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Daylight and Sunlight Study (Within Development)
84 Hatton Garden, London EC1N 8JR

3 March 2015

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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 84 Hatton Garden, London EC1N 8JR. 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.

1.1.1 Right of Light Consulting confirms that the proposed design achieves a high level of compliance with 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:

Works Architecture

E101	Proposed Elevations	Rev –
Pl101	Proposed Floor Plans	Rev –
Pl102	Proposed Floor Plans	Rev –
Pl103	Proposed Floor Plans	Rev –
Pl104	Proposed Floor Plans	Rev –
Pl105	Proposed Floor Plans	Rev –
S 101	Proposed Sections	Rev –
PL X 001	Existing Basement and Ground Floor Plans	Rev –
PL X 002	Existing First and Second Floor Plans	Rev –
PL X 003	Existing Third and Fourth Floor Plans	Rev –
PL X 004	Existing Fifth and Sixth Floor Plans	Rev –
E X 001	Existing Elevations	Rev –
S x 001	Existing Sections	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)
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. We have assumed that the flooring in the lower ground floor rooms will be white tiled.

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.

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 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. Where the no sky line test applies, the contours 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 windows 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 The results confirm that the proposed design achieves a high level of compliance with the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'. In our opinion there is no daylight or sunlight related reason why planning permission should not be granted for this scheme.

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

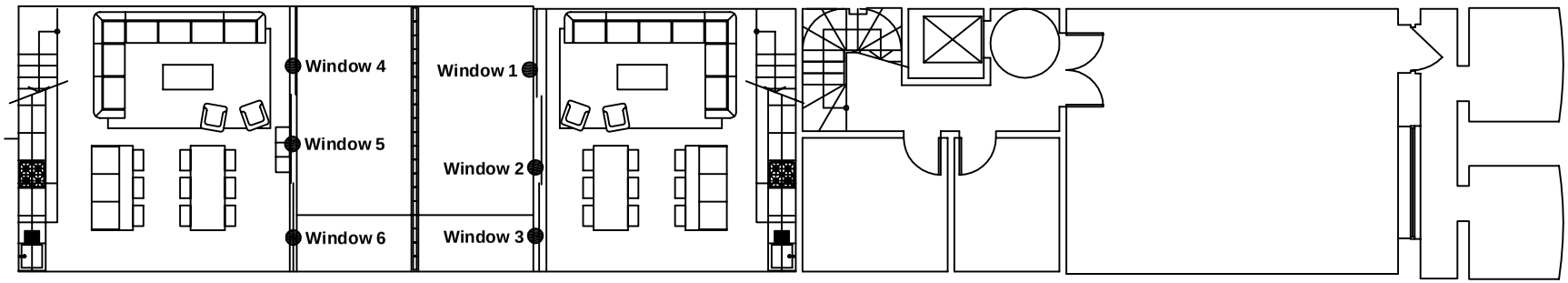
APPENDICES

APPENDIX 1

WINDOW KEY

Proposed Lower Ground Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name:	84 Hatton Garden, London EC1N 8JR
Drawing Title:	Window Key
Scale:	Do not scale
Drawing No:	1 of 9
Rev.	-

Rev	Date	Details of revision

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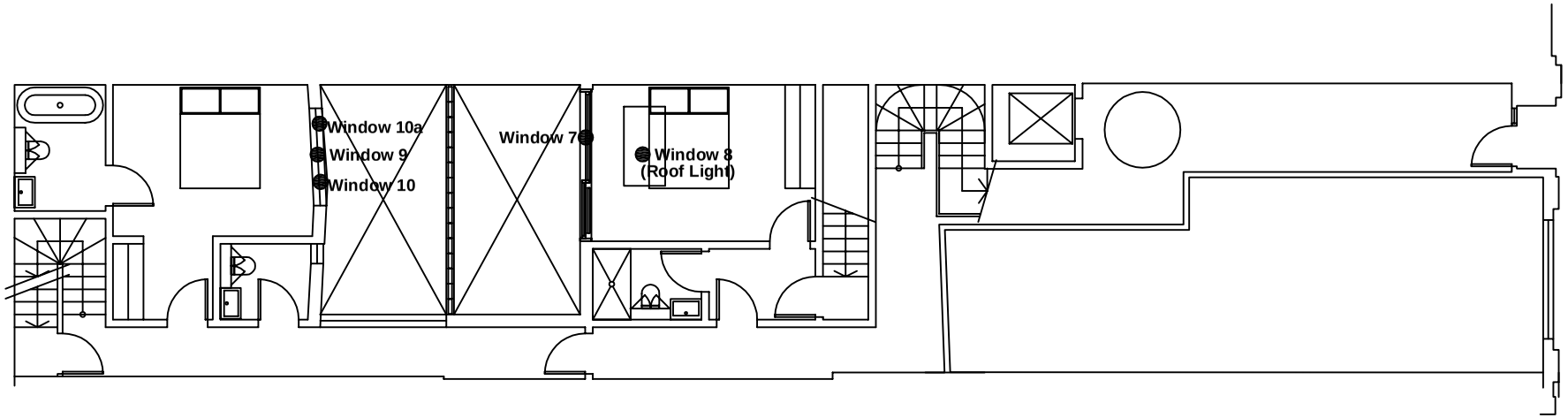
Proposed Ground Floor

Appendix 1 Window Key



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Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 2 of 9 | Rev. -

Rev	Date	Details of revision

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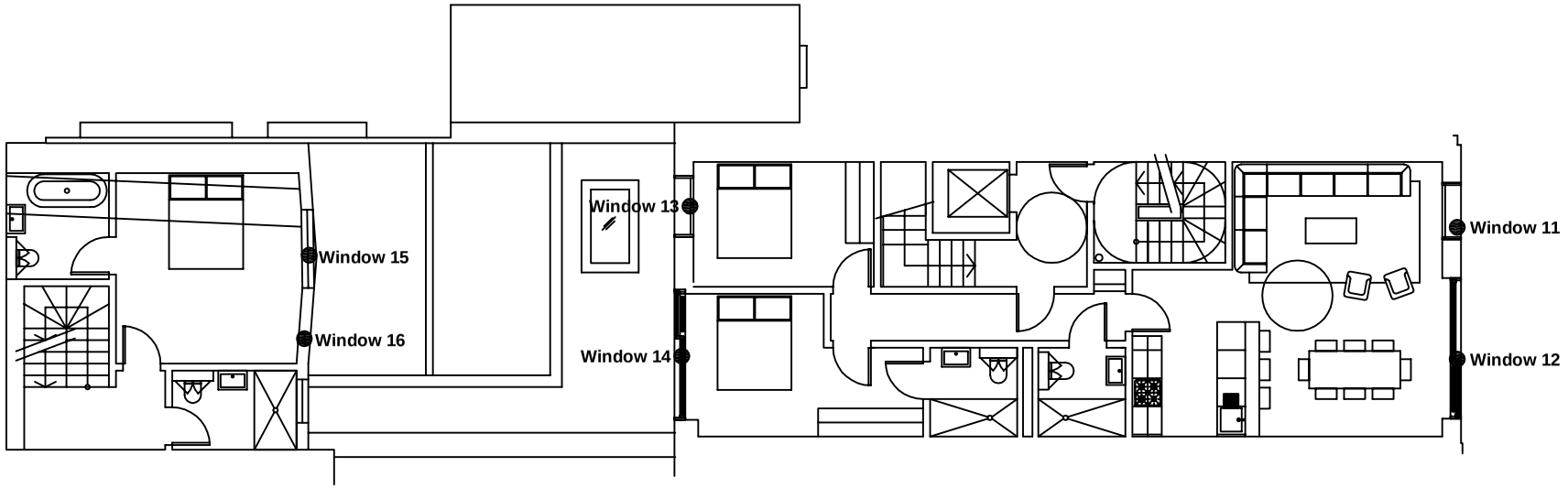
Proposed First Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 3 of 9 | Rev. -

Rev	Date	Details of revision

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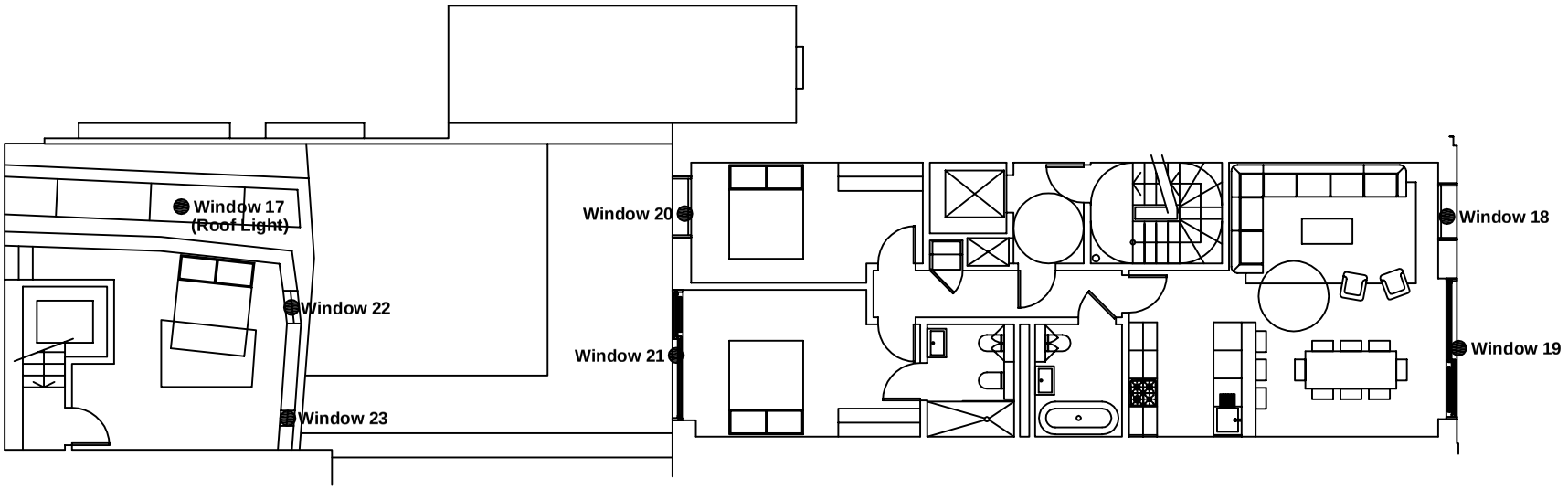
Proposed Second Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 4 of 9 Rev. -

Rev	Date	Details of revision

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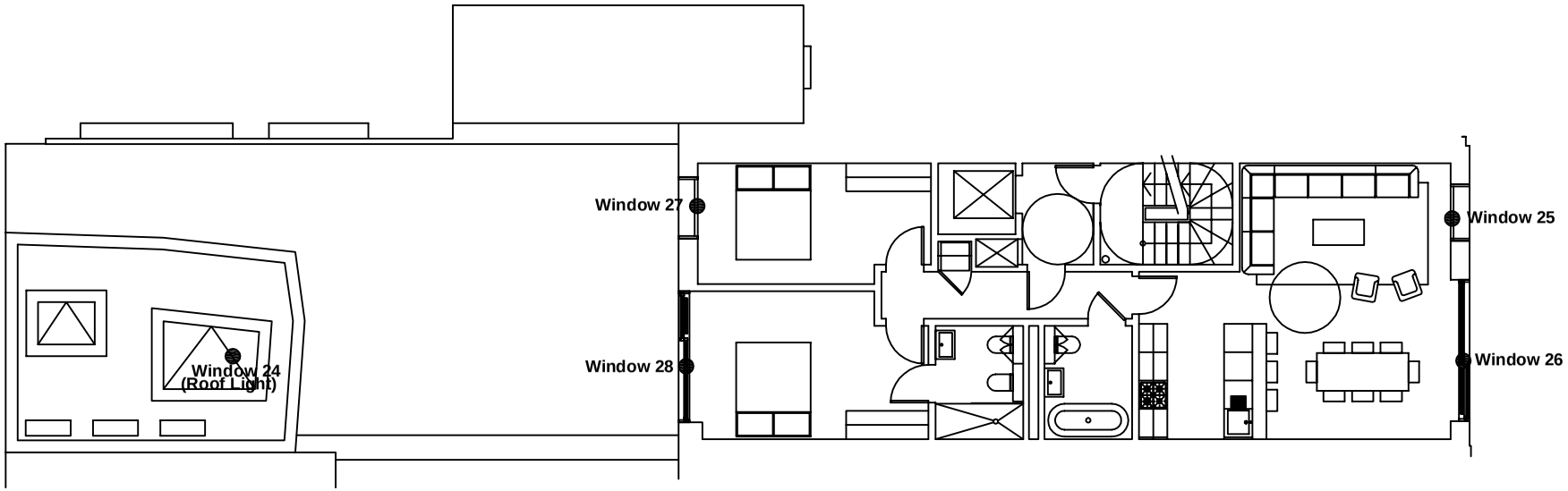
Proposed Third Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 5 of 9 Rev. -

Rev	Date	Details of revision

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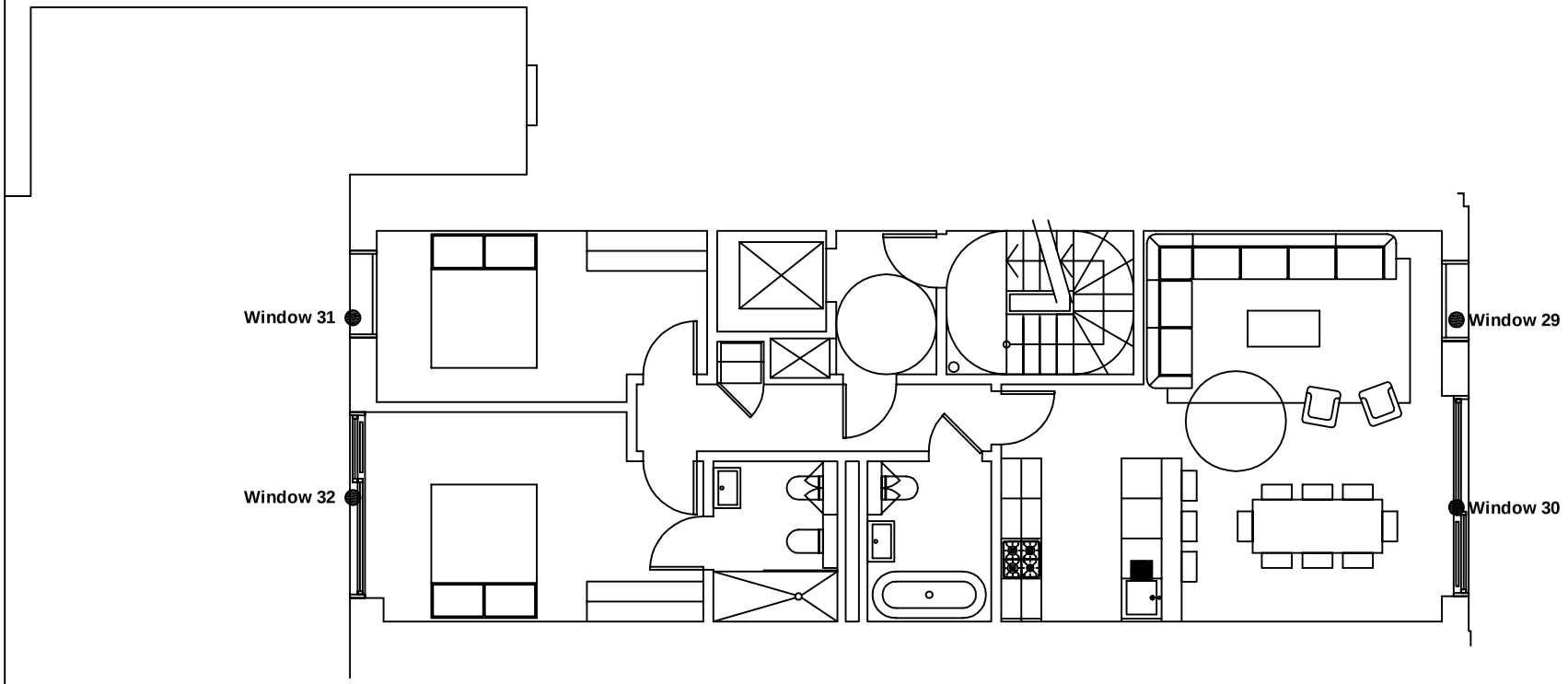
Proposed Fourth Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 6 of 9 Rev. -

Rev	Date	Details of revision

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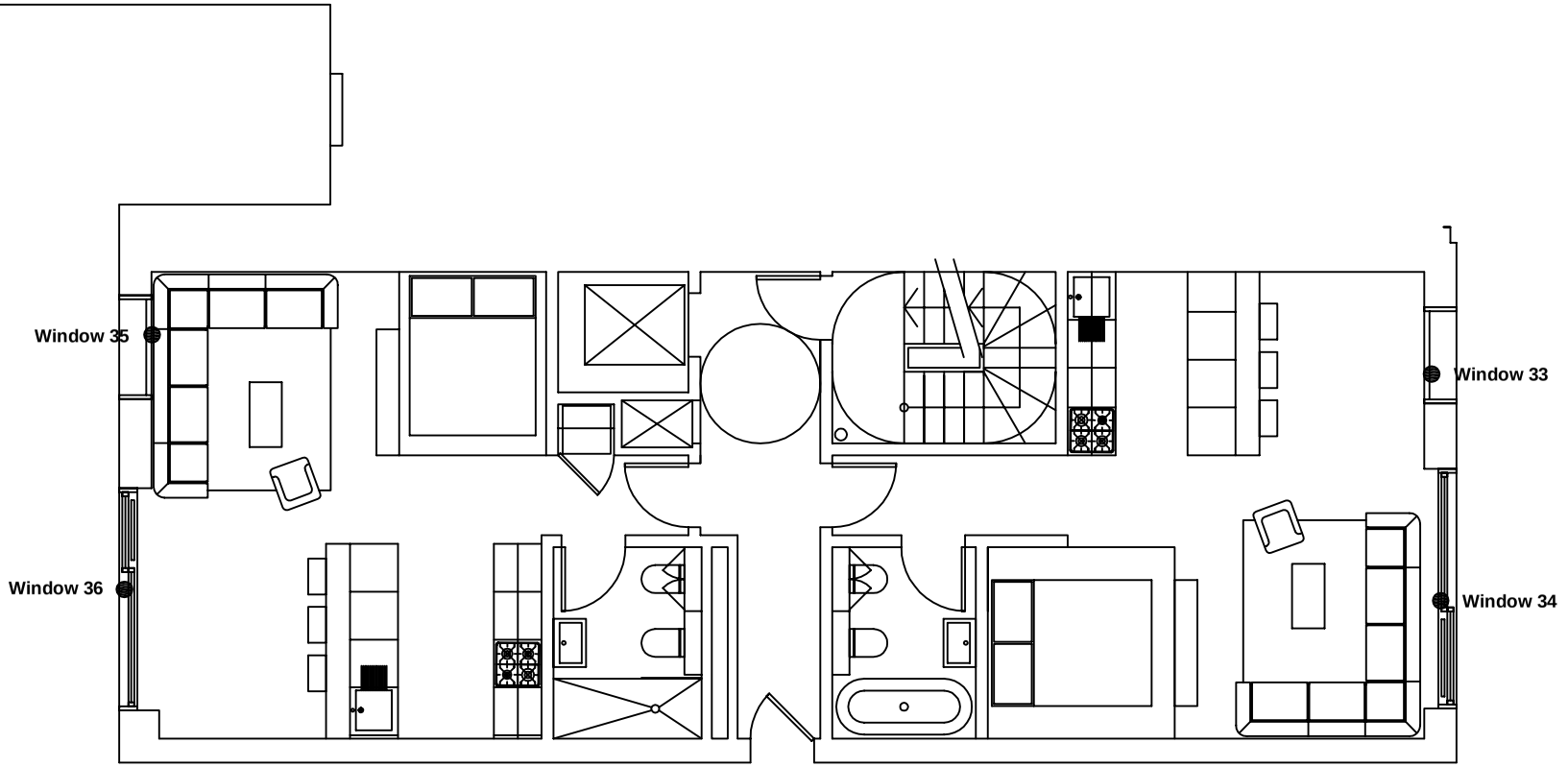
Proposed Fifth Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 7 of 9 Rev. -

Rev	Date	Details of revision

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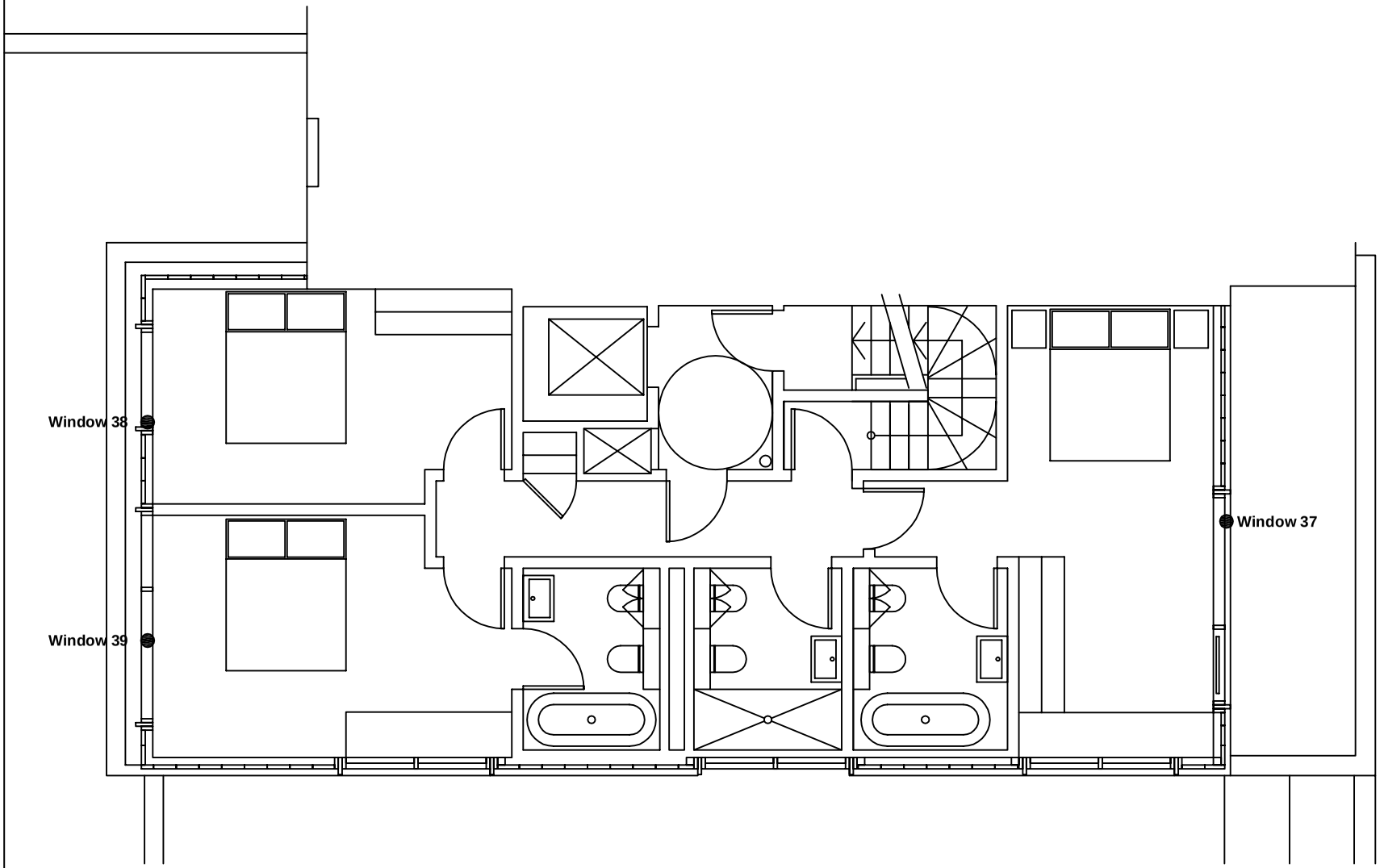
Proposed Sixth Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 8 of 9 | Rev. -

Rev	Date	Details of revision

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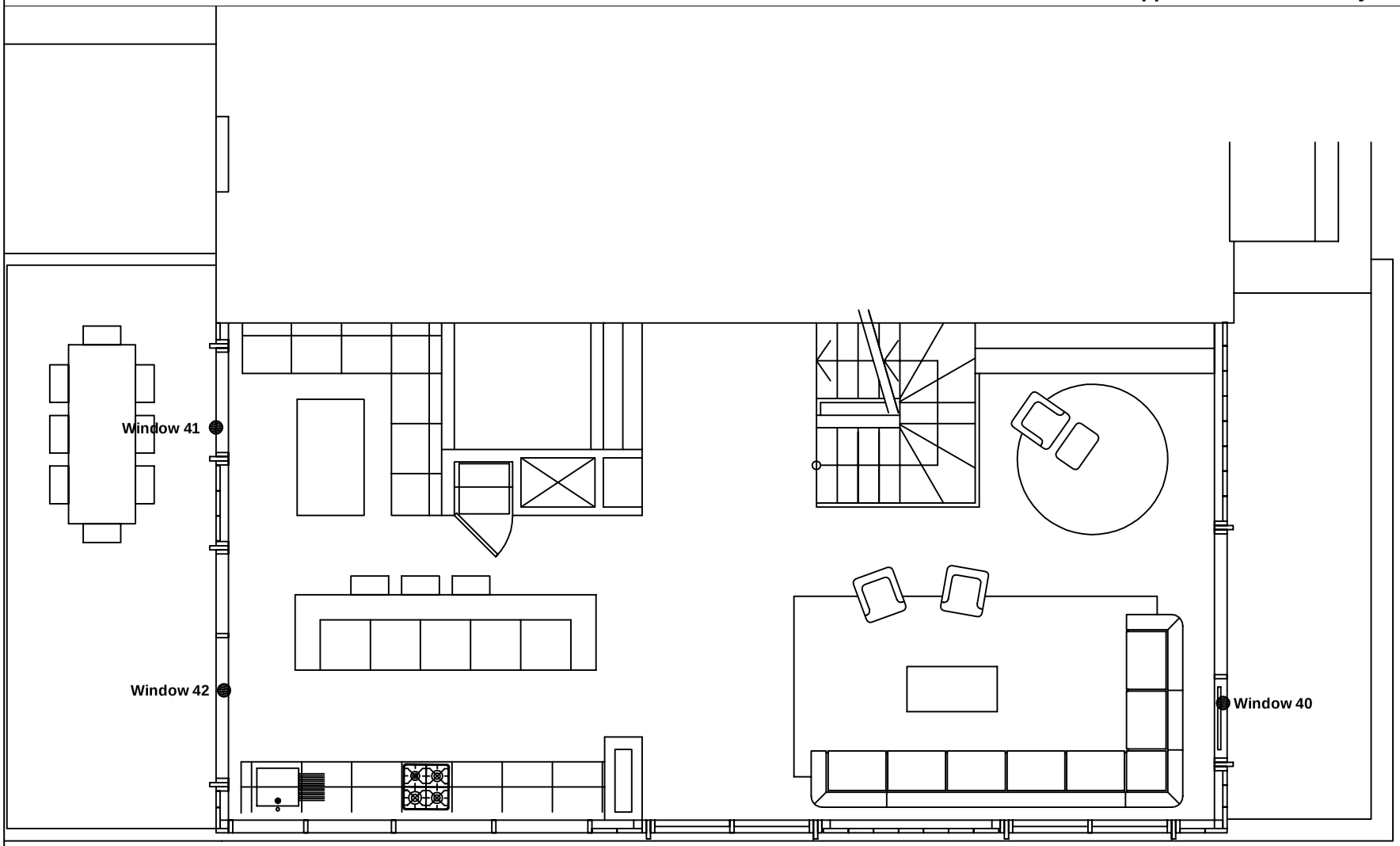
Proposed Seventh Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 84 Hatton Garden, London EC1N 8JR

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 9 of 9 Rev. -

Rev	Date	Details of revision

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APPENDIX 2

DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Average Daylight Factor (ADF)
84 Hatton Garden, London EC1N 8JR

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Proposed Lower Ground floor									
Window 1 (lower)			0.68	1.29	127.23	0.77	20.0	0.3%	
Window 1 (upper)			0.68	2.35	127.23	0.77	22.8	0.7%	
Window 2 (lower)			0.68	1.27	127.23	0.77	18.3	0.3%	
Window 2 (upper)			0.68	2.31	127.23	0.77	20.5	0.6%	
Window 3 (lower)			0.68	1.29	127.23	0.77	14.0	0.2%	
Window 3 (upper)			0.68	2.35	127.23	0.77	13.5	0.4%	
Total ADF for room	Living\ Dining\ Kichen	2.0%					6.0	**2.4%**	**Pass**
Window 4 (lower)			0.68	1.31	126.44	0.77	16.9	0.3%	
Window 4 (upper)			0.68	2.23	126.44	0.77	19.2	0.6%	
Window 5 (lower)			0.68	1.31	126.44	0.77	16.0	0.3%	
Window 5 (upper)			0.68	2.23	126.44	0.77	17.9	0.5%	
Window 6 (lower)			0.68	1.31	126.44	0.77	13.0	0.2%	
Window 6 (upper)			0.68	2.23	126.44	0.77	13.2	0.4%	
Total ADF for room	Living\ Dining\ Kichen	2.0%						**2.2%**	**Pass**
Proposed Ground floor									
Window 7 (lower)			0.68	2.04	80.06	0.67	24.1	0.3%	
Window 7 (upper)			0.68	4.73	80.06	0.67	29.0	2.1%	
Window 8			0.68	1.03	80.06	0.67	69.7	1.1%	
Total ADF for room	Bedroom	1.0%						**3.5%**	**Pass**
Window 9			0.68	0.55	57.98	0.71	21.3	0.3%	
Window 10			0.68	0.82	57.98	0.71	23.2	0.5%	
Window 10a			0.68	0.5	57.98	0.71	22.1	0.3%	
Total ADF for room	Bedroom	1.0%						**1.1%**	**Pass**
Proposed First floor									
Window 11 (lower)			0.68	0.82	128.38	0.66	50.2	0.2%	
Window 11 (upper)			0.68	1.5	128.38	0.66	52.3	0.7%	
Window 12 (lower)			0.68	2.04	128.38	0.66	51.1	0.4%	
Window 12 (upper)			0.68	3.72	128.38	0.66	53.2	1.9%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.2%**	**Pass**
Window 13 (lower)			0.68	0.87	52.32	0.7	42.0	0.4%	
Window 13 (upper)			0.68	1.63	52.32	0.7	45.0	1.9%	

Appendix 2 - Average Daylight Factor (ADF)
84 Hatton Garden, London EC1N 8JR

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Total ADF for room	Bedroom	1.0%						**2.3%**	**Pass**
Window 14 (lower)			0.68	1.79	65.46	0.68	45.6	0.6%	
Window 14 (upper)			0.68	3.36	65.46	0.68	50.3	3.2%	
Total ADF for room	Bedroom	1.0%						**3.8%**	**Pass**
Window 15			0.68	0.43	71.62	0.69	6.3	0.0%	
Window 16 (lower)			0.68	0.01	71.62	0.69	21.7	0.0%	
Window 16 (upper)			0.68	0.19	71.62	0.69	22.8	0.1%	
Window 17			0.68	2.73	71.62	0.69	39.9	2.0%	
Total ADF for room	Bedroom	1.0%						**2.1%**	**Pass**
Proposed Second floor									
Window 18 (lower)			0.68	0.82	128.38	0.66	55.3	0.2%	
Window 18 (upper)			0.68	1.5	128.38	0.66	57.6	0.8%	
Window 19 (lower)			0.68	2.04	128.38	0.66	56.3	0.4%	
Window 19 (upper)			0.68	3.72	128.38	0.66	58.6	2.1%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.5%**	**Pass**
Window 20 (lower)			0.68	0.89	61.12	0.7	48.7	0.4%	
Window 20 (upper)			0.68	1.62	61.12	0.7	50.3	1.8%	
Total ADF for room	Bedroom	1.0%						**2.2%**	**Pass**
Window 21 (lower)			0.68	1.89	70.08	0.67	54.3	0.7%	
Window 21 (upper)			0.68	3.45	70.08	0.67	56.4	3.5%	
Total ADF for room	Bedroom	1.0%						**4.2%**	**Pass**
Window 22			0.68	0.4	96.89	0.72	31.6	0.2%	
Window 23			0.68	0.12	96.89	0.72	33.5	0.1%	
Window 24			0.68	2.1	96.89	0.72	100.6	3.1%	
Total ADF for room	Bedroom	1.0%						**3.4%**	**Pass**
Proposed Third floor									
Window 25 (lower)			0.68	0.82	128.38	0.67	60.8	0.2%	
Window 25 (upper)			0.68	1.5	128.38	0.67	63.2	0.9%	
Window 26 (lower)			0.68	1.89	128.38	0.67	61.9	0.4%	
Window 26 (upper)			0.68	3.45	128.38	0.67	64.4	2.1%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**3.6%**	**Pass**

Appendix 2 - Average Daylight Factor (ADF)
84 Hatton Garden, London EC1N 8JR

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 (lower)			0.68	0.89	61.12	0.7	52.7	0.4%	
Window 27 (upper)			0.68	1.62	61.12	0.7	54.6	1.9%	
Total ADF for room	Bedroom	1.0%						**2.3%**	**Pass**
Window 28 (lower)			0.68	1.89	69.82	0.67	59.4	0.8%	
Window 28 (upper)			0.68	3.45	69.82	0.67	61.8	3.8%	
Total ADF for room	Bedroom	1.0%						**4.6%**	**Pass**
Proposed Forth floor									
Window 29 (lower)			0.68	0.82	128.38	0.67	66.7	0.2%	
Window 29 (upper)			0.68	1.5	128.38	0.67	69.3	1.0%	
Window 30 (lower)			0.68	1.89	128.38	0.67	68.0	0.5%	
Window 30 (upper)			0.68	3.45	128.38	0.67	70.6	2.3%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.0%**	**Pass**
Window 31 (lower)			0.68	0.89	61.12	0.7	57.8	0.4%	
Window 31 (upper)			0.68	1.62	61.12	0.7	60.6	2.1%	
Total ADF for room	Bedroom	1.0%						**2.5%**	**Pass**
Window 32 (lower)			0.68	1.89	70.09	0.67	65.4	0.9%	
Window 32 (upper)			0.68	3.45	70.09	0.67	68.1	4.2%	
Total ADF for room	Bedroom	1.0%						**5.1%**	**Pass**
Proposed Fifth floor									
Window 33 (lower)			0.68	0.82	132.87	0.68	73.0	0.2%	
Window 33 (upper)			0.68	1.5	132.87	0.68	75.7	1.1%	
Window 34 (lower)			0.68	1.89	132.87	0.68	74.3	0.5%	
Window 34 (upper)			0.68	3.45	132.87	0.68	76.8	2.5%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.4%**	**Pass**
Window 35 (lower)			0.68	0.89	110.38	0.66	65.0	0.2%	
Window 35 (upper)			0.68	1.62	110.38	0.66	68.4	1.2%	
Window 36 (lower)			0.68	1.89	110.38	0.66	72.0	0.6%	
Window 36 (upper)			0.68	3.45	110.38	0.66	74.5	2.8%	
Total ADF for room	Bedroom	1.0%						**4.8%**	**Pass**
Proposed Sixth floor									

Appendix 2 - Average Daylight Factor (ADF)
84 Hatton Garden, London EC1N 8JR

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 37	Bedroom	1.0%	0.68	4.01	89.76	0.7	79.9	**4.8%**	**Pass**
Window 38	Bedroom	1.0%	0.68	1.82	65.5	0.71	74.1	**2.8%**	**Pass**
Window 39	Bedroom	1.0%	0.68	3.89	70.24	0.69	79.8	**5.8%**	**Pass**
Proposed Seventh Floor									
Window 40 (lower)			0.68	1.56	232.97	0.66	82.8	0.3%	
Window 40 (upper)			0.68	4.12	232.97	0.66	84.9	1.8%	
Window 41 (lower)			0.68	0.62	232.97	0.66	65.0	0.1%	
Window 41 (upper)			0.68	1.93	232.97	0.66	77.1	0.8%	
Window 42 (lower)			0.68	1.33	232.97	0.66	68.2	0.2%	
Window 42 (upper)			0.68	4.12	232.97	0.66	82.4	1.8%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**5.0%**	**Pass**

Appendix 2 - Room Depth Calculation
84 Hatton Garden, London EC1N 8JR

Room	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Proposed Lower Ground floor								
Window 1	5.4	5.7	2.4	0.77	3.2	<=	8.7	Pass
Window 2	5.4	5.7	2.4	0.77	3.2	<=	8.7	Pass
Window 3	5.4	5.7	2.4	0.77	3.2	<=	8.7	Pass
Window 4	5.9	5.8	2.3	0.77	3.58	<=	8.7	Pass
Window 5	5.9	5.8	2.3	0.77	3.58	<=	8.7	Pass
Window 6	5.9	5.8	2.3	0.71	3.58	<=	6.8	Pass
Proposed Ground floor								
Window 7	4.4	3.1	2.8	0.67	2.99	<=	6.06	Pass
Window 9	3.9	3.0	0.7	0.71	6.87	<=	6.9	Pass
Window 10	3.9	3.0	2.0	0.71	3.25	<=	6.9	Pass
Window 10a	3.9	3.0	2.0	0.71	3.25	<=	6.9	Pass
Proposed First floor								
Window 11	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 12	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 13	3.8	2.7	2.4	0.73	2.99	<=	7.45	Pass
Window 14	5.1	3.0	2.4	0.73	3.83	<=	7.44	Pass
Window 15	4.0	4.1	1.9	0.72	3.08	<=	7.19	Pass
Window 16	4.0	4.1	2.2	0.72	2.79	<=	7.19	Pass
Proposed Second floor								
Window 18	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 19	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 20	4.9	2.6	2.4	0.73	3.93	<=	7.42	Pass
Window 21	5.1	3.1	2.4	0.73	3.77	<=	7.28	Pass
Window 22	4.6	4.3	1.6	0.74	3.94	<=	7.57	Pass
Window 23	5.4	4.3	1.4	0.74	5.11	<=	7.57	Pass
Window 24	5.4	4.3	2.1	0.74	3.83	<=	7.57	Pass
Window 25	5.4	4.3	2.6	0.74	3.33	<=	7.57	Pass
Window 26	5.4	4.3	2.8	0.74	3.18	<=	7.57	Pass
Proposed Third floor								
Window 28	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 29	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass

Appendix 2 - Room Depth Calculation
84 Hatton Garden, London EC1N 8JR

Room	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Window 30	4.9	2.6	2.4	0.73	3.93	<=	7.42	Pass
Window 31	5.0	3.1	2.4	0.73	3.7	<=	7.28	Pass
Proposed Forth floor								
Window 32	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 33	6.6	5.9	2.4	0.71	3.87	<=	6.85	Pass
Window 34	4.9	2.6	2.4	0.73	3.93	<=	7.42	Pass
Window 35	5.1	3.1	2.4	0.73	3.77	<=	7.28	Pass
Proposed Fifth floor								
Window 36	7.4	5.9	2.4	0.72	4.34	<=	7.07	Pass
Window 37	7.4	5.9	2.4	0.72	4.34	<=	7.07	Pass
Window 38	4.9	5.9	2.4	0.71	2.87	<=	6.87	Pass
Window 39	4.9	5.9	2.4	0.71	2.87	<=	6.87	Pass
Proposed Sixth floor								
Window 40	4.5	6.0	2.8	0.73	2.36	<=	7.45	Pass
Window 41	4.7	2.8	2.6	0.73	3.49	<=	7.44	Pass
Window 42	4.7	3.2	2.6	0.73	3.28	<=	7.37	Pass
Proposed Seventh Floor								
Window 43	11.8	6.0	2.7	0.7	6.34	<=	6.75	Pass
Window 44	11.8	6.0	2.7	0.7	6.34	<=	6.75	Pass
Window 45	11.8	6.0	2.7	0.7	6.34	<=	6.75	Pass

Appendix 2 - Sunlight to Windows
84 Hatton Garden, London EC1N 8JR

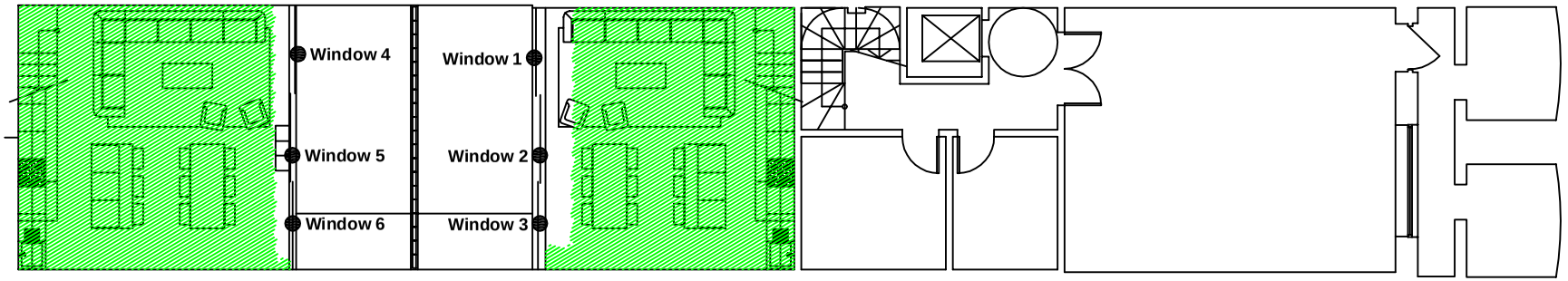
Reference	Use Class	Annual Probable Sunlight Hours	
		Total	Winter
Proposed Lower Ground floor			
Window 1	Living\ Dining\ Kichen	4%	0%
Window 2	Living\ Dining\ Kichen	0%	0%
Window 3	Living\ Dining\ Kichen	0%	0%
Window 4	Living\ Dining\ Kichen	2%	0%
Window 5	Living\ Dining\ Kichen	0%	0%
Window 6	Living\ Dining\ Kichen	0%	0%
Proposed First floor			
Window 11	Living/Dining/Kitchen	27%	5%
Window 12	Living/Dining/Kitchen	28%	5%
Proposed Second floor			
Window 18	Living/Dining/Kitchen	31%	7%
Window 19	Living/Dining/Kitchen	32%	7%
Proposed Third floor			
Window 28	Living/Dining/Kitchen	34%	7%
Window 29	Living/Dining/Kitchen	35%	8%
Proposed Forth floor			
Window 32	Living/Dining/Kitchen	35%	8%
Window 33	Living/Dining/Kitchen	36%	9%
Proposed Fifth floor			
Window 36	Living/Dining/Kitchen	37%	9%
Window 37	Living/Dining/Kitchen	37%	9%
Proposed Seventh Floor			
Window 43	Living/Dining/Kitchen	41%	10%
Window 44	Living/Dining/Kitchen	53%	18%
Window 45	Living/Dining/Kitchen	53%	18%

APPENDIX 3

NO SKY LINE CONTOURS

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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 9 Rev. -

Rev	Date	Details of revision

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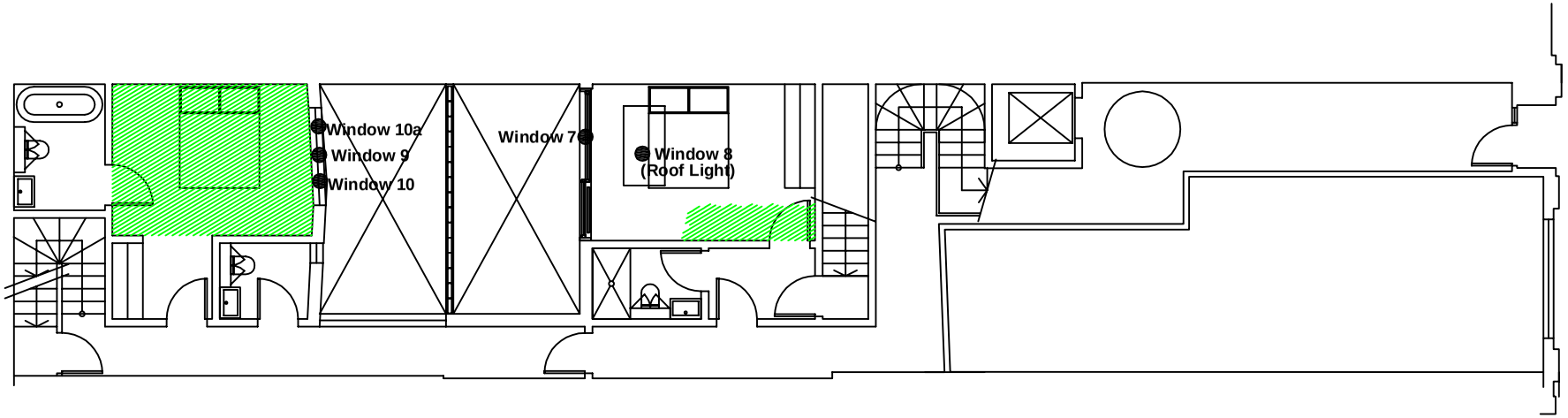
Appendix 3 No Sky Line Contours

Proposed 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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 2 of 9 Rev. -

Rev	Date	Details of revision

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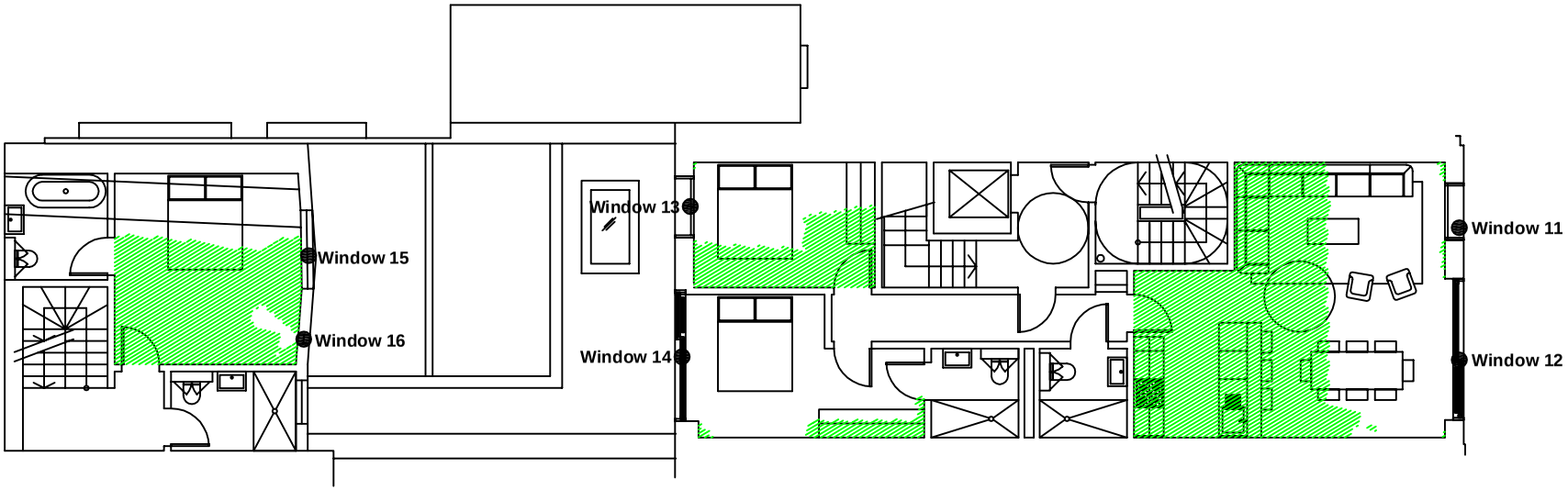
Appendix 3 No Sky Line Contours

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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 3 of 9 Rev. -

Rev	Date	Details of revision

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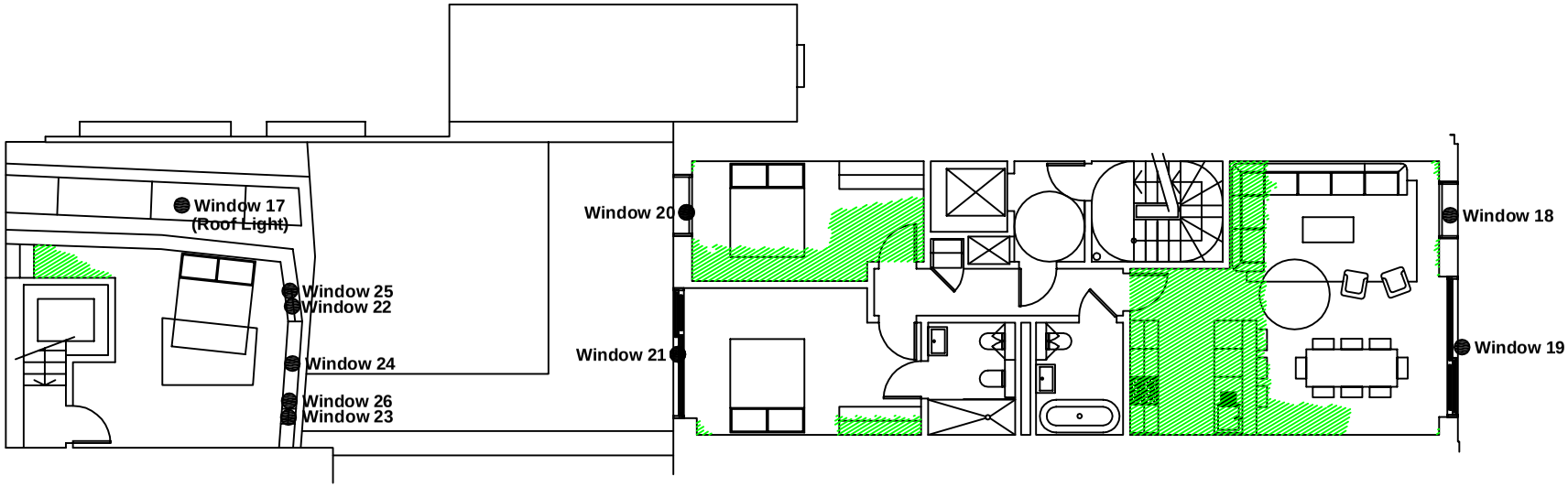
Appendix 3 No Sky Line Contours

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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 4 of 9 Rev. -

Rev	Date	Details of revision

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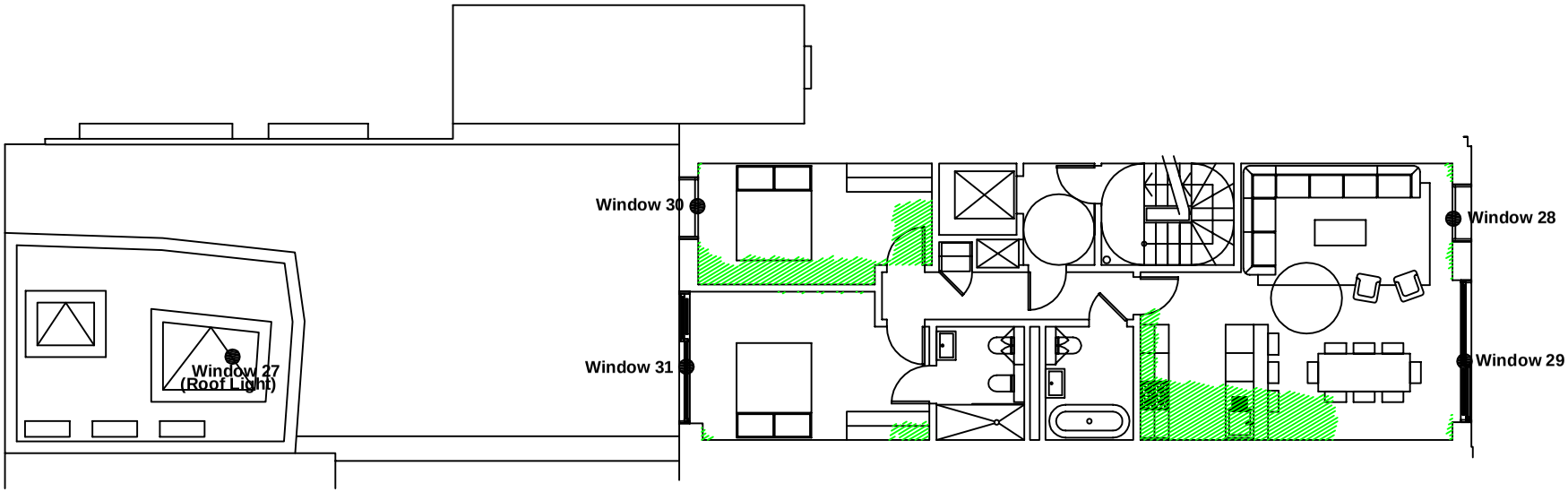
Appendix 3 No Sky Line Contours

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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 5 of 9 Rev. -

Rev	Date	Details of revision

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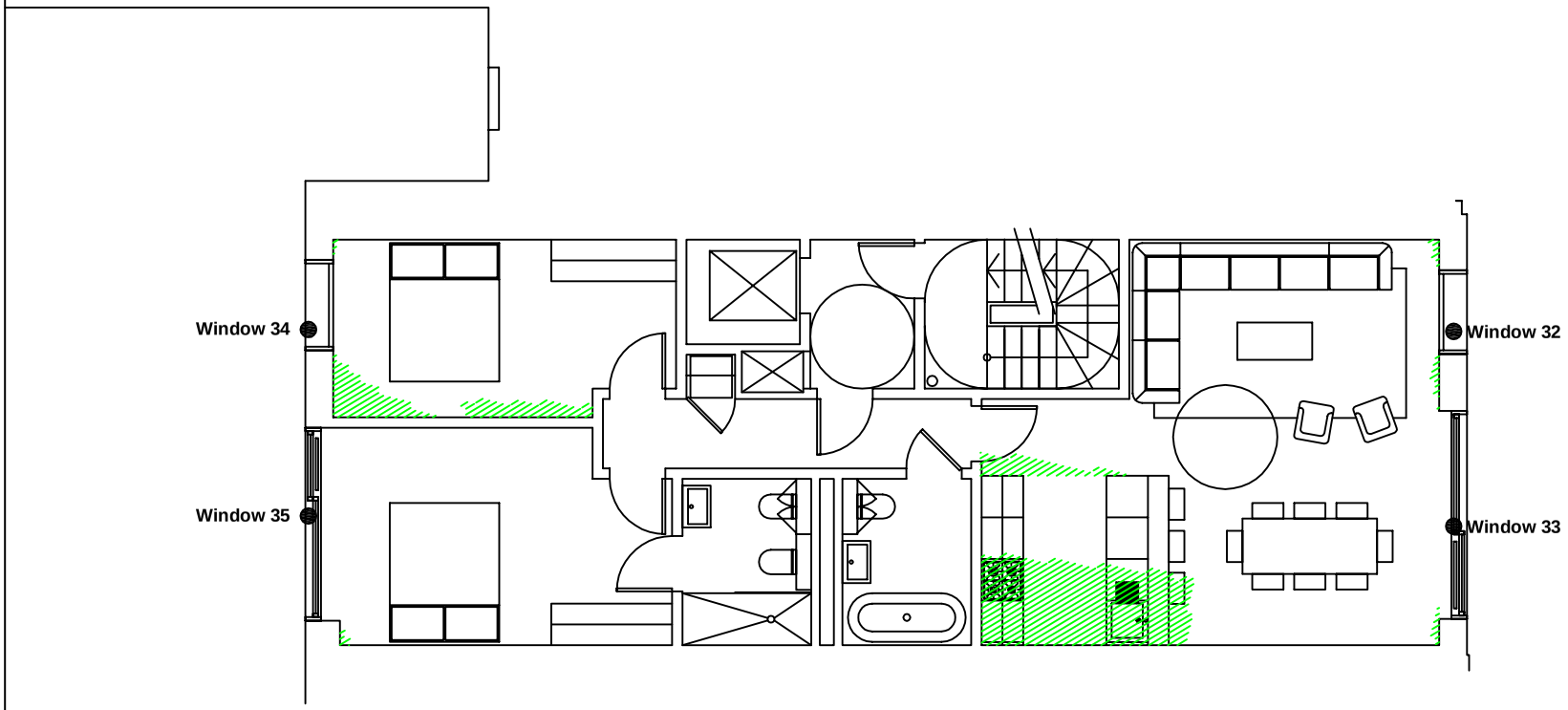
Appendix 3 No Sky Line Contours

Proposed Forth 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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 6 of 9 Rev. -

Rev	Date	Details of revision

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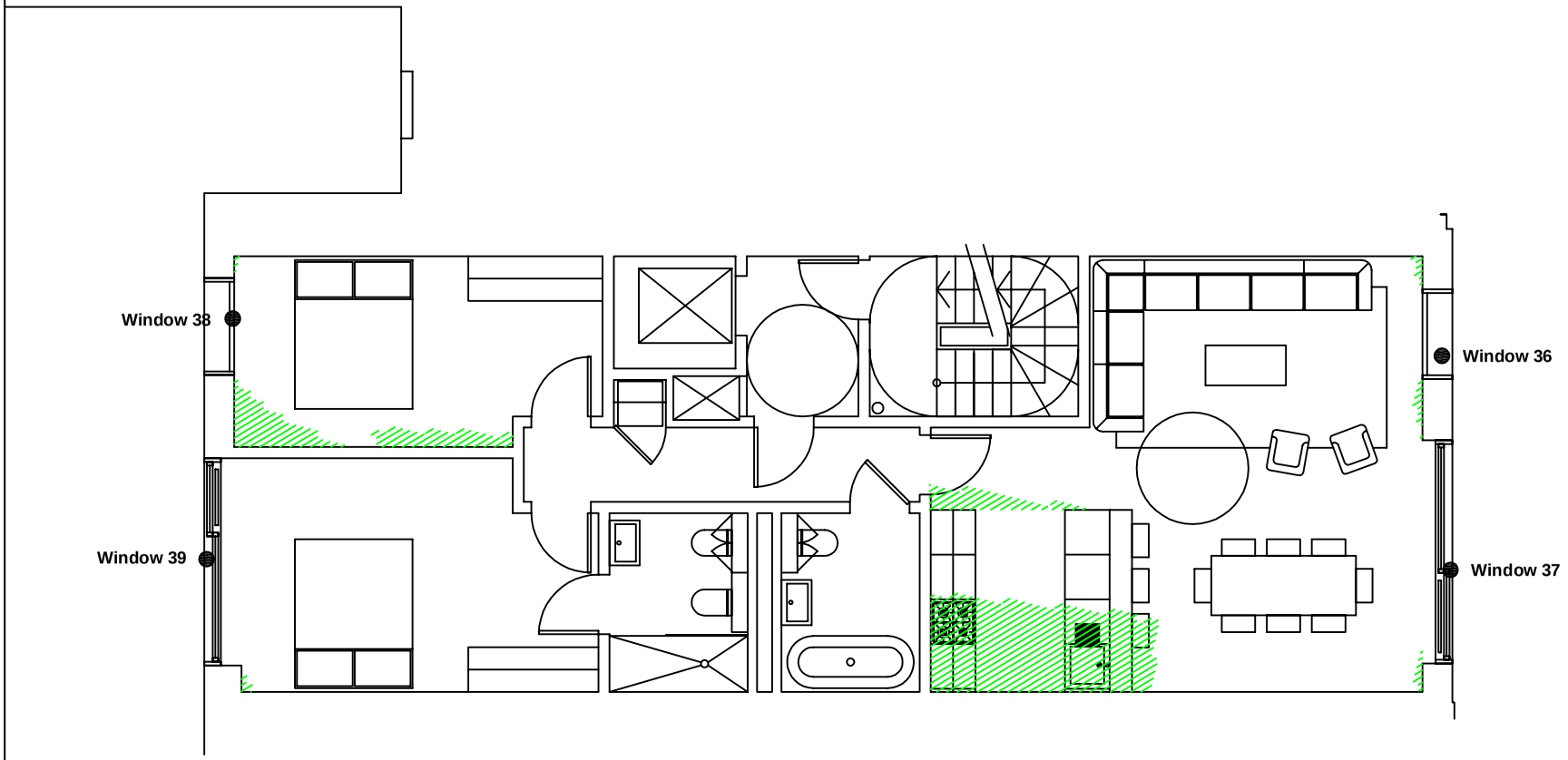
Appendix 3 No Sky Line Contours

Proposed Fifth 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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 7 of 9 Rev. -

Rev	Date	Details of revision

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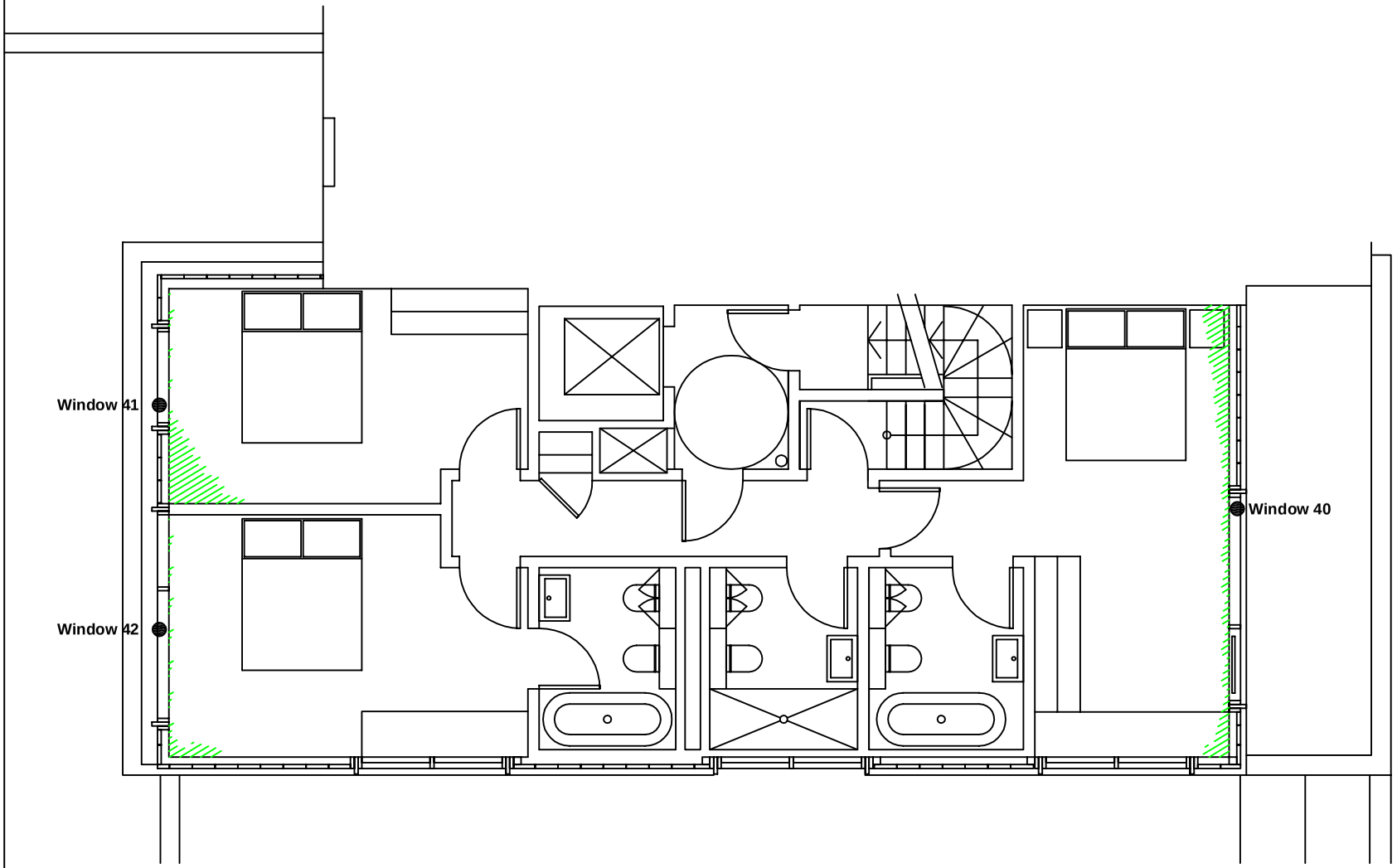
Appendix 3 No Sky Line Contours

Proposed Sixth 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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 8 of 9 Rev. -

Rev	Date	Details of revision

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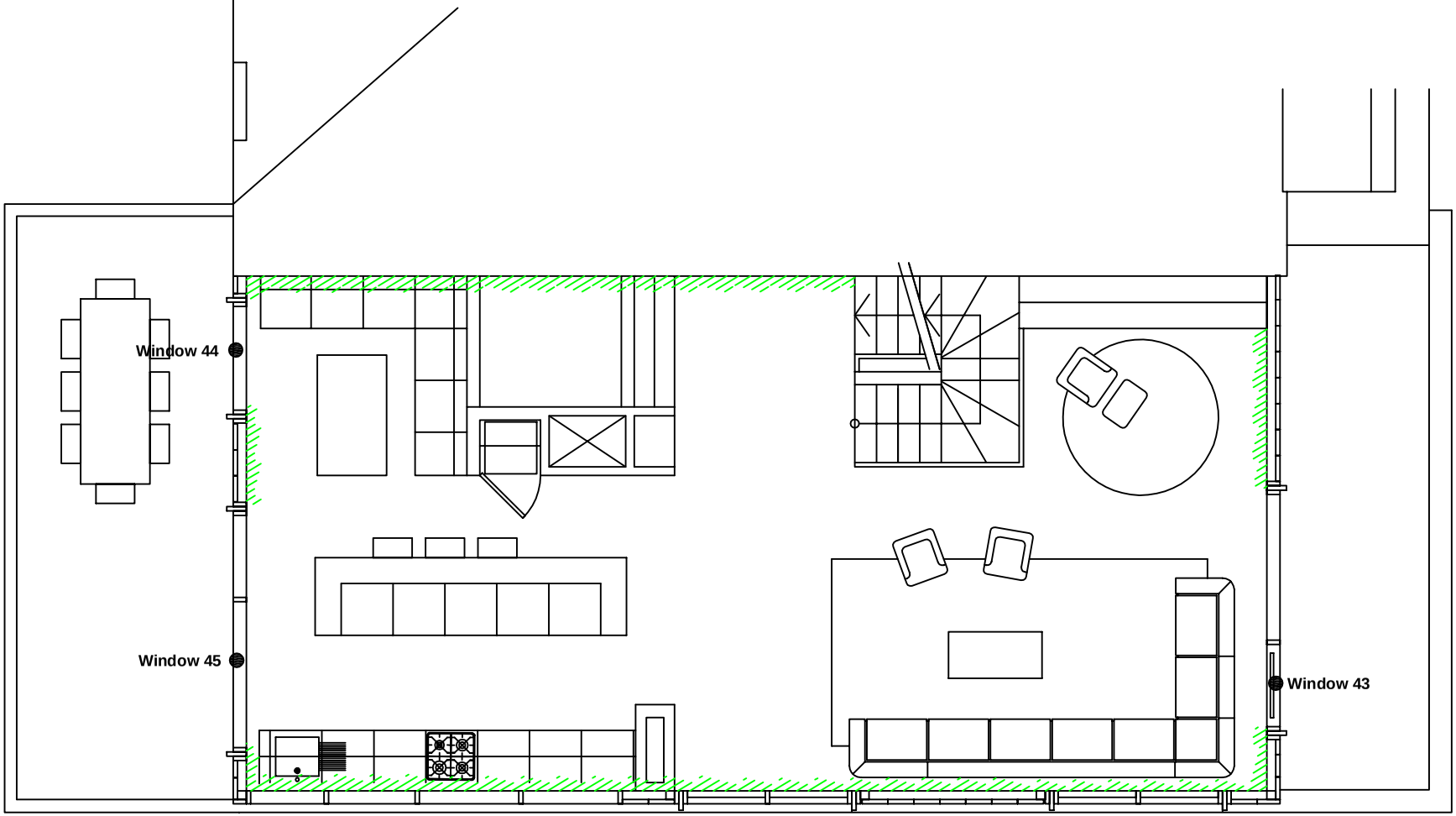
Appendix 3 No Sky Line Contours

Proposed Seventh 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: 84 Hatton Garden, London EC1N 8JR

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 9 of 9 Rev. -

Rev	Date	Details of revision

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