



RIGHT OF LIGHT
CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)

28 July 2022

43 Belmont Avenue
London
N17 6AX

Right of Light Consulting Ltd

Burley House
15-17 High Street
Rayleigh
Essex SS6 7EW

Tel: 0800 197 4836

www.right-of-light.co.uk

CONTENTS

1 EXECUTIVE SUMMARY	2
1.1 Overview	2
2 INFORMATION SOURCES.....	3
2.1 Documents Considered.....	3
3 METHODOLOGY OF THE ASSESSMENT	3
3.1 Local Planning Policy	4
3.2 National Planning Policy Framework.....	4
3.3 National Planning Practice Guidance	5
3.4 Interior Daylighting	5
3.5 Exposure to Sunlight	6
3.6 Overshadowing to Gardens and Open Spaces	7
4 RESULTS OF THE ASSESSMENT	8
4.1 Windows and Amenity Areas Analysed.....	8
4.2 Interior Daylighting	8
4.3 Exposure to Sunlight	8
4.4 Overshadowing to Gardens and Open Spaces	8
4.5 Conclusion.....	9
5 CLARIFICATIONS	10
5.1 General.....	10

APPENDICES

APPENDIX 1	WINDOW KEY
APPENDIX 2	DAYLIGHT PROVISION DATA & CONTOURS
APPENDIX 3	EXPOSURE TO SUNLIGHT DATA
APPENDIX 4	OVERSHADOWING DATA & CONTOURS

1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Paul Simon Developments Limited to undertake a daylight and sunlight assessment in connection with the development at 43 Belmont Avenue, London, N17 6AX. The aim of the assessment is to check whether the proposed accommodation will provide its future occupiers with adequate levels of natural light.
- 1.1.2 The assessment 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, 3rd Edition' by P J Littlefair 2022.
- 1.1.3 Appendix 1 identifies the windows and amenity areas analysed in this assessment. Daylight provision data and contours for the habitable rooms are presented in Appendix 2. Exposure to sunlight data is provided in Appendix 3. Overshadowing to gardens and opens spaces data and contours drawings are provided in Appendix 4.
- 1.1.4 The numerical results demonstrate that the proposed development design achieves a very high level of compliance with the BRE recommendations. Whilst a small number of rooms and the outdoor amenity areas do not meet the recommendations, the results are not unusual in the context of an urban location. In our professional opinion, the proposed design will provide the development's future occupiers with adequate levels of natural light. We consider the proposed development to be consistent with the NPPF, which requires developments to provide acceptable living standards whilst making efficient use of land.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Julian Cowie Architects

PP_10	Proposed Upper Ground Floor Plan / entrance level	Rev -
PP_11	Proposed Lower Ground Floor Plan	Rev -
PP_12	Proposed First floor plan	Rev -
PP_13	Proposed Roof floor plan	Rev -
PP_14	Proposed Ivatt Way/South West Elevation	Rev -
PP_15	Proposed Flank/North West Elevation	Rev -
PP_16	Proposed Flank/South East Elevation	Rev -
PP_17	Proposed Courtyard/North East Elevation	Rev -
PP_18	Proposed Section	Rev -

Promap OS Plan

Site Plan	Rev -
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3 METHODOLOGY OF THE ASSESSMENT

3.1 Local Planning Policy

- 3.1.1 We understand that the Local Authority takes the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 3rd Edition' by P J Littlefair 2022. The BRE guide is based on European standard BS EN 17037 'Daylight in Buildings', 2019 (BS EN 17037).
- 3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:
- 3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly, since natural lighting is only one of many factors in site layout design."
- 3.1.4 In reference to applying different numerical target values in different locations, the BRE guide states:
- 3.1.5 "These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location."

3.2 National Planning Policy Framework

- 3.2.1 The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:

"Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

3.3 National Planning Practice Guidance

- 3.3.1 The BRE numerical guidelines should also be considered in the context of the National Planning Practice Guidance (NPPG). The NPPG states that developments should maintain acceptable living standards. It goes on to explain that what this means in practice is that appropriate levels of sunlight and daylight, will depend to some extent on the context for the development. This is consistent with the BRE guide which as noted in paragraphs 3.1.4 to 3.1.5 above, states that site location is a relevant factor when setting sunlight and daylight targets.

3.4 Interior Daylighting

- 3.4.1 The BRE guide recommends that interior daylighting is checked using the daylight provision test set out in BS EN 17037. The test measures both the amount of daylight, as well as the distribution of daylight within a room. The 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.
- 3.4.2 The assessment is carried out using a grid of points on a horizontal reference plane in each room. In accordance with the BRE recommendations, we have set the reference plane at 850mm above the floor and have excluded assessment points from a 0.3m wide band around the perimeter of each room.
- 3.4.3 The UK National Annex to BS EN 17037 gives UK specific minimum illuminance recommendations which we have set as the targets for this project. The targets comprise of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens to be exceeded over at least 50% of the reference plane.
- 3.4.4 Where a room has a shared use, the highest target should apply. However, the guide states that local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design.
- 3.4.5 The data in Appendix 2 sets out the percentage of the reference plane that meets the relevant lux target for the given room use. The median illuminance (lux) achieved for

each room is also presented. Where the median illuminance exceeds the lux target, this means the lux target has been achieved over at least 50% of the assessment grid.

3.4.6 The daylight provision test may be carried out using either the daylight factor method, or the interior illuminance method. For the purpose of this assessment, we have adopted the daylight factor method. Using the conversion table set out in the BRE guide, we have expressed the results in terms of lux.

3.4.7 Since the assessment is based on a computer simulation, it is necessary to set various surface reflectance values. By example, a 0.6 reflectance means that 60% of the light hitting the surface will be reflected. For the purpose of this assessment, we have assumed the following reflectances:

<u>Surface</u>	<u>Reflectance</u>
Interior walls	0.7
Window reveals	0.7
Ceilings	0.8
Floors	0.45
Exterior walls and obstructions	0.2
Exterior ground	0.2
Exterior ground	0.064

3.4.8 We have assumed that each window is double-glazed and has a glazed area that equates to 80% of the structural opening size. A diffuse glazing transmittance value, inclusive of a maintenance factor to allow for the effect of dirt on the glazing, of 0.66 has been used.

3.5 Exposure to Sunlight

3.5.1 The BRE guide states that the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon.

3.5.2 The BRE guide states that, in general, a dwelling will appear reasonably sunlit provided:

- at least one main window wall faces within 90 degrees of due south, and
- a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.

3.3.1 The guide states that, where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

3.6 Overshadowing to Gardens and Open Spaces

3.6.1 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.

3.6.2 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 ASSESSMENT

4.1 Windows and Amenity Areas Analysed

4.1.1 Appendix 1 identifies the windows serving habitable rooms analysed in this assessment.

4.1.2 We have also identified the outdoor amenity areas that have been assessed.

4.2 Interior Daylighting

4.2.1 Daylight provision data and contours for the habitable rooms are presented in Appendix 2.

4.2.2 All habitable rooms tested meet or surpass the BRE minimum illuminance recommendations, with the exception of 3 rooms (i.e. only 3 of the total 15 rooms tested fall short of their Daylight Factor targets). This is a very high level of compliance in the context of an urban development site.

4.3 Exposure to Sunlight

4.3.1 Exposure to sunlight data is provided in Appendix 3.

4.3.2 All dwellings have at least one habitable room window which faces within 90 degrees of due south. All dwellings also have a habitable room which receives a total of at least 1.5 hours of sunlight on 21 March. The proposed development therefore satisfies the BRE exposure to sunlight requirements.

4.4 Overshadowing to Gardens and Open Spaces

4.4.1 Overshadowing to gardens and open spaces data and contours drawings are provided in Appendix 4.

4.4.2 The results confirm that the gardens do not meet the BRE recommendations. However, the BRE guide is intended to be used flexibly, particularly in urban locations, and in this instance, we are of the opinion that it is unreasonable to expect that all the amenity areas will meet the BRE recommendations given the unavoidable constraints of the site and the obstructions created by the existing neighbouring properties.

4.5 Conclusion

- 4.5.1 The numerical results demonstrate that the proposed development design achieves a very high level of compliance with the BRE recommendations. Whilst a small number of rooms and the outdoor amenity areas do not meet the recommendations, the results are not unusual in the context of an urban location. In our professional opinion, the proposed design will provide the development's future occupiers with adequate levels of natural light. We consider the proposed development to be consistent with the NPPF, which requires developments to provide acceptable living standards whilst making efficient use of land.

5 CLARIFICATIONS

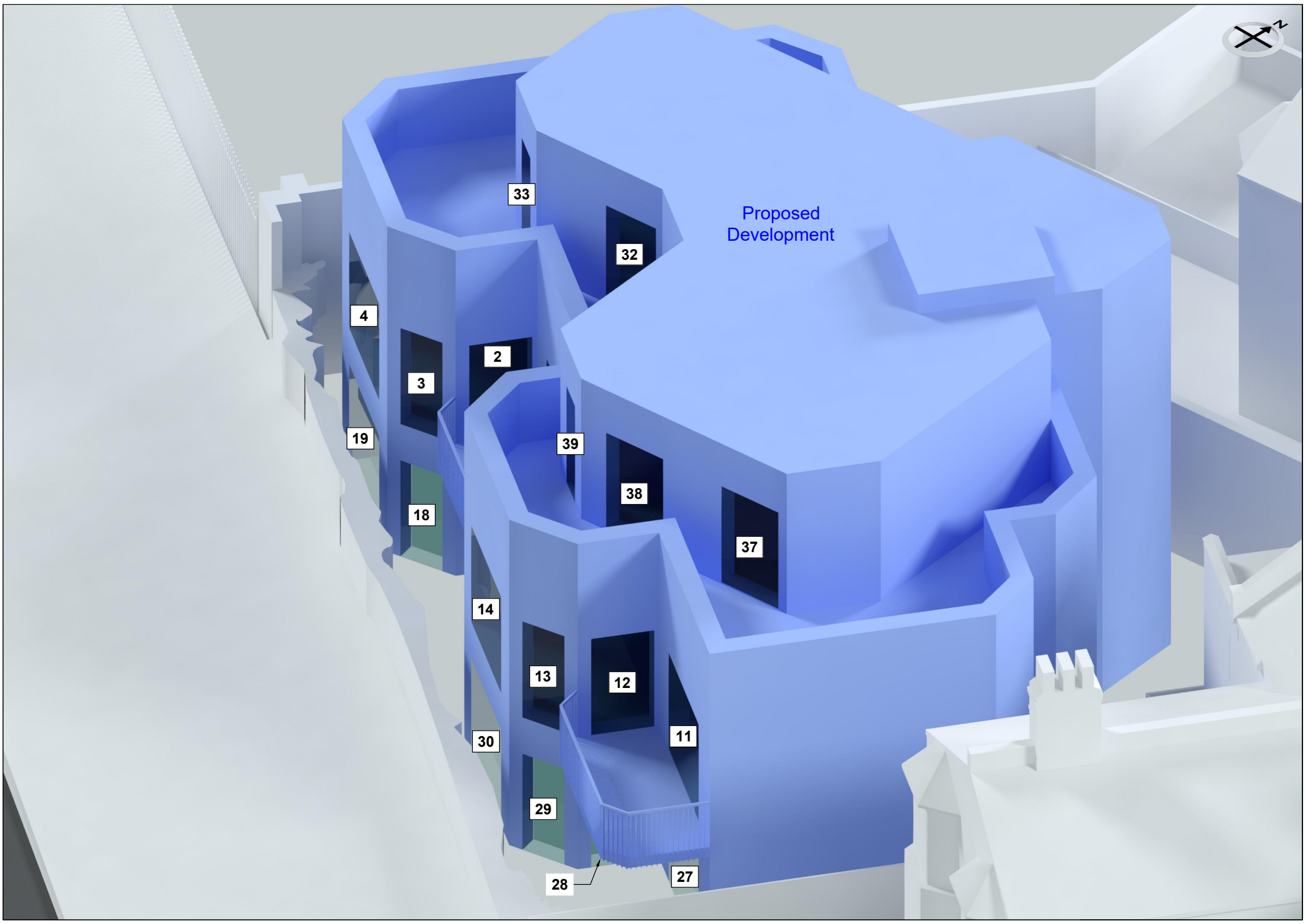
5.1 General

- 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 The assessment is limited to assessing daylight, sunlight and overshadowing of the proposed development as set out in section 2.1, 3.1 and 3.3 of the BRE guide.
- 5.1.3 The assessment is based on the information listed in section 2 of this report and a site visit undertaken on 1 July 2022.
- 5.1.4 This assessment does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that trees should sometimes be taken into account. e.g. where there is concern that future occupants of the dwelling may want the trees to be cut down if they block too much skylight or sunlight. We are not aware of any such circumstances, in this instance.
- 5.1.5 We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely". Where limited access is available, assumptions will have been made.
- 5.1.6 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

APPENDICES

APPENDIX 1

WINDOW KEY



Proposed
Development

33

32

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3

2

19

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39

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37

14

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Proposed
Development

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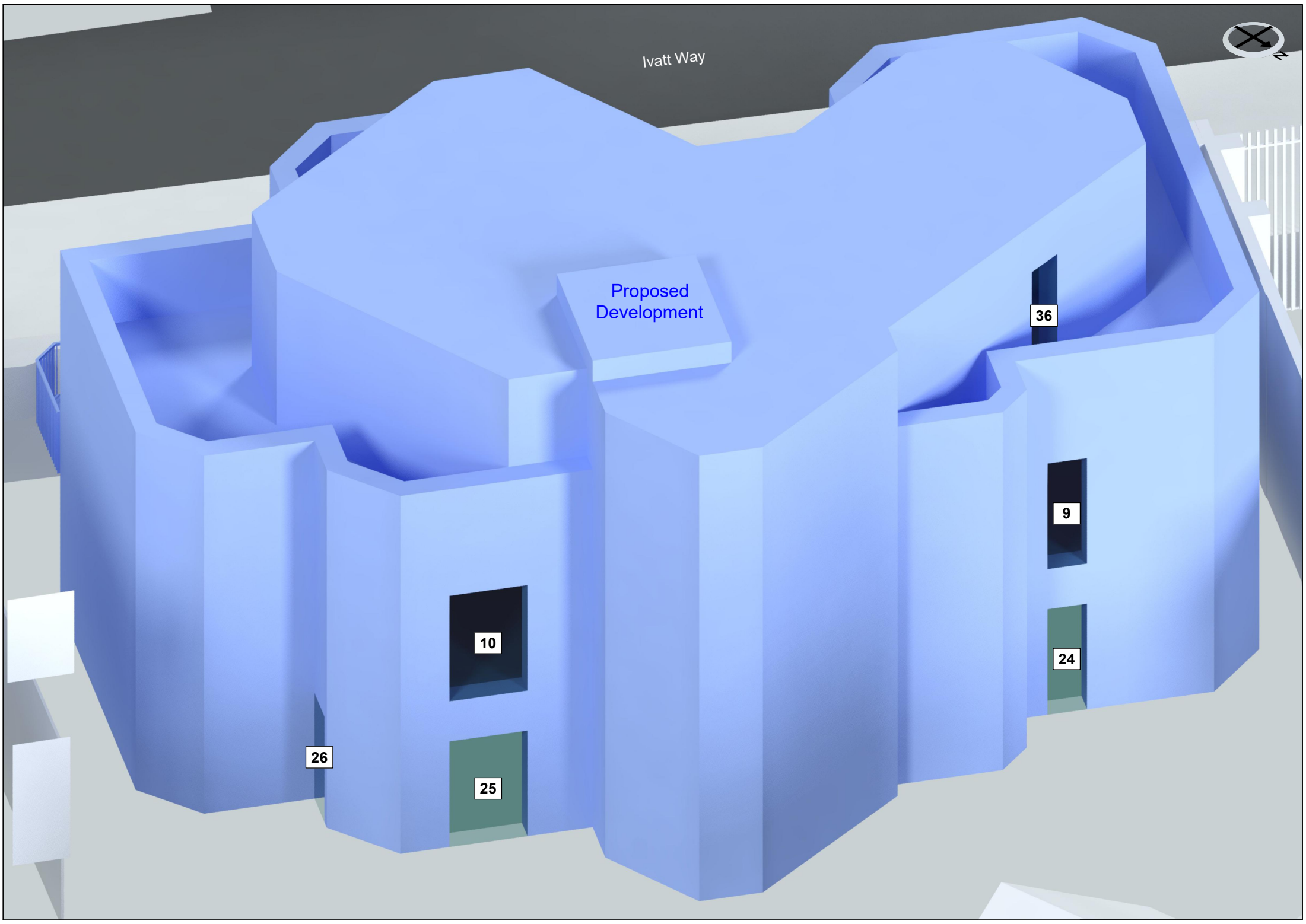
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Ivatt Way

Proposed
Development

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Proposed
Development

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APPENDIX 2

DAYLIGHT PROVISION DATA & CONTOURS

Appendix 2 - Daylight Provision
43 Belmont Avenue, London, N17 6AX

Reference	Room Use	Min.Target Illuminance (Lux)	Target % of Reference Plane	% of Reference Plane Achieved	Target % Achieved	Median Illuminance (Lux)
<u>Flat 3</u>						
<u>Lower Ground Floor</u>						
Window 16	Bedroom	100	50%	52%	Yes	101
Windows 17 to 22	Living/Dining/Kitchen	200	50%	19%	No	88
Windows 23 & 24	Bedroom	100	50%	8%	No	39
<u>Flat 4</u>						
<u>Lower Ground Floor</u>						
Windows 25 & 26	Bedroom	100	50%	90%	Yes	141
Window 27	Bedroom	100	50%	71%	Yes	123
Windows 28 to 31	Living/Dining/Kitchen	200	50%	26%	No	85
<u>Flat 1</u>						
<u>Upper Ground Floor</u>						
Window 1	Bedroom	100	50%	100%	Yes	385
Windows 2 to 7	Living/Dining/Kitchen	200	50%	99%	Yes	538
Windows 8 & 9	Bedroom	100	50%	100%	Yes	313
<u>Flat 2</u>						
<u>Upper Ground Floor</u>						
Window 10	Bedroom	100	50%	91%	Yes	169
Window 11	Bedroom	100	50%	100%	Yes	449
Windows 12 to 15	Living/Dining/Kitchen	200	50%	78%	Yes	330
<u>Flat 5</u>						
<u>First Floor</u>						
Windows 32 to 36	Living/Dining/Kitchen	200	50%	69%	Yes	406
Window 37	Bedroom	100	50%	99%	Yes	243
Windows 38 to 40	Bedroom	100	50%	100%	Yes	460



Key:

 Area above target lux threshold

 Area below target lux threshold

 Window reference

 Gardens and Amenity Areas

Drawing Title: Daylight Provision Contours

Scale: Do not scale

Drawing No: 1 of 3

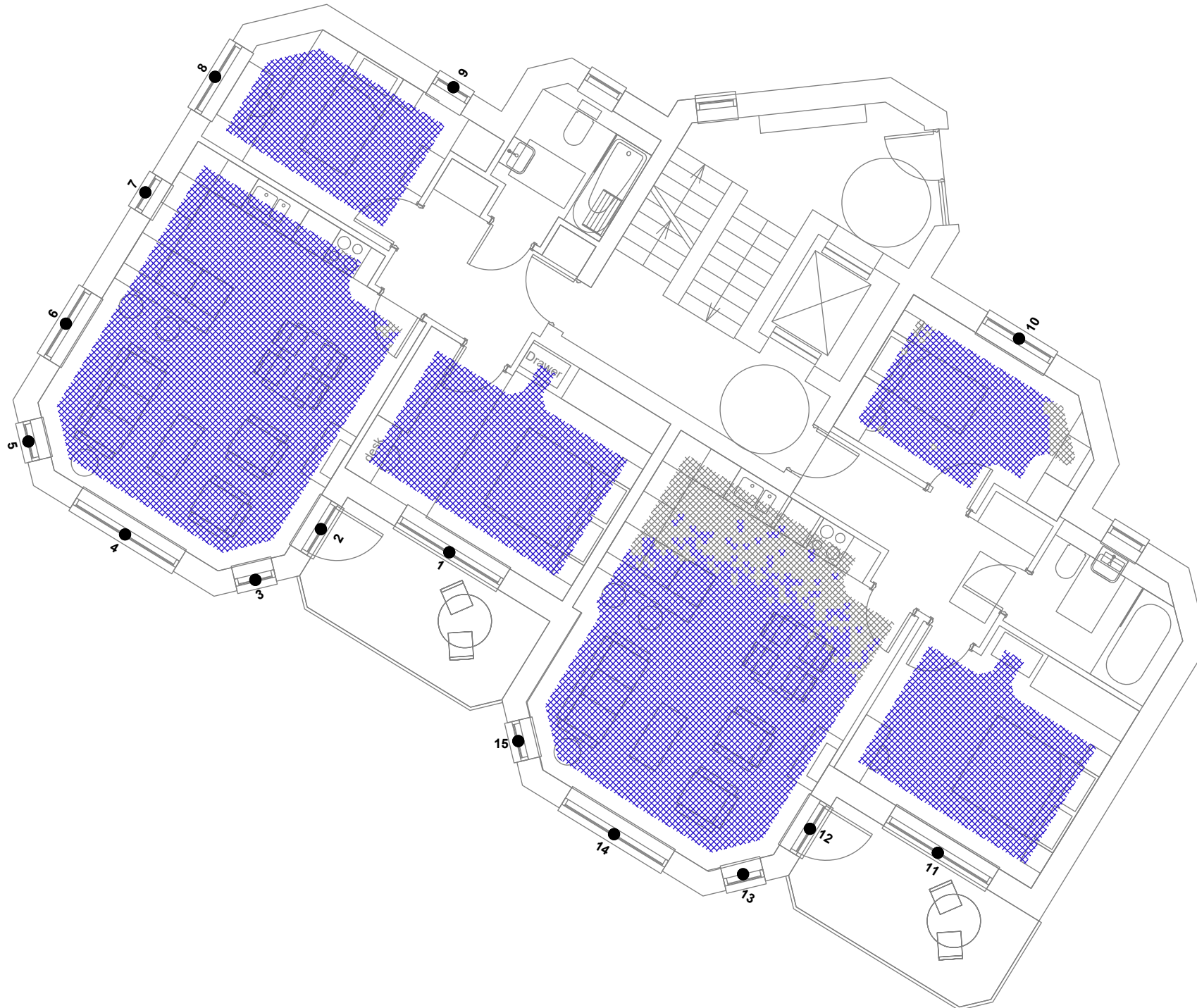
Rev. .

Rev	Date	Details of revision



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Right of Light Consulting
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Essex
SS6 7EW
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E-MAIL enquiries@right-of-light.co.uk
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Key:

 Area above target lux threshold

 Area below target lux threshold

 Window reference

 Gardens and Amenity Areas

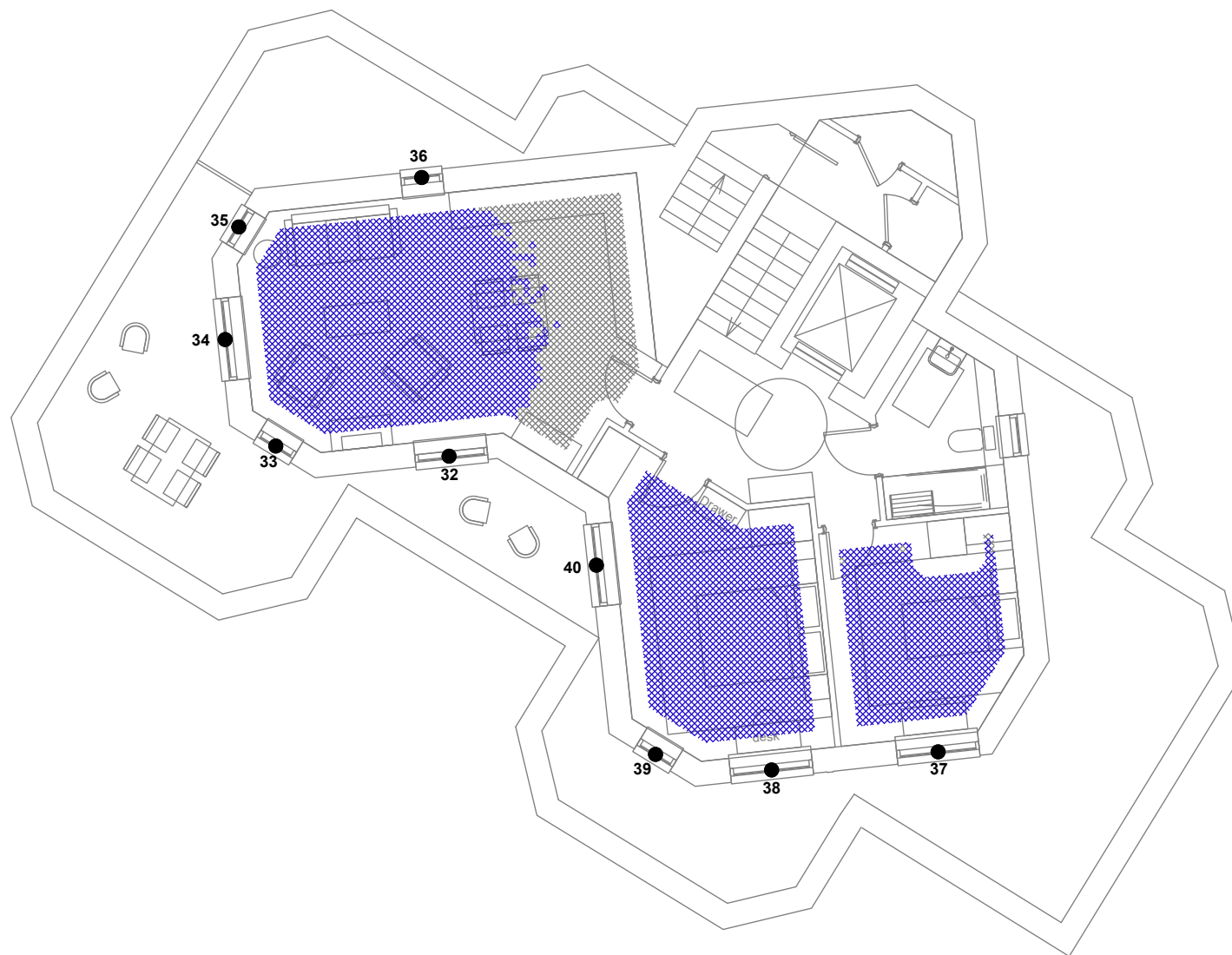
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Scale: Do not scale

Drawing No: 2 of 3

Rev. .

Rev	Date	Details of revision



Key:



Area above target lux threshold



Area below target lux threshold



Window reference



Gardens and Amenity Areas

Drawing Title: Daylight Provision Contours

Scale: Do not scale

Drawing No: 3 of 3

Rev. .

Rev	Date	Details of revision



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APPENDIX 3

EXPOSURE TO SUNLIGHT DATA

Appendix 3 - Exposure To Sunlight
43 Belmont Avenue, London, N17 6AX

Room	Room Use	Target Sunlight Exposure	Actual Sunlight Exposure	At least one habitable room in dwelling meets Target Sunlight Exposure
<u>Flat 3</u>				
<u>Lower Ground Floor</u>				
Window 16	Bedroom	1.5 hours	2.8 hours	Yes
Windows 17 to 22	Living/Dining/Kitchen	1.5 hours	2.8 hours	
Windows 23 & 24	Bedroom	1.5 hours	0 hours	
<u>Flat 4</u>				
<u>Lower Ground Floor</u>				
Windows 25 & 26	Bedroom	1.5 hours	0 hours	Yes
Window 27	Bedroom	1.5 hours	3.5 hours	
Windows 28 to 31	Living/Dining/Kitchen	1.5 hours	2.9 hours	
<u>Flat 1</u>				
<u>Upper Ground Floor</u>				
Window 1	Bedroom	1.5 hours	5.1 hours	Yes
Windows 2 to 7	Living/Dining/Kitchen	1.5 hours	7.5 hours	
Windows 8 & 9	Bedroom	1.5 hours	0.2 hours	
<u>Flat 2</u>				
<u>Upper Ground Floor</u>				
Window 10	Bedroom	1.5 hours	0 hours	Yes
Window 11	Bedroom	1.5 hours	6.8 hours	
Windows 12 to 15	Living/Dining/Kitchen	1.5 hours	8.8 hours	
<u>Flat 5</u>				
<u>First Floor</u>				
Windows 32 to 36	Living/Dining/Kitchen	1.5 hours	5.8 hours	Yes
Window 37	Bedroom	1.5 hours	4.6 hours	
Windows 38 to 40	Bedroom	1.5 hours	4.8 hours	

APPENDIX 4

OVERSHADOWING TO GARDENS & OPEN SPACES

Appendix 2 - Overshadowing to Gardens and Open Spaces
43 Belmont Avenue, London, N17 6AX

Reference	Total Area	Area receiving at least 2 hours of sunlight on 21 March	
<u>Flat 3</u>			
<u>Lower Ground Floor</u>			
Garden 1	17.84 m2	0.72 m2	4%
Garden 2	7.94 m2	0.0 m2	0%
<u>Flat 4</u>			
<u>Lower Ground Floor</u>			
Garden 3	18.94 m2	2.04 m2	11%
Garden 4	23.74 m2	1.61 m2	7%



Key



Receives under two hours sunlight on 21st March.



Receives at least two hours sunlight on 21st March.

Garden 2

Proposed
Development

Garden 1

Garden
3

Garden 4

Drawing Title: Appendix 3 - Overshadowing to Gardens and Open Spaces



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