RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)

14 February 2024

89 High Street
Billericay
Essex
CM12 9AT

RICS
Regulated by RICS

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APPENDICES

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Klara 89 Limited to undertake a daylight and sunlight assessment in connection with the two standalone applications for the redevelopment of 89 High Street, Billericay, Essex CM12 9AT. The proposals comprise of two separate standalone applications for development within the same curtilage of 89 High Street comprising:

1.1.2 Planning Application 1 (flats):

7 x flats, comprising 4 x 1B/2P, 1 x 2B/3P and 2 x 2B/4P units, and a retained 173sqm Class E commercial unit.

Description of Development:

Proposed partial change of use of the existing building from Class E to Class C3, with works including infill loft extension, introduction of south facing dormer and a 1.5-storey rear and upward extension to create 7 x self-contained C3 residential units plus façade amendments to incorporate new windows; removal of ATM and reinstatement of front façade window; alongside associated landscaping, parking, and refuse storage.

1.1.3 Planning Application 2 (houses):

Comprising 2 x 3B/6P semi-detached houses

Description of Development:

Proposed removal of surface car park to enable the erection of 2 x semi-detached houses alongside associated landscaping, parking, and refuse storage.

1.1.4 The aim of the assessment is to check whether the proposed accommodation will provide its future occupiers with adequate levels of natural light.

1.1.5 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.

1.1.6 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 contour drawings are provided in Appendix 4.

1.1.7 The numerical results demonstrate an overall high level of compliance for both applications, with the majority of proposed rooms surpassing the BRE recommendations. Whilst the Daylight Provision target is not met for one isolated room within the flatted scheme (during the winter months), the BRE guide explains that the numerical guidelines should be interpreted flexibly, since natural lighting is only one of many factors in site layout design. This flexibility should also be applied in relation to the amenity areas which do not achieve the targets set out in the BRE Guide. We would therefore expect the local authority to balance daylight and sunlight considerations against all other material planning considerations.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

T2S Architecture Ltd

	Architect 3D Model	Rev -
133_PL2_GA_00	Proposed Ground Floor Plan General Arrangement	Rev G
133_PL2_GA_01	Proposed First Floor Plan General Arrangement	Rev F
133_PL2_GA_01	Proposed Basement Plan General Arrangement	Rev C
133_PL2_GA_02	Proposed Second Floor Plan General Arrangement	Rev F
133_PL2_GA_10	Proposed Ground & First General Arrangement - House	Rev F
133_PL2_GA_11	Proposed Second Floor & Roof Plan General Arrangement	Rev D
133_PL2_GA_RF	Proposed Roof Plan General Arrangement	Rev E
133_PL2_GE_01	Proposed East & West Elevations General Arrangement	Rev F
133_PL2_GE_02	Proposed South Elevations General Arrangement	Rev E
133_PL2_GE_03	Proposed North Elevations General Arrangement	Rev F
133_PL2_GE_10	Proposed South & North Elevations General Arrangement - House	Rev E
133_PL2_GE_11	Proposed East & West Elevations General Arrangement - House	Rev E
133_PL2_GE_20	Proposed South Site Elevation General Arrangement	Rev E
133_PL2_GS_01	Proposed Sections A & B General Arrangement	Rev D
133_PL2_GS_02	Proposed Section C General Arrangement	Rev D
133_PL2_GS_10	Proposed Sections D & E General Arrangement	Rev D
133_PL2_GS_20	Proposed Site Section F General Arrangement	Rev A
133_PL2_S_01	Proposed Site Plan General Arrangement	Rev F

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 such as living rooms and bedrooms. 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 and is solely used for cooking purposes, 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 BRE guide explains that local authorities could use discretion here. The guide gives the example where 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 In the case of the proposed developments, it has not been possible to achieve the 200 lux target for all living/dining/kitchen areas. One solution to this issue would have been

to subdivide off the kitchens to make non-habitable non-daylit kitchens, which would not have a requirement for daylight. However, this would result in a lower quality of accommodation. Therefore, we have instead applied a 150 lux target to the living/dining/kitchen areas as per the example given in the BRE guide. In our opinion, the 150 lux target is justified as it avoids separate small non-daylit kitchens and results in an overall better standard of accommodation.

3.4.6 The data in Appendix 2 includes the lux target we have assigned to each room for both proposed developments, together with the percentage of the reference plane that meets the target. 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.

3.4.7 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.

3.4.8 Since the assessment is based on a computer simulation, it is necessary to set various surface reflectance values. For example, a 0.6 reflectance means that 60% of the light hitting the surface will be reflected. The BRE guide states that it is necessary to make an allowance for the deterioration of surface finishes. Furniture within the rooms will also have an impact on daylight provision. Since the computer model used in the simulation does not include furniture, the BRE guide recommends that an allowance for this is also made within the reflectance values. For this reason, we have set out below, both the manufacturer's reflectance values, and the values used in the simulation. The simulation values include allowances for furniture and the deterioration of the surfaces. Should product substitutions be required, products with equal reflectance values should be chosen to ensure the daylight results presented in this report are achieved.

Surface	**Product**	**Product Reflectance**	**Simulation Reflectance**
Interior walls	Dulux Light & Space Absolute White	0.93	0.8
Ceilings	Dulux Light & Space Absolute White	0.93	0.8
Floors	Kahrs engineered wood (Ash Air)	0.76	0.4
Development cladding	BRE default value	n/a	0.2
Balcony floors	Portland stone	0.6	0.5
Balcony soffits	Dulux Weathershield Brilliant White	0.92	0.6
Neighbouring buildings	BRE default value	n/a	0.2

Mirror	Generic value	n/a	0.95
Glass	Generic value	n/a	0.1
Exterior ground	BRE default value	n/a	0.2

3.4.9 The simulation is based on double-glazed windows with a glazed area that equates to 80% of the structural opening size. The glazing consists of a Pilkington 4mm Optifloat Clear outer pane and a Pilkington 6.4mm OptiLam K Glass S inner pane, which has an overall manufacturer's direct transmittance of 0.82. In accordance with the BRE guide, the simulation includes maintenance factors to allow for the effect of dirt on the glazing.

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.

3.5.3 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 21 March.

3.7 Trees and Hedges

3.7.1 Appendix G of the BRE guide gives guidance on trees and hedges. The guide states that trees and hedges vary in their effects on skylight and sunlight and most tree species will cast partial shade.

3.7.2 In accordance with the BRE guide, we have factored the transparency and reflectance characteristics of any nearby trees and hedges into the daylight and sunlight calculations. Tables G1 and G2 in Appendix G of the BRE guide outline the transparency and reflectance values for a number of common tree types, which we used as a basis for our assessment.

3.7.3 When applying the daylight provision test to a property which has deciduous trees surrounding it, the calculations are repeated for summer and winter conditions. In the winter, when the tree crown has a much higher transparency, more light is able to penetrate through the branches. Therefore, in the winter daylight provision is usually higher than in the summer when the tree is in full bloom.

3.7.4 The BRE guide notes that, if the recommended daylight provision targets are exceeded in both summer and winter, then daylight would be considered adequate. The guide adds that, for a room where the minimum value is exceeded in winter but not in summer, daylight provision year-round is still likely to be adequate, but it is clear that the trees are having some effect on daylight.

3.7.5 The BRE guide recommends that where trees may affect exposure to sunlight, the calculations should first be carried out with deciduous trees treated as opaque objects. The calculations should then be repeated without deciduous trees entirely. This gives the range of potential sunlight hours. Evergreen trees and hedges should also always be assessed as opaque objects.

3.7.6 If the minimum recommendation is met with opaque trees, then sunlight would be adequate. If the minimum recommendation is not reached with either opaque trees or no trees, then sunlight would be considered inadequate. For a room where the

recommendation is exceeded without trees, but not with opaque trees, sunlight provision may be adequate, but the trees will have some effect on the sunlight received.

3.7.7 For the gardens and open spaces test, the guides states that trees and shrubs are not normally included in the calculation unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes. This is partly because the dappled shade of a tree is more pleasant than the deep shadow of a building. For the purpose of our assessment, we have therefore discounted the overshadowing effect of deciduous trees.

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 for each standalone planning application.

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

4.2 Interior Daylighting

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

4.2.2 The results confirm that 1 room within Planning Application 1 (flatted scheme) falls short of the daylight provision targets during the summer. However, the BRE guide explains that providing the targets are met in the winter months, daylight all year round is likely to be adequate. In this case, this room falls only marginally short of its winter Daylight Factor target. This is therefore a very high level of compliance.

4.2.3 The results confirm that 1 room within Planning Application 2 (houses) falls short of the daylight provision targets during the summer. However, as above, the BRE guide explains that providing the targets are met in the winter months, daylight all year round is likely to be adequate. In this case, the room meets its winter Daylight Factor target.

4.3 Exposure to Sunlight

4.3.1 Exposure to sunlight data is provided in Appendix 3.

4.3.2 All dwellings across both applications have at least one main window which faces within 90 degrees of due south. When considering the deciduous trees as opaque objects, all dwellings across both applications also have a living room which receives a total of at least 1.5 hours of sunlight on 21 March. Both the proposed developments therefore satisfy the BRE exposure to sunlight requirements.

4.4 Overshadowing to Gardens and Open Spaces

4.4.1 Overshadowing to gardens and opens spaces data and contour drawings for both applications are provided in Appendix 4.

4.4.2 The results show that one of the amenity areas within either the flatted scheme or the housing scheme meet the BRE recommendations. However, the BRE guide is intended to be used flexibly, and in this instance, we are of the opinion that it is unreasonable to expect that the amenity areas will meet the BRE recommendations given the unavoidable constraints of the site and the fact that they therefore need to be sited north of the proposed scheme. We are still of the opinion that they will provide a useful amenity space for future occupants.

4.5 Conclusion

4.5.1 The numerical results demonstrate an overall high level of compliance for both applications, with the majority of proposed rooms surpassing the BRE recommendations. Whilst the Daylight Provision target is not met for one isolated room within the flatted scheme (during the winter months), the BRE guide explains that the numerical guidelines should be interpreted flexibly, since natural lighting is only one of many factors in site layout design. This flexibility should also be applied in relation to the amenity areas which do not achieve the targets set out in the BRE Guide. We would therefore expect the local authority to balance daylight and sunlight considerations against all other material planning considerations.

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 19 December 2023.

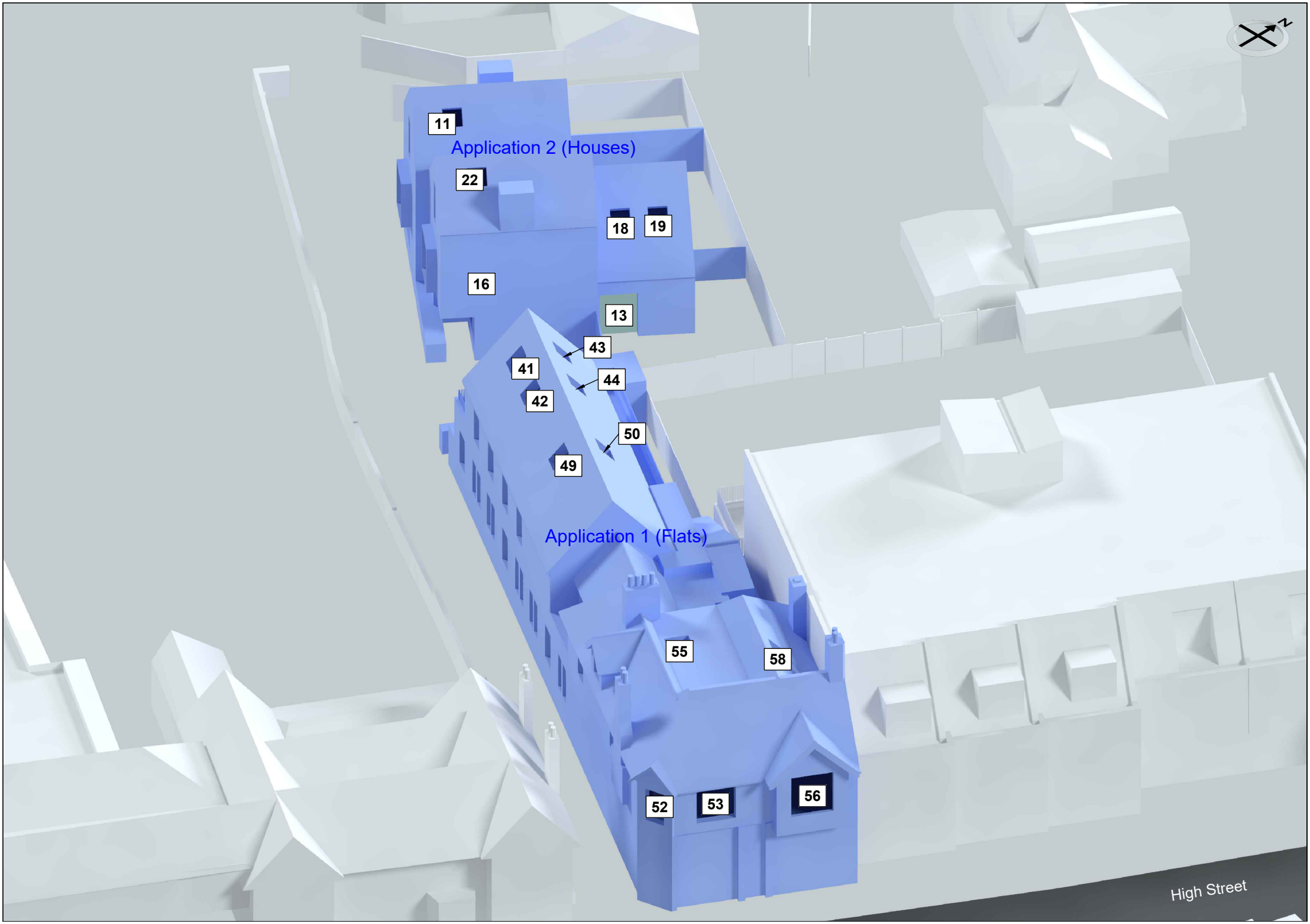
5.1.4 We have undertaken the survey following the guidelines of the RICS publication “Surveying Safely”. Where limited access is available, assumptions will have been made.

5.1.5 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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Application 2 (Houses)
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Application 1 (Flats)
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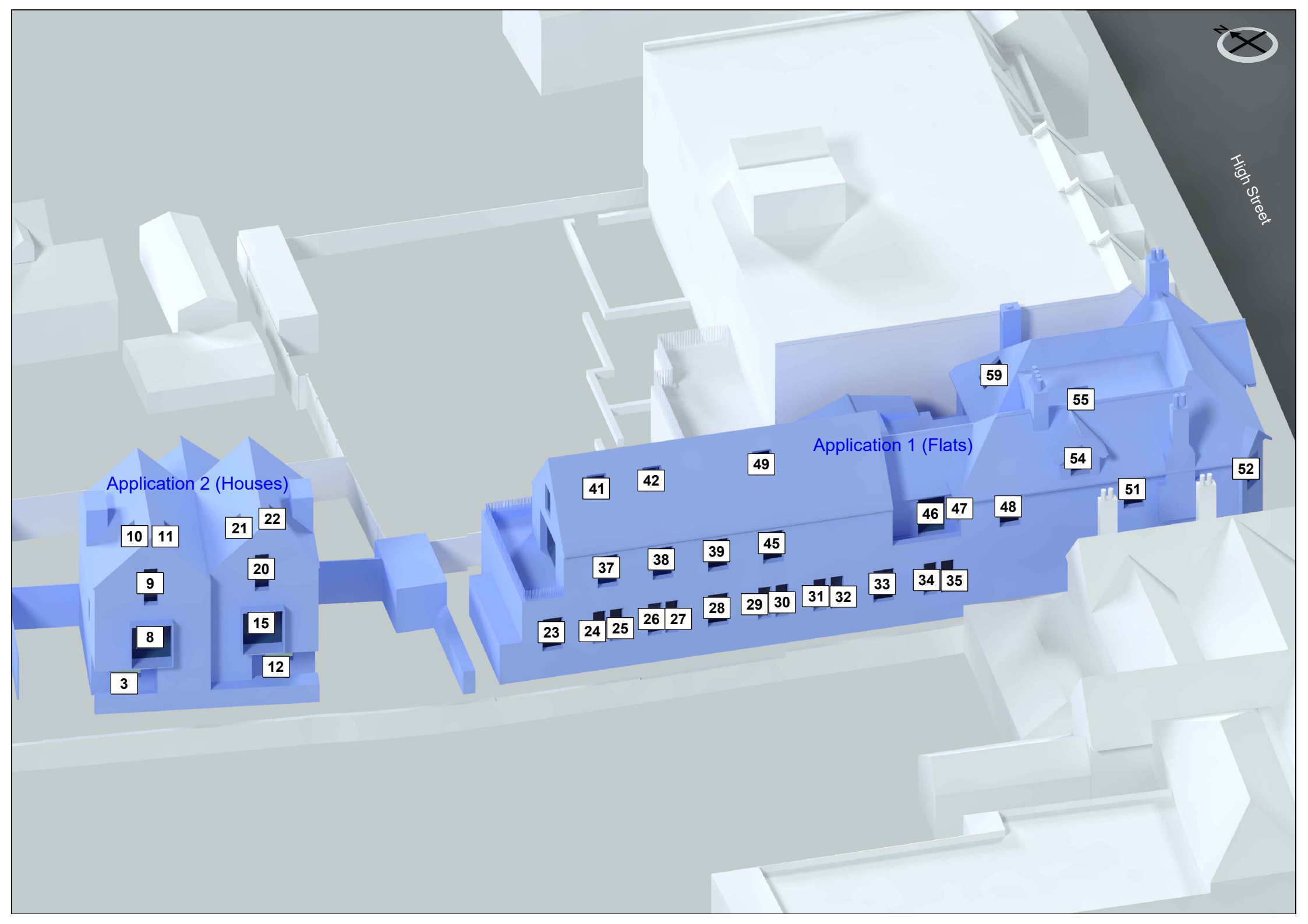
High Street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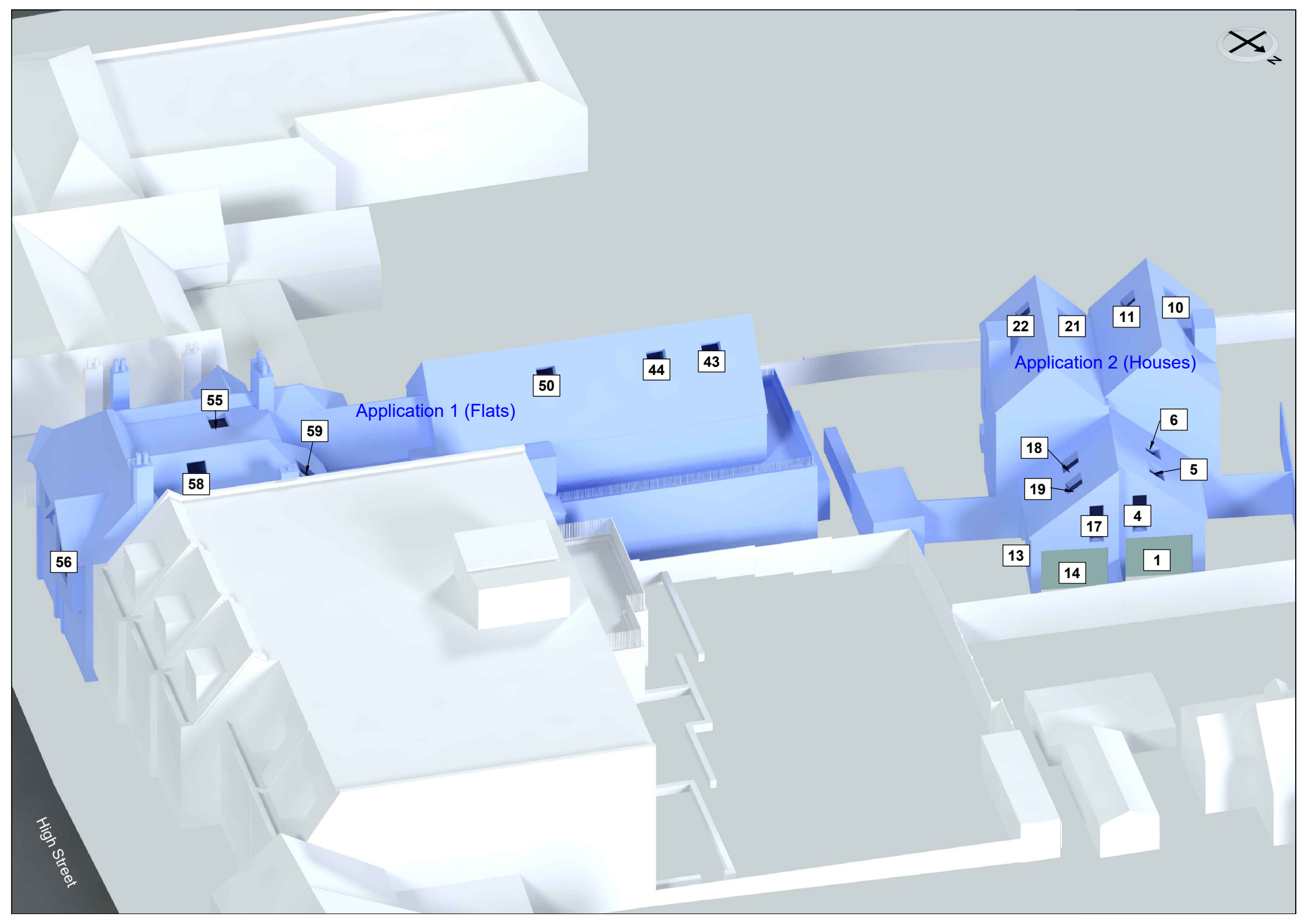
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Application 2 (Houses)
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High Street


High Street
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Application 1 (Flats)
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Application 2 (Houses)
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APPENDIX 2

DAYLIGHT PROVISION DATA & CONTOURS

Appendix 2 - Daylight Provision (Winter)
89 High Street, Billericay, Essex CM12 9AT

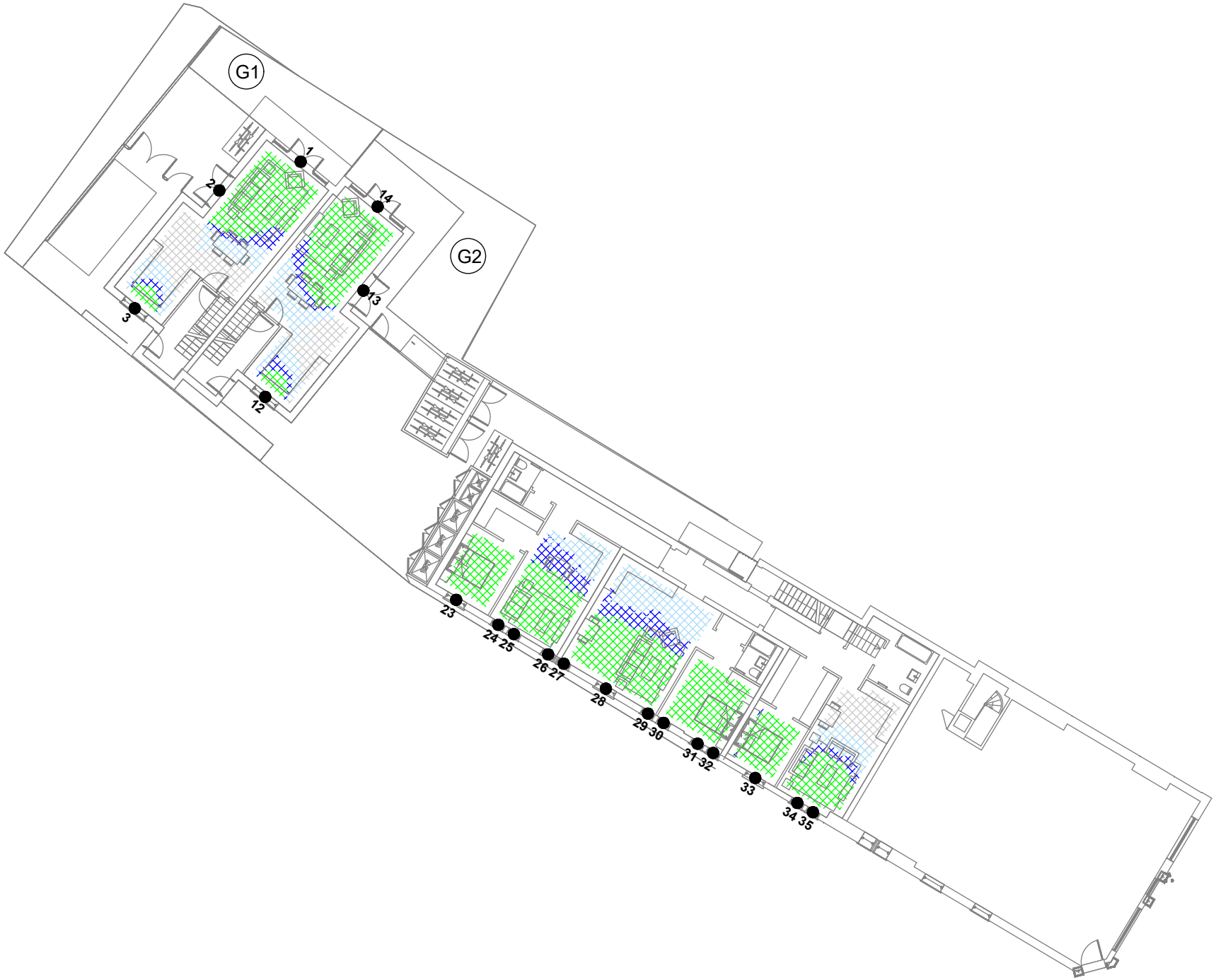
Reference	Room Use	Min.Target Illuminance (Lux)	Target % of Reference Plane	% of Reference Plane Achieved	Target % Achieved	Median Illuminance (Lux)
Planning Application 2 (houses):						
Unit H.01						
Ground Floor						
Windows 1 to 3	Living/Dining/Kitchen	150	50%	52%	Yes	165
First Floor						
Windows 4 to 6	Bedroom	100	50%	100%	Yes	568
Windows 7 & 8	Bedroom	100	50%	100%	Yes	465
Second Floor						
Windows 9 to 11	Bedroom	100	50%	100%	Yes	549
Unit H.02						
Ground Floor						
Windows 12 to 14	Living/Dining/Kitchen	150	50%	58%	Yes	196
First Floor						
Windows 15 & 16	Bedroom	100	50%	100%	Yes	513
Windows 17 to 19	Bedroom	100	50%	100%	Yes	542
Second Floor						
Windows 20 to 22	Bedroom	100	50%	100%	Yes	568
Planning Application 1(flats):						
Unit G.01						
Ground Floor						
Window 23	Bedroom	100	50%	100%	Yes	341
Windows 24 to 26	Living/Dining/Kitchen	150	50%	77%	Yes	241
Unit G.02						
Ground Floor						
Windows 27 to 29	Living/Dining/Kitchen	150	50%	66%	Yes	201
Windows 30 to 32	Bedroom	100	50%	100%	Yes	405
Unit G.03						
Ground Floor						
Window 33	Bedroom	100	50%	100%	Yes	323
Windows 34 & 35	Living/Dining/Kitchen	150	50%	42%	No	122
Unit 1.01						
First Floor						
Windows 36 to 38	Living/Dining/Kitchen	150	50%	100%	Yes	578

Appendix 2 - Daylight Provision (Winter)
89 High Street, Billericay, Essex CM12 9AT

Reference	Room Use	Min.Target Illuminance (Lux)	Target % of Reference Plane	% of Reference Plane Achieved	Target % Achieved	Median Illuminance (Lux)
Window 39	Bedroom	100	50%	100%	Yes	273
Second Floor						
Windows 40 to 44	Bedroom	100	50%	100%	Yes	750
Unit 1.02						
First Floor						
Window 45	Bedroom	100	50%	100%	Yes	272
Windows 46 to 48	Living/Dining/Kitchen	150	50%	69%	Yes	227
Second Floor						
Windows 49 & 50	Bedroom	100	50%	90%	Yes	390
Unit 1.03						
First Floor						
Windows 51 to 53	Living/Dining/Kitchen	150	50%	100%	Yes	287
Second Floor						
Windows 54 & 55	Bedroom	100	50%	95%	Yes	450
Unit 1.04						
First Floor						
Window 56	Living/Dining/Kitchen	150	50%	67%	Yes	209
Window 57	Bedroom	100	50%	83%	Yes	146
Second Floor						
Windows 58 & 59	Bedroom	100	50%	100%	Yes	462

Proposed Ground Floor

Daylight Provision Contours



Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference
- G1 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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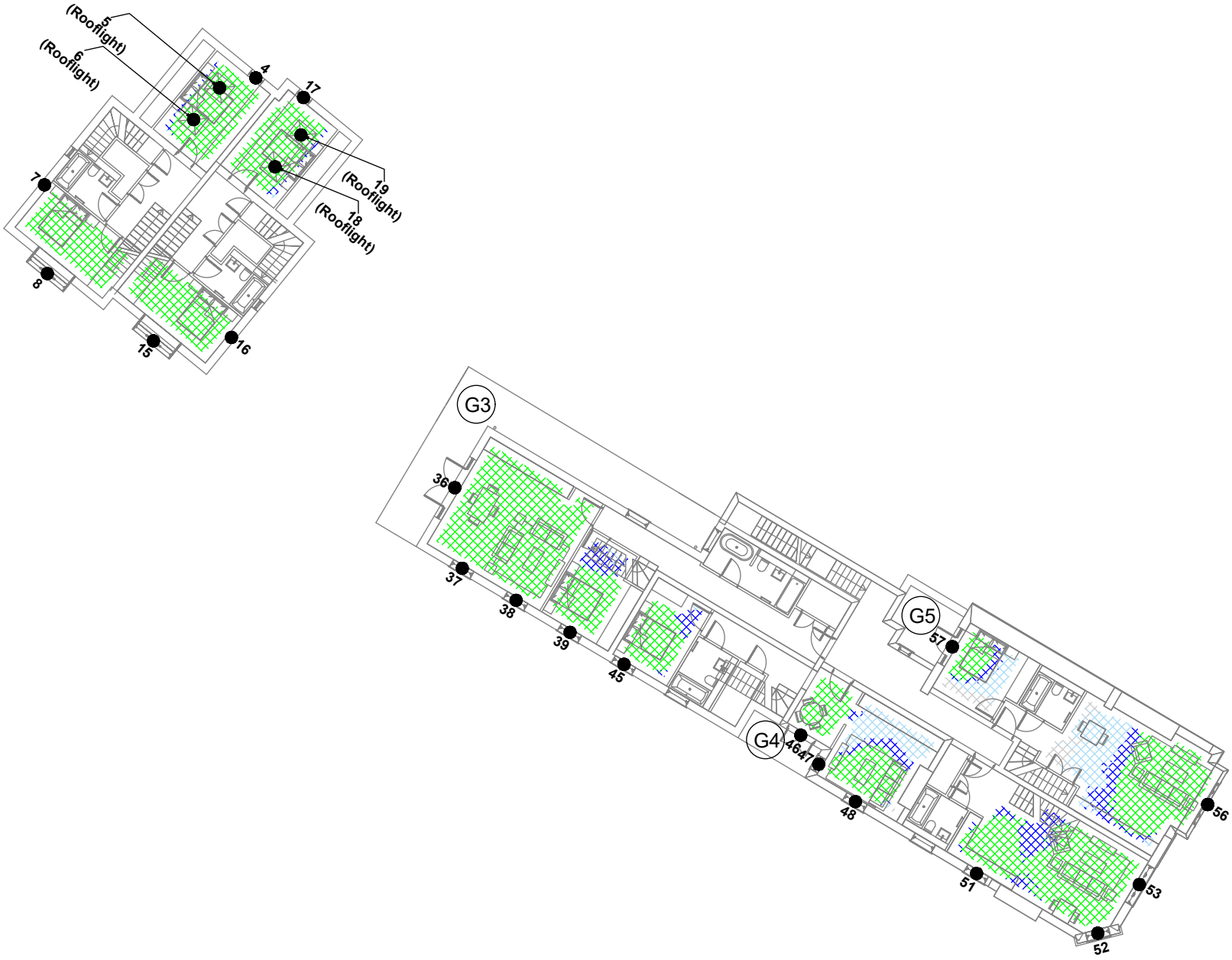
Proposed First Floor

Daylight Provision Contours



Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference
- G1 Gardens and Amenity Areas

Drawing Title: Daylight Provision Contours

Scale: Do not scale

Drawing No: 2 of 3 | Rev. -

Rev	Date	Details of revision

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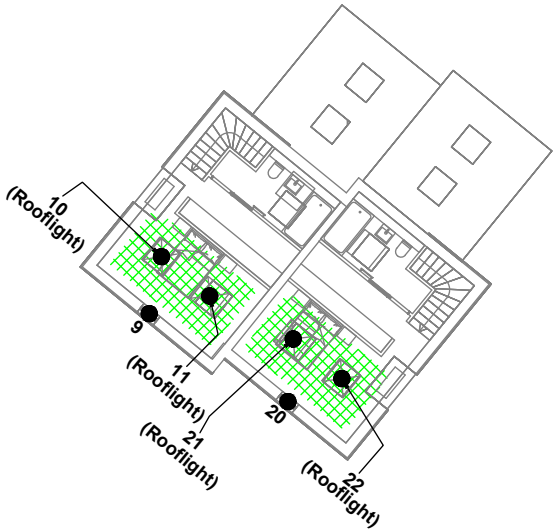
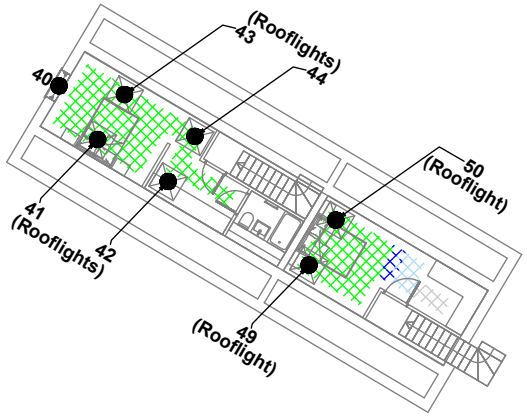
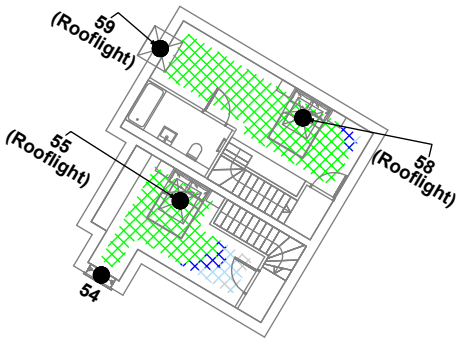
Proposed Second Floor

Daylight Provision Contours







Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference

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 2 - Daylight Provision (Summer)
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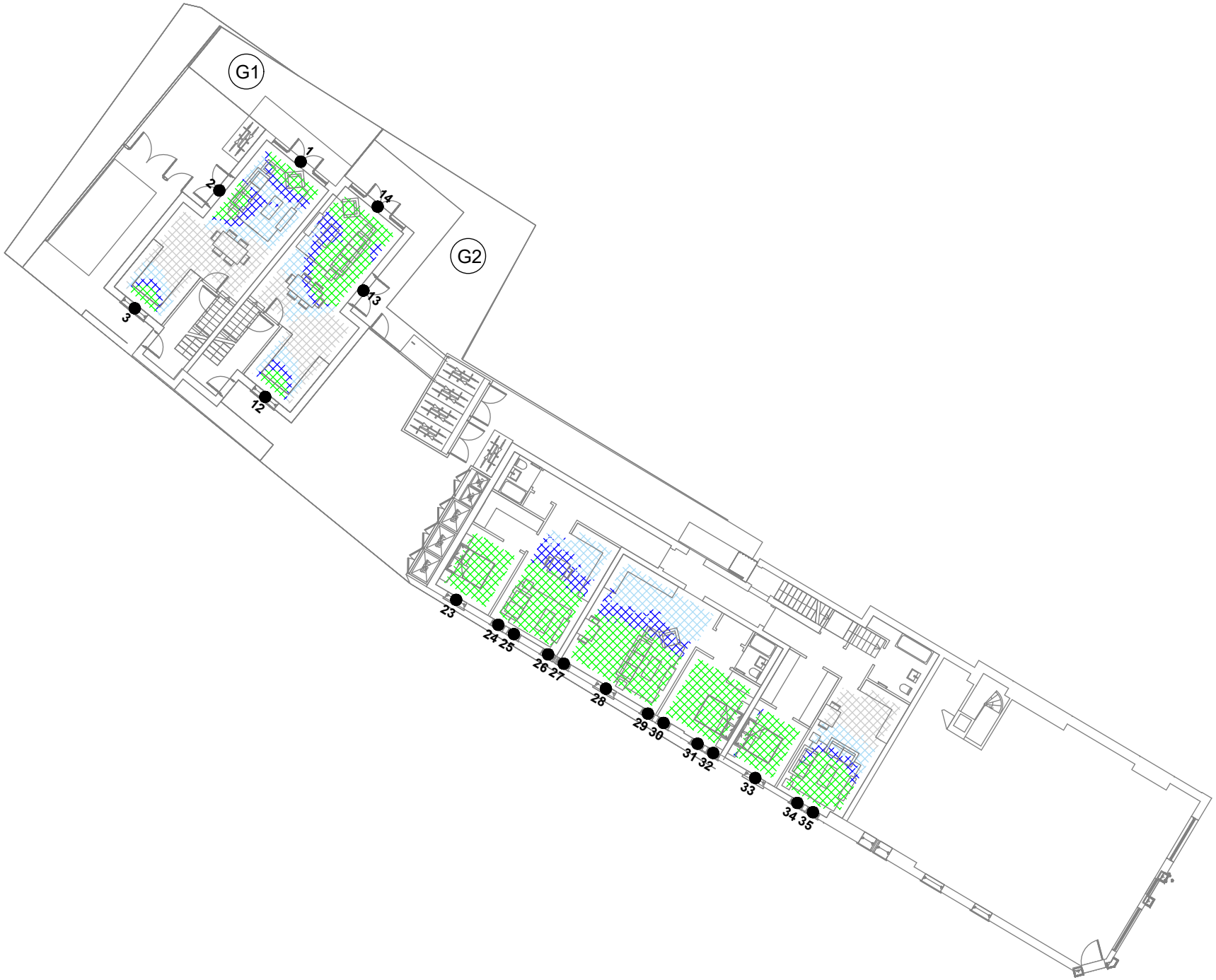
Planning Application 2 (houses):						
Unit H.01						
Ground Floor						
Windows 1 to 3	Living/Dining/Kitchen	150	50%	28%	No	112
First Floor						
Windows 4 to 6	Bedroom	100	50%	100%	Yes	469
Windows 7 & 8	Bedroom	100	50%	100%	Yes	435
Second Floor						
Windows 9 to 11	Bedroom	100	50%	100%	Yes	548
Unit H.02						
Ground Floor						
Windows 12 to 14	Living/Dining/Kitchen	150	50%	52%	Yes	156
First Floor						
Windows 15 & 16	Bedroom	100	50%	100%	Yes	513
Windows 17 to 19	Bedroom	100	50%	100%	Yes	426
Second Floor						
Windows 20 to 22	Bedroom	100	50%	100%	Yes	568
Planning Application 1(flats):						
Unit G.01						
Ground Floor						
Window 23	Bedroom	100	50%	100%	Yes	341
Windows 24 to 26	Living/Dining/Kitchen	150	50%	77%	Yes	241
Unit G.02						
Ground Floor						
Windows 27 to 29	Living/Dining/Kitchen	150	50%	66%	Yes	201
Windows 30 to 32	Bedroom	100	50%	100%	Yes	405
Unit G.03						
Ground Floor						
Window 33	Bedroom	100	50%	100%	Yes	323
Windows 34 & 35	Living/Dining/Kitchen	150	50%	42%	No	122
Unit 1.01						
First Floor						
Windows 36 to 38	Living/Dining/Kitchen	150	50%	100%	Yes	575

Appendix 2 - Daylight Provision (Summer)
89 High Street, Billericay, Essex CM12 9AT

Reference	Room Use	Min.Target Illuminance (Lux)	Target % of Reference Plane	% of Reference Plane Achieved	Target % Achieved	Median Illuminance (Lux)
Window 39	Bedroom	100	50%	100%	Yes	273
Second Floor						
Windows 40 to 44	Bedroom	100	50%	100%	Yes	750
Unit 1.02						
First Floor						
Window 45	Bedroom	100	50%	100%	Yes	272
Windows 46 to 48	Living/Dining/Kitchen	150	50%	69%	Yes	227
Second Floor						
Windows 49 & 50	Bedroom	100	50%	90%	Yes	390
Unit 1.03						
First Floor						
Windows 51 to 53	Living/Dining/Kitchen	150	50%	100%	Yes	287
Second Floor						
Windows 54 & 55	Bedroom	100	50%	95%	Yes	450
Unit 1.04						
First Floor						
Window 56	Living/Dining/Kitchen	150	50%	67%	Yes	209
Window 57	Bedroom	100	50%	83%	Yes	146
Second Floor						
Windows 58 & 59	Bedroom	100	50%	100%	Yes	462

Proposed Ground Floor

Daylight Provision Contours



Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference
- G1 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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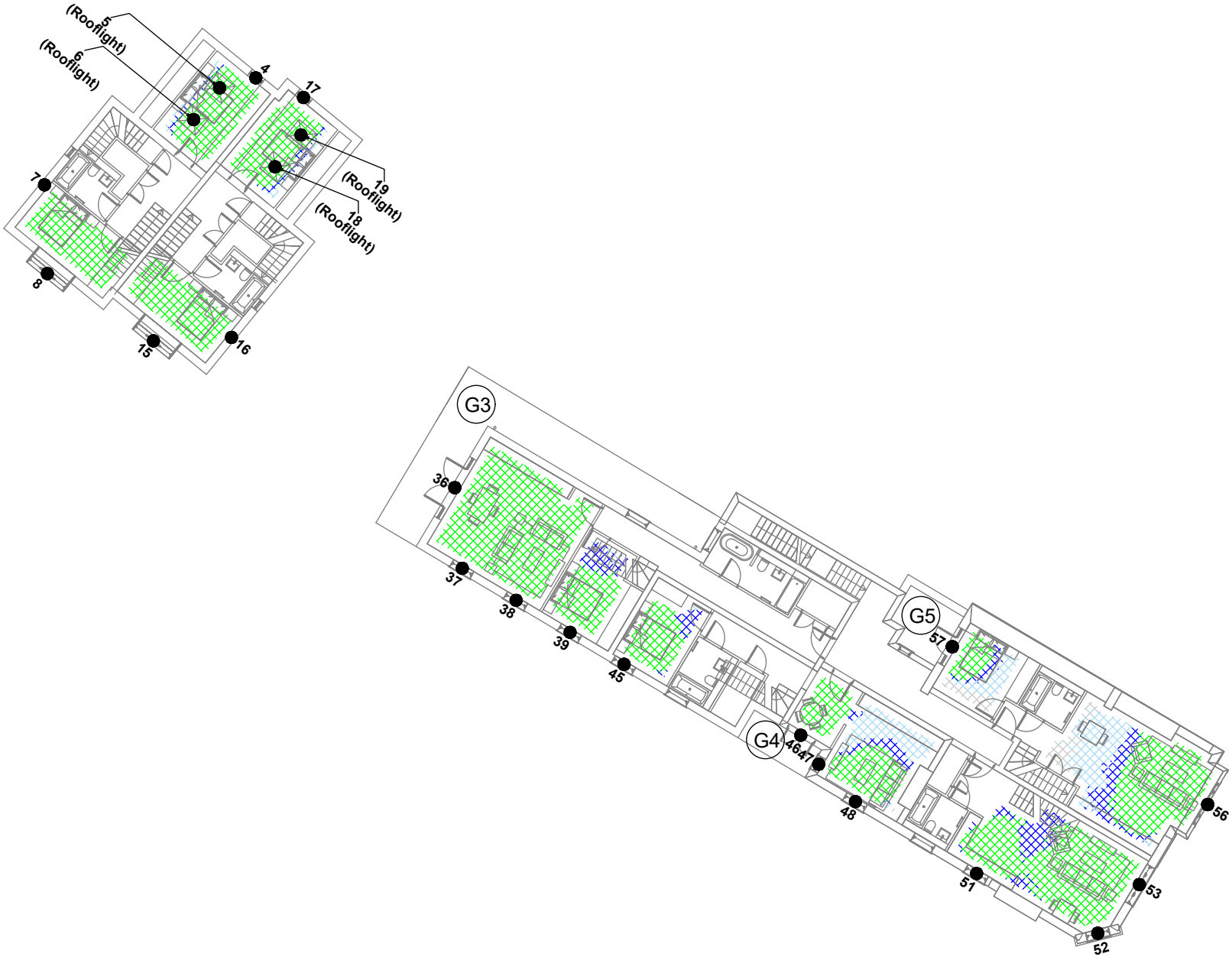
Proposed First Floor

Daylight Provision Contours



Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference
- G1 Gardens and Amenity Areas

Drawing Title: Daylight Provision Contours

Scale: Do not scale

Drawing No: 2 of 3 | Rev. -

Rev	Date	Details of revision

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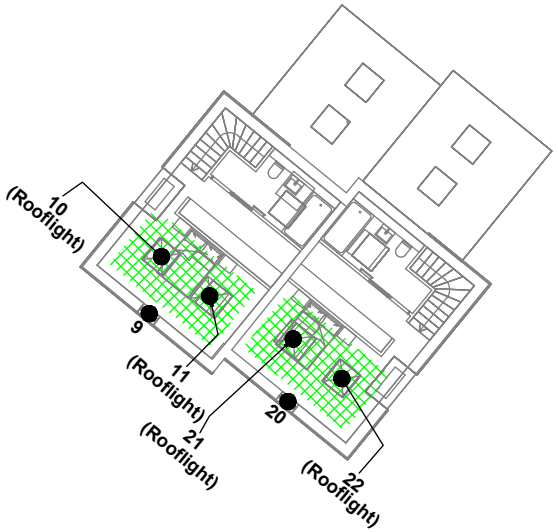
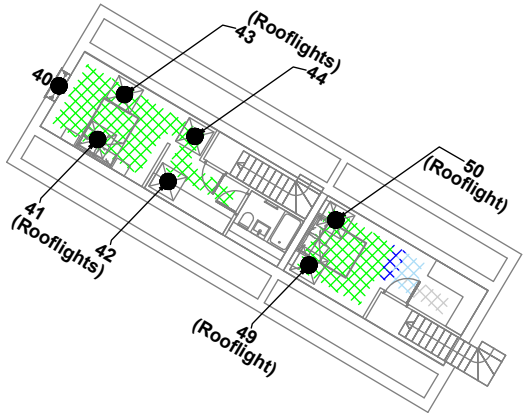
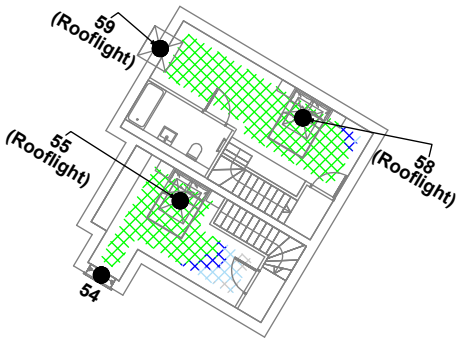
Proposed Second Floor

Daylight Provision Contours







Key:

- 200 lux and above
- 150 lux to 199 lux
- 100 lux to 149 lux
- Below 100 lux
- Window reference

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 - Sunlight Exposure (Including Trees)
89 High Street, Billericay, Essex CM12 9AT

Reference	Room Use	Target Sunlight Exposure	Sunlight Exposure Achieved	At least one room meets Sunlight Exposure Target
Planning Application 2 (houses):				
Unit H.01				
Ground Floor				
Windows 1 to 3	Living/Dining/Kitchen	1.5 hours	3.5 hours	
First Floor				
Windows 4 to 6	Bedroom	1.5 hours	0 hours	Yes
Windows 7 & 8	Bedroom	1.5 hours	5.3 hours	
Second Floor				
Windows 9 to 11	Bedroom	1.5 hours	9.3 hours	
Unit H.02				
Ground Floor				
Windows 12 to 14	Living/Dining/Kitchen	1.5 hours	5.8 hours	
First Floor				
Windows 15 & 16	Bedroom	1.5 hours	7.5 hours	Yes
Windows 17 to 19	Bedroom	1.5 hours	4.6 hours	
Second Floor				
Windows 20 to 22	Bedroom	1.5 hours	9.5 hours	
Planning Application 1(flats):				
Unit G.01				
Ground Floor				
Window 23	Bedroom	1.5 hours	6.2 hours	Yes
Windows 24 to 26	Living/Dining/Kitchen	1.5 hours	5.7 hours	
Unit G.02				
Ground Floor				
Windows 27 to 29	Living/Dining/Kitchen	1.5 hours	6.2 hours	Yes
Windows 30 to 32	Bedroom	1.5 hours	5.5 hours	
Unit G.03				
Ground Floor				
Window 33	Bedroom	1.5 hours	6.4 hours	Yes
Windows 34 & 35	Living/Dining/Kitchen	1.5 hours	5.8 hours	
Unit 1.01				
First Floor				
Windows 36 to 38	Living/Dining/Kitchen	1.5 hours	6.1 hours	
Window 39	Bedroom	1.5 hours	6 hours	Yes
Second Floor				
Windows 40 to 44	Bedroom	1.5 hours	5.9 hours	

Appendix 3 - Sunlight Exposure (Including Trees)
89 High Street, Billericay, Essex CM12 9AT

Reference	Room Use	Target Sunlight Exposure	Sunlight Exposure Achieved	At least one room meets Sunlight Exposure Target
Unit 1.02				
First Floor				
Window 45	Bedroom	1.5 hours	6 hours	Yes
Windows 46 to 48	Living/Dining/Kitchen	1.5 hours	5.9 hours	
Second Floor				
Windows 49 & 50	Bedroom	1.5 hours	5.4 hours	
Unit 1.03				
First Floor				
Windows 51 to 53	Living/Dining/Kitchen	1.5 hours	8.2 hours	Yes
Second Floor				
Windows 54 & 55	Bedroom	1.5 hours	4.5 hours	
Unit 1.04				
First Floor				
Window 56	Living/Dining/Kitchen	1.5 hours	5.7 hours	Yes
Window 57	Bedroom	1.5 hours	0 hours	
Second Floor				
Windows 58 & 59	Bedroom	1.5 hours	3.9 hours	

Appendix 3 - Sunlight Exposure (Excluding Trees)
89 High Street, Billericay, Essex CM12 9AT

Reference	Room Use	Target Sunlight Exposure	Sunlight Exposure Achieved	At least one room meets Sunlight Exposure Target
Planning Application 2 (houses):				
Unit H.01				
Ground Floor				
Windows 1 to 3	Living/Dining/Kitchen	1.5 hours	3.5 hours	
First Floor				
Windows 4 to 6	Bedroom	1.5 hours	0 hours	Yes
Windows 7 & 8	Bedroom	1.5 hours	5.3 hours	
Second Floor				
Windows 9 to 11	Bedroom	1.5 hours	9.3 hours	
Unit H.02				
Ground Floor				
Windows 12 to 14	Living/Dining/Kitchen	1.5 hours	5.8 hours	
First Floor				
Windows 15 & 16	Bedroom	1.5 hours	7.5 hours	Yes
Windows 17 to 19	Bedroom	1.5 hours	4.6 hours	
Second Floor				
Windows 20 to 22	Bedroom	1.5 hours	9.5 hours	
Planning Application 1(flats):				
Unit G.01				
Ground Floor				
Window 23	Bedroom	1.5 hours	6.2 hours	Yes
Windows 24 to 26	Living/Dining/Kitchen	1.5 hours	5.7 hours	
Unit G.02				
Ground Floor				
Windows 27 to 29	Living/Dining/Kitchen	1.5 hours	6.2 hours	Yes
Windows 30 to 32	Bedroom	1.5 hours	5.5 hours	
Unit G.03				
Ground Floor				
Window 33	Bedroom	1.5 hours	6.4 hours	Yes
Windows 34 & 35	Living/Dining/Kitchen	1.5 hours	5.8 hours	

Appendix 3 - Sunlight Exposure (Excluding Trees)
89 High Street, Billericay, Essex CM12 9AT

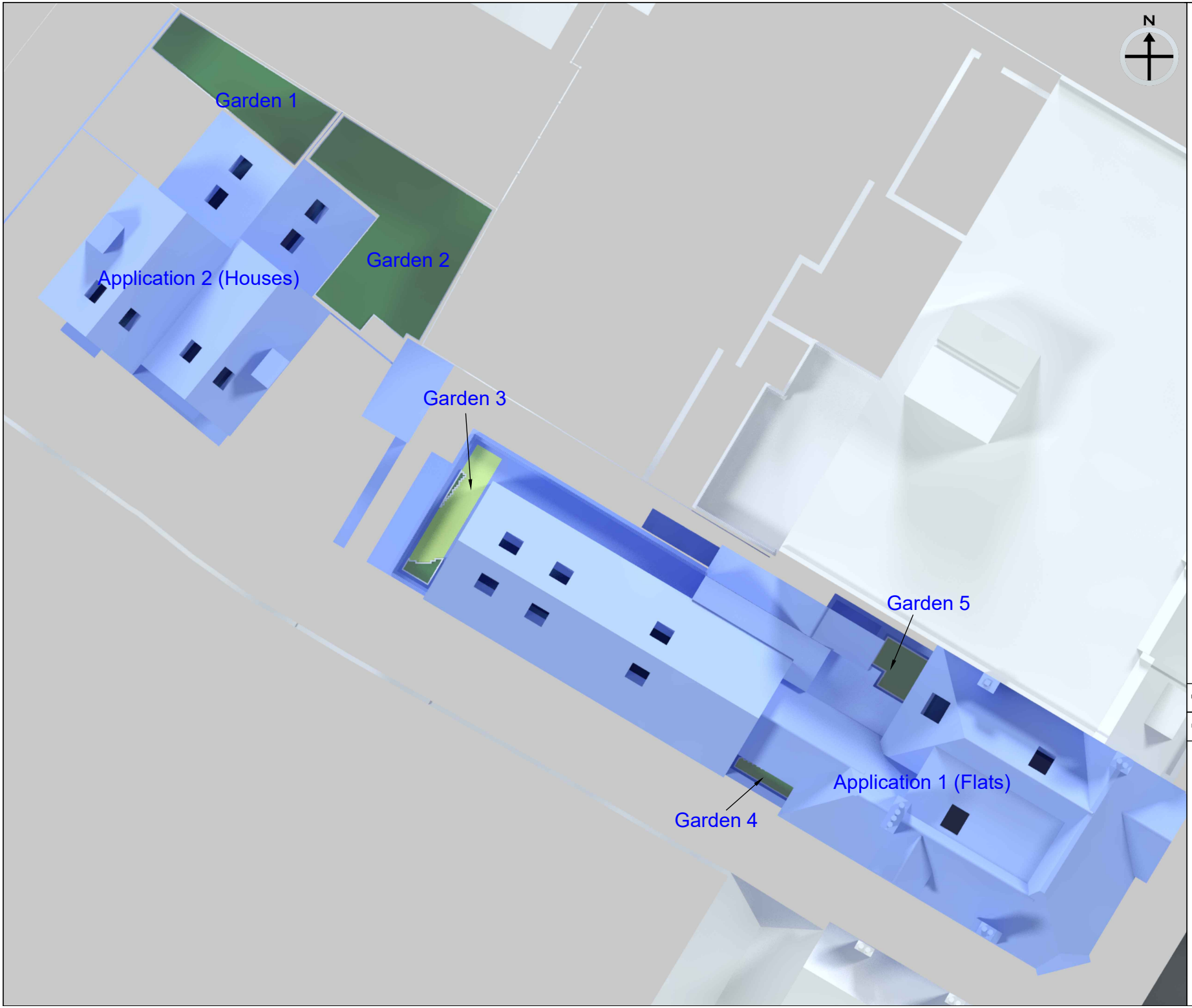
Reference	Room Use	Target Sunlight Exposure	Sunlight Exposure Achieved	At least one room meets Sunlight Exposure Target
Unit 1.01				
First Floor				
Windows 36 to 38	Living/Dining/Kitchen	1.5 hours	6.1 hours	
Window 39	Bedroom	1.5 hours	6 hours	Yes
Second Floor				
Windows 40 to 44	Bedroom	1.5 hours	5.9 hours	
Unit 1.02				
First Floor				
Window 45	Bedroom	1.5 hours	6 hours	
Windows 46 to 48	Living/Dining/Kitchen	1.5 hours	5.9 hours	Yes
Second Floor				
Windows 49 & 50	Bedroom	1.5 hours	5.4 hours	
Unit 1.03				
First Floor				
Windows 51 to 53	Living/Dining/Kitchen	1.5 hours	8.2 hours	
Second Floor				Yes
Windows 54 & 55	Bedroom	1.5 hours	4.5 hours	
Unit 1.04				
First Floor				
Window 56	Living/Dining/Kitchen	1.5 hours	5.7 hours	
Window 57	Bedroom	1.5 hours	0 hours	Yes
Second Floor				
Windows 58 & 59	Bedroom	1.5 hours	3.9 hours	

APPENDIX 4

OVERSHADOWING TO GARDENS & OPEN SPACES

Appendix 4 - Overshadowing to Gardens and Open Spaces
89 High Street, Billericay, Essex CM12 9AT

Reference	Total Area	Area receiving at least 2 hours of sunlight on 21 March	
Planning Application 2 (houses):			
Unit H.01			
Ground Floor			
Garden 1	22.5 m2	0.0 m2	0%
Unit H.02			
Ground Floor			
Garden 2	46.22 m2	0.0 m2	0%
Planning Application 1(flats):			
Unit 1.01			
First Floor			
Garden 3	20.4 m2	8.28 m2	41%
Unit 1.02			
First Floor			
Garden 4	2.14 m2	0.21 m2	10%
Unit 1.04			
First Floor			
Garden 5	4.57 m2	0.0 m2	0%



Key

Receives under two hours sunlight on 21st March.

Receives at least two hours sunlight on 21st March.

Project Name: 89 High Street, Billericay, Essex CM12 9AT

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

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