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Daylight and Sunlight Study (Within Development)
9 Fitzjohn's Avenue, London NW3 5JY

17th April 2013

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study in connection with the development at 9 Fitzjohn's Avenue, London NW3 5JY. The aim of the study is to check whether or not the proposed habitable rooms receive satisfactory levels of daylight and sunlight.

1.1.2 The study is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 2011.

1.1.3 Appendix 1 identifies the windows analysed in this study. The numerical test results (including all calculation workings) are provided in Appendix 2. No sky line contours are presented in Appendix 3.

1.1.4 Right of Light Consulting confirms that the proposed design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Finkernagel Ross Architects

9FIT-001	Location and Existing Site Plan	Rev P1
9FIT-002	Existing Floor Plans	Rev P1
9FIT-020	Existing Sections	Rev P1
9FIT-030	Existing Elevations	Rev P1
9FIT-100	Proposed Site Plan	Rev P5
9FIT-101	Proposed Basement & Lower Ground Floor	Rev P6
9FIT-102	Proposed Upper Ground Floor & First Floor	Rev P4
9FIT-103	Proposed Second & Third Floor	Rev P5
9FIT-300	Proposed Rear Elevation	Rev P6
9FIT-301	Proposed Front Elevation	Rev P1
9FIT-302	Proposed Side Elevation	Rev P2
9FIT-303	Proposed Side Elevation	Rev P2

Metro Plans

3388-01	Site Plan	Rev –
3388-02	Front Elevation	Rev –
3388-03	Rear Elevation	Rev –
3388-04	Side Elevation	Rev –
3388-05	Side Elevation	Rev –
3388-06	Lower Ground Floor Plan	Rev –
3388-07	Ground Floor Plan	Rev –
3388-08	First Floor Plan	Rev –
3388-09	Second Floor Plan	Rev –
3388-10	Third Floor Plan	Rev –
3388-11	Section A-A	Rev –
3388-12	Section B-B	Rev –

3 METHODOLOGY OF THE STUDY

3.1 BRE Guide : Site Layout Planning for Daylight and Sunlight

3.1.1 The study is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 2011.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. In instances where there is a special requirement for daylight or sunlight, higher levels may be deemed necessary. In other situations, such as with urban developments, lower daylight and sunlight levels may be unavoidable. The following statement is quoted directly from the BRE guide:

3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and this document should not be considered 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 the many factors in site layout design."

3.2 Interior Daylighting

3.2.1 The interior daylighting recommendations set out in BRE guide are based on British Standard BS 8206 Part 2 and the Chartered Institute of Building Services Engineers Applications Manual on window design. Collectively, the guides set out three main criteria for interior daylighting. These are summarised as follows:

3.2.2 Test 1 Average Daylight Factor *(df)*

The Average Daylight Factor can be calculated using the following formula:

$$df = \frac{T\ Aw\ \theta}{A\ (1-R^2)}\ \%$$

Where

T is the diffuse visible transmittance of the glazing (BRE standard of 0.68)
Aw is the net glazed area of the window (m^2) (assumed 90% glazing)
A is the total area of the room surfaces (m^2)
R is their average reflectance
Θ is the angle of visible sky in degrees

The Average Daylight factor test is applied to habitable rooms within domestic properties. A kitchen is generally deemed to be a habitable room if it is large enough to accommodate a dining area. If the kitchen is small or if the property has a separate dining area then the accepted practice is to treat the kitchen as a non habitable room.

For the purpose of this study we have assumed BRE internal reflectance values pertaining to medium wooden floors, light painted walls and white painted ceilings.

The guide recommends an Average Daylight Factor of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. There are additional minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.

3.2.3 Test 2 Room Depth

If a daylit room is lit by windows in one wall only, the depth of the room L should not exceed the limiting value given by:

$$\frac{L}{W} + \frac{L}{H} \leq \frac{2}{1-R_b}$$

Where

W is the room width
H is the window-head height above floor level
R_b is the average reflectance of the surfaces in the rear half of the room

3.2.4 Test 3 Position of the no sky line

If a significant area of the working plane lies beyond the no sky line (i.e. it receives no direct skylight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

The no sky line assessment is not applicable where a room derives its daylight solely from a light well or atrium. In these situations the room relies on borrowed light instead of direct skylight.

3.3 Sunlight to Windows

3.3.1 The BRE guide recommends that where possible each dwelling should have at least one main living room window that faces within 90 degrees of due south. However, the guide acknowledges that this is not always possible when it comes to flats.

3.3.2 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that sunlight is viewed as less important in kitchens and bedrooms. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.

3.3.3 The BRE guide recommends that main living room windows should receive 25% of the total annual probable sunlight hours, including 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March.

3.4 Overshadowing to Gardens and Open Spaces

3.4.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

3.4.2 The BRE guide recommends that for an open space to appear adequately lit throughout the year, at least 50% of its area should receive two hours of sunlight on 21st March.

4 RESULTS OF THE STUDY

4.1 Window Reference Points

4.1.1 Refer to Appendix 1 for a drawing which identifies the positions of the windows analysed in this study.

4.2 Numerical Results and No Sky Line Contours

4.2.1 The numerical test results including all calculation workings are provided in Appendix 2. No sky line contours for the habitable rooms are presented in Appendix 3.

4.3 Interior Daylighting

4.3.1 All rooms meet or surpass the BRE Average Daylight Factor targets.

4.3.2 All rooms pass the room depth test where it is applicable.

4.3.3 The BRE guide does not give fixed numerical pass/fail criteria for the No Sky Line test when applied to new dwellings (guidance is given for when this test is applied to existing neighbouring buildings). However, for completeness, we have illustrated the no sky line contours in Appendix 3. The contours generally illustrate good access to daylight over a significant part of the working plane.

4.4 Sunlight to Windows

4.4.1 Living rooms which face within 90 degrees of due south have been tested for direct sunlight. The results are presented in Appendix 2. Not all rooms receive ideal levels of direct sunlight. However, the BRE guide acknowledges that it is not always possible for every dwelling to be well situated to receive direct sunlight.

4.5 Conclusion

4.5.1 Right of Light Consulting confirms that the proposed design satisfies all of the requirements set out in the BRE guide ‘Site Layout Planning for Daylight and Sunlight’.

5 CLARIFICATIONS

5.1 General

5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.

5.1.2 We have undertaken the survey following the guidelines of the RICS publication “Surveying Safely”.

5.1.3 Where limited access is available, reasonable assumptions will have been made.

5.1.4 Right of Light Consulting have endeavoured to include in the report those matters, which they have knowledge of or of which they have been made aware, that might adversely affect the validity of the opinion given.

5.1.5 Right of Light Consulting will notify those instructing them immediately and confirm in writing if for any reason the report requires any correction or qualification.

5.1.6 Right of Light Consulting confirm that they have used their best endeavours to ensure that the facts stated in this report are correct and that the opinions expressed represent a true and complete professional opinion.

5.2 Project Specific

5.2.1 None

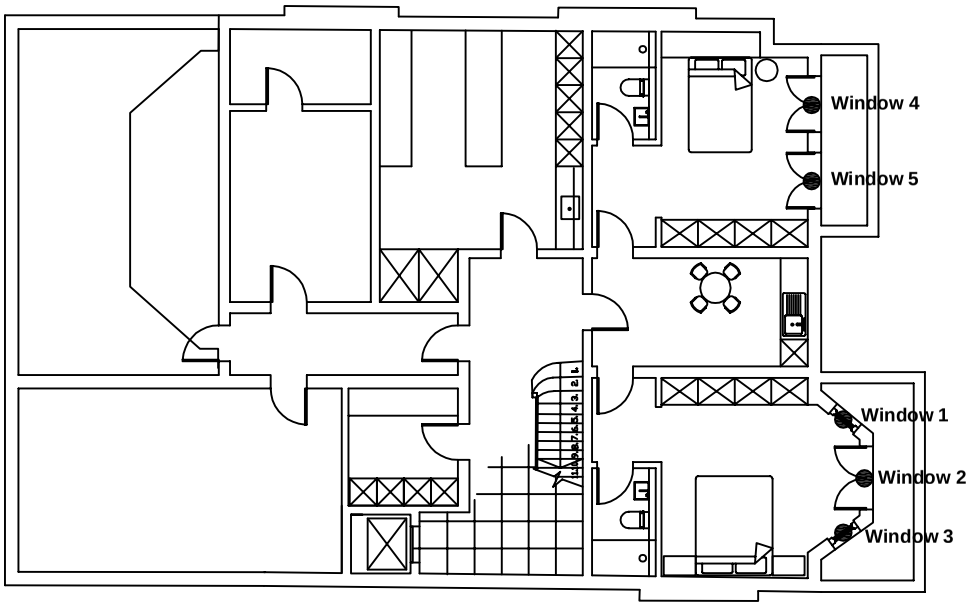
APPENDICES

APPENDIX 1

WINDOW KEY

Proposed Basement Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 1 of 6 Rev. -

Rev	Date	Details of revision

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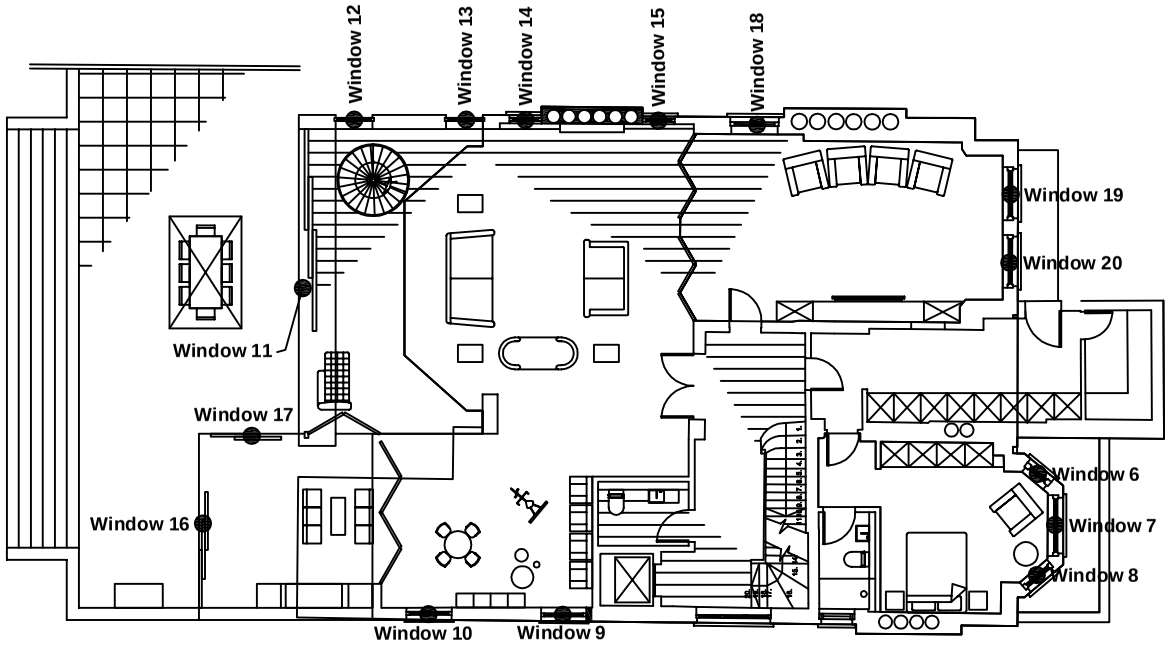
Proposed Lower Ground Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 2 of 6 | Rev. -

Rev	Date	Details of revision

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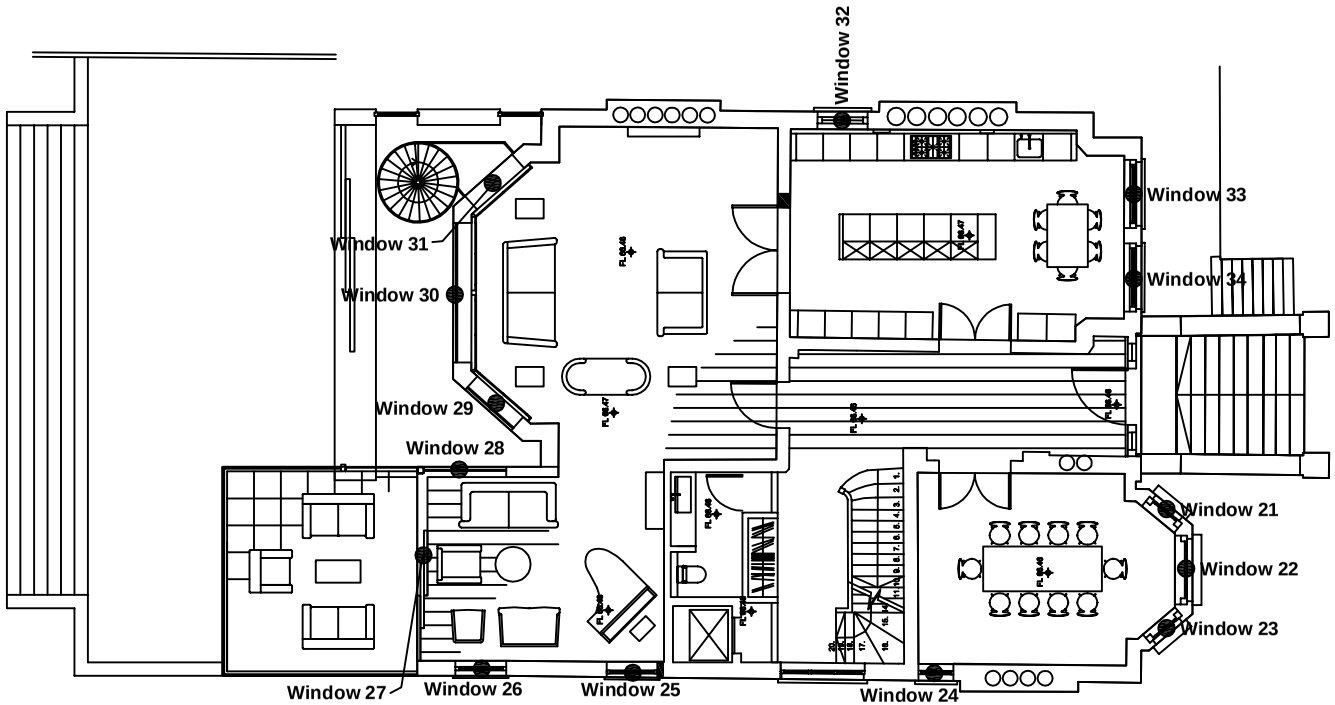
Proposed Upper Ground Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 3 of 6 Rev. -

Rev	Date	Details of revision

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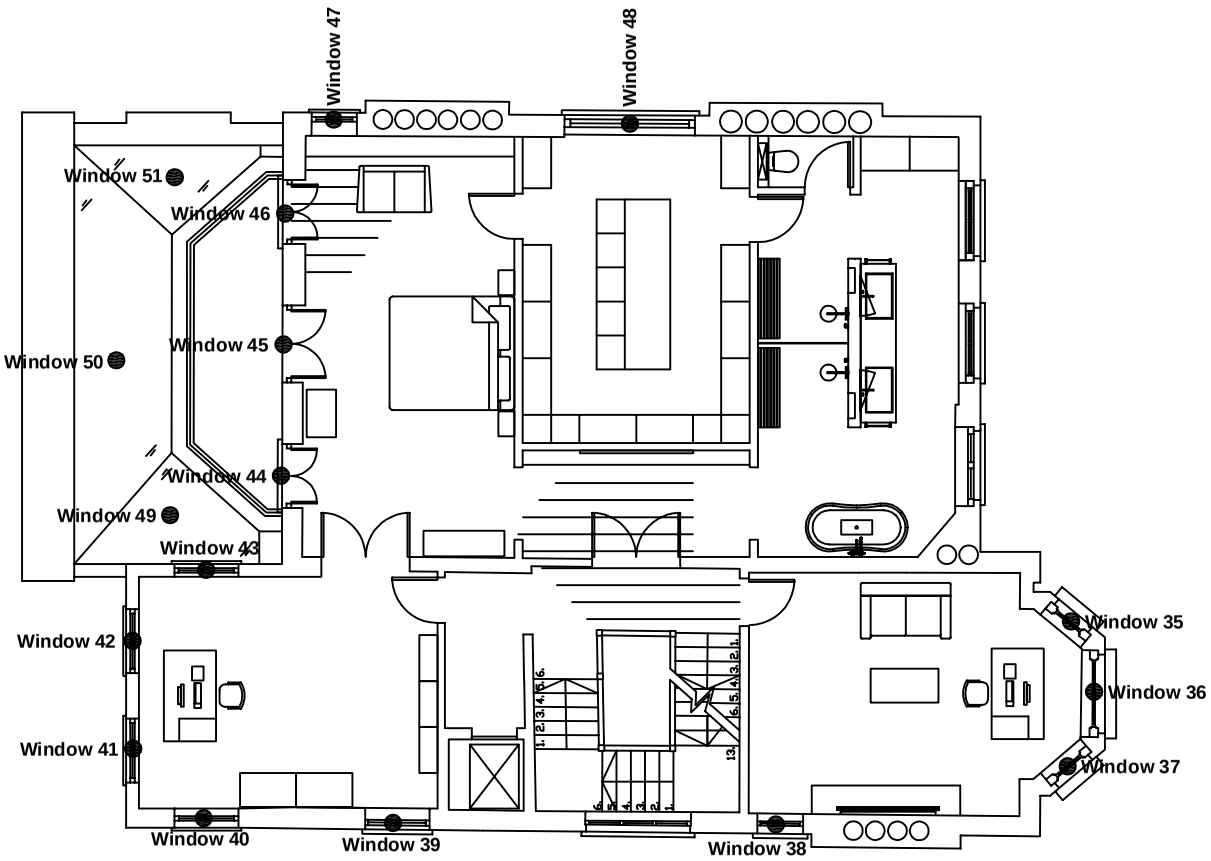
Proposed First Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 4 of 6 Rev. -

Rev	Date	Details of revision

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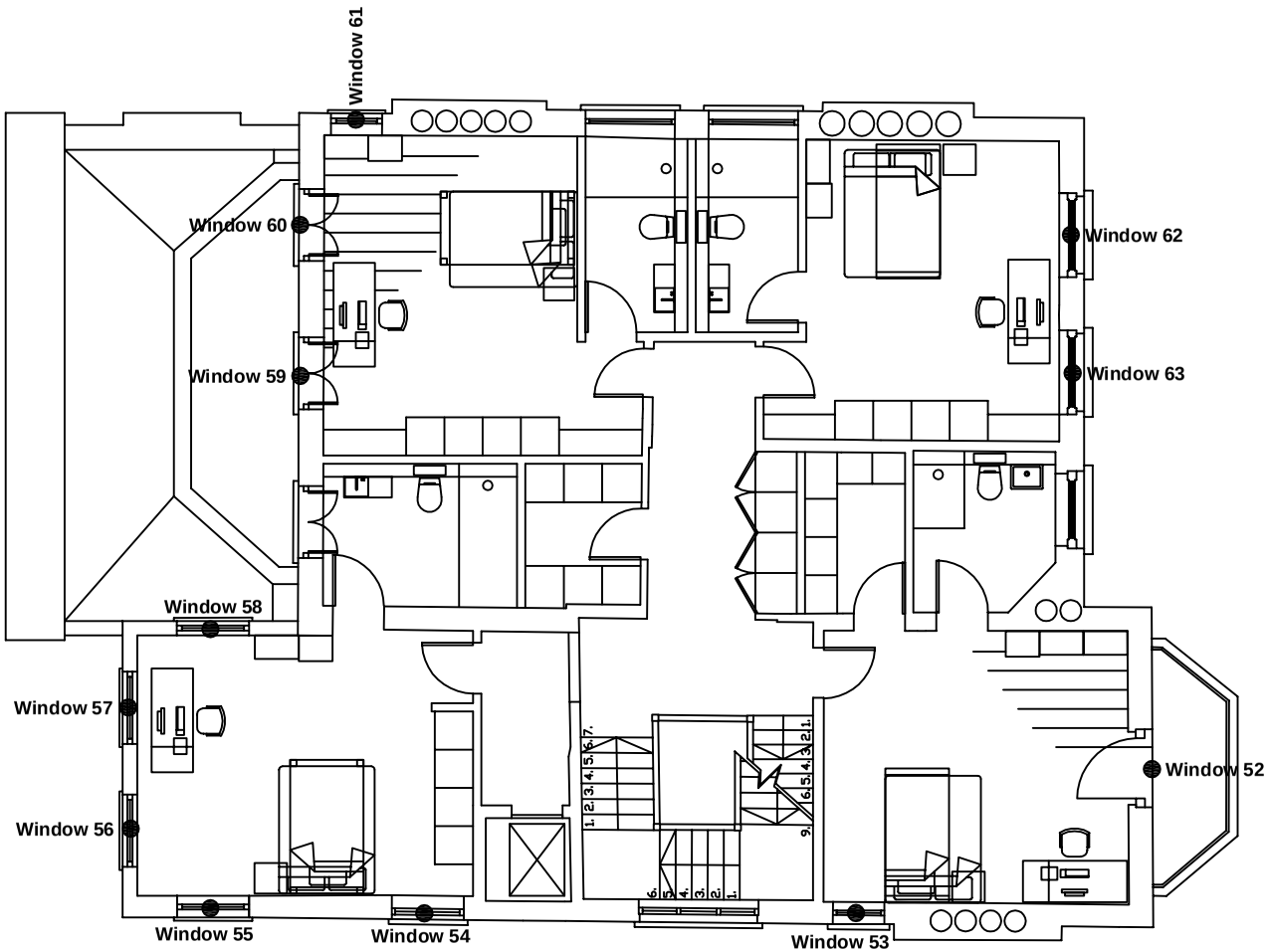
Proposed Second Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 5 of 6 | Rev. -

Rev	Date	Details of revision

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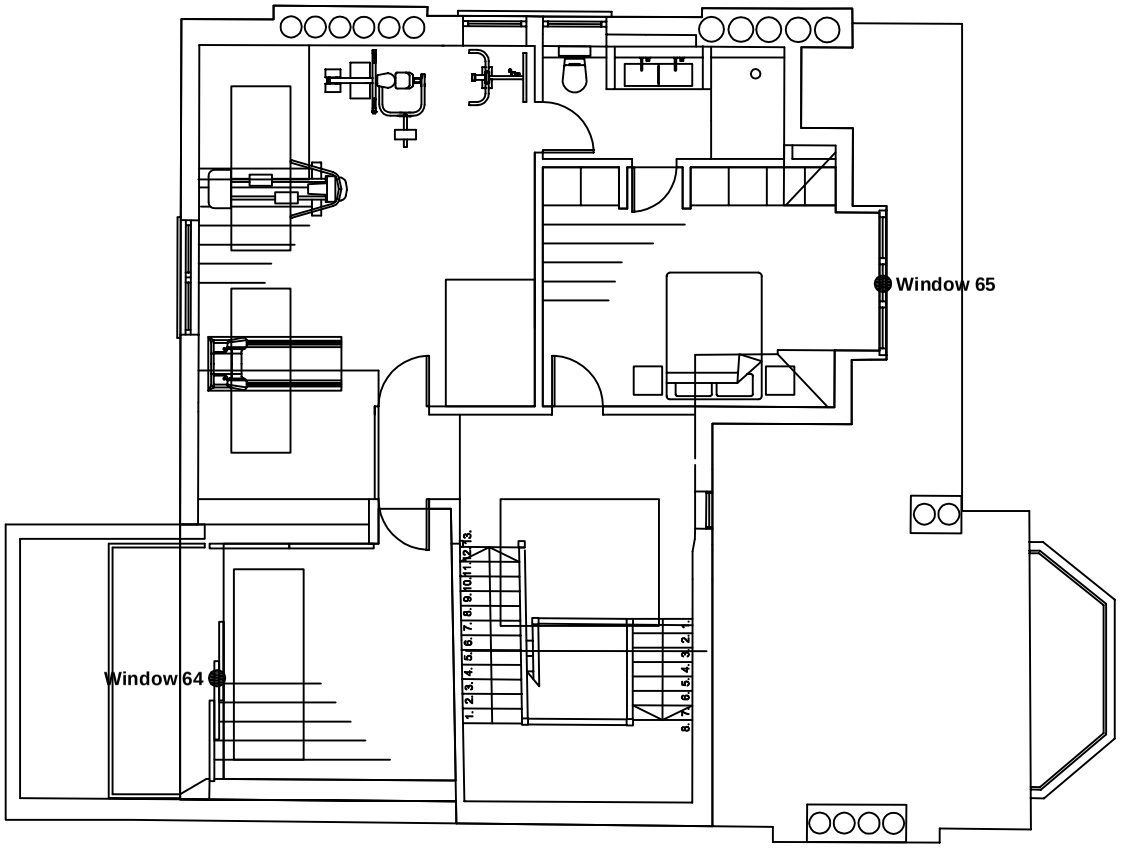
Proposed Third Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

G1 Gardens and Amenity Areas

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 6 of 6 | Rev. -

Rev	Date	Details of revision

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APPENDIX 2

DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Average Daylight Factor (ADF)
9 Fitzjohns Avenue, London NW3 5JY

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Basement Floor									
Window 1 (lower)			0.68	0.06	94.6	0.7	11.1	0.0%	
Window 1 (upper)			0.68	1.21	94.6	0.7	18.0	0.3%	
Window 2 (lower)			0.68	1.07	94.6	0.7	15.6	0.0%	
Window 2 (upper)			0.68	2.42	94.6	0.7	32.0	1.1%	
Window 3 (lower)			0.68	0.06	94.6	0.7	19.3	0.0%	
Window 3 (upper)			0.68	1.21	94.6	0.7	33.7	0.6%	
Total ADF for room	Bedroom	1.0%						**2.0%**	**Pass**
Window 4 (lower)			0.68	0.95	88.32	0.7	14.3	0.0%	
Window 4 (upper)			0.68	2.14	88.32	0.7	26.4	0.9%	
Window 5 (lower)			0.68	0.95	88.32	0.7	14.8	0.0%	
Window 5 (upper)			0.68	2.14	88.32	0.7	27.6	0.9%	
Total ADF for room	Bedroom	1.0%						**1.9%**	**Pass**
Lower Ground floor									
Window 6 (lower)			0.68	0.07	99.6	0.72	28.6	0.0%	
Window 6 (upper)			0.68	1.24	99.6	0.72	32.7	0.6%	
Window 7 (lower)			0.68	0.13	99.6	0.72	63.5	0.0%	
Window 7 (upper)			0.68	2.24	99.6	0.72	69.2	2.2%	
Window 8 (lower)			0.68	0.07	99.6	0.72	56.5	0.0%	
Window 8 (upper)			0.68	1.24	99.6	0.72	61.7	1.1%	
Total ADF for room	Bedroom	1.0%						**3.9%**	**Pass**
Window 9			0.68	1.81	322.94	0.54	31.2	0.2%	
Window 10			0.68	1.81	322.94	0.54	39.2	0.2%	
Window 11 (lower)			0.68	5.83	322.94	0.54	72.8	0.2%	
Window 11 (upper)			0.68	38.67	322.94	0.54	86.8	10.0%	
Window 12 (lower)			0.68	0.7	322.94	0.54	18.5	0.0%	
Window 12 (upper)			0.68	4.88	322.94	0.54	60.7	0.9%	
Window 13 (lower)			0.68	0.7	322.94	0.54	17.6	0.0%	
Window 13 (upper)			0.68	4.87	322.94	0.54	53.0	0.8%	
Window 14 (lower)			0.68	0.61	322.94	0.54	14.9	0.0%	
Window 14 (upper)			0.68	1.42	322.94	0.54	23.7	0.1%	
Window 15 (lower)			0.68	0.61	322.94	0.54	10.9	0.0%	

Appendix 2 - Average Daylight Factor (ADF)
9 Fitzjohns Avenue, London NW3 5JY

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Window 15 (upper)			0.68	1.43	322.94	0.54	13.3	0.1%	
Window 49			0.68	4.46	322.94	0.54	51.0	0.7%	
Window 50			0.68	13.81	322.94	0.54	89.0	3.7%	
Window 51			0.68	5.11	322.94	0.54	83.8	1.3%	
Total ADF for room	Living Room	1.5%						**18.2%**	**Pass**
Window 16 (lower)			0.68	3.33	92.73	0.63	76.5	0.5%	
Window 16 (upper)			0.68	8.31	92.73	0.63	82.8	8.3%	
Window 17 (lower)			0.68	1.68	92.73	0.63	52.4	0.2%	
Window 17 (upper)			0.68	4.2	92.73	0.63	57.0	2.9%	
Total ADF for room	Living Room	1.5%						**11.8%**	**Pass**
Window 18 (lower)			0.68	0.93	141.52	0.7	13.7	0.0%	
Window 18 (upper)			0.68	2.15	141.52	0.7	17.1	0.3%	
Window 19 (lower)			0.68	0.11	141.52	0.7	60.6	0.0%	
Window 19 (upper)			0.68	1.99	141.52	0.7	67.5	1.3%	
Window 20 (lower)			0.68	0.11	141.52	0.7	52.6	0.0%	
Window 20 (upper)			0.68	1.99	141.52	0.7	58.2	1.1%	
Total ADF for room	Living Room	1.5%						**2.7%**	**Pass**
Upper Ground floor									
Window 21 (lower)			0.68	0.21	105.98	0.69	64.2	0.0%	
Window 21 (upper)			0.68	1.69	105.98	0.69	60.8	1.3%	
Window 22 (lower)			0.68	0.39	105.98	0.69	77.7	0.1%	
Window 22 (upper)			0.68	3.05	105.98	0.69	79.3	3.0%	
Window 23 (lower)			0.68	0.21	105.98	0.69	66.6	0.0%	
Window 23 (upper)			0.68	1.69	105.98	0.69	68.3	1.4%	
Window 24 (lower)			0.68	0.21	105.98	0.69	30.8	0.0%	
Window 24 (upper)			0.68	0.96	105.98	0.69	32.3	0.4%	
Total ADF for room	Dining	1.5%						**6.2%**	**Pass**
Window 25 (lower)			0.68	0.13	270.51	0.63	34.9	0.0%	
Window 25 (upper)			0.68	1.77	270.51	0.63	36.4	0.3%	
Window 26 (lower)			0.68	0.13	270.51	0.63	44.1	0.0%	
Window 26 (upper)			0.68	1.77	270.51	0.63	45.4	0.3%	
Window 27 (lower)			0.68	3.57	270.51	0.63	81.4	0.2%	

Appendix 2 - Average Daylight Factor (ADF)
9 Fitzjohns Avenue, London NW3 5JY

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Window 27 (upper)			0.68	9.76	270.51	0.63	84.2	3.4%	
Window 28 (lower)			0.68	1.51	270.51	0.63	41.9	0.0%	
Window 28 (upper)			0.68	4.13	270.51	0.63	43.2	0.7%	
Window 29 (lower)			0.68	1.05	270.51	0.63	48.1	0.0%	
Window 29 (upper)			0.68	3.82	270.51	0.63	43.1	0.7%	
Window 30 (lower)			0.68	2.38	270.51	0.63	75.6	0.1%	
Window 30 (upper)			0.68	8.67	270.51	0.63	76.2	2.7%	
Window 31 (lower)			0.68	1.07	270.51	0.63	40.9	0.0%	
Window 31 (upper)			0.68	3.89	270.51	0.63	54.8	0.9%	
Total ADF for room	Living Room	1.5%						**9.4%**	**Pass**
Window 32 (lower)			0.68	0.3	143.94	0.69	20.2	0.0%	
Window 32 (upper)			0.68	1.95	143.94	0.69	21.4	0.4%	
Window 33 (lower)			0.68	0.38	143.94	0.69	77.2	0.0%	
Window 33 (upper)			0.68	3.35	143.94	0.69	79.0	2.4%	
Window 34 (lower)			0.68	0.38	143.94	0.69	74.6	0.0%	
Window 34 (upper)			0.68	3.35	143.94	0.69	73.1	2.2%	
Total ADF for room	Kitchen/Dining	1.5%						**5.1%**	**Pass**
First Floor									
Window 35 (lower)			0.68	0.17	108.07	0.7	74.5	0.0%	
Window 35 (upper)			0.68	1.44	108.07	0.7	76.0	1.3%	
Window 36 (lower)			0.68	0.3	108.07	0.7	82.5	0.0%	
Window 36 (upper)			0.68	2.6	108.07	0.7	83.9	2.7%	
Window 37 (lower)			0.68	0.17	108.07	0.7	72.2	0.0%	
Window 37 (upper)			0.68	1.44	108.07	0.7	74.2	1.3%	
Window 38 (lower)			0.68	0.18	108.07	0.7	41.4	0.0%	
Window 38 (upper)			0.68	1.05	108.07	0.7	44.2	0.6%	
Total ADF for room	Living Room	1.5%						**6.0%**	**Pass**
Window 39 (lower)			0.68	0.13	102.99	0.69	44.9	0.0%	
Window 39 (upper)			0.68	1.78	102.99	0.69	48.1	1.1%	
Window 40 (lower)			0.68	0.13	102.99	0.69	52.3	0.0%	
Window 40 (upper)			0.68	1.78	102.99	0.69	54.7	1.2%	
Window 41 (lower)			0.68	0.13	102.99	0.69	88.6	0.0%	
Window 41 (upper)			0.68	1.78	102.99	0.69	88.8	2.0%	

Appendix 2 - Average Daylight Factor (ADF)
9 Fitzjohns Avenue, London NW3 5JY

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Window 42 (lower)			0.68	0.13	102.99	0.69	88.9	0.0%	
Window 42 (upper)			0.68	1.78	102.99	0.69	89.0	2.0%	
Window 43 (lower)			0.68	0.13	102.99	0.69	55.7	0.0%	
Window 43 (upper)			0.68	1.78	102.99	0.69	56.1	1.2%	
Total ADF for room	Study	1.5%						**7.6%**	**Pass**
Window 44 (lower)			0.68	1.04	126.43	0.69	66.3	0.1%	
Window 44 (upper)			0.68	2.24	126.43	0.69	68.6	1.6%	
Window 45 (lower)			0.68	1.04	126.43	0.69	77.7	0.1%	
Window 45 (upper)			0.68	2.24	126.43	0.69	81.6	1.9%	
Window 46 (lower)			0.68	0.86	126.43	0.69	79.9	0.1%	
Window 46 (upper)			0.68	1.87	126.43	0.69	86.0	1.6%	
Window 47 (lower)			0.68	0.09	126.43	0.69	42.0	0.0%	
Window 47 (upper)			0.68	1.26	126.43	0.69	43.6	0.6%	
Total ADF for room	Bedroom	1.0%						**6.0%**	**Pass**
Window 48 (lower)			0.68	0.26	103.54	0.72	26.9	0.0%	
Window 48 (upper)			0.68	3.61	103.54	0.72	29.9	1.5%	
Total ADF for room	Living Room	1.5%						**1.5%**	**Pass**
Second Floor									
Window 52 (lower)			0.68	0.94	95.11	0.72	84.1	0.2%	
Window 52 (upper)			0.68	1.68	95.11	0.72	77.9	1.9%	
Window 53 (lower)			0.68	0.1	95.11	0.72	53.5	0.0%	
Window 53 (upper)			0.68	1.13	95.11	0.72	52.8	0.9%	
Total ADF for room	Bedroom	1.0%						**3.0%**	**Pass**
Window 54 (lower)			0.68	0.13	103.61	0.69	58.6	0.0%	
Window 54 (upper)			0.68	1.78	103.61	0.69	63.2	1.4%	
Window 55 (lower)			0.68	0.13	103.61	0.69	63.8	0.0%	
Window 55 (upper)			0.68	1.78	103.61	0.69	68.0	1.5%	
Window 56 (lower)			0.68	0.13	103.61	0.69	89.1	0.0%	
Window 56 (upper)			0.68	1.78	103.61	0.69	89.1	2.0%	
Window 57 (lower)			0.68	0.13	103.61	0.69	89.2	0.0%	
Window 57 (upper)			0.68	1.78	103.61	0.69	89.2	2.0%	
Window 58 (lower)			0.68	0.13	103.61	0.69	58.0	0.0%	

Appendix 2 - Average Daylight Factor (ADF)
9 Fitzjohns Avenue, London NW3 5JY

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Window 58 (upper)			0.68	1.78	103.61	0.69	60.0	1.3%	
Total ADF for room	Bedroom	1.0%						**8.3%**	**Pass**
Window 59 (lower)			0.68	0.13	103.65	0.71	80.5	0.0%	
Window 59 (upper)			0.68	1.78	103.65	0.71	73.6	1.7%	
Window 60 (lower)			0.68	0.13	103.65	0.71	83.8	0.0%	
Window 60 (upper)			0.68	1.78	103.65	0.71	75.6	1.8%	
Window 61 (lower)			0.68	0.09	103.65	0.71	51.7	0.0%	
Window 61 (upper)			0.68	1.11	103.65	0.71	51.0	0.8%	
Total ADF for room	Bedroom	1.0%						**4.3%**	**Pass**
Window 62 (lower)			0.68	0.05	95.38	0.72	82.9	0.0%	
Window 62 (upper)			0.68	1.71	95.38	0.72	76.9	2.0%	
Window 63 (lower)			0.68	0.05	95.38	0.72	82.1	0.0%	
Window 63 (upper)			0.68	1.71	95.38	0.72	76.4	1.9%	
Total ADF for room	Bedroom	1.0%						**3.9%**	**Pass**
Third Floor									
Window 64 (lower)			0.68	2.88	64.26	0.67	88.4	0.7%	
Window 64 (upper)			0.68	4.92	64.26	0.67	88.8	8.3%	
Total ADF for room	Study	1.5%						**9.0%**	**Pass**
Window 65 (lower)			0.68	1.85	89.36	0.72	89.3	0.4%	
Window 65 (upper)			0.68	1.61	89.36	0.72	88.4	2.3%	
Total ADF for room	Bedroom	1.0%						**2.7%**	**Pass**

Appendix 2 - Room Depth Calculation
9 Fitzjohns Avenue, London NW3 5JY

Room	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Basement Floor								
Window 1	5.1	6.2	2.8	0.71	2.64	<=	6.84	Pass
Window 2	5.9	4.4	2.8	0.71	3.45	<=	6.84	Pass
Window 3	5.5	5.3	2.8	0.71	3.0	<=	6.84	Pass
Window 4	4.8	4.8	2.8	0.71	2.71	<=	6.84	Pass
Window 5	4.8	4.8	2.8	0.71	2.71	<=	6.84	Pass
Lower Ground floor								
Window 19	7.7	4.7	2.6	0.7	4.6	<=	6.73	Pass
Window 20	7.7	4.7	2.6	0.7	4.6	<=	6.73	Pass
First Floor								
Window 48	5.4	4.0	2.6	0.72	3.43	<=	7.16	Pass
Second Floor								
Window 62	4.6	4.7	2.4	0.72	2.9	<=	7.27	Pass
Window 63	4.6	4.7	2.4	0.72	2.9	<=	7.27	Pass
Third Floor								
Window 64	3.6	3.9	2.3	0.68	2.49	<=	6.19	Pass
Window 65	5.3	3.8	1.6	0.72	4.71	<=	7.21	Pass

Appendix 2 - Sunlight to Windows
9 Fitzjohns Avenue, London NW3 5JY

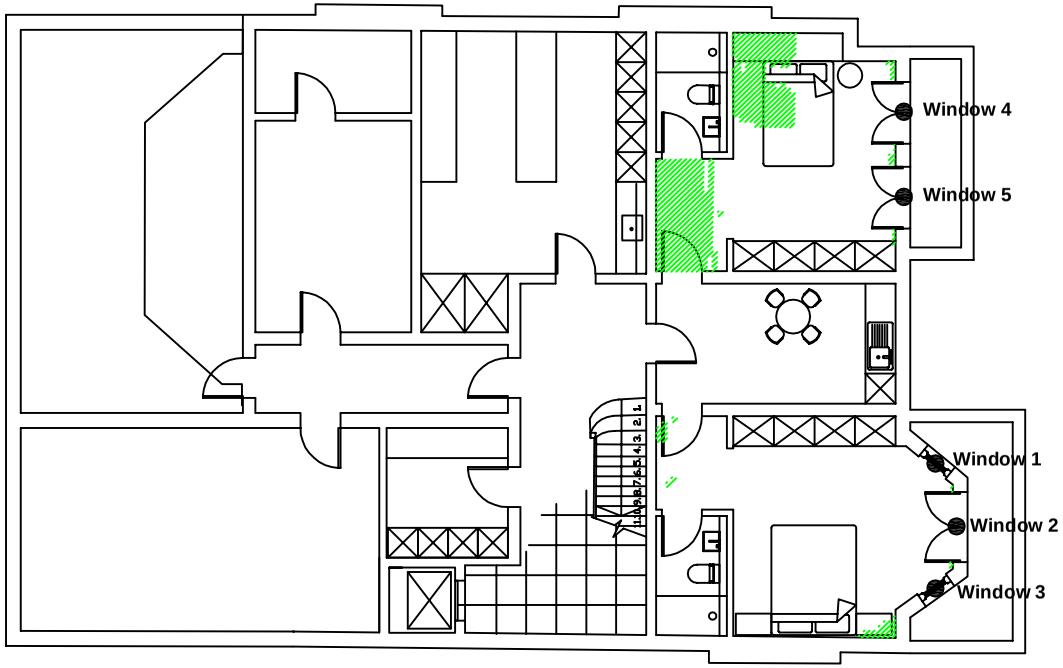
Reference	Use Class	Annual Probable Sunlight Hours	
		Total	Winter
Lower Ground floor			
Window 9	Living Room	28%	5%
Window 10	Living Room	33%	7%
Window 11	Living Room	50%	15%
Window 49	Living Room	15%	2%
Window 50	Living Room	53%	15%
Window 16	Living Room	48%	13%
Upper Ground floor			
Window 25	Living Room	32%	5%
Window 26	Living Room	44%	10%
Window 27	Living Room	48%	14%
Window 29	Living Room	16%	2%
Window 30	Living Room	36%	10%
First Floor			
Window 37	Living Room	59%	15%
Window 38	Living Room	43%	6%

APPENDIX 3

NO SKY LINE CONTOURS

Appendix 3 No Sky Line Contours

Proposed Basement Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 6 Rev. -

Rev	Date	Details of revision

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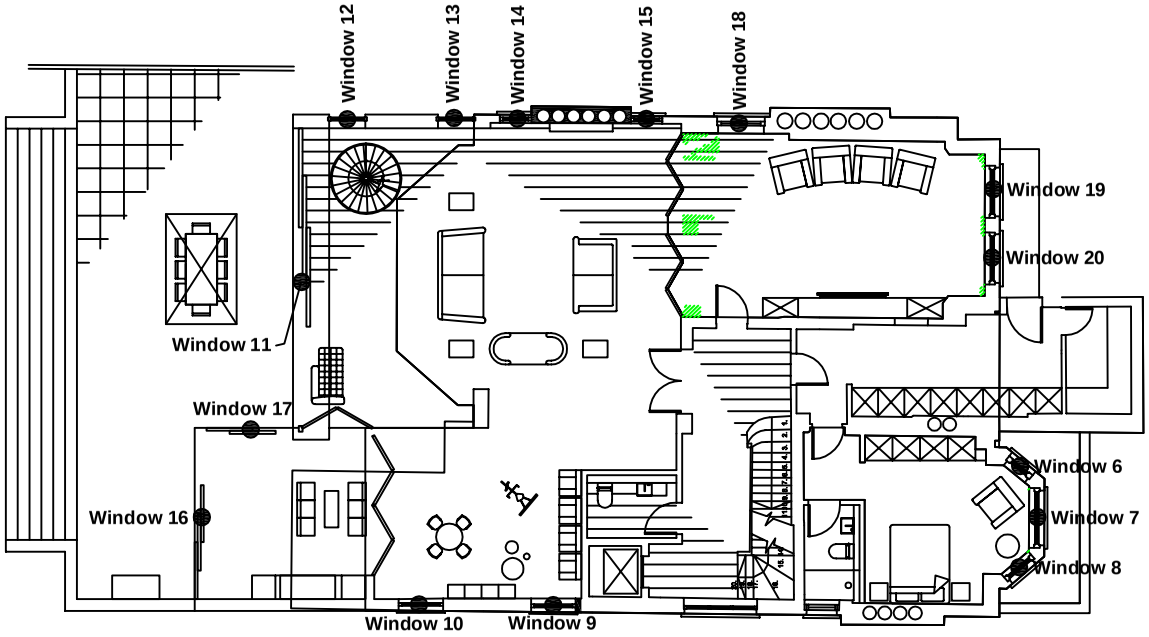
Appendix 3 No Sky Line Contours

Proposed Lower Ground Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name:	9 Fitzjohn's Avenue, London NW3 5JY
Drawing Title:	No Sky Line Contours
Scale:	Do not scale
Drawing No:	2 of 6
Rev.	-

Rev	Date	Details of revision

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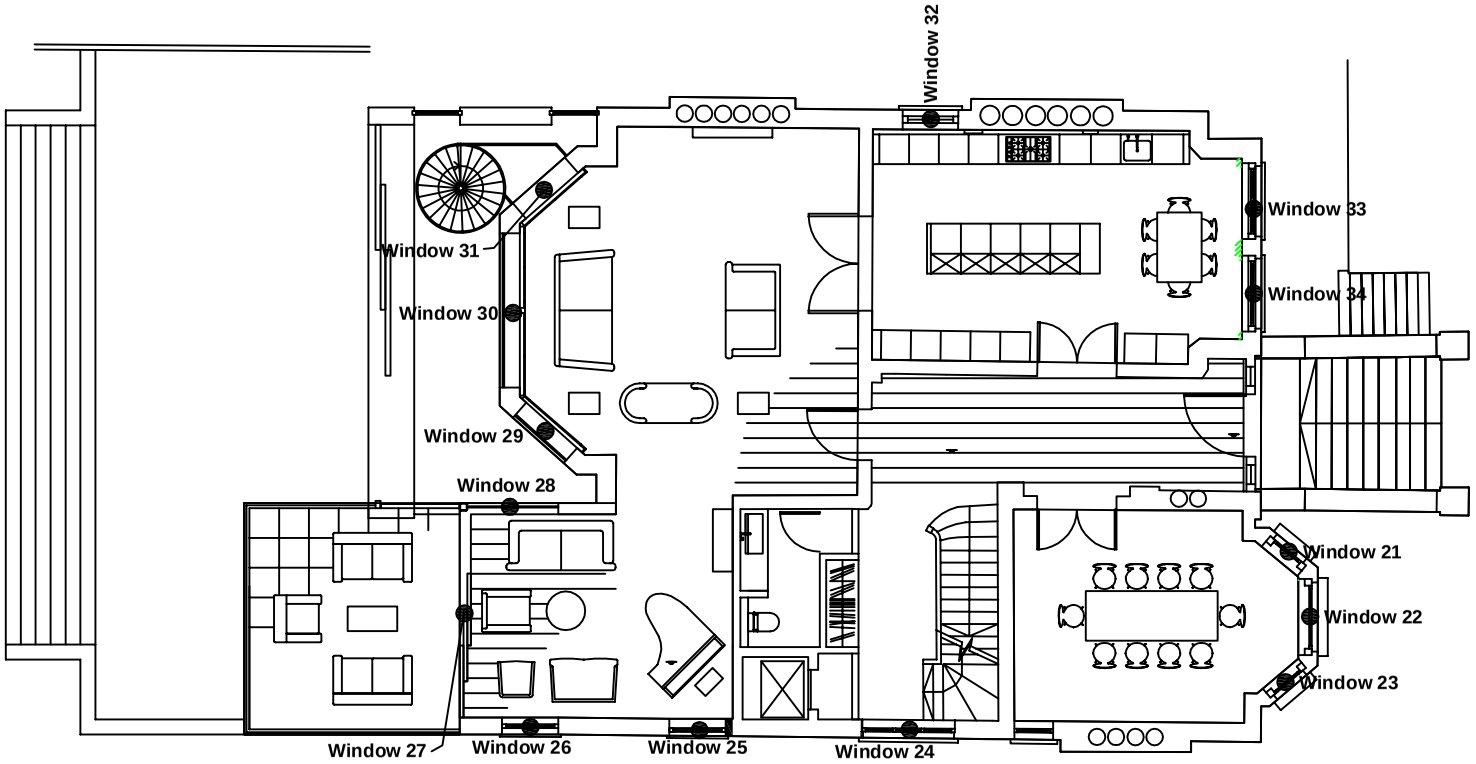
Appendix 3 No Sky Line Contours

Proposed Upper Ground Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 3 of 6 Rev. -

Rev	Date	Details of revision

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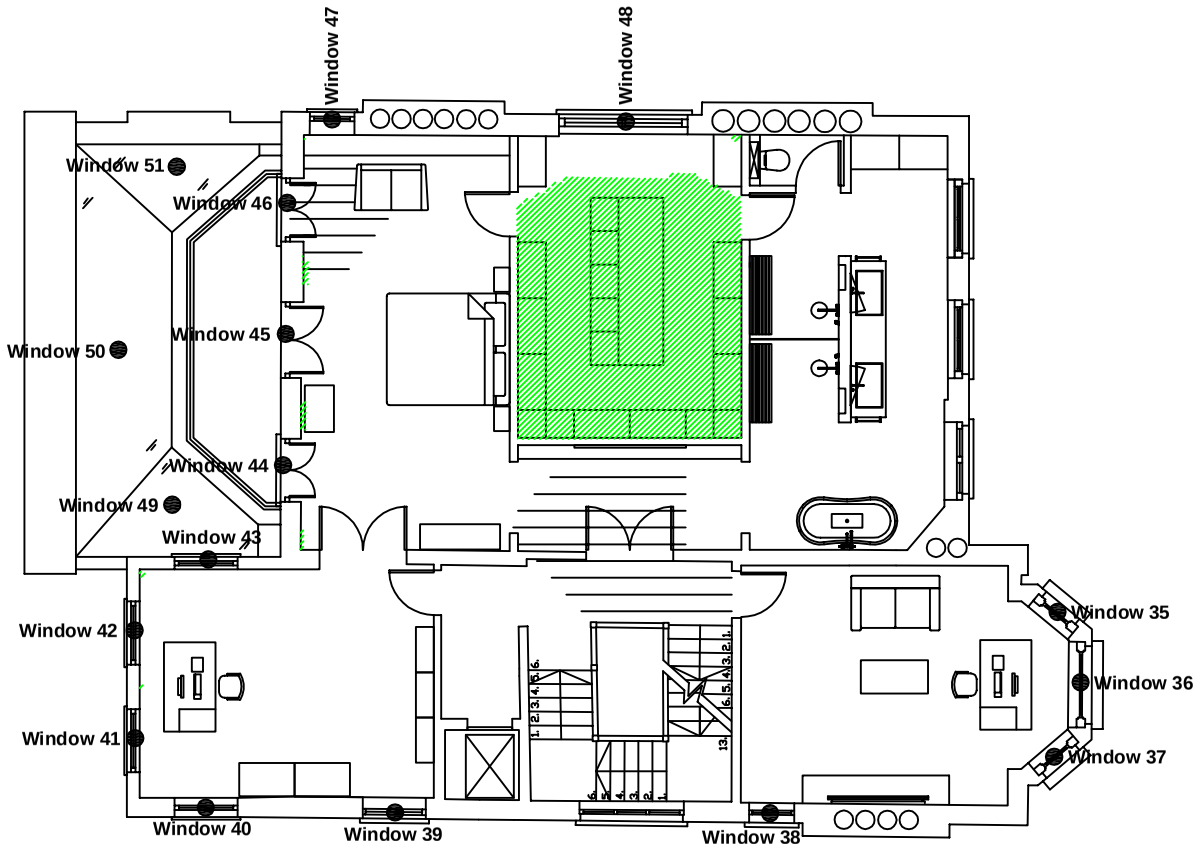
Appendix 3 No Sky Line Contours

Proposed First Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 4 of 6 Rev. -

Rev	Date	Details of revision

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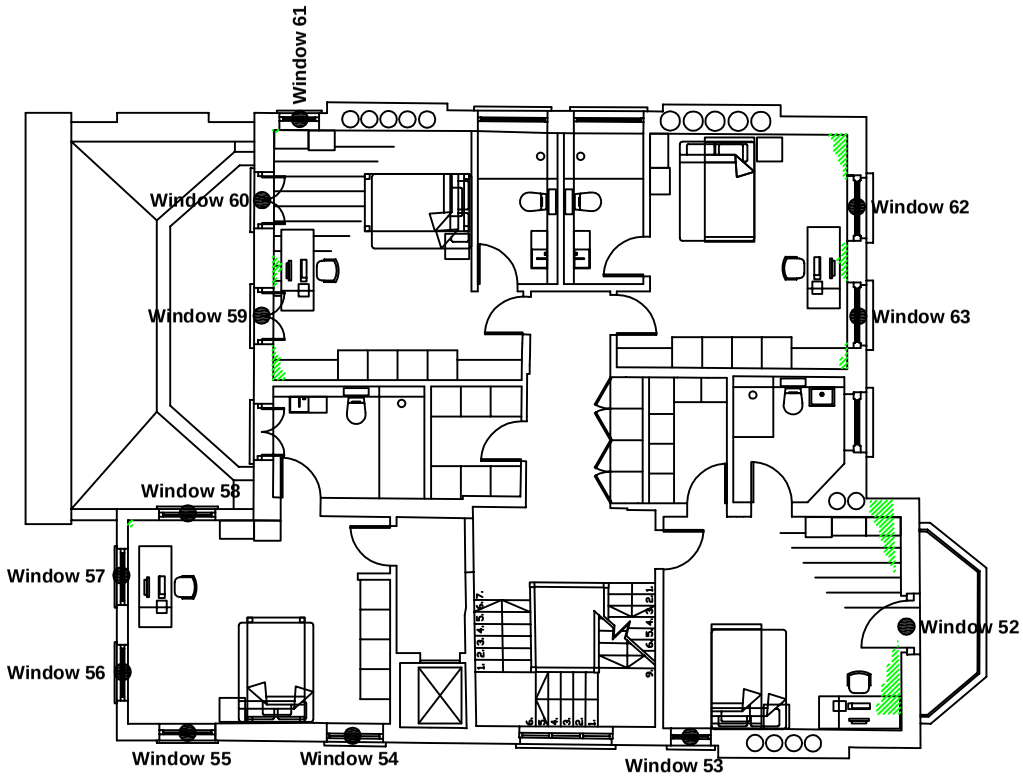
Appendix 3 No Sky Line Contours

Proposed Second Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 9 Fitzjohn's Avenue, London NW3 5JY

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 5 of 6 Rev. -

Rev	Date	Details of revision

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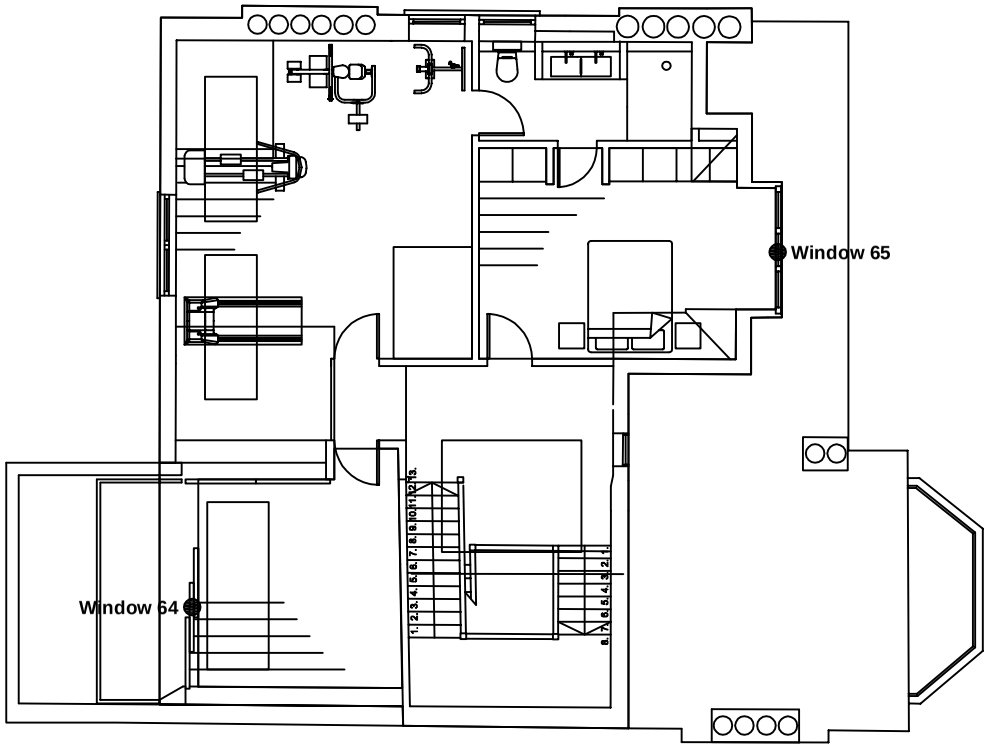
Appendix 3 No Sky Line Contours

Proposed Third Floor



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name:	9 Fitzjohn's Avenue, London NW3 5JY
Drawing Title:	No Sky Line Contours
Scale:	Do not scale
Drawing No:	6 of 6
Rev.	-

Rev	Date	Details of revision

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