.2.1 We have used the annual probable sunlight hours (APSH) test to assess sunlight amenity to those windows facing within 90-degrees of due south.
- 5.2.2 The proposal will have 22 windows facing within 90-degrees of due south. 16 windows will comply fully with recommendations for sunlight. On the first floor, Windows W1, W2 and W3 achieve the total target value of 25% but are 1% below the target value of 5% for the winter months. Window W5 achieves a result of 22% with 3% in the winter months and W5 achieves 24% with 4% in the winter months. It should be noted that all of these windows serve the same room and therefore sunlight amenity of the room should be acceptable. On the second floor, windows W2 and W4 achieve a value of 3% in the winter months but achieve 30% and 28% annual. Again, the rooms served by these windows are served by another 3 windows which exceed the target values and therefore are acceptable.

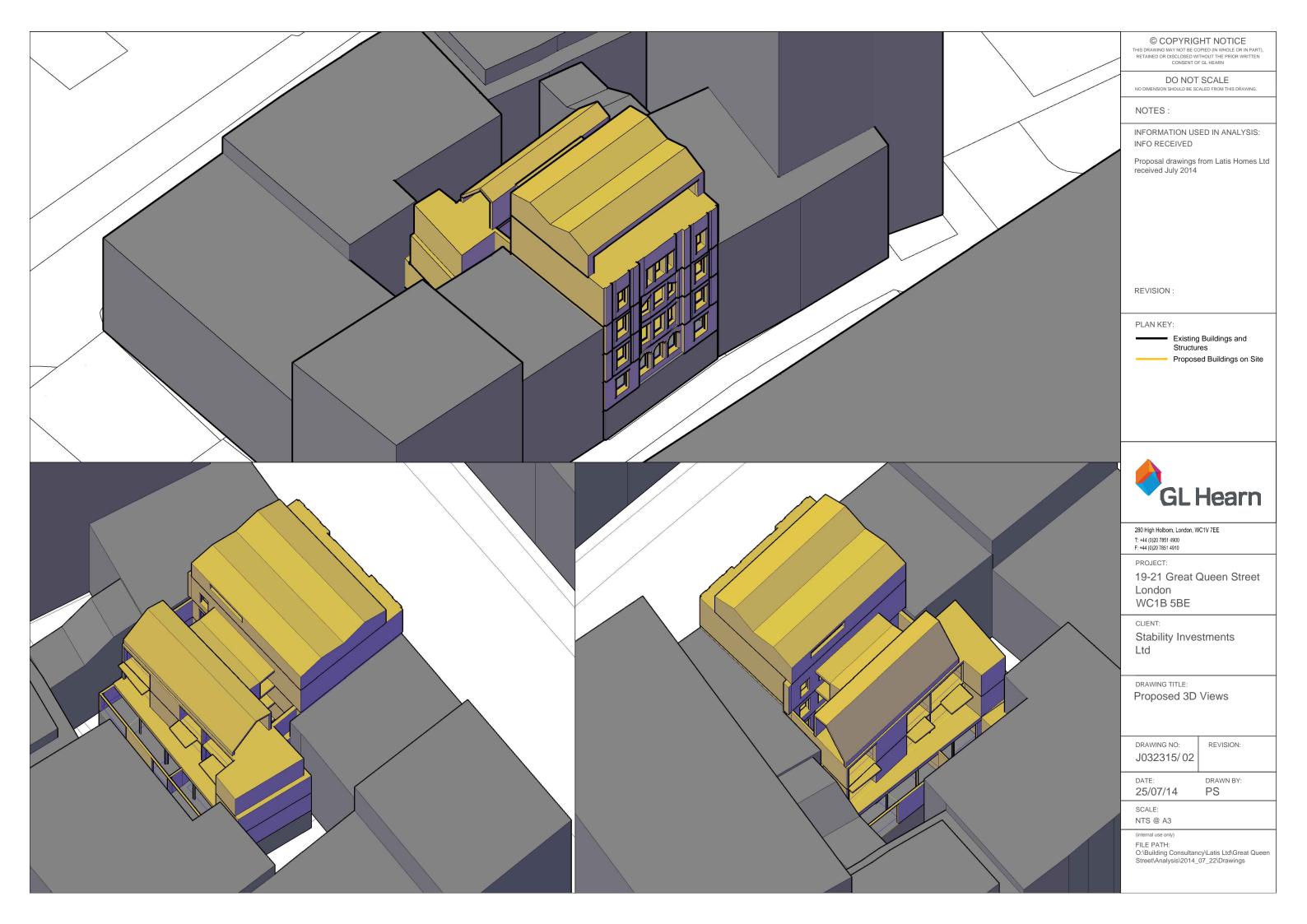
6 CONCLUSION

- 6.1 Light levels to residential accommodation within the proposed scheme
- Our analysis shows 96% of rooms assessed would meet the ADF target values. There is a transgression to one room the value for which is only marginally below the BRE reports recommended values and in excess of expectations for the area.
- 6.3 With regards to sunlight, 16 windows meet the recommendations for sunlight. It should be noted that where there are transgressions to sunlight, the rooms have secondary windows serving them which do achieve the target value for sunlight and hence the sunlight amenity would be as expected for the area.
- 6.4 We therefore submit that our analysis demonstrates that the flats within the proposed development would receive adequate light when assessed in accordance with the guidelines given in London Borough of Camden's planning policies, and more specifically, with the guidelines set-out in the BRE Report.

APPENDIX A

DRAWINGS





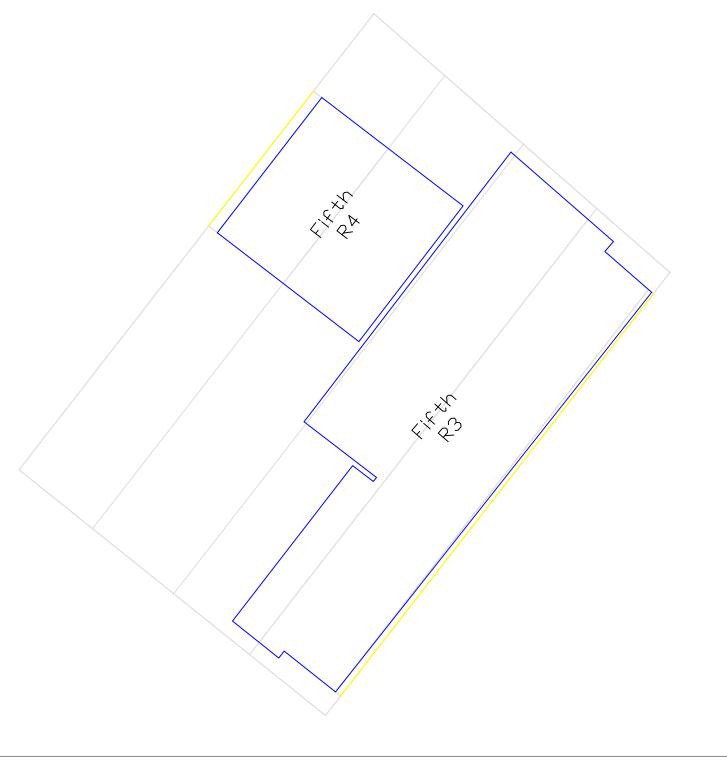












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NOTES:

INFORMATION USED IN ANALYSIS: INFO RECEIVED

Proposal drawings from Latis Homes Ltd received July 2014

REVISION:

PLAN KEY:

Existing Buildings and

Proposed Buildings on Site

Room Layout

Building Location on site



280 High Holborn, London, WC1V 7EE

T: +44 (0)20 7851 4900 F: +44 (0)20 7851 4910

PROJECT:

19-21 Great Queen Street London WC1B 5BE

CLIENT:

Stability Investments

DRAWING TITLE:

Average Daylight Factor Fourth Floor

DRAWING NO: J032315/06

REVISION:

DATE: 25/07/14

DRAWN BY: PS

SCALE: NTS @ A3

FILE PATH:

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Street\Analysis\2014_07_22\Drawings

Daylight and Sunlight Report, 25 July 2014 Stability Investments Ltd, 19-21 Great Queen Street

APPENDIX B

AVERAGE DAYLIGHT FACTOR AND SUNLIGHT RESULTS TO PROPOSED SCHEME

ability Inve d - 19-21 G leen Street	reat	Average Da	GL Hearn		
Floor Ref.	Room Ref.	Room Use	Window Ref.	ADF Proposed	Req'd Value
roposal					
First	R1	LKD	W1	0.43	
			W2	0.40	
			W3	0.41	
			W4	0.40	
			W5	0.43	
			W6	0.04	
			W7	0.00	=
				2.10	2.00
First	R2	Bedroom	W10-L	0.00	
			W10-U	0.01	
			W11	0.39	
			W17-L	0.05	
			W17-U	1.35	
			W8-L	0.01	
			W8-U	0.14	
			W9-L W9-U	0.00	
			vv9-U	0.00 1.95	1.00
First	R3	Bedroom	W12	0.82	1.00
1 1130	110	Dearoom	W18	0.66	
				1.48	1.00
First	R4	Bedroom	W13	0.90	1
			W14-L	0.00	
			W14-U	0.08	
			W15-L	0.00	
			W15-U	0.00	
			W16-L	0.01	
			W16-U	0.10	-
				1.09	1.00
Second	R1	LKD	W1	0.45	
			W2	0.30	
			W3	0.39	
			W4 W5	0.30 0.45	
			ws W6	0.45 0.07	
			W7	0.07	
			V V /	1.96	2.00
Second	R2	Bedroom	W8-L	0.13	2.00
2000110		200.00	W8-U	2.55	
				2.69	1.00
Second	R3	Bedroom	W9-L	0.10	
			W9-U	1.56	
				1.66	1.00
Second	R4	Bedroom	W10-L	0.13	
			W10-U	1.77	_
				1.90	1.00

31/07/2014

Stability Inve- Ltd - 19-21 G Queen Stree	reat	Average Da	GL Hearn		
Floor Ref.	Room Ref.	Room Use	Window Ref.	ADF Proposed	Req'd Value
Third	R1	LKD	W1 W2 W3 W4	0.54 0.24 0.42 0.24	
			W5 W6 W7	0.54 0.15 0.03 2.16	2.00
Third	R2	Bedroom	W8-L W8-U	0.22 4.76 4.98	1.00
Third	R3	Bedroom	W9-L W9-U	0.17 3.98 4.15	1.00
Third	R4	Bedroom	W10-L W10-U	0.26 6.01 6.27	1.00
Fourth	R1	LKD	W1 W2 W3 W4 W5 W6 W7	0.46 0.31 0.47 0.31 0.46 0.27 0.04 2.31	2.00
Fourth	R2	Bedroom	W8-L W8-U	0.20 2.69 2.89	1.00
Fourth	R3	Bedroom	W9-L W9-U	0.43 5.84 6.27	1.00
Fifth	R3	LKD	W1	8.62 8.62	2.00
Fifth	R4	Bedroom	W2	2.86 2.86	1.00

Stability Investments
Ltd - Great Queen

Daylight and Sunlight - VSC and Sunlight Results for Proposed Scheme



					Available Sunlig	ht Hours
Floor Ro	ef. Room	Ref. Room Use.	Window Ref.		Annual %	Winter %
oposal						
First	R1	LKD	W1			
				Proposed	25	4
First	R1	LKD	W2	D	25	4
First	R1	LKD	W3	Proposed	25	4
1 1150	KI	LND	VVJ	Proposed	25	4
First	R1	LKD	W4	Тторозси	23	
				Proposed	22	3
First	R1	LKD	W5			
				Proposed	24	4
First	R1	LKD	W6		*North	Facing
	D1			Proposed		
First	R1	LKD	W7	Duamagad	*North	Facing
First	R2	Bedroom	W11	Proposed		
11130	IX.	Deditoon	AATI	Proposed	*North	Facing
First	R2	Bedroom	W17		VAL. 11.	Feeten
				Proposed	*North	Facing
First	R3	Bedroom	W12		*North	Facing
				Proposed	NOIL	i i acing
First	R3	Bedroom	W18		*North	Facing
	D.4			Proposed		
First	R4	Bedroom	W13	Dranagad	*North	Facing
Secon	j R1	LKD	W1	Proposed		
Jecon		LIND	AAT	Proposed	35	5
Secon	R1	LKD	W2		35	
				Proposed	30	3
Secon	R1	LKD	W3			
				Proposed	35	5
Secon	R1	LKD	W4			
	. 54		=	Proposed	28	3
Secon	j R1	LKD	W5	Duon 5 J	25	-
Secon	j R1	LKD	W6	Proposed	35	5
Secon	i LI	LND	VVO	Proposed	*North	Facing

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Daylight and Sunlight - VSC and Sunlight Results for Proposed Scheme



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					Available Sunlig	tht Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		Annual %	Winte
Second	R1	LKD	W7	Proposed	*North	r Facing
Second	R2	Bedroom	W8	Proposed	*North	n Facing
Second	R3	Bedroom	W9	Proposed	*North	n Facing
Second	R4	Bedroom	W10	Proposed	*North	n Facing
Third	R1	LKD	W1	Proposed	47	11
Third	R1	LKD	W2	Proposed	36	7
Third	R1	LKD	W3	Proposed	46	10
Third	R1	LKD	W4	Proposed	38	7
Third	R1	LKD	W5	Proposed	47	11
Third	R1	LKD	W6	Proposed	*North	r Facing
Third	R1	LKD	W7	Proposed	*North	r Facing
Third	R2	Bedroom	W8	Proposed	*North	n Facing
Third	R3	Bedroom	W9	Proposed	*North	n Facing
Third	R4	Bedroom	W10	Proposed	*North	n Facing
Fourth	R1	LKD	W1	Proposed	55	16
Fourth	R1	LKD	W2	Proposed	47	13
Fourth	R1	LKD	W3	Proposed	55	16
Fourth	R1	LKD	W4	Proposed	47	13
Fourth	R1	LKD	W5	Proposed	55	16

PS

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Daylight and Sunlight - VSC and Sunlight Results for Proposed Scheme



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					Available Sunlig	tht Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		Annual %	Winter %
Fourth	R1	LKD	W6	Proposed	*North	n Facing
Fourth	R1	LKD	W7	Proposed	*North	n Facing
Fourth	R2	Bedroom	W8	Proposed	*North Facing	
Fourth	R3	Bedroom	W9			
				Proposed	67	25
Fifth	R3	LKD	W1	Existing	N/A	N/A
				Proposed	63	23
Fifth	R4	Bedroom	W2	Existing Proposed	*North Facing	

PS