



DAYLIGHT AND SUNLIGHT REPORT

**Ajax Road,
London
NW6**

25th March, 2015



**2-6 Boundary Row
London
SE1 8HP**
Tel: 020 3714 4090

janine.dunn@chp.gb.com
www.chp.gb.com

Daylight and Sunlight Report

AJAX ROAD
LONDON
NW6

Prepared for:-

Kirsten and Alan Pollock
Ravenholt
Arkley Drive
EN5 3LN

Prepared by

James M A Crowley

Date

25th March, 2015

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This report is solely for the benefit of **Kirsten and Alan Pollock** and the benefit cannot be transferred to any other party without the express written consent of CHP Surveyors Limited.

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1.0 Executive Summary

1.1 In accordance with our instructions by Kirsten and Alan Pollock, we have considered the implications the proposals for the above site will have on the daylight and sunlight enjoyed by the neighbouring residential properties with reference to the Building Research Establishment's publication "*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*" (2011) (the "**BRE Guidelines**").

1.3 The standards and tests applied within this assessment are briefly described in Appendix A.

1.4 Our analysis demonstrates that in all instances, the numerical values contained within the BRE Guidelines with regards to daylight enjoyed by the neighbouring residential properties will be achieved.

1.5 The analysis of the proposed accommodation demonstrates that the recommended level of daylight will be exceeded.

1.6 Our analysis also demonstrates that the BRE Guidelines with regards to the level of sunlight the neighbouring properties will enjoy, will be achieved.

2.0 Instruction

2.1 We have been instructed by Kirsten and Alan Pollock to establish the implications the proposals for the above site will have on the daylight and sunlight enjoyed by the neighbouring residential properties.

3.0 Assessment

3.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the BRE Guidelines.

- 3.2** To assist in the understanding of the analysis that has been undertaken as part of this report, a summary of the relevant BRE Guidelines, entitled the "Principles of Daylight and Sunlight" is at Appendix A.

4.0 Information

- 4.1** We have made reference to the following information:-

Ordnance Survey

Site Plan

De Metz Forbes Knight Architects

Drawings referenced dMKF_AJAX ROAD_Dwg & SK01-02

Design and Image Drawings

Mar-2012

CHP Surveyors Ltd

Site visit and online research

5.0 Proposals

- 5.1** Kirsten and Alan Pollock are submitting a Planning Application for the construction of a new structure over two floors as indicated on drawing numbers 1996_00, 01A, 02, 03A, 04, 05 and 06 attached at Appendix B.

6.0 Methodology

6.1 From the information received, we have produced a 3D computer model of the existing structure on the site and the neighbouring properties including the window locations and internal configuration either actual or assumed. We have then produced a 3D computer model of the proposed structures for the site.

6.2 Using a specialist computer programme, we have undertaken the required analysis as set out in the BRE Guidelines.

7.0 Analysis

7.1 From our onsite observations the neighbouring residential properties are:-

- 1B Ulysses Road
- 2 Achilles Road
- 4 Achilles Road

7.2 1B Ulysses Road

7.2.1 These properties are located to the north of the site and provides residential accommodation over two floors.

7.2.2 The results of our analysis as set out in the table attached at Appendix C demonstrates that in all instances a VSC of at least 27% or at least 0.8 times the existing will be achieved

7.2.3 With regards to daylight distribution the results of our analysis, based on our assumptions as to the internal configuration, as indicated in the table attached at Appendix C, in all instances a significant portion of the room will lie in front of the NSL.

7.2.4 With regards to sunlight due the results of our analysis as set out in the table attached at Appendix D demonstrates that in all instances at least 25% total APSH will be achieved and there will be no change in the level of sunlight enjoyed during the winter months.

7.3 2 Achillies Road

7.3.1 This property is located to the south of the site and provides residential accommodation over three floors.

7.3.2 The results of our analysis as set out in the table attached at Appendix C demonstrates that in all instances a VSC of at least 27% or at least 0.8 times the existing will be achieved

7.3.3 With regards to daylight distribution the results of our analysis, based on our assumptions as to the internal configuration, as indicated in the table attached at Appendix C, in all instances a significant portion of the room will lie in front of the NSL.

7.3.4 Concerning sunlight, due to the orientation of this property, no analysis is required.

7.4 4 Achillies Road

7.4.1 This property is located to the south of the site and provides residential accommodation over three floors.

7.4.2 The results of our analysis as set out in the table attached at Appendix C demonstrates that in all instances a VSC of at least 27% will be achieved

7.4.3 With regards to daylight distribution the results of our analysis, based on our assumptions as to the internal configuration, as indicated in the table attached at Appendix C, in all instances a significant portion of the room will lie in front of the NSL.

7.4.4 Concerning sunlight, due to the orientation of this property, no analysis is required.

7.5 Internal Analysis

7.5.1 We have considered the level of daylight the proposed accommodation will enjoy with reference to Section 2.1 of the BRE Guidelines and Section 5.5 of the London Housing Design Guide. This analysis, the results of which are set out in the table attached at Appendix C, demonstrates that the design has ensured that all habitable rooms will achieve the recommended minimum ADF.

8.0 Conclusion

8.1 We have considered the implications the proposals will have on the daylight and sunlight enjoyed by the neighbouring residential properties as well as the sunlight enjoyed by the adjacent amenity space.

8.2 With regards to daylight, based on a Vertical Sky Component analysis and No Sky Line analysis, in all instances the numerical values contained within the BRE Guidelines are met.

8.3 The analysis of the proposed accommodation demonstrates that in all instances the recommended level of daylight will be achieved.

8.4 Concerning sunlight, the analysis demonstrates that the proposals will not have a significant implication.

8.5 The results of our analysis therefore demonstrate that the aims of the Building Research Establishments publication "*Site Layout Planning for Daylight and Sunlight A guide to good practice*" are met with regards to the neighbouring residential properties and that the proposed accommodation will achieve the recommended level of daylight as set out in the Mayor of London's Housing SPG.

Appendix A

Principles of Daylight and Sunlight

In 2011 the Building Research Establishment (BRE) published a handbook titled "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice" to provide advice to building designers on site layout planning in order to achieve good daylight and sunlight amenity to the proposed development, the open spaces between the proposed blocks and the existing surrounding properties.

As stated within the Introduction of this document, the aim of these guidelines is:- *"To help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions."*

The application of the BRE Guidelines are suited more to low density suburban development sites where there is a greater flexibility for site layout planning. In dense urban development sites, these are usually constrained often by adjacent buildings and the guidelines state that these should be applied more flexibly in these instances, as contained within the introduction of the BRE Guidelines:- *"The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guides, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design..."*

It must therefore be appreciated and as can be seen from the above extracts and which is reiterated throughout, the handbook is for guidance only.

Daylight

Daylight assessments should be undertaken to habitable rooms where the occupants can expect to receive a reasonable amount of daylight.

The first assessment is to establish whether the proposals will subtend an angle of 25° from the centre of the window. If it does not, then it is considered there will be good daylight. The BRE Guidelines advise:- *"If any part of a new building or extension, measured in a vertical section*

perpendicular to a main window wall of an existing building, from the centre of a lowest window, subtends an angle of more than 25° to the horizontal may be affected."

This assessment is most appropriate for well spaced, low density or low rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments where the existing building on the development site already subtends at an angle greater than 25° to the horizontal from the subject window. It is for this reason that this 25° assessment is generally dispensed with and the more detailed analysis outlined below is undertaken.

- **Vertical Sky Component (VSC)**

The Vertical Sky Component (VSC) analysis establishes the amount of available daylight received directly from the sky for each individual window. The reference point for the analysis being the centre of the window, on the plane of the outer window wall.

The VSC is the amount of direct sky a window enjoys, expressed as a percentage of the amount of direct sky a horizontal, unobstructed rooflight would receive.

The maximum percentage of direct skylight a vertical window can receive is 40%. The BRE have determined that where a VSC of 27% is achieved, then daylight should reach the window of an existing building.

Where a VSC of less than 27%, is either before the implementation of the proposals enjoyed, or it is enjoyed following the implementation, then the BRE Guidelines state that provided the new value is greater than 0.8 times the existing value, daylight will not be significantly affected.

- **Daylight Distribution**

The Daylight Distribution analysis is undertaken at working plane level, with this set at 0.85m above floor level of a dwelling.

The BRE Guidelines state that provided a significant area of the room lies in front of the No Sky Line (the point behind which at desk top level no sky is visible), then the room will enjoy good daylight distribution.

If in the existing situation this is not the case, the BRE Guidelines state that provided that the area following the implementation of the proposals is at least 0.8 times the existing area, there will not be a significant affect.

Sunlight

This analysis is undertaken in a similar method to calculating VSC. Within residential accommodation the analysis for a sunlight analysis relates to the main windows that are within 90° of due south. It is considered that sunlight to kitchens and bedrooms is less important, although care should be taken not to block out too much.

Within commercial or non-domestic buildings, the use of the building will determine whether a sunlight assessment is required.

In relation to neighbouring residential buildings, if a window is facing within 90° of due south and overlooking any part of the proposals subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected.

- **Annual Probable Sunlight Hours (APSH)**

The 'Probable Sunlight Hours' can be defined as the total number of hours in the year that sun is expected to shine.

The APSH assessment is undertaken to the main window of residential buildings, where the window faces 90° of due south. Within the BRE Guidelines it sets out the criteria for this assessment:-

"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely effected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, received in the year less than one quarter (25%) of annual probable sunlight hours including at least 5% of annual probable sunlight hours between 21 September and 21 March, and less than 0.8 times its former sunlight hours during either period."

In summary, if it does not achieve the specific numerical values, the sunlight to an existing building may be reduced by 20% in either the annual or winter periods before that loss becomes noticeable as a result of a proposed development.

Appendix B

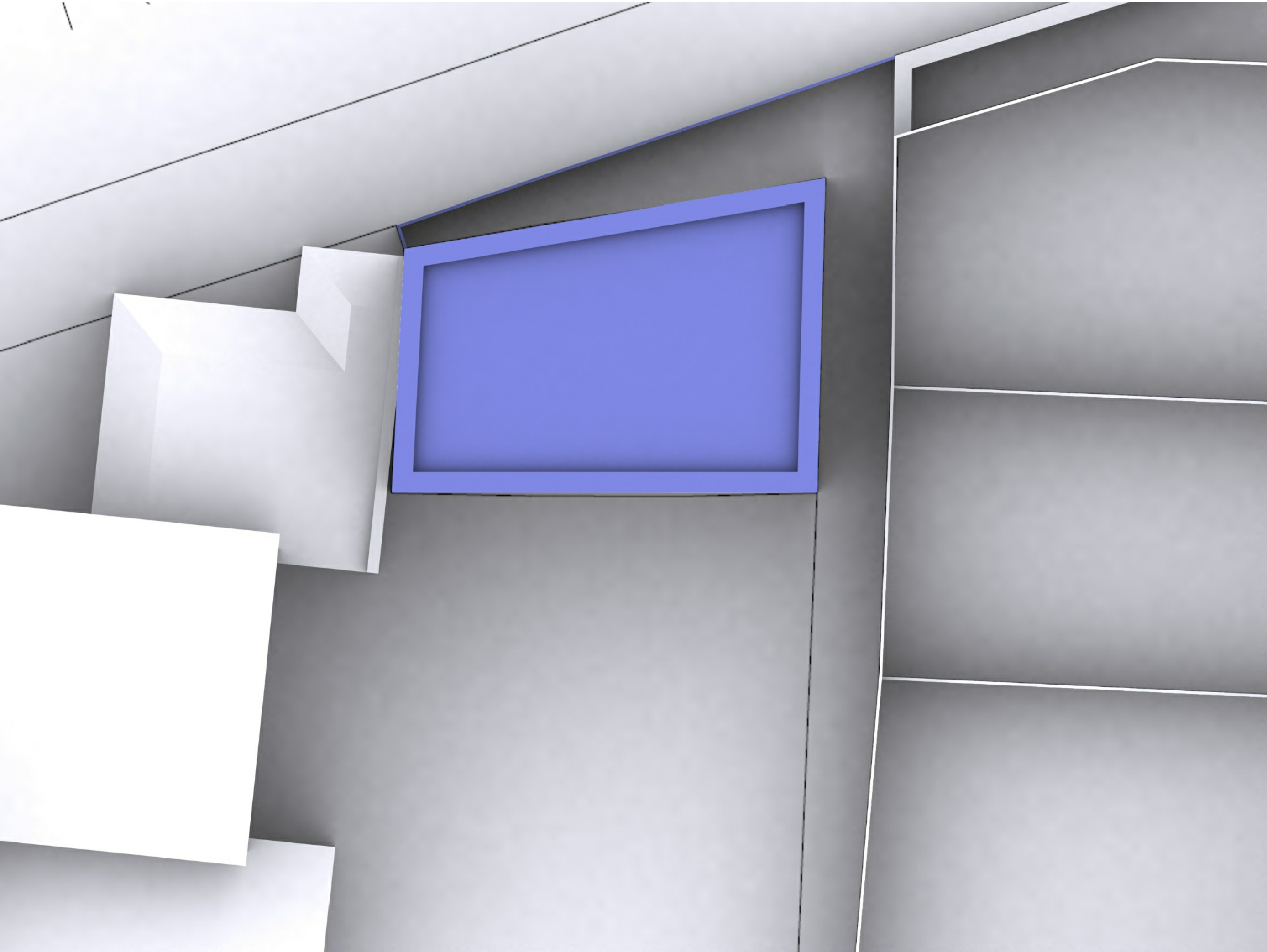
KEY



PROJECT TITLE
Ajax Road

DRAWING TITLE
Existing Plan View

SCALE NTS	DATE 25/03/2015	ISSUE -
DWG NO 1996_00	REV -	

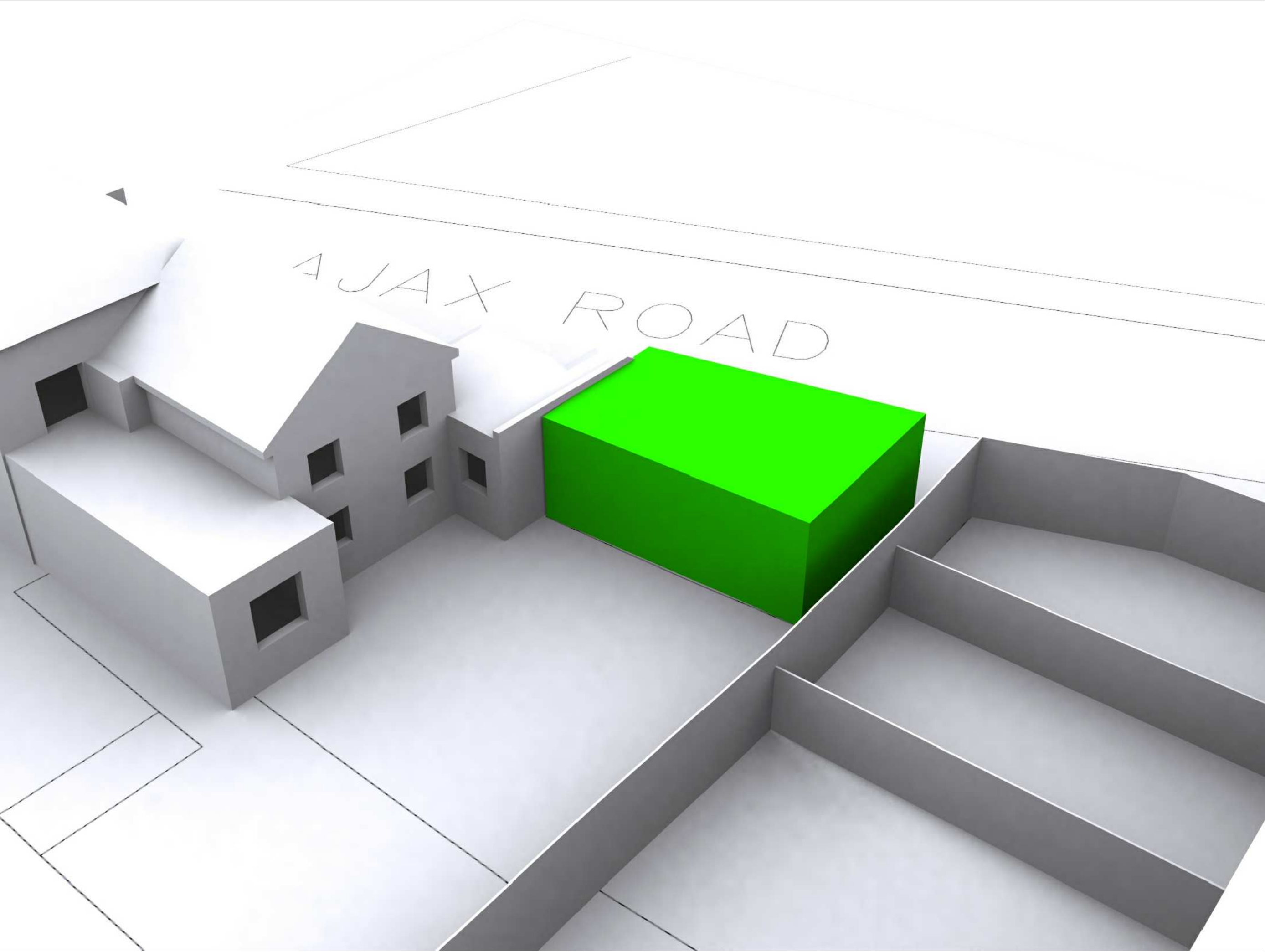


SURVEYORS LIMITED
Hudson House - 8 Tavistock Street - London
WC2E 7PP
TEL: 020 7083 0133
www.CHP.gb.com

PROJECT TITLE
Ajax Road

DRAWING TITLE
Proposed Plan View

SCALE	DATE	ISSUE
NTS	190515	02
DWG NO	REV	
1996_01	A	



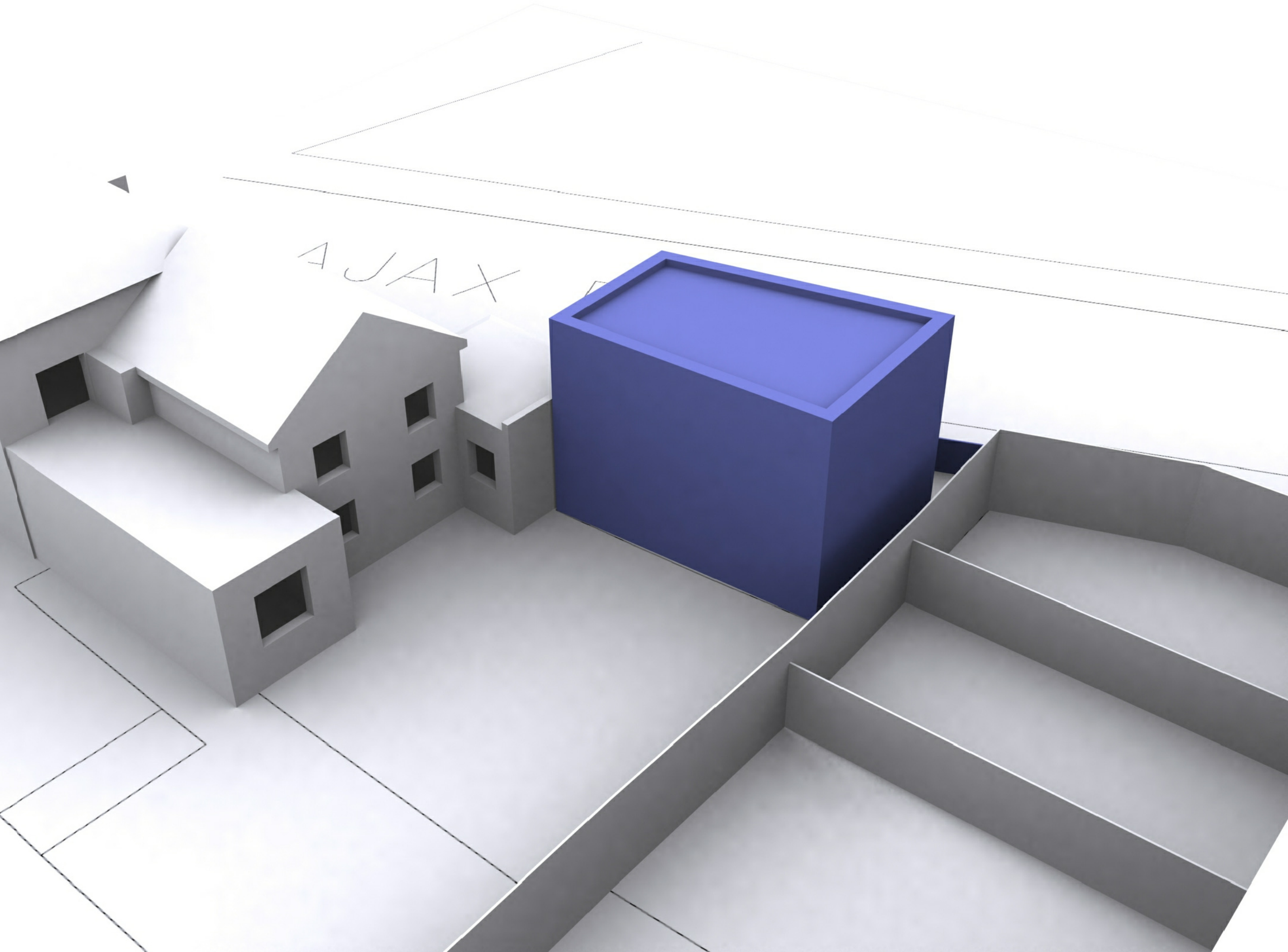
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PROJECT TITLE
Ajax Road

DRAWING TITLE
Existing 3D View

SCALE NTS	DATE 25/03/2015	ISSUE -
DWG NO 1996_02		REV -

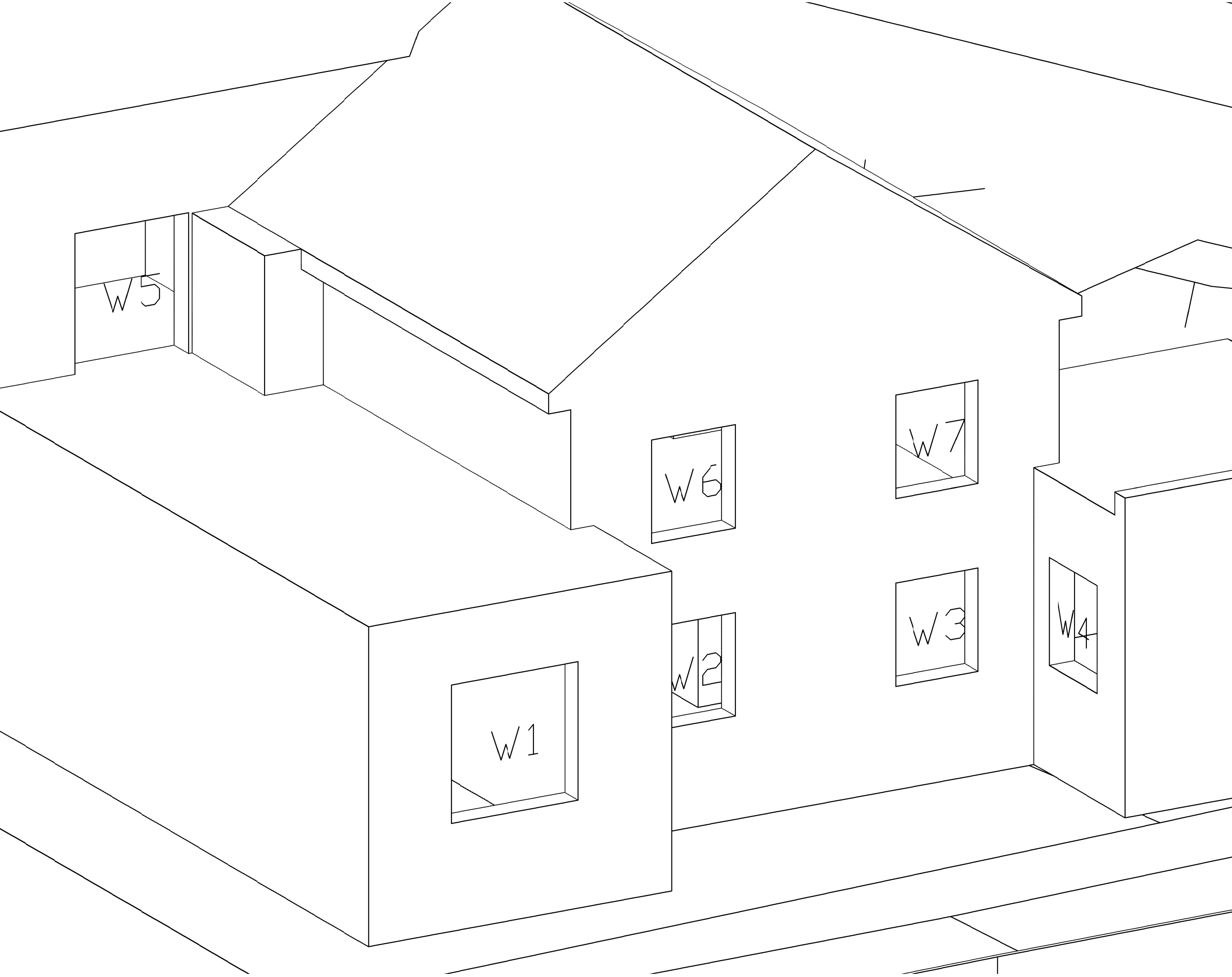


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Hudson House - 8 Tavistock Street - London
WC2E 7PP
TEL: 020 7083 0133
www.CHP.gb.com

PROJECT TITLE
Ajax Road

DRAWING TITLE
Proposed Perspective View

SCALE	DATE	ISSUE
NTS	190515	02
DWG NO		REV
1996_03		A



Sources

dMKF_AJAX ROAD_Dwg & SK01-2
Design and Image Drawings (Mar-2012)

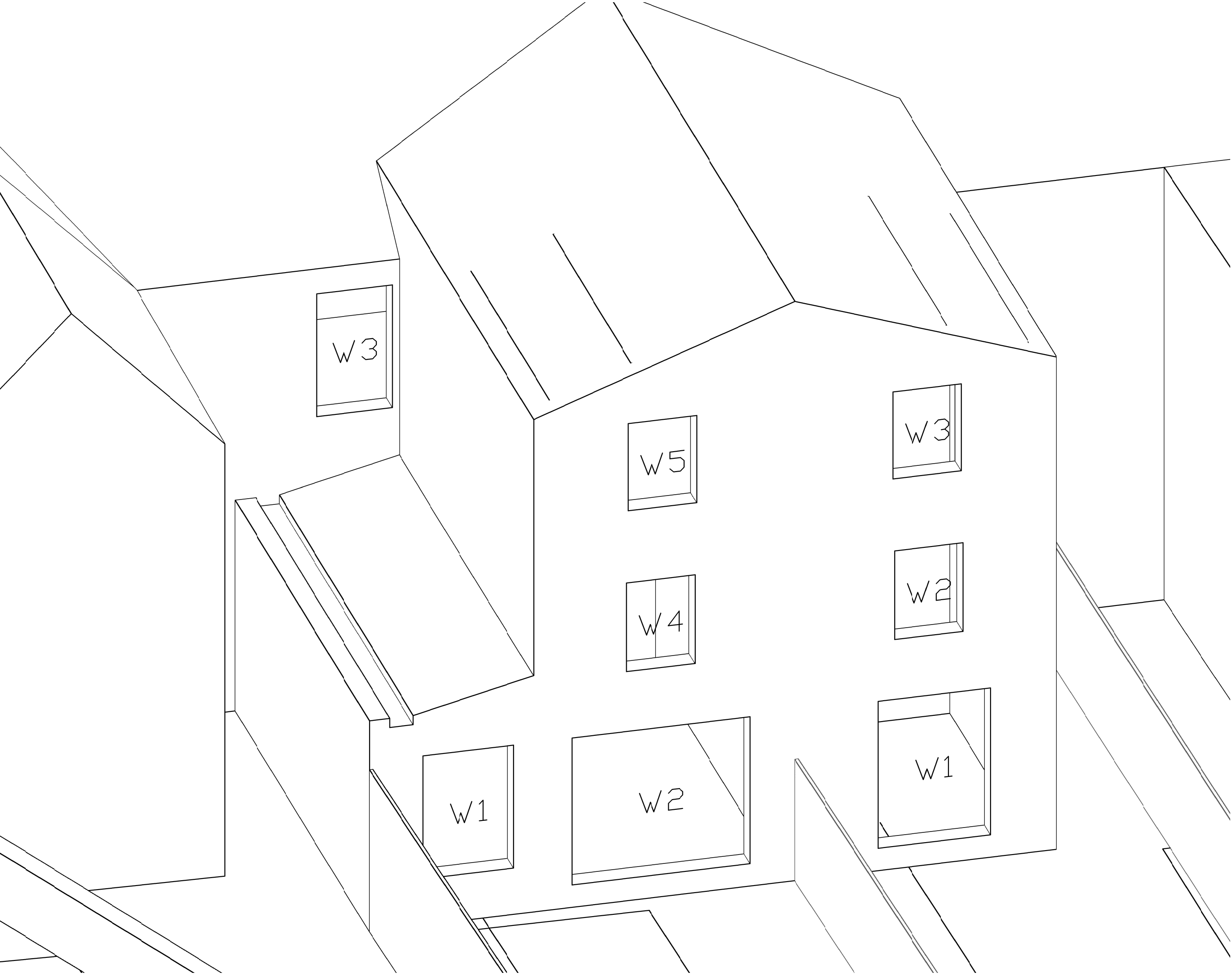
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PROJECT TITLE
Ajax Road

DRAWING TITLE
1 Ulysses Road - Window Map

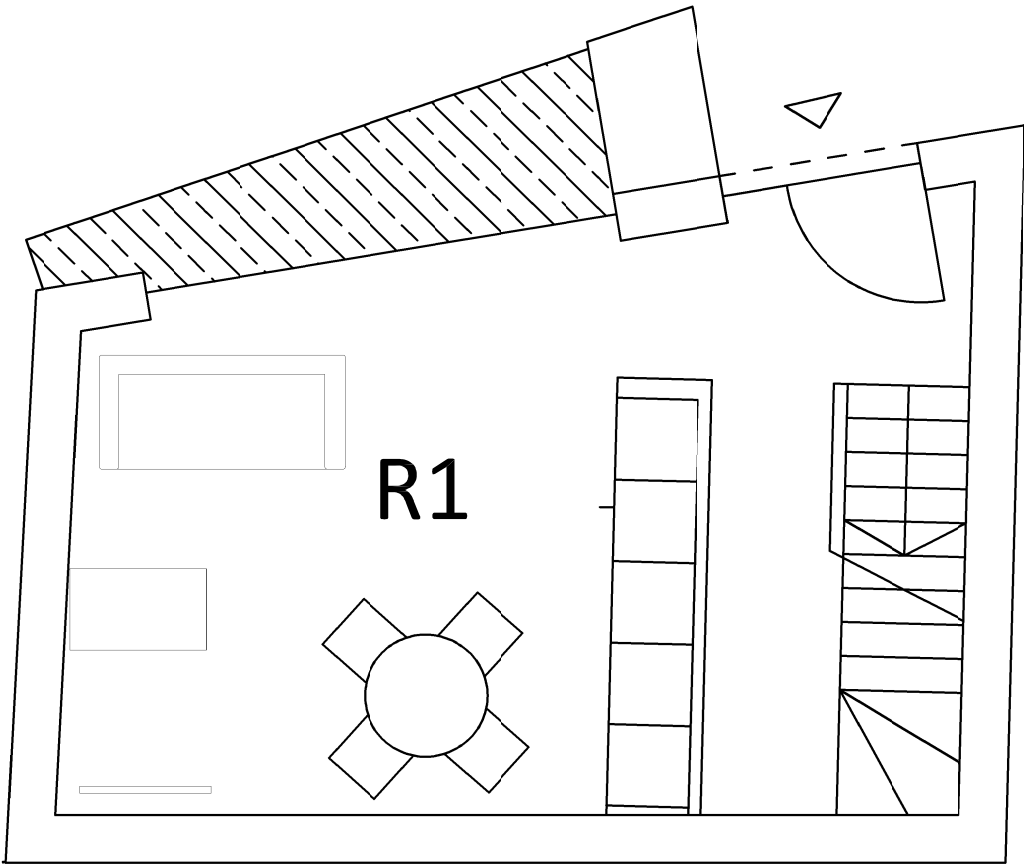
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DWG NO 1996_04		REV -



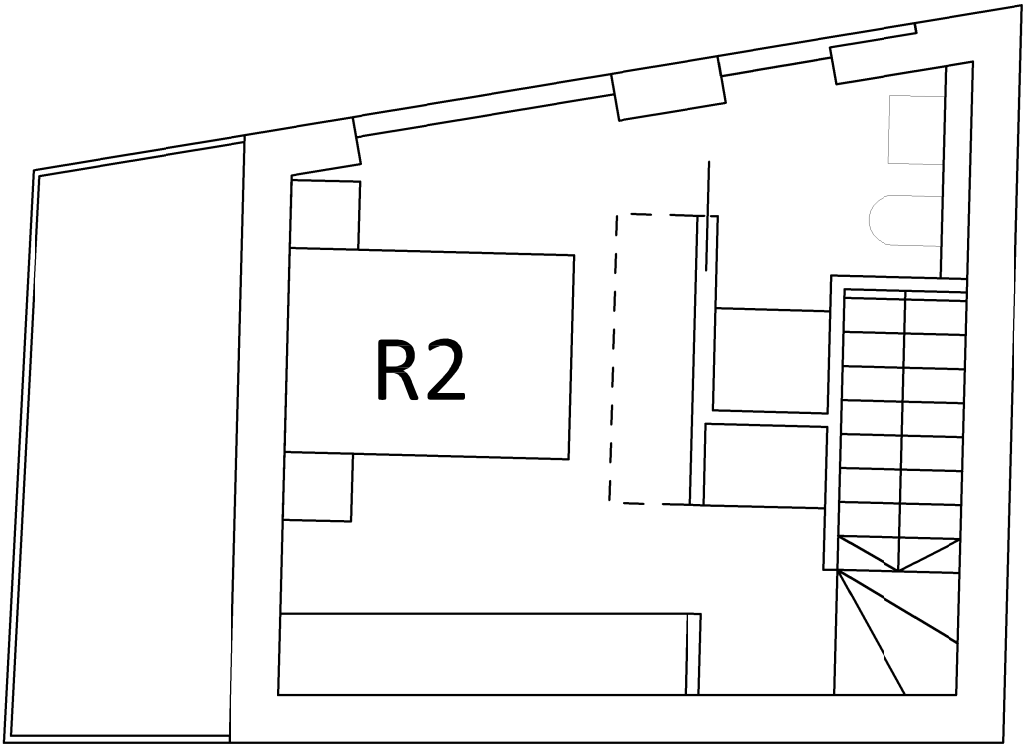
KEY



PROJECT TITLE		
Ajax Road		
DRAWING TITLE		
4&6 Achilles Road - Window Map		
SCALE	DATE	ISSUE
NTS	25/03/2015	-
DWG NO		REV
1996_05		-



Ground Floor



First Floor

KEY

Appendix C

Ajax Road, London NW6

Results of Daylight Analysis

			VSC				NOSKY	
LEVEL	WINDOW	ROOM	EXISTING	PROPOSED	LOSS	% LOSS	EXISTING	PROPOSED
<u>No.1B Ulysses Rd</u>								
LEV 0	W1	R1	34.2	33.1	1.1	3.2	>80%	>80%
	W2	R2	26.8	25.0	1.8	6.7	>80%	>80%
	W3		27.3	26.3	1.0	3.7		
	W4	R3	21.0	21.0	0.0	0.0	>80%	>80%
LEV 1	W5	R4	30.4	30.4	0.0	0.0	>80%	>80%
	W6	R5	36.4	34.9	1.5	4.1	>80%	>80%
	W7		36.3	33.5	2.8	7.7		
<u>No.2 Achilles Rd</u>								
LEV 0	W1	R1	32.9	32.0	0.9	2.7	>80%	>80%
	W2		34.9	33.7	1.2	3.4		
LEV 1	W3	R2	20.7	20.7	0.0	0.0	>80%	>80%
	W4	R3	39.1	38.6	0.5	1.3	>80%	>80%
LEV 2	W5	R4	39.5	39.5	0.0	0.0	>80%	>80%
<u>No.4 Achilles Rd</u>								
LEV 0	W1	R1	35.3	34.0	1.3	3.7	>80%	>80%
LEV 1	W2	R2	38.9	38.3	0.6	1.5	>80%	>80%
LEV 2	W3	R3	39.5	39.5	0.0	0.0	>80%	>80%

Ajax Road, London NW6

Results of Internal Analysis

NOSKY					
LEVEL	ROOM	ROOM USE	REQUIRED	PROPOSED	PROPOSED
Ground	R1	Living room	1.5	>2.0	>80%
First	R2	Bedroom	1.0	>2.0	>80%

Appendix D

Ajax Road, London NW6

Results of Sunlight Analysis

		EXISTING			PROPOSED			% LOSS	
LEVEL	WINDOW	SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
<u>No.1B Ulysses Rd</u>									
LEV 0	W1	35%	13%	48%	35%	13%	48%	0.00	0.00
	W2	25%	1%	26%	25%	1%	26%	0.00	0.00
	W3	35%	11%	46%	34%	11%	45%	0.00	2.17
	W4	34%	16%	50%	34%	16%	50%	0.00	0.00
LEV 1	W5	35%	15%	50%	35%	15%	50%	0.00	0.00
	W6	36%	13%	49%	36%	13%	49%	0.00	0.00
	W7	36%	13%	49%	35%	13%	48%	0.00	2.04
<u>No.2 Achilles Rd</u>									
LEV 0	W1	-	-	-	-	-	-	-	-
	W2	-	-	-	-	-	-	-	-
LEV 1	W3	-	-	-	-	-	-	-	-
	W4	-	-	-	-	-	-	-	-
LEV 2	W5	-	-	-	-	-	-	-	-
<u>No.4 Achilles Rd</u>									
LEV 0	W1	-	-	-	-	-	-	-	-
LEV 1	W2	-	-	-	-	-	-	-	-
LEV 2	W3	-	-	-	-	-	-	-	-