32 Glenilla Road
London

Daylight & Sunlight Report

WATERSLADE

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November 2016

1.0 Introduction and Methodology

1.1 Generally

We have been instructed to provide a report on daylight and sunlight for the redevelopment of 32 Glenilla Road, London. It is usual to assess daylight and sunlight in relation to the guidelines set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair. One of the primary sources for the BRE Report is the more detailed guidance contained within 'British Standard 8206 Part 2:2008'.

As instructed we have examined two aspects of daylight and sunlight. First, we have considered the impact on the daylight and sunlight amenity to the properties surrounding the site. Second, we have examined the daylight and sunlight within the proposed residential accommodation.

In an urban location, frequently site constraints and the proximity of neighbouring buildings mean that some windows or rooms will fall short of the guideline figures. However, daylight and sunlight is one of a number of factors to be considered in designing a building. In its introduction, the BRE guide itself urges that the guidelines be interpreted flexibly:

" *The advice given here is not mandatory……Although it gives numerical guidelines these should be interpreted flexibly……For example in an historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable….*".

The BRE guidelines provide three principal measures of daylight – namely Vertical Sky Component (VSC), Average Daylight Factor (ADF) and No-Sky Line (NSL). In terms of Sunlight, we examine the BRE Annual Probable Sunlight Hours (APSH).

1.2 Diffuse Daylight

1.2.1 Vertical Sky Component (VSC)

VSC is a measure of the skylight reaching a point from an overcast sky. For Existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall. The BRE guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value, then the diffuse daylighting of the existing building may be adversely affected.

1.2.2 No-Sky Line (NSL)

No-Sky Line (NSL) is a measure of the distribution of daylight within a room. As it maps out the region within a room where light can penetrate directly from the sky, it therefore accounts for the size of and number of windows by simple geometry. The BRE suggest the area of the working plane within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value.

1.2.3 Average Daylight Factor (ADF)

ADF is a measure of the daylight within a room, and accounts for factors such as the number of windows and their size in relation to the size of the room. Clearly a small room with a large window will be better illuminated by daylight than a large room with a small window. It also accounts for window transmittance and the reflectance of the internal walls, floor and ceiling. The general idea is that the daylight which reaches each of the windows is first calculated. Then, allowing for the window size, the daylight which then enters the room through the windows is determined. The light is then imagined to bounce around within the room, controlled by the reflectance of the internal surfaces. The ADF is detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report. The BRE report provides guidance for acceptable values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen.

1.3 Sunlight

1.3.1 Annual Probable Sunlight Hours (APSH)

In relation to sunlight, the BRE recommends that the Annual Probable Sunlight Hours (APSH) received at a given window in the proposed case should be at least 25% of the total available including at least 5% in winter. Where the proposed values fall short of these, and the absolute loss is greater than 4%, then the proposed values should not be less than 0.8 times their previous value in each period. We also note that the BRE guidelines state that '..all main living rooms of dwellings .. should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block out too much sun'.

2.0 Properties Considered

In assessing the impact of a new development on neighbouring properties it is usual to only consider main habitable spaces (i.e. living rooms, bedrooms and kitchens) within residential properties. As 34 Glenilla Road is both owned and occupied by the owner of the site it is not necessary to assess the impact to this property. The following properties have been considered in detail:

- 30 Glenilla Road
- 20 Belsize Park Gardens
- 22 Belsize Park Gardens
- 24 Belsize Park Gardens
- 17 Glenilla Road
- 19 Glenilla Road

3.0 Sources of Information

LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

ADAM KHAN ARCHITECTS
Proposal Drawings -
060_Elevations & Sections_161021.dwg
060_Plans_161021.dwg

WATERSLADE LTD
Site Photographs

4.0 Drawings Attached

Drawing Number	Title
939/17	Site Plan & 3d View, As Existing
939/18	Site Plan & 3d View, As Proposed
939/19-21	Window Locations
939/22	Mirrored Massing Analysis
939/INT/01-02	Internal Daylight Analysis

5.0 Calculations and assumptions

The massing of the existing building together with the massing and fenestration of the buildings surrounding the site was modelled from a combination of the survey information and site photographs. We have been provided with information regarding the internal arrangements within 30 Glenilla Road. We have had no information regarding the internal arrangements within the remaining neighbouring properties and have therefore made reasonable assumptions. The proposal was modelled using the Adam Khan Architects drawings.

The 3D model was created so as to reproduce the massing of the buildings, both on and surrounding the site, at a level of detail appropriate to the calculations performed. All levels in the model are in mm Above Ordnance Datum (AOD).

6.0 Results and Discussion

6.1 Generally

Initially, a detailed 3-dimensional computer model of the existing site, proposed development, and all the surrounding buildings was created. The model was analysed using proprietary software to calculate the various measures of daylight and sunlight.

Attached drawing 939/17 illustrates the site in plan and 3d prior to development. Drawing 939/18 illustrates the proposed development. Drawings 939/19-21 show the location of the windows in the neighbouring properties, and the attached tables of results summarise the associated daylight and sunlight figures.

6.2 Properties Surrounding the Site

6.2.1 30 Glenilla Road

This property is located to the north west of the site.

<u>Daylight –</u>

With reference to the attached table of results titled ‘DAYLIGHT AND SUNLIGHT ANALYSIS’, the majority of windows serving main habitable spaces within this property very comfortably achieve the BRE VSC criteria.

There are two windows and a glazed door (W6/10, W7/10 & W8/10) located in the flank elevation of the property that will experience proportional VSC reductions in excess of BRE guidance. The heads of these windows can be seen in the photograph above right. Given the proximity of these windows to the site boundary and the relatively modest massing that current occupies the site, it is inevitable that any viable development would result in similar reductions. These windows directly serve a kitchen area that forms part of a larger living/kitchen/dining room. Considering the overall level of daylight to this space, the room will achieve an ADF value of 2.24% after development, in excess of the BRE target for a kitchen of 2.0%. Overall the space will therefore continue to receive good daylight amenity after development. This is supported by the NSL figures which show that there will in fact be a slight increase in the area of the room that can receive direct skylight after development. This is due to a slight reduction in overall roof height to the rear of the site.

Appendix F of the BRE Report provides further guidance for situations such as this, where an existing building has windows that are unusually close to the site boundary. It suggests that VSC target values for these windows can be set to those for a mirror image of the existing building on the other side of the boundary. We have undertaken a 'mirrored massing' analysis and, with reference to drawing 939/22, find that each of the windows achieves a higher VSC value with the proposal in place than it would if a mirror of the massing of 30 Glenilla Road was implemented. The impact on the daylight amenity to this property therefore fully accords with BRE guidance.

Sunlight –

With reference to the attached table of results, all windows serving main habitable rooms will achieve the BRE APSH criteria. The property will continue to receive very good sunlight amenity after development.

6.2.2 20, 22 & 24 Belsize Park Gardens -

These properties are located to the south of the site.

Daylight –

With reference to the attached table of results, all the potentially impacted windows serving these properties fully comply with the BRE VSC criteria. Likewise, all rooms achieve the BRE NSL criteria, with the majority of rooms not experiencing any reduction. There will therefore not be a material impact on the daylight amenity to these properties and they will continue to receive very good levels of daylight after development.

Sunlight –

As the site is located to the north of these properties, sunlight is not an issue.

6.2.3 17 & 19 Glenilla Road

These properties are located to the north of the site across Glenilla Road.

Daylight –

With reference to the attached table of results, all the potentially impacted windows serving these properties fully comply with the BRE VSC criteria. Likewise, all rooms achieve the BRE NSL criteria, with the majority of rooms not experiencing any reduction. There will therefore not be a material impact on the daylight amenity to these properties and they will continue to receive very good levels of daylight after development

Sunlight –

All windows serving these properties fully comply with the BRE APSH criteria. The properties will continue to receive excellent sunlight amenity after development.

6.3 The Proposed Development

Daylight –

In assessing the daylight to the main habitable spaces within the proposed accommodation, as recommended by the guidelines, we have calculated the ADF. With reference to BS8206 Part 2:2008 and Appendix C of the BRE Report, in calculating the values, we have assumed light internal finishes giving the following reflectances: floors 0.4 (light wood or cream carpet), ceilings 0.85 (white paint), internal walls 0.81 (pale cream paint). We have assumed double glazing with a transmittance of 0.68, and have allowed for a maintenance factor of 8% (appropriate for urban residential properties).

Drawings 939/INT/01-02 show the ADF value for each habitable room within the proposed accomodation. Of the 23 rooms assessed, 20 achieve the recommended ADF for their particular room use. Two rooms that do not strictly adhere to BRE ADF guidance (R2/99 & R5/99) are combined kitchen/dining rooms. Both of these rooms will achieve an ADF value in excess of 1.5%, the recommended target value for a dining room. The remaining room (R7/99) is a secondary bedroom that is designed for only occasional use.

Overall daylight amenity within the proposed accommodation will be very good.

Sunlight –

In relation to sunlight, the BRE guidelines state that, '*in housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon … It is viewed as less important in bedrooms and in kitchens…*'

The potential amount of sunlight a window can receive depends on the direction it faces. A south facing window has the potential for receiving the highest amount of sunlight, as well as the highest expectation of such. Conversely a north facing window has the lowest potential, and the occupants of a north facing room would expect to receive very little sunlight. The situation varies between these two extremes.

For existing buildings the BRE suggest a cut off of 90 degrees from south, i.e. easterly or westerly facing facades. Therefore, only windows that face within 90 degrees of south are considered for sunlight.

For new development the BRE suggest that dwellings should be orientated so that at least one main window wall faces within 90 degrees of due south. In this case the orientation of the new houses is defined by the orientation of the site.

With reference to the attached table of results titled 'INTERNAL SUNLIGHT ANALYSIS', the figures show that overall the sunlight amenity within the proposed development will be good. Over half of the rooms achieve the recommended levels of sunlight, with the majority of these receiving over double the recommended 25% of total APSH.

7.0 Summary and Conclusions

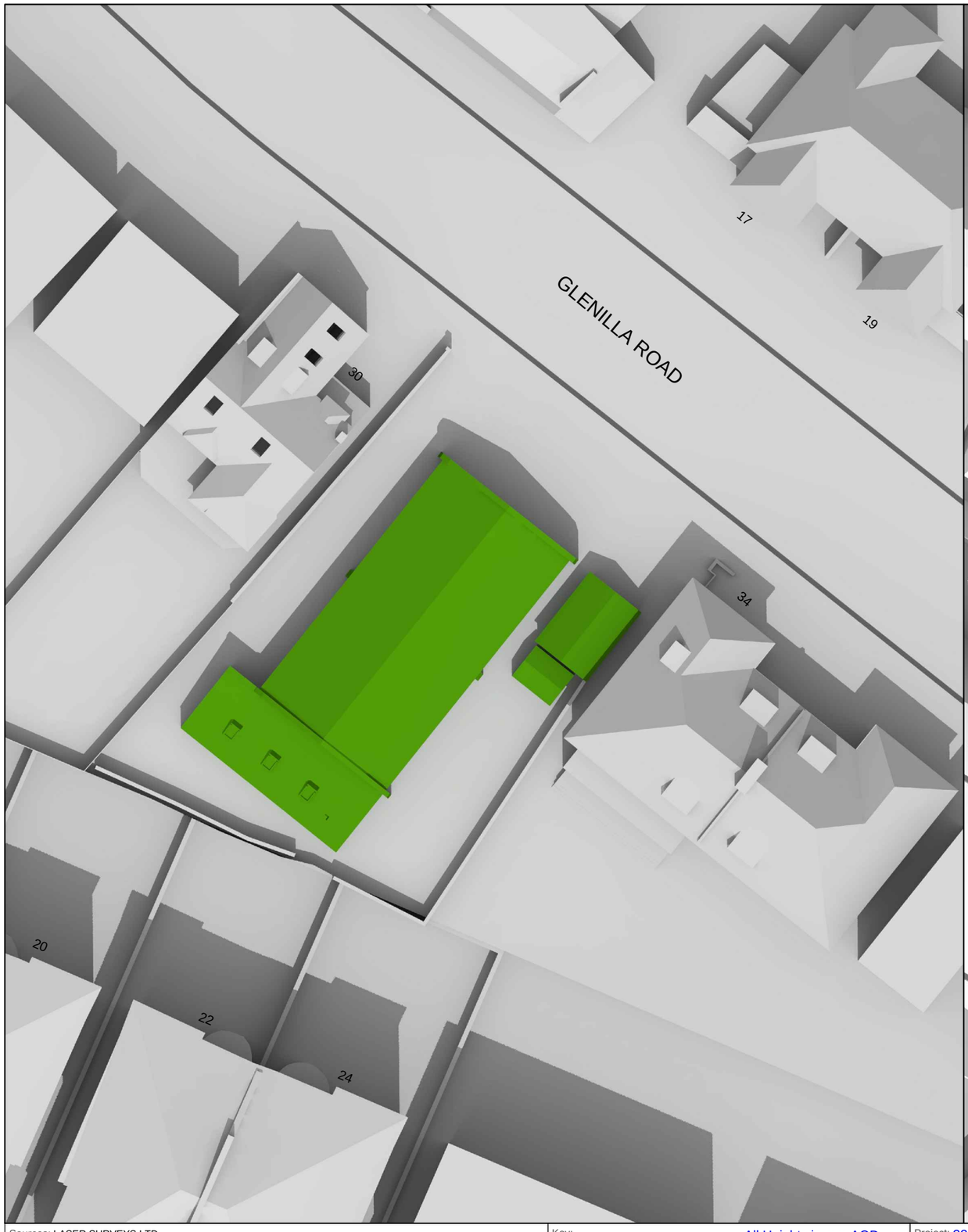
We have considered the proposed development in relation to the BRE guidelines on daylight and sunlight.

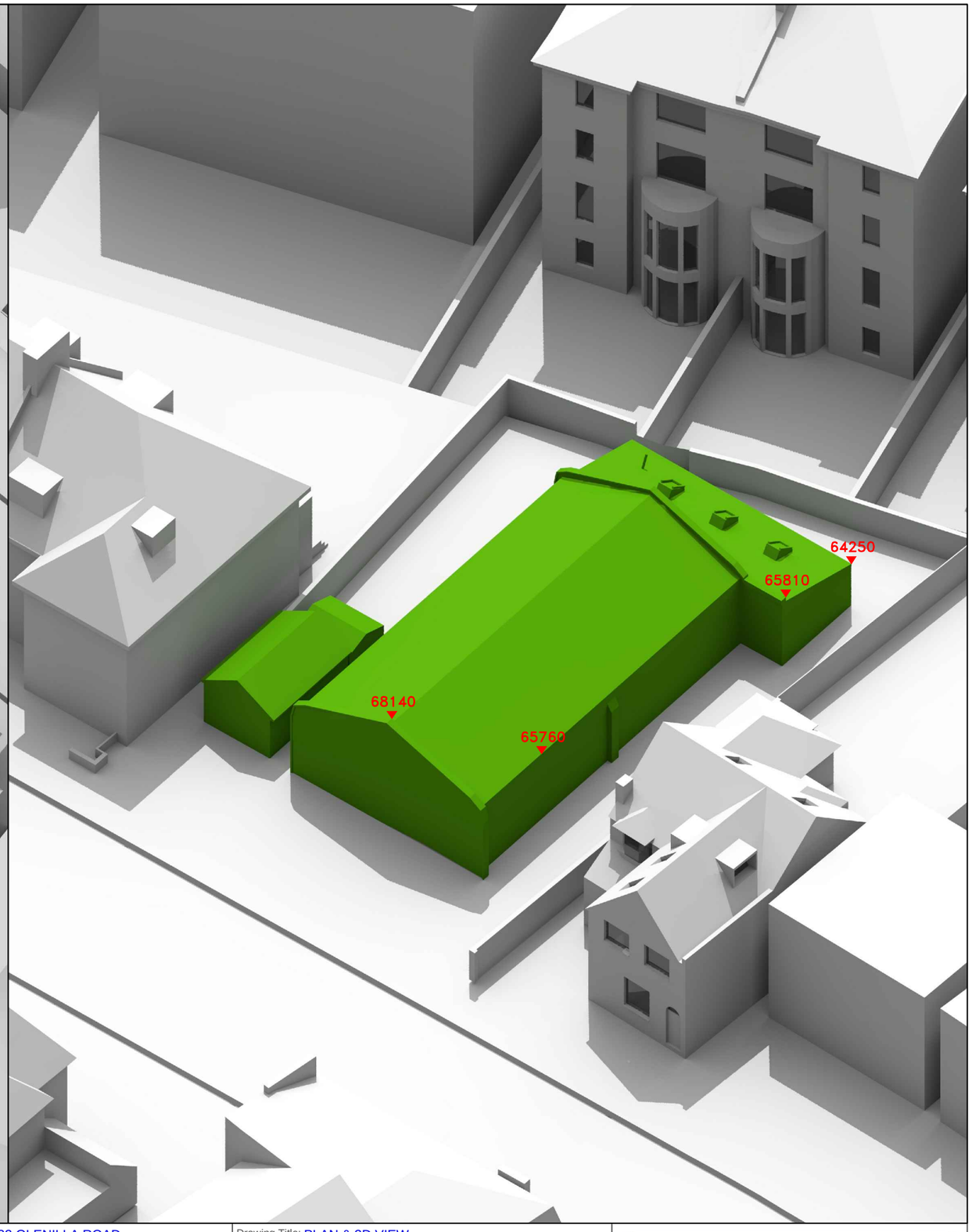
The overall impact of the proposed development on the properties neighbouring the site will be small. All the neighbouring properties will continue to receive very good daylight and sunlight amenity after development.

The overall daylight and sunlight amenity within the proposed houses will also be very good.

We conclude that the proposal fully accords with the guidance on daylight and sunlight provided by the BRE.

Waterslade Ltd.





Sources: LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

ADAM KHAN ARCHITECTS
Proposal Drawings -
060_Elevations & Sections_161021.dwg
060_Plans_161021.dwg

Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: PLAN & 3D VIEW
AS EXISTING

Drawn by: SDJ

Date: NOV 2016

Scale: 1:300/NTS @A3

Drawing No: 939/17

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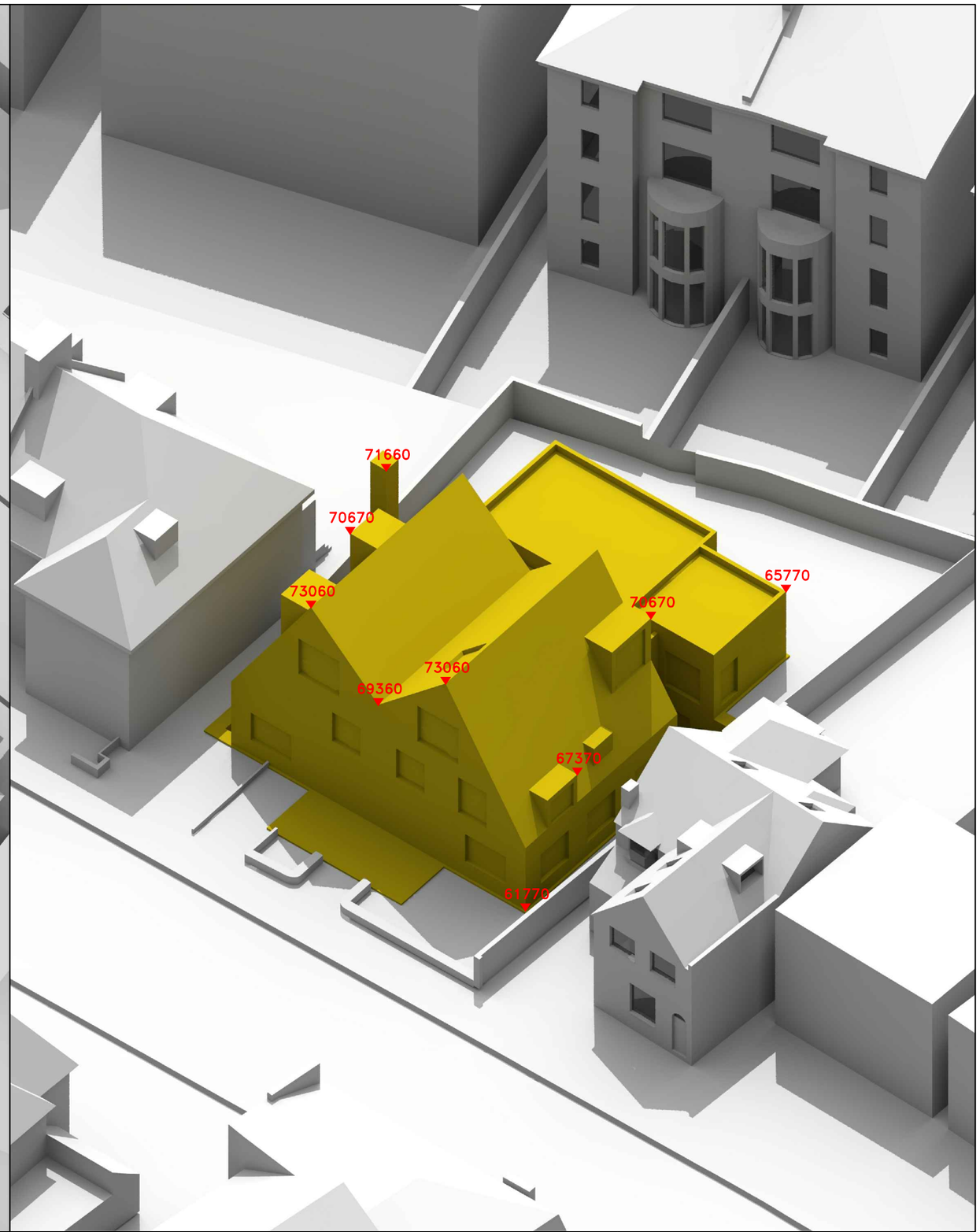

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Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: PLAN & 3D VIEW
PROPOSED SCHEME

Drawn by: SDJ

Date: NOV 2016

Scale: 1:300/NTS @A3

Drawing No: 939/18

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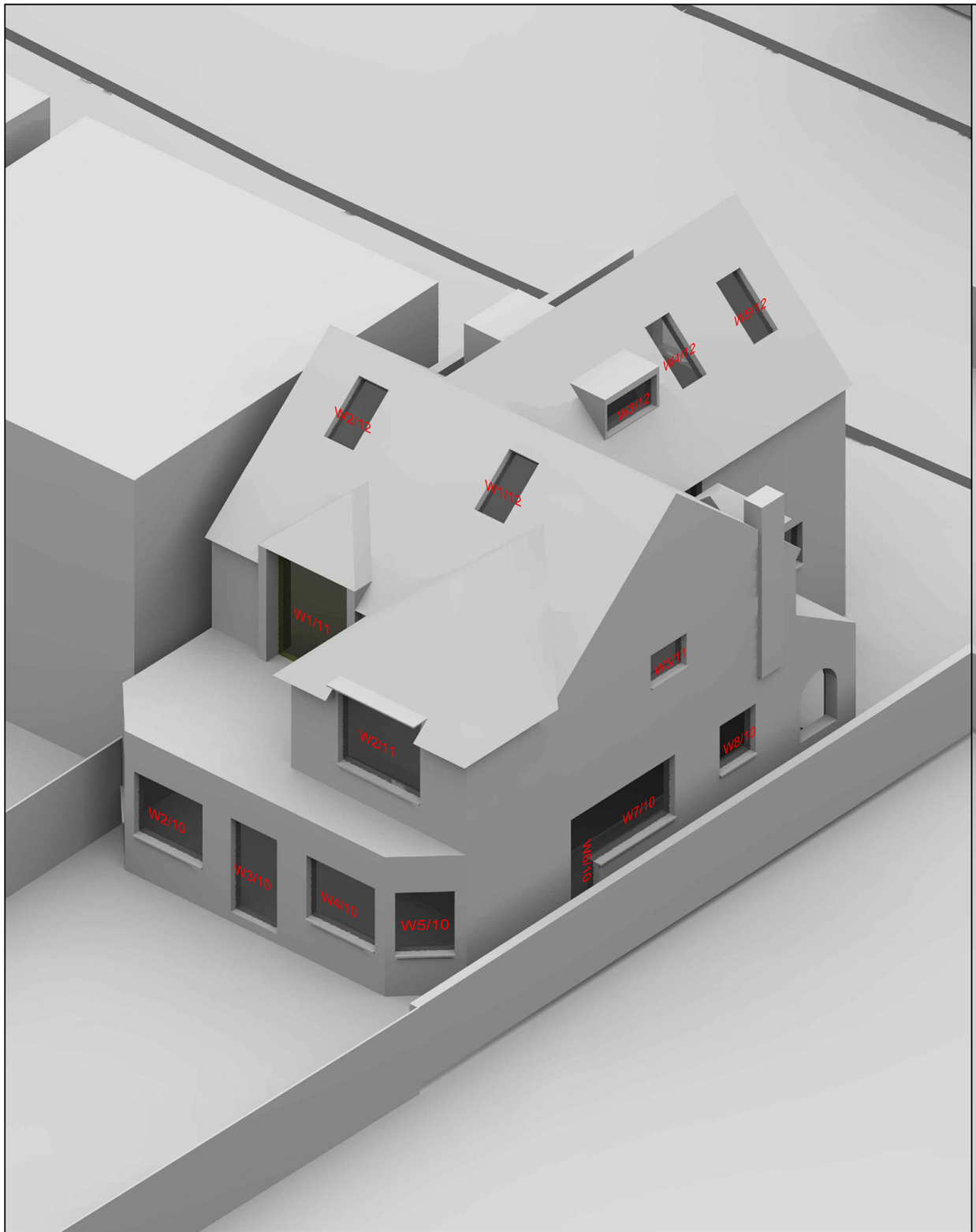

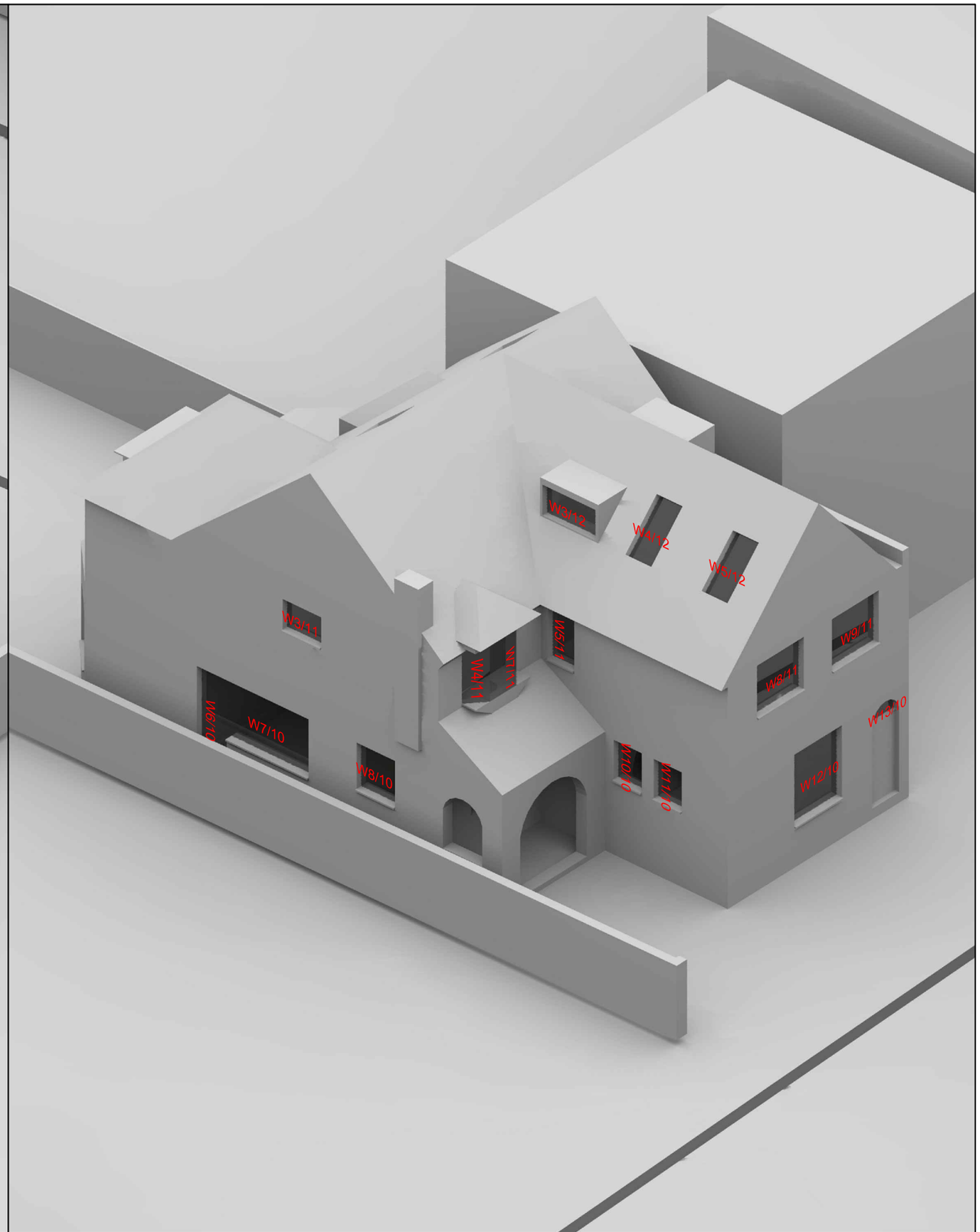

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Proposal Drawings -
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060_Plans_161021.dwg

Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawn by: SDJ

Date: NOV 2016

Drawing Title: WINDOW LOCATIONS
30 GLENILLA ROAD

Scale: NTS @A3

Drawing No: 939/19

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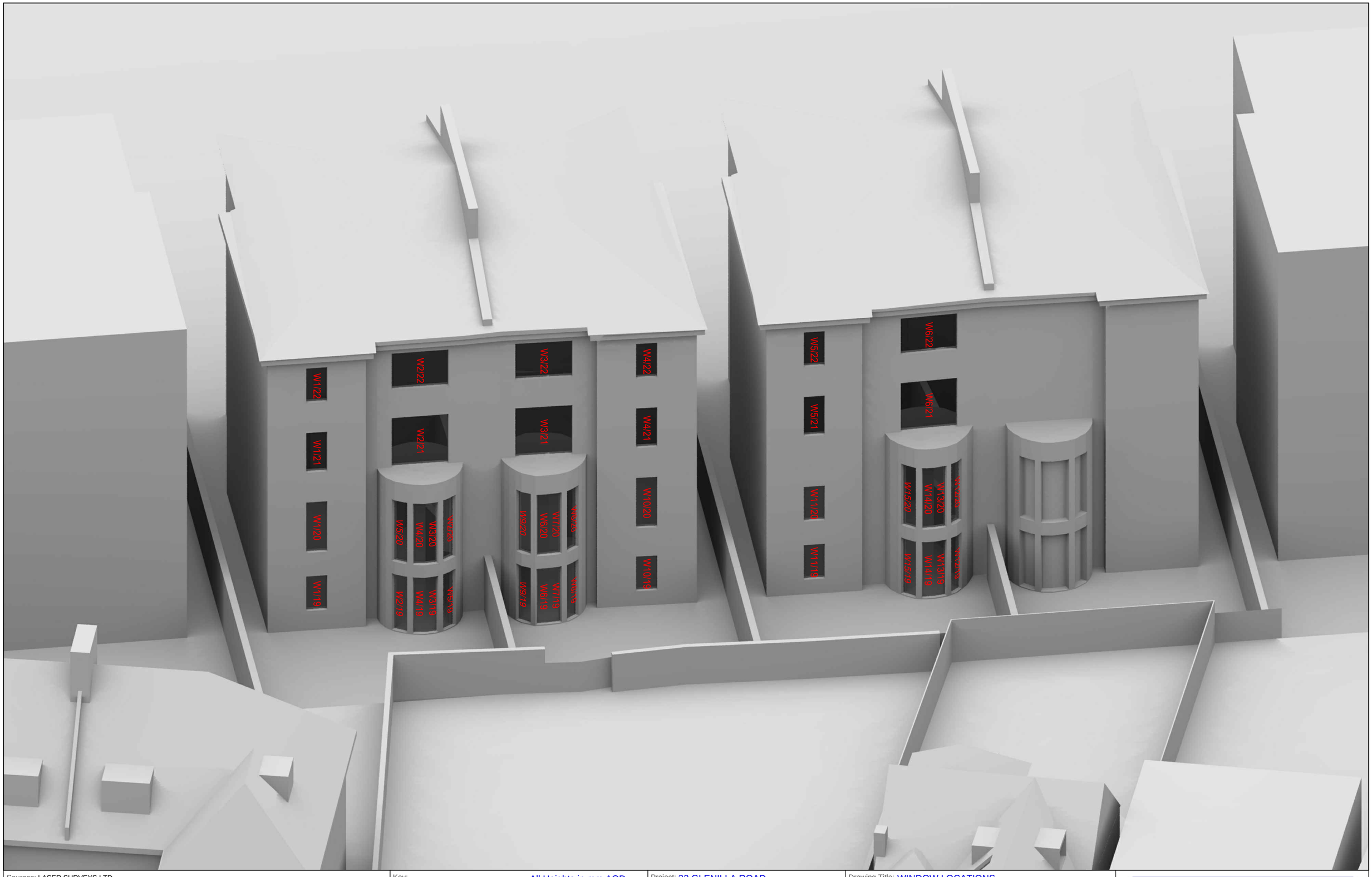

Sources: LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

ADAM KHAN ARCHITECTS
Proposal Drawings -
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060_Plans_161021.dwg

Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: WINDOW LOCATIONS
20-24 BELSIZE PARK GARDENS

Drawn by: SDJ

Date: NOV 2016

Scale: NTS @A3

Drawing No: 939/20

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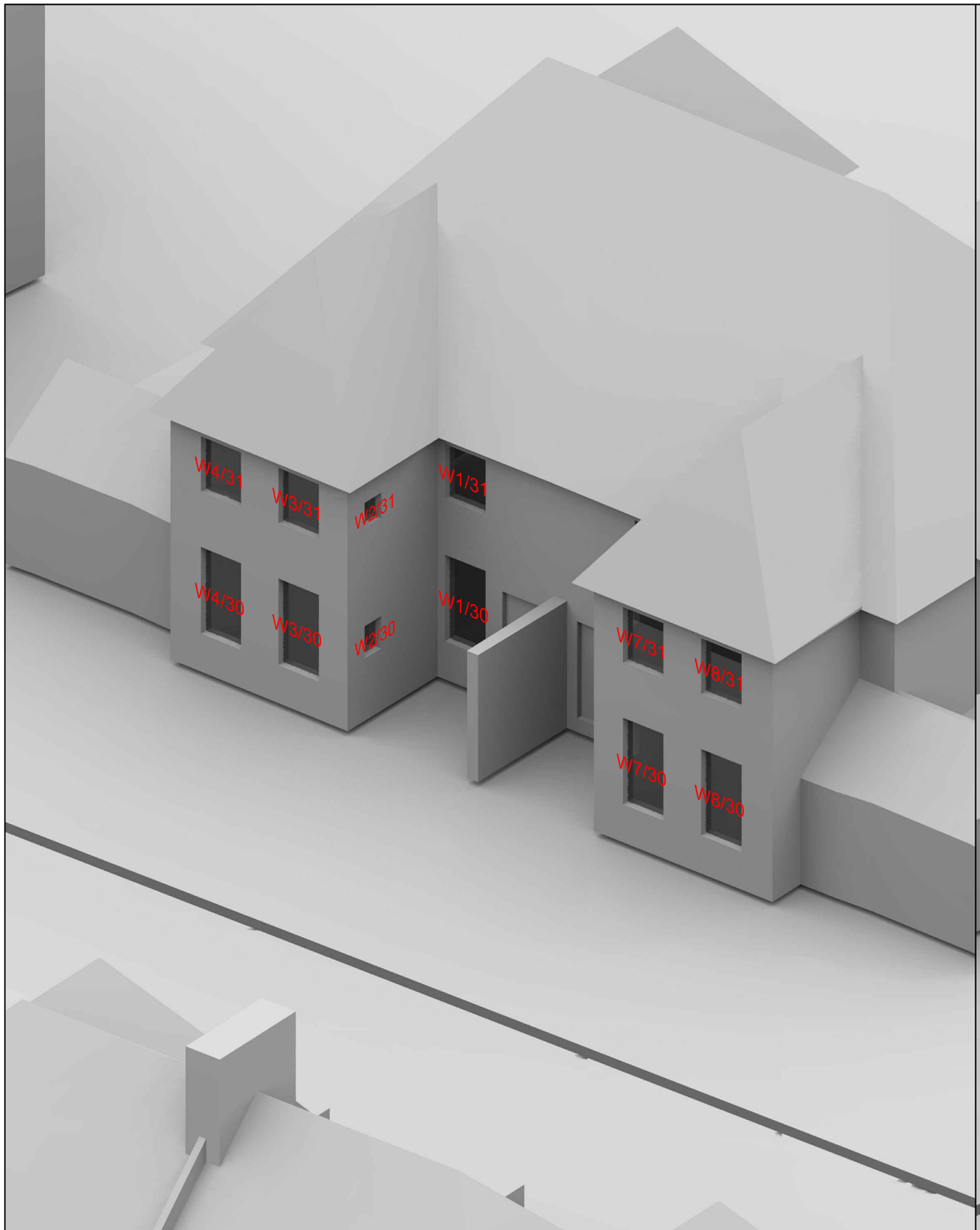

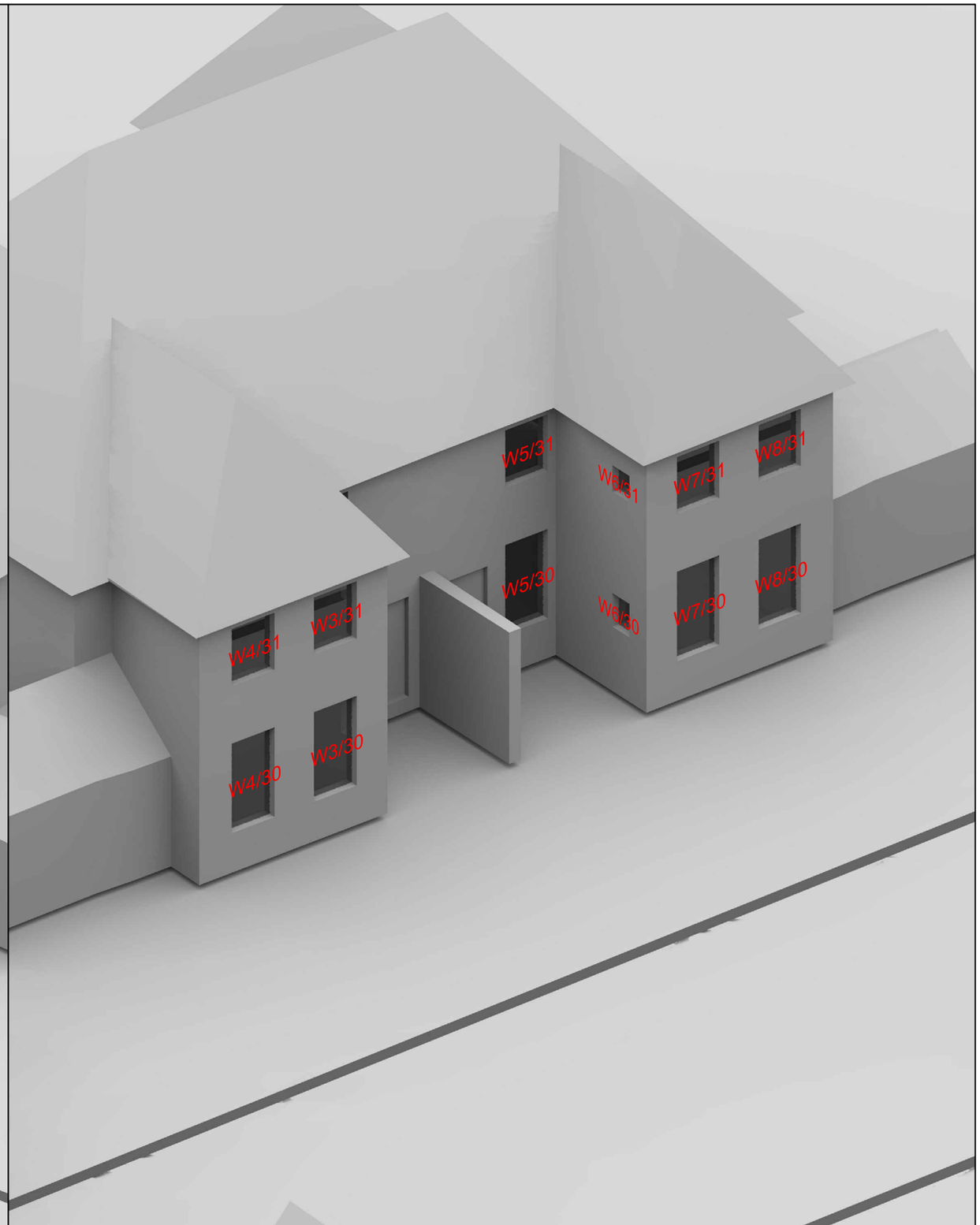

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060_Plans_161021.dwg

Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: WINDOW LOCATIONS
17 & 19 GLENILLA ROAD

Drawn by: SDJ

Date: NOV 2016

Scale: NTS @A3

Drawing No: 939/21

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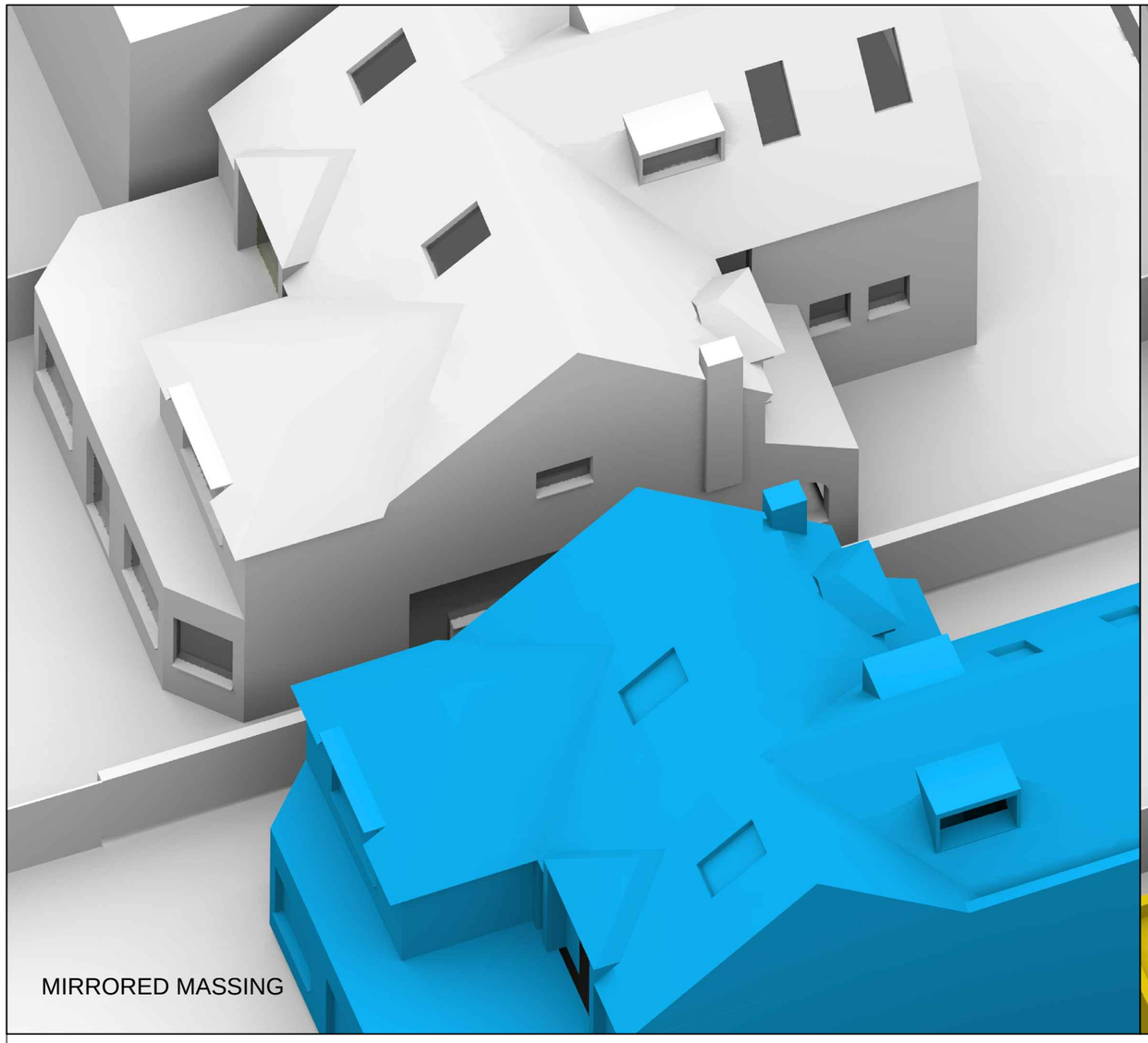

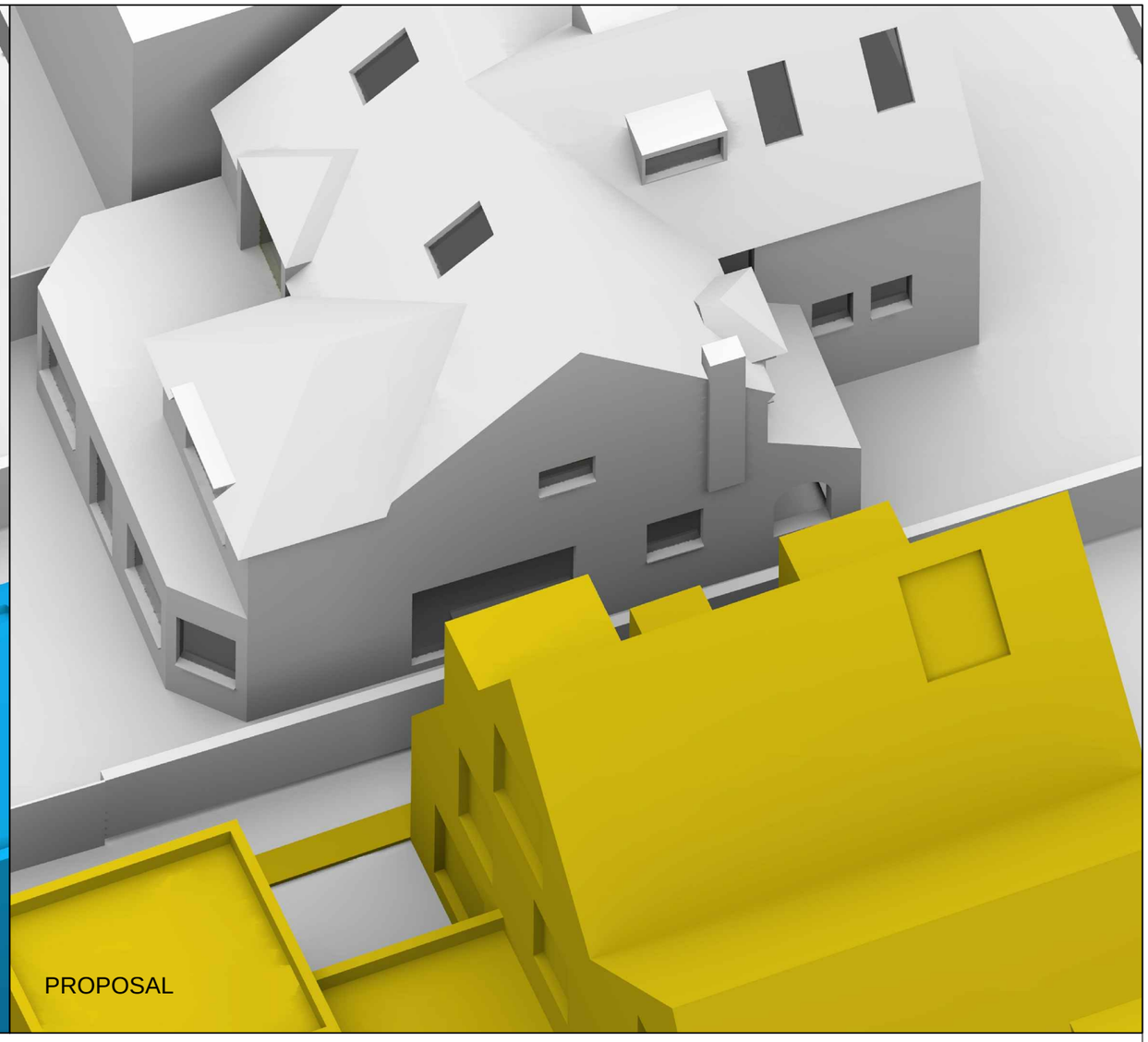

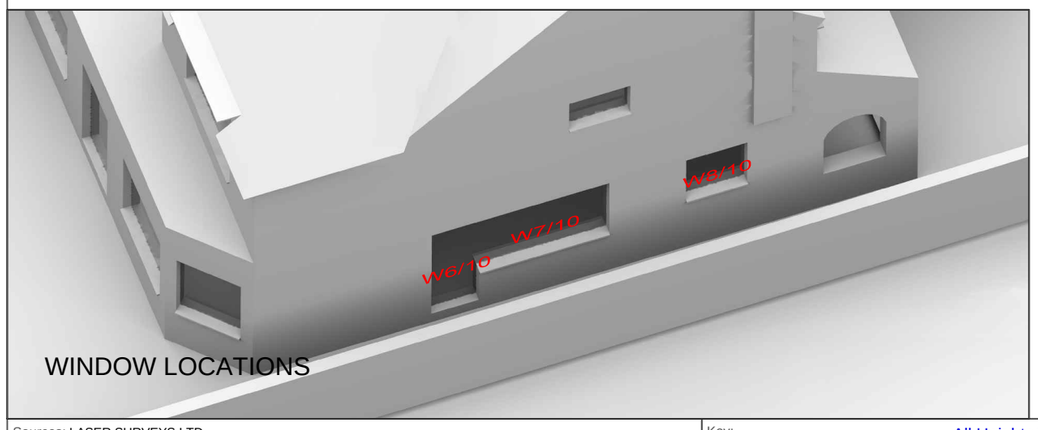

	Vertical Sky Component (VSC)		Annual Probable Sunlight Hours (APSH)			
	MIRRORED MASSING	PROPOSED	MIRRORED MASSING		PROPOSED	
Window	VSC	VSC	Winter %	Annual %	Winter %	Annual %
W6/10	10.2	14.8	9	25	12	31
W7/10	9.9	14.2	6	22	12	30
W8/10	11.9	14.0	4	22	8	26

Sources: LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

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Proposal Drawings -
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Key: All Heights in mm AOD

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: MIRRORED MASSING ANALYSIS
IN RELATION TO 30 GLENILLA ROAD

Drawn by: SDJ | Date: NOV 2016 | Scale: NTS @A3 | Drawing No: 939/22

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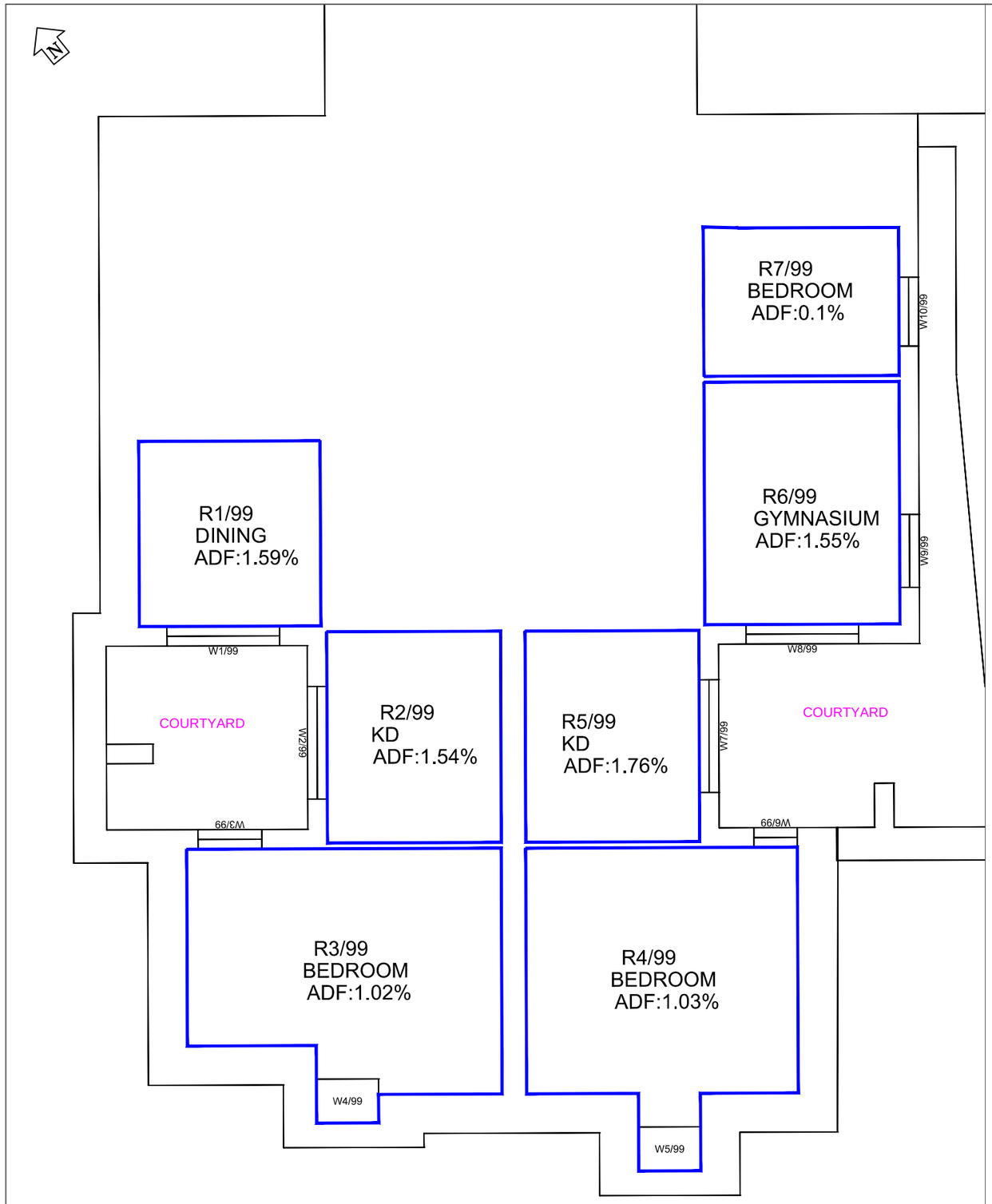
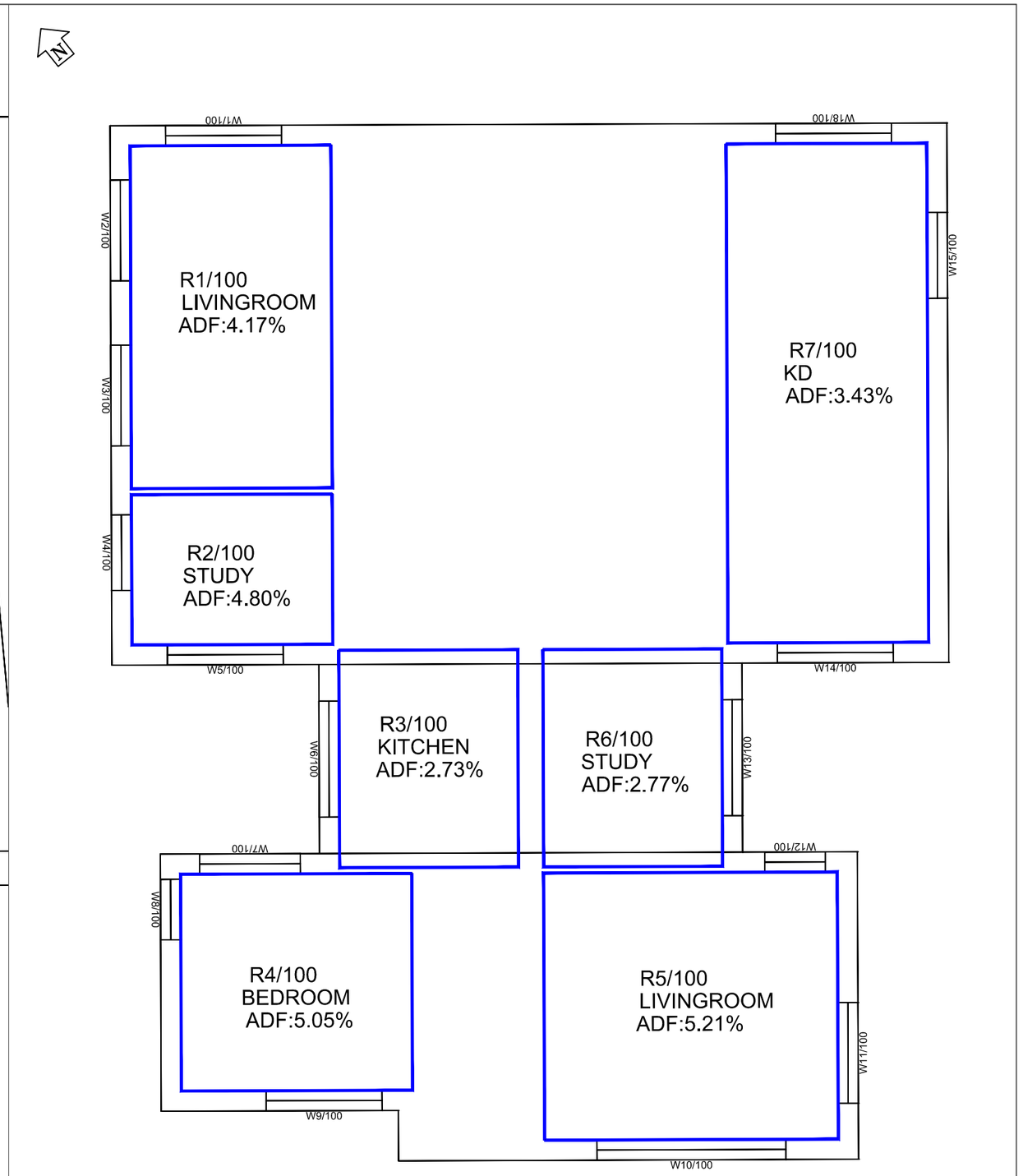


BASEMENT LEVEL



GROUND FLOOR

Sources: LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

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Key:

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: INTERNAL DAYLIGHT ANALYSIS

Drawn by: SDJ

Date: NOV 2016

Scale: 1:100 @A3

Drawing No: 939/INT/01

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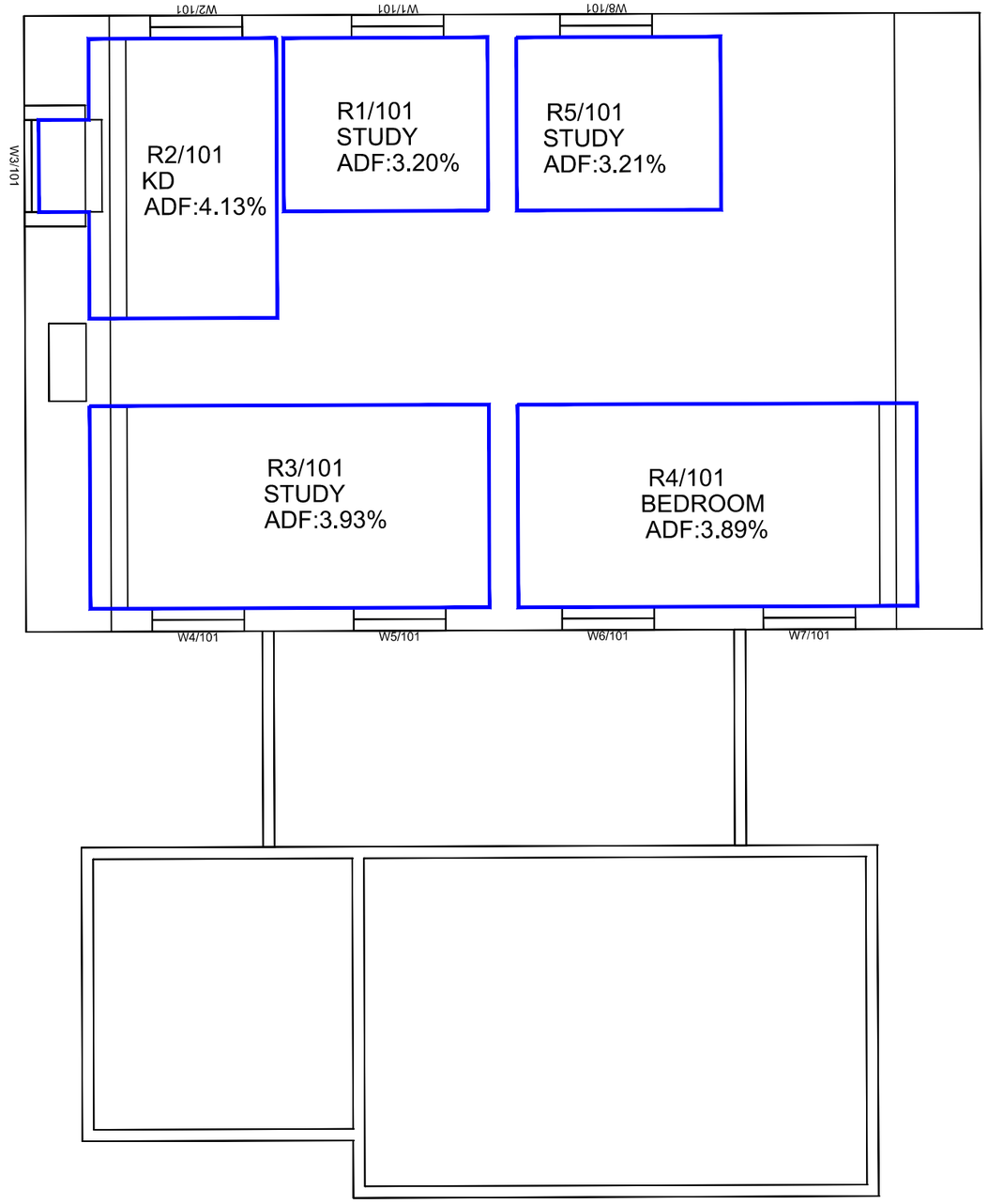
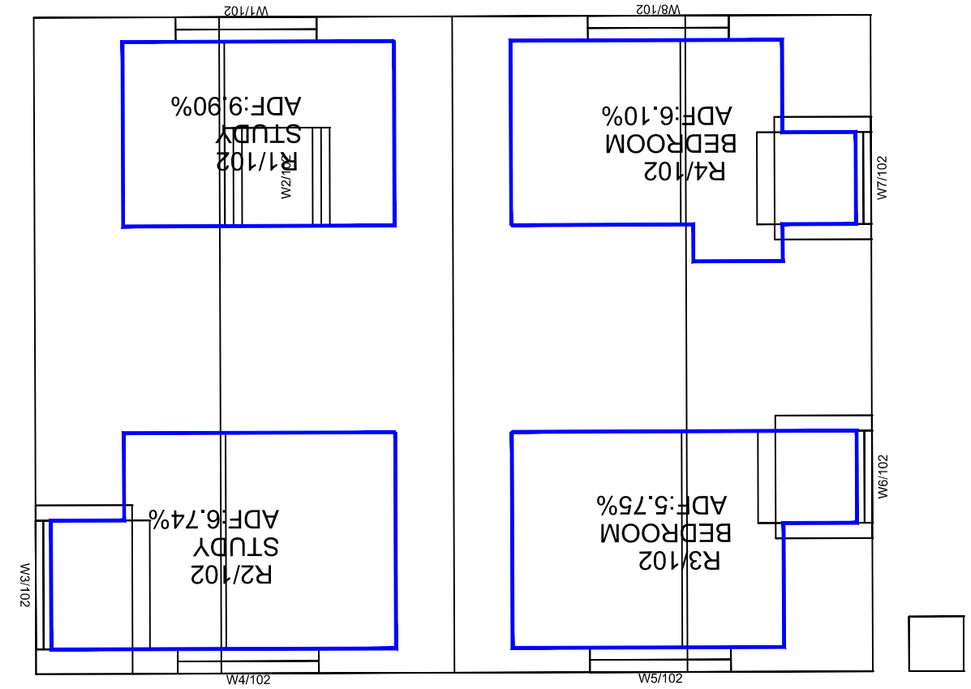


FIRST FLOOR



SECOND FLOOR

Sources: LASER SURVEYS LTD
Topographical survey dwg no - L6761/1
Elevational survey dwg no - L6761/2

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Proposal Drawings -
060_Elevations & Sections_161021.dwg
060_Plans_161021.dwg

Key:

Project: 32 GLENILLA ROAD
LONDON NW3

Drawing Title: INTERNAL DAYLIGHT ANALYSIS

Drawn by: SDJ

Date: NOV 2016

Scale: 1:100 @A3

Drawing No: 939/INT/02

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Location			Vertical Sky Component (VSC)			Average Daylight Factor (ADF)				No-Sky Line (NSL)				Window		Annual Probable Sunlight Hours (APSH) (window)					Annual Probable Sunlight Hours (APSH) (room)				
			EXISTING	PROPOSED	Reduction	EXISTING		PROPOSED		Whole	EXISTING	PROPOSED	Reduction	Angle from	Aspect	EXISTING		PROPOSED		Reduction	Existing		Proposed		Reduction
Room	Room Use	Window	VSC	VSC	Factor	ADF	TOTAL	ADF	TOTAL	Room	sq ft	sq ft	Factor	South		Winter %	Annual %	Winter %	Annual %	Factor	Winter %	Annual %	Winter %	Annual %	Factor
30 Glenilla Road																									
R1/10	LKD	W1/10	23.3	23.3	**1.00**	0.26		0.26		826.7	708.6	731.9	**1.03**	88.4°W	Southerly	10	38	10	38	**1.00**					
R1/10	LKD	W2/10	32.2	32.3	**1.00**	0.41		0.41						41.3°W	Southerly	22	70	22	70	**1.00**					
R1/10	LKD	W3/10	31.7	31.7	**1.00**	0.34		0.34						41.3°W	Southerly	21	69	21	69	**1.00**					
R1/10	LKD	W4/10	32.0	32.0	**1.00**	0.41		0.41						41.3°W	Southerly	18	66	18	66	**1.00**					
R1/10	LKD	W5/10	29.3	28.1	**0.96**	0.24		0.24						2.8°E	Southerly	19	75	19	64	**0.85**					
R1/10	LKD	W6/10	26.8	14.8	**0.55**	0.21		0.14						48.7°E	Southerly	15	56	12	31	**0.55**					
R1/10	LKD	W7/10	28.6	14.2	**0.50**	0.50		0.30						48.7°E	Southerly	16	58	12	30	**0.52**					
R1/10	LKD	W8/10	29.5	14.0	**0.47**	0.17		0.09						48.7°E	Southerly	16	60	8	26	**0.43**					
R1/10	LKD	W9/10	2.7	2.5	**0.94**	0.06	2.59	0.05	2.24					138.7°E	Northerly	0	1	0	0	**0.00**	24	93	24	77	**0.83**
R2/10	HALL	W10/10	27.6	23.5	**0.85**	0.46	0.46	0.40	0.40	105.6	74.1	74.1	**1.00**	48.7°E	Southerly	7	42	2	34	**0.81**	7	42	2	34	**0.81**
R3/10	BATHROOM	W11/10	31.1	25.9	**0.83**	1.29	1.29	1.10	1.10	31.5	26.2	26.2	**1.00**	48.7°E	Southerly	14	55	4	42	**0.76**	14	55	4	42	**0.76**
R4/10	BEDROOM	W12/10	33.2	33.2	**1.00**	1.96		1.96		140.0	133.9	133.9	**1.00**												
R4/10	BEDROOM	W13/10	33.6	33.6	**1.00**	0.10	2.06	0.10	2.06																
R1/11	BEDROOM	W1/11	30.9	30.9	**1.00**	2.84	2.84	2.84	2.84	172.9	168.6	168.6	**1.00**	41.3°W	Southerly	14	57	14	57	**1.00**	14	57	14	57	**1.00**
R2/11	BEDROOM	W2/11	33.3	33.3	**1.00**	1.74	1.74	1.74	1.74	211.9	195.7	195.7	**1.00**	42.1°W	Southerly	22	65	22	65	**1.00**	22	65	22	65	**1.00**
R3/11	BATHROOM	W3/11	35.5	21.0	**0.59**	1.02	1.02	0.59	0.59	53.0	49.0	30.3	**0.62**	48.7°E	Southerly	22	68	12	41	**0.60**	22	68	12	41	**0.60**
R4/11	BEDROOM	W4/11	34.0	29.3	**0.86**	0.88		0.81		80.2	77.3	76.4	**0.99**												
R4/11	BEDROOM	W6/11	19.2	19.2	**1.00**	0.61		0.61																	
R4/11	BEDROOM	W7/11	31.6	31.1	**0.99**	1.26	2.75	1.26	2.67																
R5/11	BATHROOM	W8/11	36.1	36.1	**1.00**	2.58	2.58	2.58	2.58	63.4	59.0	59.0	**1.00**												
R6/11	HALL	W5/11	19.8	17.9	**0.90**	0.63	0.63	0.59	0.59	70.7	54.5	51.9	**0.95**	48.7°E	Southerly	2	28	2	27	**0.96**	2	28	2	27	**0.96**
R7/11	BEDROOM	W9/11	35.9	35.9	**1.00**	1.71	1.71	1.71	1.71	115.3	113.3	113.3	**1.00**												
R1/12		W1/12	81.7	81.3	**0.99**	0.71		0.71		338.5	280.8	280.8	**1.00**	60.8°W	Southerly	28	90	27	89	**0.99**					
R1/12		W2/12	81.7	81.5	**1.00**	0.71	1.42	0.71	1.42					60.8°W	Southerly	28	90	28	90	**1.00**	28	90	28	90	**1.00**
R2/12		W3/12	35.9	32.2	**0.90**	0.50		0.46		241.1	189.7	189.4	**1.00**	48.7°E	Southerly	20	67	16	63	**0.94**					
R2/12		W4/12	76.6	74.1	**0.97**	0.79		0.76						61.7°E	Southerly	23	82	21	80	**0.98**					
R2/12		W5/12	77.5	75.4	**0.97**	0.80	2.09	0.77	1.99					61.7°E	Southerly	26	85	24	83	**0.98**	26	85	24	83	**0.98**
20 Belsize Park Gardens																									
R5/19		W11/19	29.6	29.3	**0.99**	0.69	0.69	0.68	0.68	200.3	189.5	185.6	**0.98**												
R6/19		W12/19	18.9	18.8	**0.99**	0.34		0.34		386.5	377.8	377.8	**1.00**												
R6/19		W13/19	26.8	26.6	**0.99**	0.32		0.31																	
R6/19		W14/19	28.5	28.2	**0.99**	0.32		0.31																	
R6/19		W15/19	27.0	26.7	**0.99**	0.44	1.41	0.44	1.40																
R5/20		W11/20	33.4	32.8	**0.98**	0.65	0.65	0.64	0.64	200.3	192.0	188.2	**0.98**												
R6/20		W12/20	30.6	30.4	**0.99**	0.50		0.50		386.5	379.2	379.2	**1.00**												
R6/20		W13/20	34.6	34.0	**0.98**	0.41		0.41																	
R6/20		W14/20	34.5	33.8	**0.98**	0.41		0.40																	
R6/20		W15/20	31.2	30.6	**0.98**	0.56	1.89	0.55	1.86																
R5/21		W5/21	37.0	36.3	**0.98**	0.89	0.89	0.87	0.87	199.6	191.6	191.6	**1.00**												
R6/21		W6/21	36.7	36.1	**0.99**	2.10	2.10	2.08	2.08	346.0	342.6	342.6	**1.00**												
R5/22		W5/22	36.9	36.6	**0.99**	0.82	0.82	0.81	0.81	199.6	191.6	191.6	**1.00**												
R6/22		W6/22	36.5	36.3	**0.99**	1.69	1.69	1.68	1.68	346.0	342.6	342.6	**1.00**												
22 Belsize Park Gardens																									
R3/19		W6/19	27.4	27.2	**0.99**	0.35		0.35		345.5	316.2	305.6	**0.97**												
R3/19		W7/19	28.4	28.2	**0.99**	0.34		0.34																	
R3/19		W8/19	27.2	27.1	**0.99**	0.47		0.47																	
R3/19		W9/19	17.6	17.3	**0.98**	0.38	1.55	0.38	1.53																
R4/19		W10/19	28.8	28.3	**0.99**	0.66	0.66	0.66	0.66	206.7	172.2	173.4	**1.01**												

Location			Vertical Sky Component (VSC)			Average Daylight Factor (ADF)				No-Sky Line (NSL)				Window		Annual Probable Sunlight Hours (APSH) (window)					Annual Probable Sunlight Hours (APSH) (room)				
			EXISTING	PROPOSED	Reduction	EXISTING		PROPOSED		Whole	EXISTING	PROPOSED	Reduction	Angle from	Aspect	EXISTING		PROPOSED		Reduction	Existing		Proposed		Reduction
Room	Room Use	Window	VSC	VSC	Factor	ADF	TOTAL	ADF	TOTAL	Room	sq ft	sq ft	Factor	South		Winter %	Annual %	Winter %	Annual %	Factor	Winter %	Annual %	Winter %	Annual %	Factor
R3/20		W6/20	33.5	32.6	**0.97**	0.45		0.44		345.5	341.5	341.5	**1.00**												
R3/20		W7/20	33.7	32.8	**0.97**	0.45		0.43																	
R3/20		W8/20	31.8	31.2	**0.98**	0.60		0.59																	
R3/20		W9/20	29.1	28.3	**0.97**	0.57	2.07	0.56	2.03																
R4/20		W10/20	33.5	32.6	**0.97**	1.09	1.09	1.06	1.06	206.7	200.1	200.1	**1.00**												
R3/21		W3/21	36.0	35.1	**0.98**	2.26	2.26	2.22	2.22	304.2	301.5	301.5	**1.00**												
R4/21		W4/21	36.7	35.9	**0.98**	0.86	0.86	0.84	0.84	206.7	200.1	200.1	**1.00**												
R3/22		W3/22	36.0	35.7	**0.99**	1.83	1.83	1.82	1.82	303.4	301.4	301.4	**1.00**												
R4/22		W4/22	36.8	36.5	**0.99**	0.79	0.79	0.79	0.79	206.7	200.1	200.1	**1.00**												
24 Belsize Park Gardens																									
R1/19		W1/19	28.8	28.1	**0.98**	0.67	0.67	0.65	0.65	218.2	194.5	180.1	**0.93**												
R2/19		W2/19	26.4	26.1	**0.99**	0.42		0.42		381.5	350.2	329.7	**0.94**												
R2/19		W3/19	27.0	26.7	**0.99**	0.34		0.33																	
R2/19		W4/19	27.8	27.5	**0.99**	0.36		0.35																	
R2/19		W5/19	21.0	20.8	**0.99**	0.40	1.51	0.39	1.49																
R1/20		W1/20	32.9	31.7	**0.96**	1.03	1.03	1.00	1.00	218.2	209.0	209.0	**1.00**												
R2/20		W2/20	31.6	30.7	**0.97**	0.57		0.55		381.5	375.7	375.7	**1.00**												
R2/20		W3/20	33.5	32.3	**0.96**	0.40		0.39																	
R2/20		W4/20	33.0	31.8	**0.96**	0.42		0.41																	
R2/20		W5/20	30.9	29.9	**0.97**	0.54	1.93	0.53	1.87																
R1/21		W1/21	36.0	35.1	**0.97**	0.81	0.81	0.79	0.79	217.1	208.3	208.3	**1.00**												
R2/21		W2/21	35.6	34.6	**0.97**	2.07	2.07	2.03	2.03	337.0	334.2	334.2	**1.00**												
R1/22		W1/22	36.5	36.1	**0.99**	0.76	0.76	0.75	0.75	217.1	208.3	208.3	**1.00**												
R2/22		W2/22	35.8	35.4	**0.99**	1.68	1.68	1.66	1.66	339.8	335.6	335.6	**1.00**												
17 Glenilla Road																									
R1/30		W2/30	19.5	19.4	**1.00**	0.07		0.07		315.0	309.2	308.3	**1.00**	50.2°E	Southerly	17	44	16	43	**0.98**					
R1/30		W3/30	33.3	31.9	**0.96**	0.65		0.63						39.8°W	Southerly	22	69	21	68	**0.99**					
R1/30		W4/30	33.2	31.7	**0.96**	0.66	1.38	0.63	1.33					39.8°W	Southerly	24	69	21	66	**0.96**	24	74	23	73	**0.99**
R2/30		W1/30	18.8	17.9	**0.95**	0.90	0.90	0.87	0.87	136.5	98.8	98.8	**1.00**	39.1°W	Southerly	14	39	13	38	**0.97**	14	39	13	38	**0.97**
R1/31		W2/31	25.3	25.3	**1.00**	0.06		0.06		315.0	310.0	310.0	**1.00**	50.2°E	Southerly	21	53	20	52	**0.98**					
R1/31		W3/31	32.8	32.0	**0.97**	0.43		0.42						39.8°W	Southerly	26	65	24	63	**0.97**					
R1/31		W4/31	32.8	31.9	**0.97**	0.43	0.92	0.42	0.90					39.8°W	Southerly	25	64	24	63	**0.98**	26	85	25	84	**0.99**
R2/31		W1/31	21.9	21.3	**0.97**	0.63	0.63	0.62	0.62	136.5	112.8	112.8	**1.00**	39.1°W	Southerly	22	47	20	45	**0.96**	22	47	20	45	**0.96**
19 Glenilla Road																									
R3/30		W5/30	19.5	18.4	**0.94**	0.92	0.92	0.88	0.88	136.5	98.8	98.8	**1.00**	40°W	Southerly	7	28	7	28	**1.00**	7	28	7	28	**1.00**
R4/30		W6/30	19.8	19.5	**0.98**	0.07		0.07		315.0	309.1	307.2	**0.99**	129.2°W	Northerly	4	28	4	28	**1.00**					
R4/30		W7/30	32.9	31.6	**0.96**	0.64		0.62						39.2°W	Southerly	22	70	21	69	**0.99**					
R4/30		W8/30	32.7	31.5	**0.96**	0.64	1.35	0.62	1.30					39.2°W	Southerly	22	71	21	70	**0.99**	23	72	23	72	**1.00**
R3/31		W5/31	22.5	21.8	**0.97**	0.65	0.65	0.63	0.63	136.5	112.8	112.8	**1.00**	40°W	Southerly	6	35	6	35	**1.00**	6	35	6	35	**1.00**
R4/31		W6/31	25.3	25.1	**0.99**	0.06		0.06		315.0	310.0	310.0	**1.00**	129.2°W	Northerly	4	23	4	23	**1.00**					
R4/31		W7/31	32.5	31.6	**0.97**	0.42		0.41						39.2°W	Southerly	24	66	23	65	**0.98**					
R4/31		W8/31	32.4	31.5	**0.97**	0.42	0.91	0.41	0.89					39.2°W	Southerly	27	69	24	66	**0.96**	27	69	25	67	**0.97**

Room	Window	Room Use	Orientation	Angle from South	Orientation	Sunlight			
						Window		Room	
						Winter APSH	Annual APSH	Winter APSH	Annual APSH
PROPOSED SCHEME									
R1/99	**W1/99**	DINING	218.5	38.5	Southerly	0	9	0	9
R2/99	**W2/99**	KD	308.5	128.5	Northerly	0	0	0	0
R3/99	**W3/99**	BEDROOM	38.5	141.5	Northerly	0	0		
R3/99	**W4/99**	BEDROOM	270.0	90.0	Southerly	8	41	8	41
R4/99	**W5/99**	BEDROOM	90.0	90.0	Southerly	9	58		
R4/99	**W6/99**	BEDROOM	38.5	141.5	Northerly	0	0	9	58
R5/99	**W7/99**	KD	128.5	51.5	Southerly	2	17	2	17
R6/99	**W8/99**	GYMNASIUM	218.5	38.5	Southerly	5	19		
R6/99	**W9/99**	GYMNASIUM	128.5	51.5	Southerly	0	6	5	20
R7/99	**W10/99**	BEDROOM	128.5	51.5	Southerly	0	0	0	0
R1/100	**W1/100**	LIVINGROOM	38.5	141.5	Northerly	0	11		
R1/100	**W2/100**	LIVINGROOM	308.5	128.5	Northerly	0	2		
R1/100	**W3/100**	LIVINGROOM	308.5	128.5	Northerly	0	4	0	15
R2/100	**W4/100**	STUDY	308.5	128.5	Northerly	1	7		
R2/100	**W5/100**	STUDY	218.5	38.5	Southerly	3	40	4	41
R3/100	**W6/100**	KITCHEN	308.5	128.5	Northerly	0	3	0	3
R4/100	**W7/100**	BEDROOM	38.5	141.5	Northerly	0	0		
R4/100	**W8/100**	BEDROOM	308.5	128.5	Northerly	0	12		
R4/100	**W9/100**	BEDROOM	218.5	38.5	Southerly	8	43	8	45
R5/100	**W10/100**	LIVINGROOM	218.5	38.5	Southerly	11	52		
R5/100	**W11/100**	LIVINGROOM	128.5	51.5	Southerly	11	44		
R5/100	**W12/100**	LIVINGROOM	38.5	141.5	Northerly	0	0	14	77
R6/100	**W13/100**	STUDY	128.5	51.5	Southerly	6	29	6	29
R7/100	**W14/100**	KD	218.5	38.5	Southerly	14	41		
R7/100	**W15/100**	KD	128.5	51.5	Southerly	0	6		
R7/100	**W18/100**	KD	38.5	141.5	Northerly	0	6	14	48
R1/101	**W1/101**	STUDY	38.5	141.5	Northerly	0	10	0	10
R2/101	**W2/101**	KD	38.5	141.5	Northerly	0	10		
R2/101	**W3/101**	KD	308.5	128.5	Northerly	1	7	1	17
R3/101	**W4/101**	STUDY	218.5	38.5	Southerly	19	56		
R3/101	**W5/101**	STUDY	218.5	38.5	Southerly	20	56	20	57

32 GLENILLA ROAD
LONDON

INTERNAL SUNLIGHT ANALYSIS

NOV 2016

Room	Window	Room Use	Orientation	Angle from South	Orientation	Sunlight			
						Window		Room	
						Winter APSH	Annual APSH	Winter APSH	Annual APSH
R4/101	**W6/101**	BEDROOM	218.5	38.5	Southerly	19	55		
R4/101	**W7/101**	BEDROOM	218.5	38.5	Southerly	19	56	19	56
R5/101	**W8/101**	STUDY	38.5	141.5	Northerly	0	11	0	11
R1/102	**W1/102**	STUDY	38.5	141.5	Northerly	0	13		
R1/102	**W2/102**	STUDY	115.7	64.3	Southerly	20	69	20	70
R2/102	**W3/102**	STUDY	308.5	128.5	Northerly	2	21		
R2/102	**W4/102**	STUDY	218.5	38.5	Southerly	23	62	23	63
R3/102	**W5/102**	BEDROOM	218.5	38.5	Southerly	23	62		
R3/102	**W6/102**	BEDROOM	128.5	51.5	Southerly	12	48	26	92
R4/102	**W7/102**	BEDROOM	128.5	51.5	Southerly	15	54		
R4/102	**W8/102**	BEDROOM	38.5	141.5	Northerly	0	13	15	55