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DAYLIGHT & SUNLIGHT REPORT

Gloucester Lodge

London NW1

Application A

27th October 2015

Contents

1. Introduction

1.1. This practice has been instructed to provide an assessment of the daylight & sunlight implications of the proposed development at Gloucester Lodge, London NW1.

1.2. The methodology and criteria used for these assessments is provided by the Building Research Establishments guidance 'Site layout planning for daylight and sunlight: a guide to good practice' (BRE, 2011) and the British Standard document BS8206 Pt2.

2. Guidance

Daylight & sunlight for planning

Site layout planning for daylight and sunlight: a guide to good practice, BRE 2011

2.1. This document follows from previous guidance produced by Her Majesty's Stationary Office (HMSO) on daylight and sunlight in the built environment and is now the accepted methodology used by local authorities for assessing daylight and sunlight in relation to new developments. It provides methods for the calculation of daylight and sunlight impacts of development upon existing surrounding properties and within proposed new dwellings.

Daylight Assessment

2.2. There are detailed three methods for calculating daylight, the Vertical Sky Component (VSC), the No-Sky Line Contour (NSC) and the Average Daylight Factor (ADF). For sunlight the Annual Probable Sunlight Hours (APSH) method is detailed.

2.3. The VSC method calculates the amount of visible sky available to each window or to points on the façade of a building where windows have not yet been designed. This is the primary assessment of daylight impacts and does not consider the size or nature of rooms behind the façade. The guidelines suggest that, post-development, properties should enjoy at least 27% VSC or that VSC is reduced to no less than 0.8 times its former value.

2.4. The NSC method describes the distribution of daylight within rooms by calculating the area of the 'working plane' which can receive a direct view of the sky and hence 'sky light'. The working plane height is set at 850mm above floor level within a residential property. The BRE does not state a required amount of no-sky line but merely suggests a recommended reduction within which changes are not considered noticeable.

2.5. The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including; window transmittance, and surface reflectivity. The BRE guidelines / British Standard sets the following recommended ADF levels for habitable room uses:

- 1% Bedrooms
- 1.5% Living Rooms
- 2.0% Kitchens

Sunlight Assessment

2.6. For sunlight the APSH test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months. March 21st through to September 21st is considered to be the summer period while September 21st to March 21st is considered the winter period. For properties neighbouring a development only those windows orientated within 90° of due south and which overlook the site of the proposal are relevant for assessment.

2.7. The guidelines suggest that windows should receive at least 25% total APSH with 5% of this total being enjoyed in the winter months. The guidelines also allow for a 20% reduction in sunlighting when compared to the former value with total reductions of less than 4% APSH not being considered noticeable.

Policy Context

2.8. It is important to note that within urban centres achieving good levels of daylight and sunlight in accordance with the BRE guidelines, can be weighed in the balance against other beneficial design factors.

2.9. The opening paragraphs of the BRE guidelines state: -

> *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the 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. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".*

2.10. The targets set out in the BRE document are very much 'guidelines' and they

should be applied sensibly and flexibly based on the site-specific context of development.

3. Assumptions

3.1. Measured survey, architects drawings, site photographs and Ordnance Survey information have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

3.2. Where it has not been possible to gain access to the surrounding properties, details of the internal layouts and floor level heights have been assumed from the external appearance of the building, and the locations of windows, together with any plans retrieved from the planning portal. Unless known or otherwise appropriate the depths of rooms have been assumed at 4.27m (14ft) for residential properties and 6m (20ft) for commercial properties.

4. Sources of Information

Make Architects

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1202-A1001-00
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Site Photographs

5. The Site and Proposal

5.1. The site located on the north eastern site of Regents Park, at the junction of Outer Circle and Gloucester Gate. The site is formed from two separate properties with three addresses which have been brought together under the ownership of the client.

5.2. The proposal is for an extension to Gloucester Lodge and redeveloping the two mews houses situated towards the rear of the site.

5.3. The site is neighboured by a mix of uses including schools / colleges to the north. In addition, there are residential properties situated immediately to the south, together with a residential mews house situated to the east of the site.

5.4. Eb7 have used measured survey data, site photographs and Ordnance Survey information to build a 3D computer model of the existing building and its surroundings. Our understanding of the former site is shown within appendix 1. The architect's drawings have been used to build a model of the proposal drawings of which can also be found in appendix 1.

6. Daylight and Sunlight Results

6.1. Each of the surrounding residential properties with windows serving habitable rooms overlooking the site have been included within our assessment. Full results of these assessments can be found in appendix 2.

6.2. The following properties are considered sufficiently close to be considered

relevant for assessment:

- 11 Gloucester Gate
- 14 Gloucester Gate
- 219 Albany Street

11 Gloucester Gate

6.3. This residential property is situated immediately to the south of the proposed site.

Daylight

6.4. The results of the Vertical Sky Component (VSC) assessment indicates that all rooms relevant for assessment would retain on or are in excess of 0.8 times their former VSC values.

6.5. In addition, the No Sky Contour (NSC) analysis demonstrates no noticeable shift in the No-Sky Line.

6.6. As such, the impacts of the proposed scheme to daylight remains fully compliant with the BRE criteria.

Sunlight

6.7. None of the windows within this property that may be affected by the proposed scheme are orientated within 90 degrees of due south. They are therefore not relevant for the sunlight assessment under the BRE criteria.

14 Gloucester Gate

6.8. This property is situated immediately to the north of the proposed site, with the rear windows having an oblique view of the site.

Daylight

6.9. The results of the VSC assessment indicate no noticeable change to the VSC levels with all windows relevant for assessment retaining in excess of 0.8 times their former VSC values.

6.10. In addition, the NSC results show full compliance with the BRE criteria, with no change to the No Sky Line under the proposal.

6.11. As such, with the proposal in place, daylight levels would remain fully compliant and in line with the BRE guidelines.

Sunlight

6.12. None of the windows within this property that may be affected by the proposed scheme are orientated within 90 degrees of due south. They are therefore not relevant for the sunlight assessment under the BRE criteria.

219 Albany Street

6.13. This semi-detached residential property is situated across First Avenue to the north west of the proposed scheme. The front elevations of this property have an oblique view towards the proposed site and have therefore been assessed under the BRE criteria.

Daylight

6.14. The results of our technical analysis indicate no noticeable reduction to either the VSC or NSC levels with the proposed scheme in place. As such, the proposal remains fully compliant with the BRE criteria.

Sunlight

6.15. The results of the APSH sunlighting assessment show that all windows retain sunlight levels meeting or exceeding the BRE targets. Under the BRE guidelines, the impacts of the proposed scheme remain fully compliant with the BRE criteria.

7. Conclusions

7.1. The proposed scheme at Gloucester Lodge has been assessed using the VSC and NSC as recommended within the BRE documents 'Site layout planning' and the British Standard document BS8206 pt2.

7.2. The results of the assessment demonstrate all windows comply with the VSC test as set out in the BRE guide. The results of the No Sky Contour analysis indicates no noticeable change to the No Sky-Line and this confirms full compliance with the BRE criteria.

7.3. In addition, as none of the windows likely to be affected by the proposed scheme are orientated within 90 degrees of due south, they are therefore not relevant for the sunlight assessment.

7.4. The overall results of the daylight and sunlight assessments confirm compliance with the overall intentions of the BRE criteria and British Standard guidance.

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Appendix 1

Drawings of the existing, proposed and surrounding buildings

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Sources of information

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Received 20/10/2015

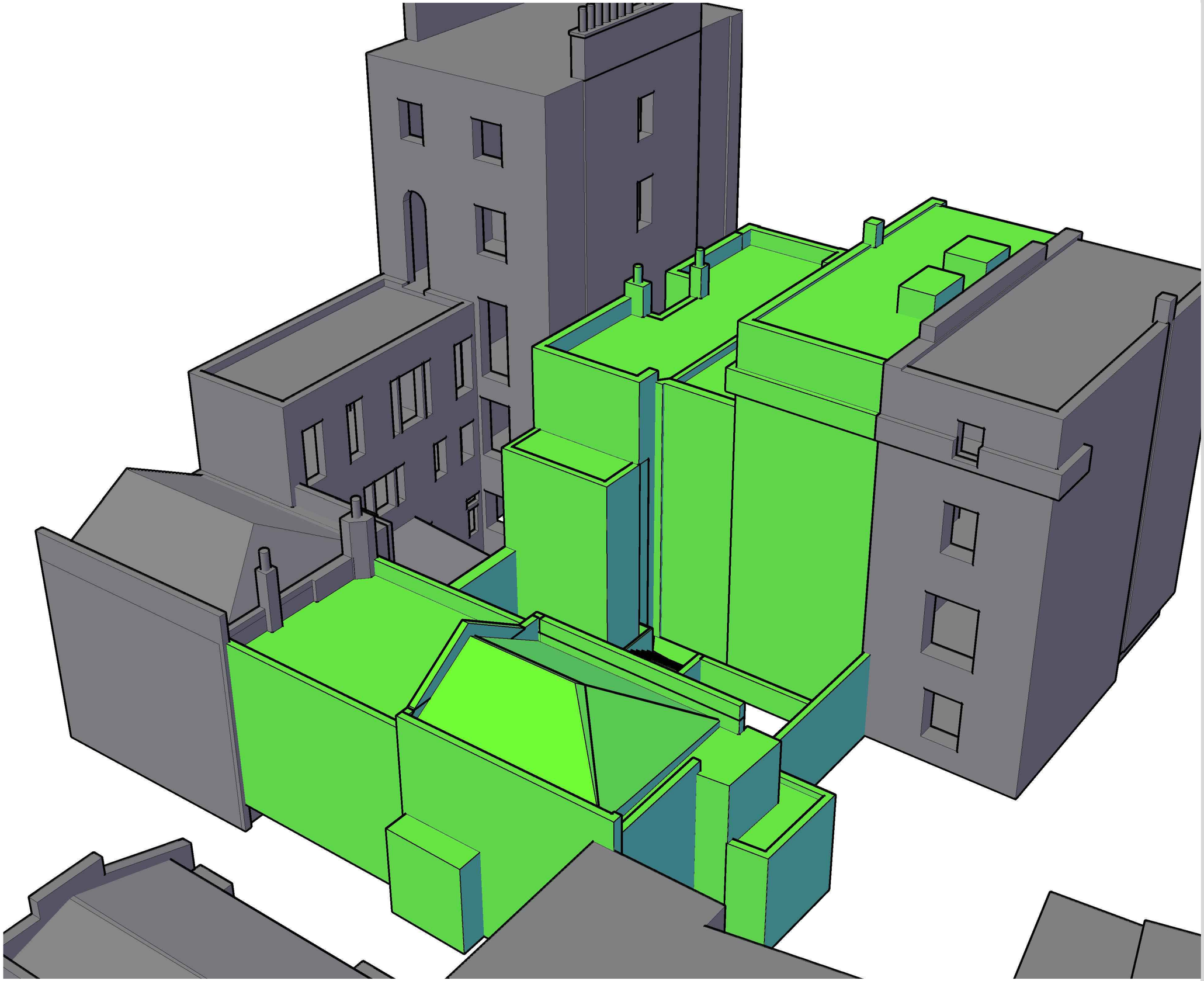
Project: Gloucester Lodge
NW1 4HG
London

Title: Existing Condition
Plan View

Drawn: DS
Checked:

Date: 22/10/2015
Rel no.: 04

Drawing no.: 1898-01



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Project: Gloucester Lodge
NW1 4HG
London

Title: Existing Condition
3D View

Drawn	DS	Checked	
Date	22/10/2015	Rel no.	04

Drawing no. 1898-02

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Received 20/10/2015

Project: Gloucester Lodge
NW1 4HG
London

Title: Proposed Condition
Plan View

Drawn: DS
Checked:

Date: 22/10/2015
Rel no.: 04

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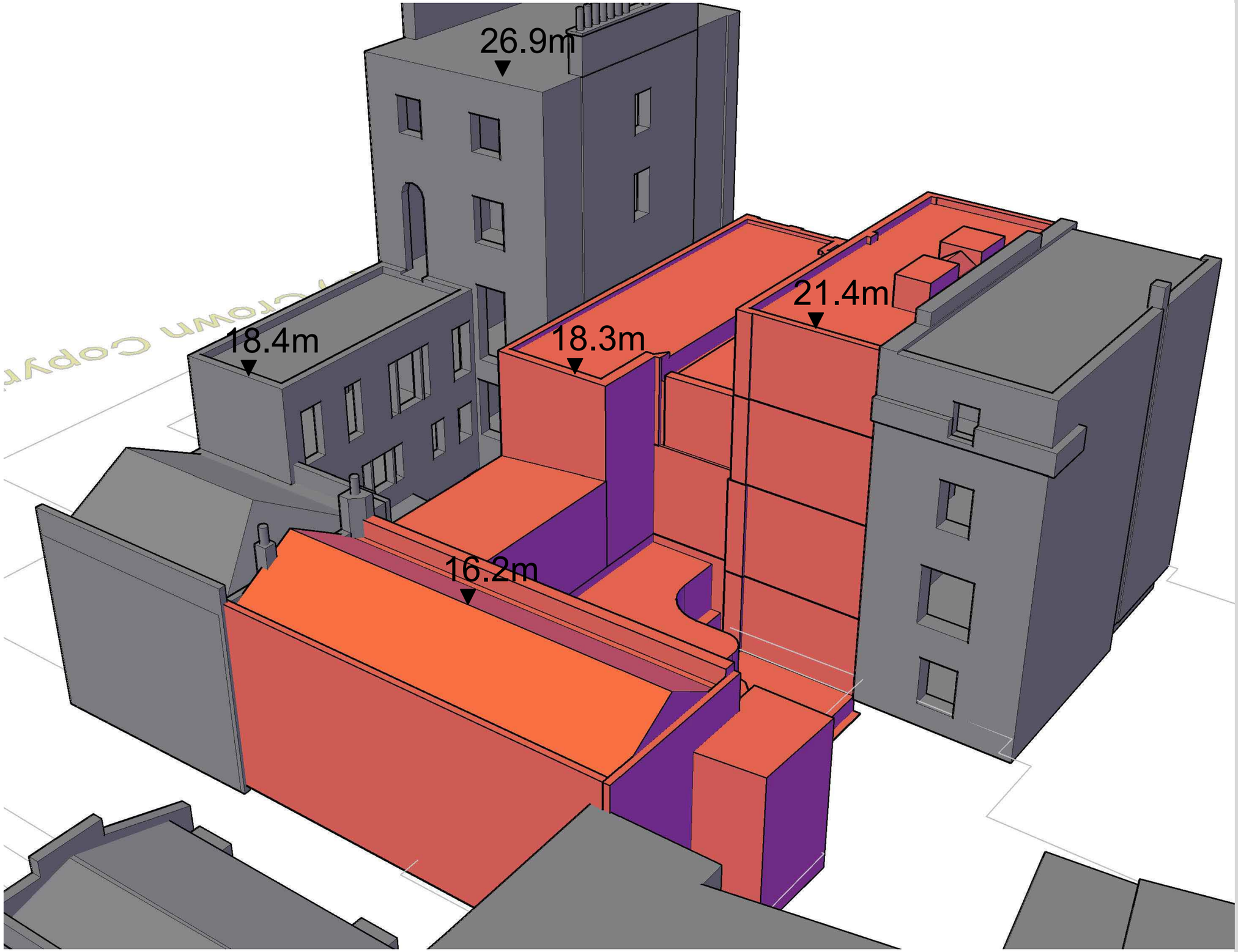

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Received 20/10/2015

Project: Gloucester Lodge
NW1 4HG
London

Title: Proposed Condition
3D View

Drawn: DS
Checked:

Date: 22/10/2015
Rel no. 04

Drawing no. 1898-13

Appendix 2

Results of the daylight & sunlight assessments

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Reduction	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Reduction	Existing ADF Window	Existing ADF Total	Proposed ADF Window	Proposed ADF Total	Loss	Loss	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Loss	Winter Loss
11 Gloucester Gate																								
Basement	R2	W04	Bedroom	10.1	8.2	1.9	0.8	197.8	121.6	100.2	21.4	0.8	0.8	0.8	0.7	0.7	0.1	10.5	N/A	N/A	N/A	N/A	N/A	N/A
Ground	R1	W01-L	L/K/D	19.3	16.6	2.7	0.9						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W01-U											0.5		0.4									
	R1	W02-L		25.6	22.1	3.5	0.9						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W02-U											0.2		0.2									
	R1	W03-L		25.5	21.7	3.8	0.9						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W03-U											0.6		0.5									
	R1	W04-L		24.8	20.6	4.2	0.8						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W04-U											0.2		0.2									
	R1	W05-L		18.5	14.7	3.8	0.8						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W05-U						331.7	320.1	319.0	1.1	1.0	0.3	1.9	0.3	1.7	0.2	10.0						
Ground	R3	W07-L	Study	17.2	15.1	2.1	0.9						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W07-U						229.6	188.0	185.0	3.0	1.0	1.0	1.0	1.0	1.0	0.1	7.5						
First	R1	W01-L	Living room	35.2	35.1	0.1	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W01-U											0.9		0.9									
	R1	W02-L		33.8	33.6	0.2	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W02-U											0.7		0.7									
	R1	W03-L		31.5	30.8	0.7	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W03-U											0.3		0.3									
	R1	W04-L		29.9	28.6	1.3	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W04-U											0.9		0.9									
	R1	W05-L		27.9	25.5	2.4	0.9						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W05-U						333.3	325.8	325.8	0.0	1.0	0.2	3.0	0.2	2.9	0.1	1.7						
First	R3	W07-L	Living room	28.6	27.5	1.1	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W07-U						284.5	273.8	273.8	0.0	1.0	1.3	1.3	1.3	1.3	0.0	2.0						
Second	R3	W03-L	Bedroom	38.8	38.9	-0.1	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W03-U						139.9	134.8	134.8	0.0	1.0	1.5	1.5	1.5	1.5	0.0	-0.1						
Third	R2	W02-L	Bedroom	39.6	39.6	0.0	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W02-U						139.1	133.9	133.9	0.0	1.0	1.8	1.8	1.8	1.8	0.0	0.0						
Third	R3	W03-L	Bedroom	39.5	39.5	0.0	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W03-U						149.1	143.8	143.8	0.0	1.0	1.1	1.2	1.1	1.2	0.0	0.0						
14 Gloucester Gate																								
Ground	R1	W01-L	Kitchen	27.0	26.6	0.5	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W01-U						244.4	207.9	204.1	3.8	1.0	1.2	1.2	1.1	1.1	0.0	1.1						
First	R1	W01-L	Living room	34.5	34.2	0.2	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W01-U						323.2	308.0	308.0	0.0	1.0	1.8	1.8	1.8	1.8	0.0	0.7						
Second	R1	W01-L	Bedroom	38.6	38.6	0.0	1.0						0.0		0.0				N/A	N/A	N/A	N/A	N/A	N/A
		W01-U						225.3	190.4	190.4	0.0	1.0	1.3	1.3	1.3	1.3	0.0	0.0						
Third	R1	W01	Bedroom	39.6	39.6	0.0	1.0	95.6	85.1	85.1	0.0	1.0	1.4	1.4	1.4	1.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
219 Albany Street																								
Ground	R1	W01	Unknown	16.0	15.8	0.1	1.0						0.4		0.4				40	13	38	11	5.0	15.4
	R1	W02		19.6	19.5	0.1	1.0	71.7	65.3	65.3	0.0	1.0	0.5	0.9	0.5	0.9	0.0	0.4	41	13	39	11	4.9	15.4
Ground	R2	W03	Unknown	27.4	27.3	0.0	1.0	72.7	70.6	70.7	-0.1	1.0	1.2	1.2	1.2	1.2	0.0	0.0	45	13	45	13	0.0	0.0
Ground	R3	W04	Unknown	24.3	24.0	0.2	1.0	103.7	99.4	99.4	0.0	1.0	1.7	1.7	1.7	1.7	0.0	0.6	38	11	38	11	0.0	0.0

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Reduction	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Reduction	Existing ADF Window	Total	Proposed ADF Window	Total	Loss	Loss	Existing APSH Total	Winter	Proposed APSH Total	Winter	Total Loss	Winter Loss
First	R1	W01	Unknown	33.5	33.5	0.0	1.0	71.7	59.3	59.3	0.0	1.0	1.0	1.0	1.0	1.0	0.0	-0.1	52	14	52	14	0.0	0.0
First	R2	W02	Unknown	32.3	32.2	0.2	1.0	103.7	83.9	83.9	0.0	1.0	0.8	0.8	0.8	0.8	0.0	0.4	48	12	48	12	0.0	0.0