30 Glenilla Road C1069/DSO

Daylight, Sunlight and Overshadowing Report

19 February 2018

THE CHANCERY GROUP

Contents

Appendices

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Introduction

Introduction

1.1 The Chancery Group have been instructed by Stuart Swycher to undertake a daylight and sunlight assessment with regard to the proposed redevelopment of 30 Glenilla Road, London, NW3 ("proposed development").

1.2 The site is located within the London Borough of Camden to the south west of Glenilla Road.

1.3 This report has considered the potential daylight and sunlight impacts to the surrounding residential properties and the potential daylight and sunlight availability within the proposed habitable rooms.

1.4 We have relied upon the latest scheme proposals supplied by Ben Adams Architects on the 16th February 2018 to undertake the daylight and sunlight assessments.

1.5 It is understood that a planning application for 32 Glenilla Road was submitted on the 19th December 2016 (Ref: 2016/6712/P). For the purpose of this report, we have assumed that this development would form part of the existing baseline and therefore would be material for a daylight and sunlight assessment.

1.6 We have not sought access to the remaining surrounding properties and have therefore assumed the internal configuration of the rooms from external inspections and photographs. We have also assumed the floor levels for all properties. This dictates the level of the working plane, which is the height that the No Sky Line (NSL) daylight assessment is carried out. With regard to room layouts, we have assumed 4.3 meter room depths for residential spaces, unless the building form dictated otherwise. If the room layouts are materially different to those used in this assessment then the results and conclusions drawn could differ.

1.7 The results of our technical assessment are provided in Appendix 01.

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Daylight and Sunlight Methodology

Daylight and Sunlight Methodology

2.1 This assessment has been undertaken in accordance with the British Research Establishment (BRE) Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice (Second Edition, 2011). Referred to in this report as the "BRE Guidelines".

2.2 Paragraph 1.6 in the Introduction of the BRE Guidelines states:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide 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 since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in an 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."

"The calculation methods in Appendices A, B and G are entirely flexible in this respect. Appendix F gives advice on how to develop a consistent set of target values for skylight under such circumstances, and Appendix C shows how to relate these to interior daylighting requirements..."

2.3 On the basis of these statements, care should be taken to apply the guidance sensibly and flexibly taking into consideration the context of the site and advantages of the scheme.

Daylight

2.4 Where the internal arrangements are not known, the BRE Guidelines provide two methods of assessing daylight in the existing situation; the Vertical Sky Component (VSC), which assesses the quantum of skylight and the No Sky Line (NSL), which considers the distribution of light within a building. Each method is described in more detail below.

Vertical Sky Component (VSC)

2.5 The VSC test calculates the potential for daylight to a building and measures the amount of light available at the centre of the outside plane of a window using the Waldram diagram method of analysis.

2.6 The BRE Guidelines suggest that a noticeable impact would likely occur if the VSC with the development in place is both less than 27% and less than 0.8 times its former value.

No Sky Line (NSL)

2.7 The NSL test calculates the distribution of daylight at the working plane (i.e. 850mm above floor level) within a room. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. The BRE Guidelines suggest that a noticeable impact would likely occur if the area of a room that receives direct sky light is reduced to less than 0.8 times its former value.

No Sky Line (NSL) - Internal Assessment

2.8 The NSL test calculates the distribution of daylight at the working plane (i.e. 850mm above floor level) within a room. Appendix C paragraph C16 states that:

"If a significant area of the working plane (normally more than 20%) lies beyond the no skyline (i.e. it receives no direct skylight) then the distribution of daylight within the room will look poor and supplementary electric lighting will be required."

Average Daylight Factor

2.9 The Average Daylight Factor (ADF) is a measurement of the diffused daylight within a room. This calculation takes into account the size and location of the window, the glazing transmittance, the total area of the room, reflectance of the walls, ceiling and floor (the internal average reflectance) and uses a CIE overcast sky.

2.10 The BRE Guidelines Appendix C and BS 8206-2:2008 suggests that for a predominantly daylit appearance, a ADF of 5% or more is required where there is no supplementary electric lighting and 2% or more if supplementary electric lighting is provided. The minimal recommended ADF values for dwellings are 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

Sunlight

Annual Probable Sunlight Hours (APSH)

2.11 The BRE Guidelines refer to the BS 8206-2:2008, which sets out the criterion for APSH and defines "probable sunlight hours" as:

"The total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the urban location in question."

2.12 The APSH calculation is assessed on the centre of a main window located within 90° of due south. The BRE Guidelines recommend windows should receive at least 25% APSH, with 5% APSH in the winter months. It is suggested that a noticeable impact would likely occur if the window receives less than 0.8 times its former sunlight hours and if there is a reduction in total APSH which is greater than 4%.

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Surrounding Assessment Results

Surrounding Assessment Results

3.1 We have undertaken an assessment upon the following properties, which are understood to be in residential use.

- 17 Glenilla Road
- 28b Glenilla Road
- 32 Glenilla Road
- 37 Glenilla Road
- 18-20 Belsize Park Gardens

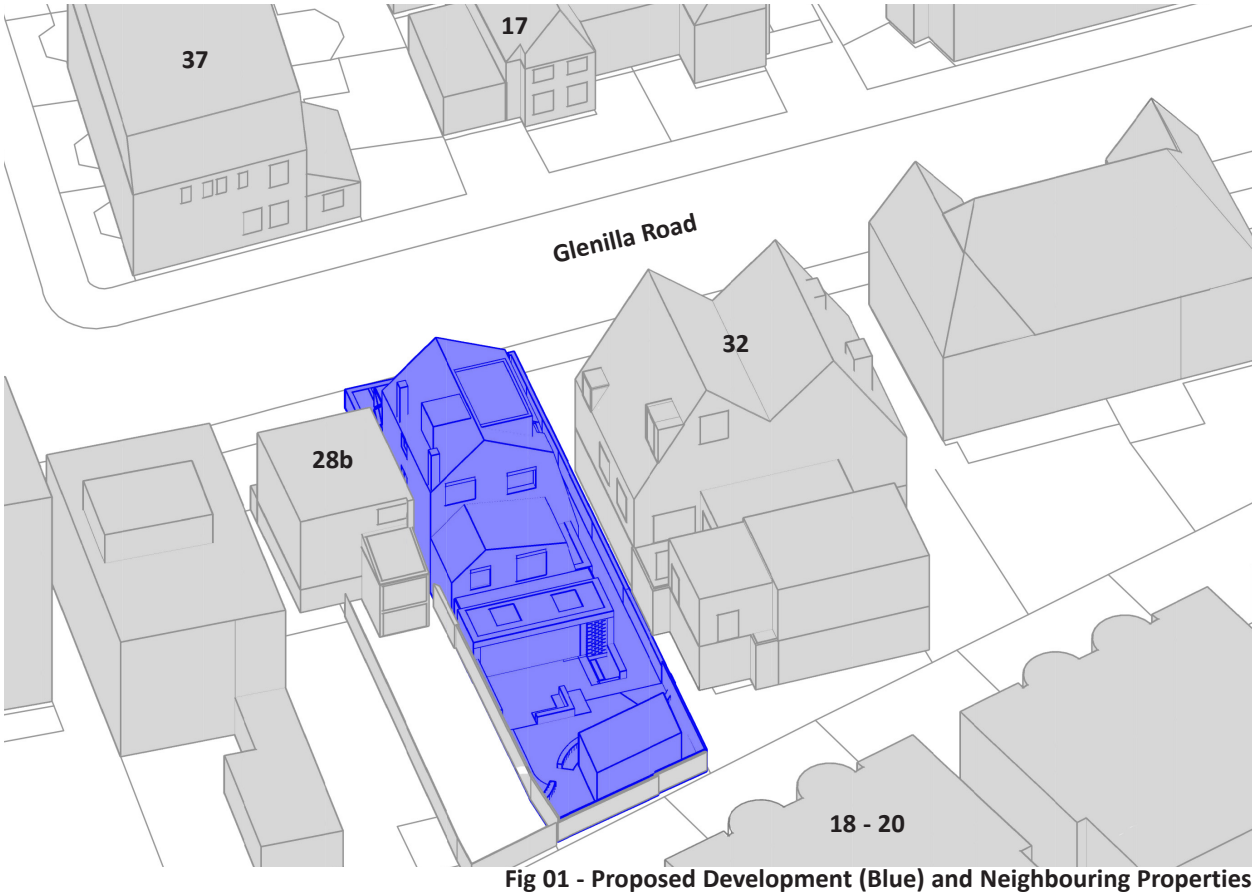

Fig 01 - Proposed Development (Blue) and Neighbouring Properties

3.2 All other surrounding properties are either assumed to be in commercial use, and as such are not material for daylight and sunlight assessment, or are considered too remote to require a detailed assessment.

<u>Existing Site (2017) vs Proposed Development</u>

17 Glenilla Road

Daylight

3.3 The results of our VSC and NSL assessment show that all windows and rooms assessed will be fully

compliant with the BRE Guidelines following construction of the proposed development.

Sunlight

3.4 All windows assessed will be fully compliant with the annual and winter APSH criteria following construction of the proposed development.

28b Glenilla Road

Daylight

3.5 The results of the VSC assessment show that 8 of the 9 windows assessed will be fully compliant with the BRE Guidelines.

3.6 The single remaining window (W5 located on the first floor) is positioned on the side elevation directly overlooking the site and as such, any reasonable massing would cause a disproportionate VSC impact. In any event, this is not a primary window and serves a room with mitigating windows which are fully compliant with the BRE Guidelines.

3.7 In regards to the NSL assessment, all rooms assessed will be fully compliant with the BRE Guidelines following construction of the proposed development.

Sunlight

3.8 All windows relevant for assessment will be fully compliant with the annual and winter APSH criteria following construction of the proposed development.

37 Glenilla Road

Daylight

3.9 The results of our VSC and NSL assessment show that all windows and rooms assessed will be fully compliant with the BRE Guidelines following construction of the proposed development.

Sunlight

3.10 All windows relevant for assessment will be fully compliant with the annual and winter APSH criteria following construction of the proposed development.

18-20 Belsize Park Gardens

Daylight

3.11 The results of our VSC and NSL assessment show that all windows and rooms assessed will be fully compliant with the BRE Guidelines following construction of the proposed development.

Sunlight

3.12 There are no windows facing within 90° of due south, therefore an APSH assessment is not required.

32 Glenilla Road - Planning Application Scheme

Daylight

3.13 The results of our VSC and NSL assessment show that all windows and rooms assessed will be fully compliant with the BRE Guidelines following construction of the proposed development.

Sunlight

3.14 All windows relevant for assessment will be fully compliant with the annual and winter APSH criteria

following construction of the proposed development.

Overshadowing

3.15 We have undertaken a sun hours on ground assessment on the amenity spaces at 28b Glenilla Road.

3.16 The BRE Guidelines recommend that at least half of a garden or amenity area should receive at least two hours of sunlight on March 21st or the area which receives two hours of sunlight should not be reduced by more than 0.8 times its former value.

3.17 The sun on ground results in Fig 02 below show that the rear garden of 28b Glenilla Road will be fully compliant with the BRE Guidelines following construction of the proposed development.

Floor Ref		Amenity Area	Lit Area Existing	Lit Area Proposed
Ground	Area m2	116.47	100.56	100.56
	Percentage		86%	86%

Fig 02 - Sun on Ground

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Internal Assessment Results

Internal Assessment Results

4.1 Technical analysis on all habitable rooms have been undertaken in accordance with the ADF and NSL (daylight) methodology in the BRE Guidelines.

4.2 The results of the ADF assessment demonstrate that 9 of the 10 habitable rooms will be fully compliant with the BRE Guidelines. The single remaining room (R1 located on the ground floor) is a drawing room and will retain an ADF value of 1.11%. This minor shortfall is not considered material, given that the primary habitable room (LKD) exceeds the BRE criteria and that the occupants will receive very good levels of daylight.

4.3 The NSL assessment demonstrates that all 10 habitable rooms will be fully compliant with the BRE Guidelines.

Sunlight

4.4 All LKD/LD windows within 90° of due south have been considered for APSH in accordance with the BRE Guidelines.

4.5 There is only 1 LKD within the proposed development and the results of the APSH assessment demonstrate full compliance with the BRE Guidelines.

05

Conclusion

Conclusion

5.1 The Chancery Group have undertaken a daylight and sunlight assessment with regard to the proposed development at 30 Glenilla Road, London, NW3.

5.2 In summary, the proposed development has been designed sensitively to minimise any impact upon the daylight and sunlight to the neighbouring properties, whilst maximising the daylight and sunlight potential within the proposed development itself.

5.3 The results of our daylight and sunlight assessment for 17, 32 and 37 Glenilla Road and 18-20 Belsize Park Gardens demonstrate full compliance with the BRE Guidelines against the exiting site conditions (2017). In regards to 28b Glenilla Road, with the exception of one minor VSC shortfall (which is not considered material for consideration), all windows and rooms assessed will be fully compliant with the BRE Guidelines following construction of the proposed development.

5.4 The results of the daylight quality within the proposed development demonstrate that all the key habitable rooms will be fully compliant with the BRE Guidelines.

5.5 Finally, regarding overshadowing, the amenity area relevant for assessment will be fully compliant with the BRE Guidelines following construction of the proposed development.

5.6 As suggested in the BRE Guidelines, natural lighting is only one factor in site layout design and care should be taken to apply the guidance flexibly taking into consideration the context of the site and advantages of the scheme.

5.7 Overall, it is considered that the proposed development meets the BRE Guidelines and is acceptable in daylight and sunlight terms.

Appendix 01
Daylight and Sunlight Technical Analysis (Existing vs Proposed Development and Internal Assessment Results)

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VSC-APSH Results

Floor Ref	Room Ref	Window Ref		VSC	Pr/Ex	Window Orientation	Annual	Pr/Ex	Winter	Pr/Ex	Total Room Annual	Total Room Winter
17 Glenilla Road												
Ground	R1	W1	Existing	31.93	0.99	220°	67	0.98	21	0.95		
			Proposed	31.72			66		20			
		W2	Existing	32.00	0.99	220°	69	0.98	22	0.95		
			Proposed	31.80			68		21			
											70	23
											69	22
First	R1	W1	Existing	34.29	0.99	220°	72	1.00	25	1.00		
			Proposed	34.05			72		25			
		W2	Existing	34.30	0.99	220°	72	1.00	24	1.00		
			Proposed	34.08			72		24			
											73	25
											73	25
28b Glenilla Road												
Ground	R1	W1	Existing	30.59	0.88	221°	64	0.75	19	0.57		
			Proposed	27.16			48		11			
											64	19
											48	11
First	R1	W1	Existing	34.69	0.96	221°	72	0.91	26	0.80		
			Proposed	33.62			66		21			
		W2	Existing	84.06	0.94	221° Inc	84	0.82	26	0.88		
			Proposed	79.37			69		23			
		W5	Existing	19.80	0.51	131°	44	0.70	14	0.57		
			Proposed	10.27			31		8			
											86	26
											72	24
	R2	W3	Existing	28.16	1.13	41°N		*North*		*North*		
			Proposed	31.89								
											North	*North*
	R3	W4	Existing	33.01	1.06	41°N		*North*		*North*		
			Proposed	35.08								
											North	*North*
Second	R1	W1	Existing	36.32	0.99	221°	65	0.96	24	1.00		
			Proposed	36.09			63		24			
											65	24
											63	24
	R2	W2	Existing	35.41	1.03	41°N		*North*		*North*		
			Proposed	36.79								
											North	*North*
	R3	W3	Existing	36.80	1.02	41°N		*North*		*North*		
			Proposed	37.70								
											North	*North*

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32 Glenilla Road

Floor Ref	Room Ref	Window Ref		VSC	Pr/Ex	Window Orientation	Annual	Pr/Ex	Winter	Pr/Ex	Total Room Annual	Total Room Winter
Basement	R1	W2	Existing	3.41	0.95	41°N		*North*		*North*		
			Proposed	3.25								
		W1	Existing	40.64	1.00	90° Hz	38	1.02	6	1.00		
			Proposed	40.79			39		6			
											38	6
											39	6
	R2	W3	Existing	7.91	0.95	311°N		*North*		*North*		
			Proposed	7.52								
											North	*North*
	R3	W4	Existing	9.18	1.04	221°	6	1.16	0	0.00		
			Proposed	9.55			7		0			
											6	0
											7	0
Ground	R1	W1	Existing	29.32	1.00	221°	57	1.03	14	1.00		
			Proposed	29.59			59		14			
		W2	Existing	25.23	0.90	310°N		*North*		*North*		
			Proposed	22.86								
		W3	Existing	7.61	0.88	41°N		*North*		*North*		
			Proposed	6.75								
											58	15
											60	15
	R2	W4	Existing	15.66	0.88	311°N		*North*		*North*		
			Proposed	13.84								
											North	*North*
	R3	W5	Existing	20.46	0.96	221°	37	0.94	1	1.00		
			Proposed	19.78			35		1			
		W6	Existing	13.58	1.01	311°N		*North*		*North*		
			Proposed	13.76								
											40	3
											38	3
	R4	W7	Existing	12.27	1.05	311°N		*North*		*North*		
			Proposed	12.95								
		W8	Existing	34.38	1.01	41°N		*North*		*North*		
			Proposed	34.77								
											North	*North*
First	R1	W2	Existing	36.82	1.00	41°N		*North*		*North*		
			Proposed	37.02								
		W1	Existing	26.29	0.90	311°N		*North*		*North*		
			Proposed	23.73								
											North	*North*
Second	R1	W1	Existing	38.91	1.00	221°	76	1.00	27	1.00		
			Proposed	38.91			76		27			
		W2	Existing	37.20	0.88	311°N		*North*		*North*		
			Proposed	33.10								
											76	27
											76	27

Floor Ref	Room Ref	Window Ref		VSC	Pr/Ex	Window Orientation	Annual	Pr/Ex	Winter	Pr/Ex	Total Room Annual	Total Room Winter
37 Glenilla Road												
Ground	R1	W1	Existing	31.22	0.98	219°	67	0.98	21	0.95		
			Proposed	30.88			66		20			
											67	21
											66	20
	R2	W2	Existing	31.06	0.98	219°	67	0.98	21	0.95		
			Proposed	30.72			66		20			
		W3	Existing	30.99	0.98	219°	68	0.98	22	0.95		
			Proposed	30.60			67		21			
											68	22
											68	22
First	R1	W1	Existing	34.69	0.98	219°	72	1.00	25	1.00		
			Proposed	34.24			72		25			
											72	25
											72	25
	R2	W2	Existing	34.87	0.98	219°	73	0.98	26	0.96		
			Proposed	34.39			72		25			
											73	26
											72	25
	R3	W3	Existing	34.76	0.98	219°	73	0.98	26	0.96		
			Proposed	34.30			72		25			
		W4	Existing	34.71	0.98	219°	73	1.00	26	1.00		
			Proposed	34.25			73		26			
											73	26
											73	26
	R4	W5	Existing	34.59	0.98	219°	73	1.00	26	1.00		
			Proposed	34.15			73		26			
											73	26
											73	26
18-20 Belsize Park Gardens												
Ground	R1	W1	Existing	32.86	0.98	23°N		*North*		*North*		
			Proposed	32.49								
											North	*North*
	R2	W2	Existing	30.20	0.99	64°N		*North*		*North*		
			Proposed	29.93								
		W3	Existing	33.38	0.98	24°N		*North*		*North*		
			Proposed	33.02								
		W4	Existing	29.73	0.99	344°N		*North*		*North*		
			Proposed	29.46								
											North	*North*
	R3	W5	Existing	27.43	0.99	64°N		*North*		*North*		
			Proposed	27.16								
		W6	Existing	33.46	0.98	23°N		*North*		*North*		
			Proposed	33.07								
		W7	Existing	31.01	0.99	343°N		*North*		*North*		
			Proposed	30.76								
											North	*North*
	R4	W8	Existing	33.17	0.99	24°N		*North*		*North*		
			Proposed	32.86								
											North	*North*

Floor Ref	Room Ref	Window Ref		VSC	Pr/Ex	Window Orientation	Annual	Pr/Ex	Winter	Pr/Ex	Total Room Annual	Total Room Winter
18-20 Belsize Park Gardens												
First	R1	W1	Existing	35.20	0.99	23°N		*North*		*North*		
			Proposed	34.87								
											North	*North*
	R2	W2	Existing	32.60	0.99	64°N		*North*		*North*		
			Proposed	32.35								
		W3	Existing	35.58	0.99	24°N		*North*		*North*		
			Proposed	35.25								
		W4	Existing	31.44	0.99	344°N		*North*		*North*		
			Proposed	31.21								
											North	*North*
	R3	W5	Existing	29.54	0.99	64°N		*North*		*North*		
			Proposed	29.31								
		W6	Existing	35.54	0.99	23°N		*North*		*North*		
			Proposed	35.27								
		W7	Existing	32.93	0.99	343°N		*North*		*North*		
			Proposed	32.76								
											North	*North*
	R4	W8	Existing	35.14	0.99	24°N		*North*		*North*		
			Proposed	34.90								
											North	*North*

NSL Results

Floor Ref	Room Ref		Lit Area Existing	Lit Area Proposed	Pr/Ex
17 Glenilla Road					
Ground	R1	Area m2	14.69	14.69	
		% of room	100%	100%	0.99
First	R1	Area m2	14.47	14.47	
		% of room	98%	98%	1.00
28b Glenilla Road					
Ground	R1	Area m2	7.80	7.80	
		% of room	100%	100%	1.00
First	R1	Area m2	7.80	7.80	
		% of room	100%	100%	1.00
	R2	Area m2	6.48	6.48	
		% of room	100%	100%	0.99
	R3	Area m2	8.57	8.57	
		% of room	100%	100%	0.99

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Floor Ref	Room Ref		Lit Area Existing	Lit Area Proposed	Pr/Ex
28b Glenilla Road					
Second	R1	Area m2	6.70	6.70	
		% of room	100%	100%	0.99
	R2	Area m2	6.48	6.48	
		% of room	100%	100%	0.99
	R3	Area m2	8.57	8.57	
		% of room	100%	100%	1.00
32 Glenilla Road					
Basement	R1	Area m2	9.23	9.33	
		% of room	33%	33%	1.01
	R2	Area m2	7.32	6.60	
		% of room	48%	44%	0.90
	R3	Area m2	6.94	7.04	
		% of room	65%	66%	1.01
Ground	R1	Area m2	17.56	17.57	
		% of room	93%	93%	1.00
	R2	Area m2	13.13	12.63	
		% of room	89%	86%	0.96
	R3	Area m2	9.24	9.24	
		% of room	99%	99%	1.00
	R4	Area m2	25.29	25.30	
		% of room	100%	100%	1.00
First	R1	Area m2	16.89	16.81	
		% of room	99%	99%	0.99
Second	R1	Area m2	16.31	16.31	
		% of room	100%	100%	1.00
37 Glenilla Road					
Ground	R1	Area m2	8.69	8.69	
		% of room	97%	97%	1.00
	R2	Area m2	16.32	16.32	
		% of room	99%	99%	1.00

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Floor Ref	Room Ref		Lit Area Existing	Lit Area Proposed	Pr/Ex
		37 Glenilla Road			
First	R1	Area m2	9.39	9.39	
		% of room	98%	98%	1.00
	R2	Area m2	2.84	2.84	
		% of room	94%	94%	1.00
	R3	Area m2	4.85	4.85	
		% of room	95%	95%	1.00
	R4	Area m2	2.86	2.86	
		% of room	95%	95%	1.00
		18-20 Belsize Park Gardens			
Ground	R1	Area m2	12.81	12.81	
		% of room	97%	97%	0.99
	R2	Area m2	22.29	22.29	
		% of room	99%	99%	0.99
	R3	Area m2	21.17	21.17	
		% of room	100%	100%	0.99
	R4	Area m2	13.42	13.42	
		% of room	96%	96%	0.99
First	R1	Area m2	12.81	12.81	
		% of room	97%	97%	0.99
	R2	Area m2	22.29	22.29	
		% of room	99%	99%	0.99
	R3	Area m2	21.17	21.17	
		% of room	100%	100%	0.99
	R4	Area m2	13.53	13.53	
		% of room	97%	97%	0.99

Internal ADF Results

Floor Ref	Room Ref	Room Use	Window Ref	ADF Proposed
Basement	R1	Studio	W2	2.55
				2.55
Ground	R1	Drawing Room	W1-L	0.01
			W1-U	0.07
			W2-L	0.10
			W2-U	0.93
				1.11
Ground	R2	Pantry	W3-L	0.08
			W3-U	0.86
				0.94
Ground	R3	LKD	W4-L	0.03
			W4-U	0.59
			W5	3.88
			W6-L	0.00
			W6-U	0.58
			W7	1.73
			W8	1.67
			W9-L	0.25
			W9-U	3.95
				12.68
First	R1	Bedroom	W1-L	0.23
			W1-U	2.75
				2.98
First	R2	Bedroom	W2-L	0.02
			W2-U	2.04
				2.06
First	R3	Bedroom	W3-L	0.08
			W3-U	2.26
				2.35
Second	R1	Bedroom	W1-L	0.02
			W1-U	4.08
				4.10
Second	R2	Bedroom	W2-L	0.01
			W2-U	1.84
				1.85
Second	R3	Study	W3	6.28
				6.28
Third	R1	Study	W1	1.19
				1.19

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Internal NSL Results

Floor Ref	Room Ref	Room Use		Lit Area Proposed
Basement	R1	Studio	Area m2	16.30
			% of room	90%
Ground	R1	Drawing Room	Area m2	28.82
			% of room	90%
	R2	Pantry	Area m2	7.08
			% of room	57%
	R3	LKD	Area m2	47.19
			% of room	100%
First	R1	Bedroom	Area m2	11.50
			% of room	99%
	R2	Bedroom	Area m2	13.83
			% of room	90%
	R3	Bedroom	Area m2	15.69
			% of room	98%
Second	R1	Bedroom	Area m2	8.68
			% of room	99%
	R2	Bedroom	Area m2	14.53
			% of room	97%
	R3	Study	Area m2	3.89
			% of room	98%
Third	R1	Study	Area m2	20.63
			% of room	90%

Internal APSH Results

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Annual	Winter	Total Room Annual	Total Room Winter
Basement	R1	Studio	W2	41°N			12	0
Ground	R1	Drawing Room	W1	131°	21	2		
			W2	41°N			21	2
	R2	Pantry	W3	131°	25	9	25	9
	R3	LKD	W4	131°	32	7		
			W5	41°N				
			W6	311°N				
			W7	90° Hz	66	13		
			W8	90° Hz	66	13		
			W9	221°	64	21	82	23
First	R1	Bedroom	W1	41°N			12	0
	R2	Bedroom	W2	41°N			11	0
	R3	Bedroom	W3	221°	56	20	56	20
Second	R1	Bedroom	W1	41°N			12	0
	R2	Bedroom	W2	41°N			9	0
	R3	Study	W3	221°	55	22	55	22
Third	R1	Study	W1	131°	45	19	45	19

The Thorne Business Park,
Forge Hill, Bethersden, Kent, TN26 3AF

T +44 (0)20 7734 8789
E info@thechancerygroup.co.uk

www.thechancerygroup.co.uk