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Daylight and Sunlight Study

107 & 109 Hampstead Road, Camden, London NW1 3EE

28th February 2012

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study of the proposed development at 107 & 109 Hampstead Road, Camden, London NW1 3EE.

1.1.2 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 2 Prince Regent Mews, 100 to 113 Hampstead Road and 38 Netley Street. The study is based on 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' by P J Littlefair 2011.

1.1.3 The window key in Appendix 1 identifies the windows analysed in this study. Appendix 2 gives the numerical results of the various daylight and sunlight tests.

1.1.4 The results of the study show that the proposed development will have a relatively low impact on the light receivable by its neighbouring properties. Whilst we have identified transgressions of the BRE recommendations, we are of the opinion that the development design is acceptable when taking into account all of the material planning considerations which affect site layout design.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Design Group Nine Architects

2246/1	Basement Floor Plan	Rev –
2246/2	Ground Floor Plan	Rev –
2246/3	First Floor Plan	Rev –
2246/5	Fourth Floor Plan	Rev –
2246/6	Fifth Floor Plan	Rev –
2246/7	Roof Plan	Rev –
2246/8	Cross Section1	Rev –
2246/9	South East Elevation	Rev –
2246/10	South West Elevation	Rev –
2246/11	North West Elevation	Rev –
2246/12	North East Elevation	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 various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice' by P J Littlefair 2011. In general, the BRE tests are based on the requirements of the British Standard, BS 8206 Part 2.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. 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 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."

3.2 Daylight to Windows

3.2.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

Diffuse daylight calculations should be undertaken to all rooms where daylight is required, including living rooms, kitchens and bedrooms. Usually, if a kitchen is less than 13m^2 it is considered to be a non-habitable room and the daylight tests need not be applied. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.2.2 The BRE guide contains two tests which measure diffuse daylight:

3.2.3 Test 1 <u>Vertical Sky Component</u>

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

3.2.4 Test 2 Daylight Distribution

The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the, 'no sky line' in each of the main rooms. The no-sky line is a line which separates areas of the working plane that can and cannot have a direct view of the sky. Daylight may be adversely affected if after the development the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

3.3 Sunlight availability to Windows

3.3.1 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 kitchens and bedrooms are less important, although care should be taken not to block too much sunlight.

3.3.2 The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

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 at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21st March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21st March is more than 0.8 times its former value, then the loss of light is likely to be noticeable.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

4.1.1 Appendix 1 provides a plan and photographs to indicate the positions of the windows analysed in this study.

4.2 Numerical Results

4.2.1 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

4.3 Daylight to Windows

4.3.1 All main habitable windows pass the Vertical Sky Component (VSC) test with the exception of isolated windows at 103 & 105 Hampstead Road. However, there are mitigating factors which explain why it is not practical to achieve full compliance with the guidelines in this instance. In particular, a number of the windows are situated below overhanging balconies. The BRE guide acknowledges that where existing windows have balconies above them, they typically receive less daylight as the balcony cuts out light from the top part of the sky. The guide goes on to say that in these instances, even a modest obstruction opposite may result in a large relative impact on the VSC. Furthermore, the proposed development will only be slightly taller than the neighbouring building at 103 & 105 Hampstead Road. The BRE guide acknowledges that in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.

4.4 Sunlight to Windows

4.4.1 All main habitable windows which face within 90 degrees of due south have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.5 Overshadowing to Gardens and Open Spaces

4.5.1 There are no nearby gardens or amenity areas directly to the north of the development. The proposed development will therefore not create any new areas

which receive less than two hours of sunlight on 21st March. The proposed development satisfies the BRE overshadowing to gardens and open spaces requirements.

4.6 Conclusion

4.6.1 The results of the study show that the proposed development will have a relatively low impact on the light receivable by its neighbouring properties. Whilst we have identified transgressions of the BRE recommendations, we are of the opinion that the development design is acceptable when taking into account all of the material planning considerations which affect site layout design.

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 We have used our best endeavours to ensure all relevant windows within the neighbouring properties have been identified.

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

5.1.5 We have adopted the conventional approach of assessing all habitable rooms within domestic properties.

5.1.6 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.

5.1.7 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.

5.2 Project Specific

5.2.1 None

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

Window & Garden Key

Key

Window 1 — Window reference

Development site

Neighbouring Properties

Project Name: 107 & 109 Hampstead Road, Camedon, London NW1 3EE

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 Rev. -

Rev	Date	Details of revision

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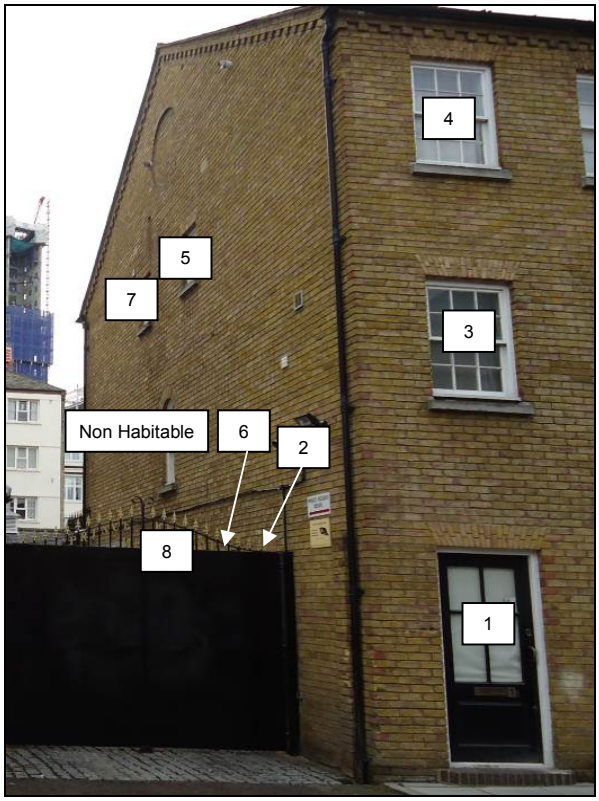
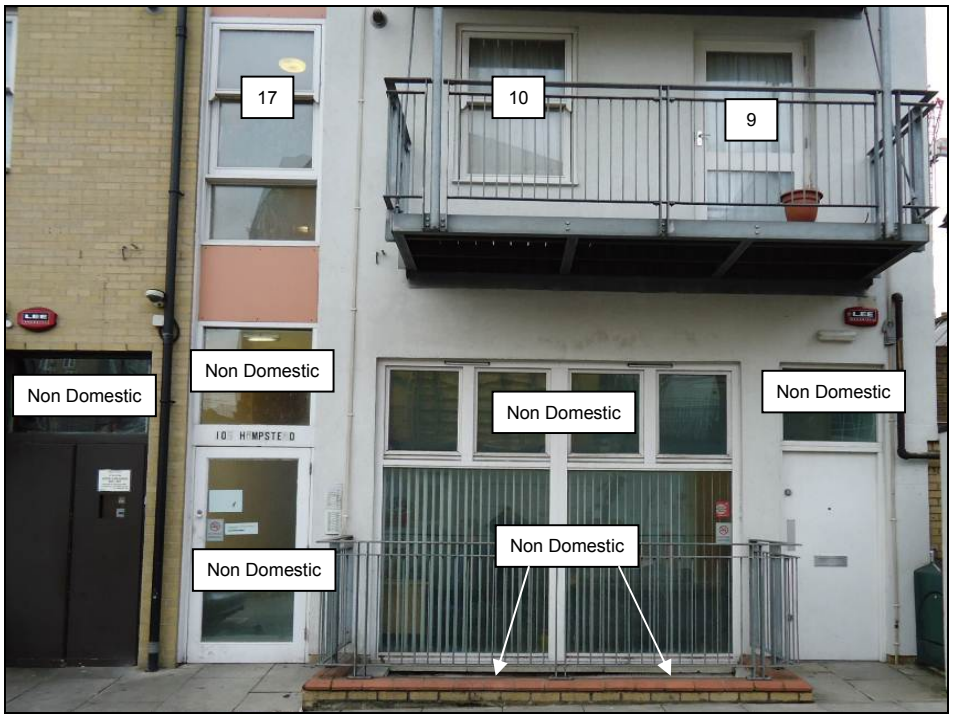
Neighbouring Windows

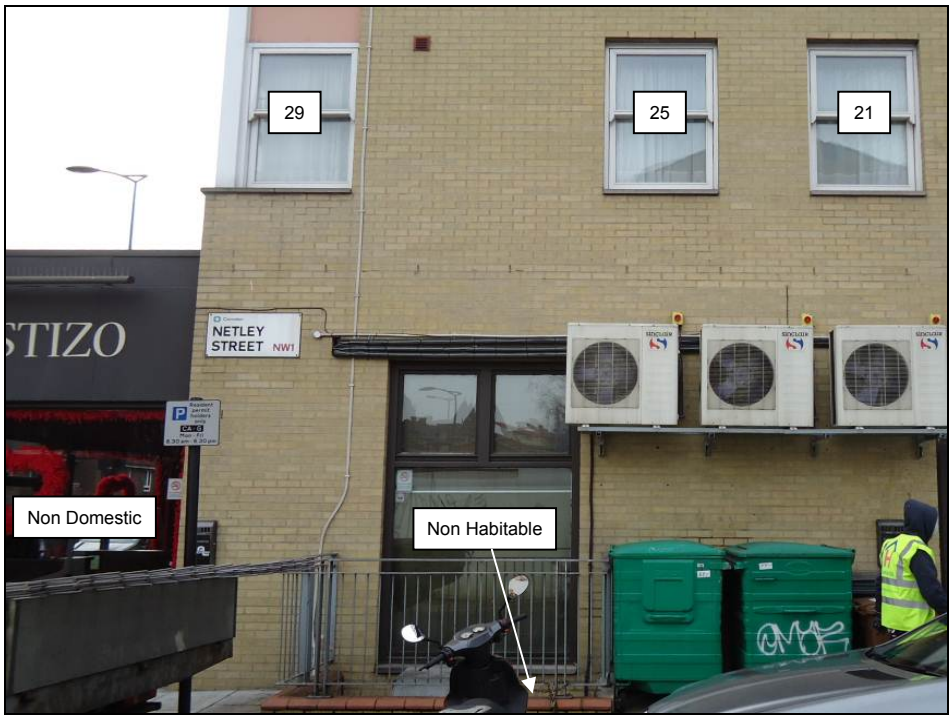


2 Prince Regent Mews

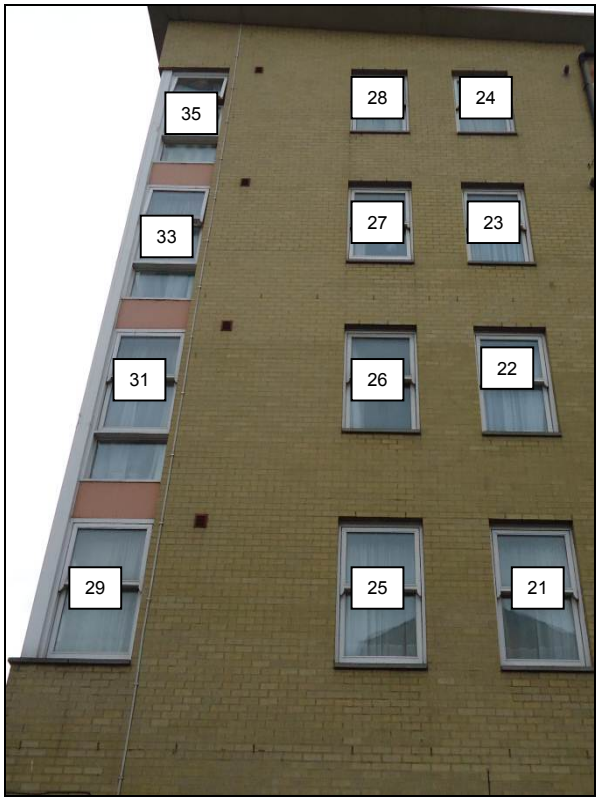


103 & 105 Hampstead Road

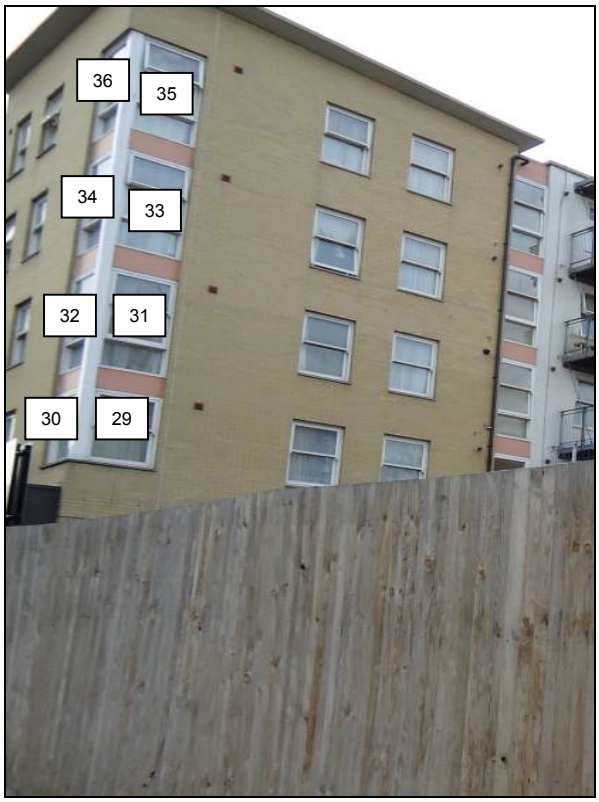
103 & 105 Hampstead Road



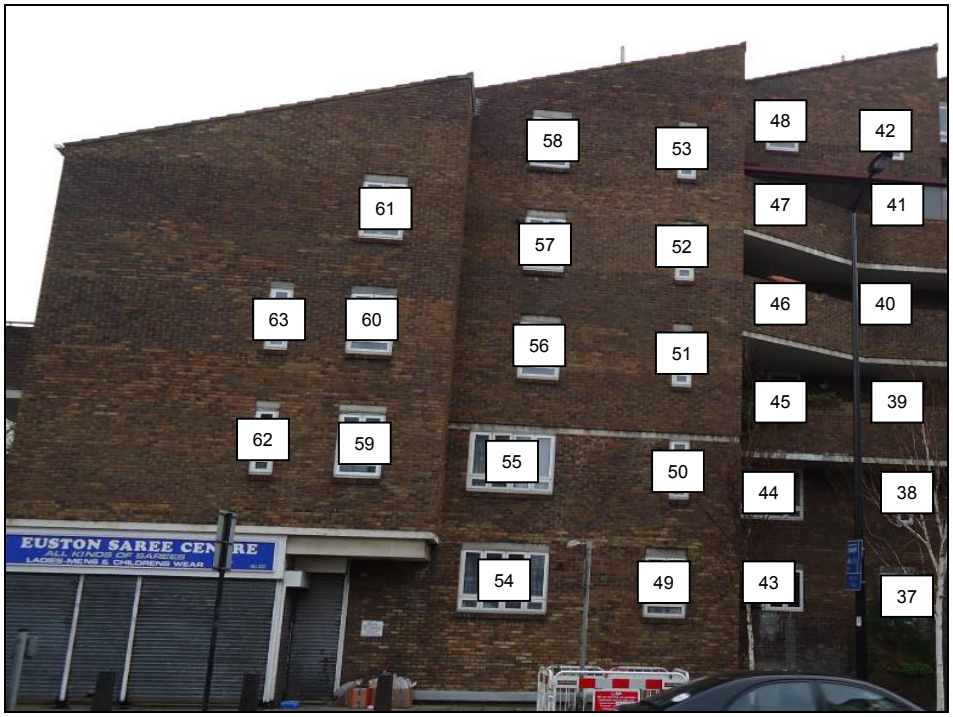
103 & 105 Hampstead Road



103 & 105 Hampstead Road



103 & 105 Hampstead Road



100 Hampstead Road

111 & 113 Hampstead Road

38 Netley Street

38 Netley Street

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component

107 & 109 Hampstead Road, Camdon, London NW1 3EE

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
2 Prince Regent Mews					
Window 1	Supp Light	25.0%	20.3%	4.7%	0.81
Window 2	Non habitable / secondary	7.0%	7.0%	0.0%	1.0
Window 3	Supp Light	29.4%	24.7%	4.7%	0.84
Window 4	Supp Light	33.3%	28.9%	4.5%	0.87
Window 5	Non habitable / secondary	14.2%	11.4%	2.8%	0.8
Window 6	Non habitable	9.7%	6.9%	2.8%	0.71
Window 7	Non habitable	12.4%	10.6%	1.9%	0.85
Window 8	Non habitable	7.7%	6.6%	1.1%	0.85
103 & 105 Hampstead Road					
Window 9	Supp Light	18.6%	8.1%	10.6%	0.43
Window 10	Supp Light	22.1%	12.1%	10.1%	0.54
Window 11	Supp Light	25.8%	16.1%	9.7%	0.62
Window 12	Supp Light	21.3%	10.5%	10.8%	0.49
Window 13	Supp Light	28.9%	20.6%	8.3%	0.71
Window 14	Supp Light	24.3%	15.3%	9.0%	0.63
Window 15	Supp Light	28.9%	23.3%	5.6%	0.81
Window 16	Supp Light	23.4%	17.6%	5.8%	0.75
Window 17	Non Habitable	29.7%	18.0%	11.8%	0.6
Window 18	Non Habitable	32.8%	21.4%	11.4%	0.65
Window 19	Non Habitable	35.2%	25.6%	9.7%	0.73
Window 20	Non Habitable	37.1%	30.4%	6.7%	0.82
Window 21	Supp Light	32.2%	21.2%	11.0%	0.66
Window 22	Supp Light	35.1%	24.5%	10.5%	0.7
Window 23	Supp Light	37.2%	28.4%	8.7%	0.77
Window 24	Supp Light	38.7%	33.1%	5.6%	0.86
Window 25	Supp Light	32.8%	23.3%	9.6%	0.71
Window 26	Supp Light	35.4%	26.2%	9.2%	0.74
Window 27	Supp Light	37.4%	29.8%	7.6%	0.8
Window 28	Supp Light	38.8%	33.9%	4.9%	0.87
Window 29	Supp Light	33.3%	26.5%	6.8%	0.8
Window 30	Supp Light	30.1%	30.1%	0.0%	1.0
Window 31	Supp Light	35.4%	28.8%	6.6%	0.81
Window 32	Supp Light	32.5%	32.5%	0.0%	1.0
Window 33	Supp Light	37.3%	31.7%	5.6%	0.85
Window 34	Supp Light	35.0%	35.0%	0.0%	1.0
Window 35	Supp Light	38.7%	34.9%	3.8%	0.9
Window 36	Supp Light	37.4%	37.4%	0.0%	1.0

Appendix 2 - Vertical Sky Component

107 & 109 Hampstead Road, Camdon, London NW1 3EE

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
100 Hampstead Road					
Window 37	Supp Light	28.0%	26.4%	1.6%	0.94
Window 38	Supp Light	28.9%	27.5%	1.4%	0.95
Window 39	Supp Light	7.7%	6.4%	1.3%	0.83
Window 40	Supp Light	8.5%	7.6%	0.9%	0.89
Window 41	Supp Light	9.8%	9.2%	0.6%	0.94
Window 42	Supp Light	36.7%	36.4%	0.3%	0.99
Window 43	Supp Light	21.1%	19.5%	1.6%	0.93
Window 44	Supp Light	20.1%	18.7%	1.4%	0.93
Window 45	Supp Light	7.4%	6.1%	1.2%	0.84
Window 46	Supp Light	8.6%	7.7%	1.0%	0.89
Window 47	Supp Light	10.1%	9.4%	0.7%	0.93
Window 48	Supp Light	37.1%	36.8%	0.3%	0.99
Window 49	Supp Light	30.6%	28.5%	2.1%	0.93
Window 50	Supp Light	32.6%	30.7%	1.9%	0.94
Window 51	Supp Light	34.5%	32.9%	1.6%	0.95
Window 52	Supp Light	36.4%	35.1%	1.3%	0.96
Window 53	Supp Light	38.1%	37.3%	0.8%	0.98
Window 54	Supp Light	26.4%	24.0%	2.4%	0.91
Window 55	Supp Light	27.6%	25.4%	2.2%	0.92
Window 56	Supp Light	31.3%	29.5%	1.8%	0.94
Window 57	Supp Light	33.2%	31.8%	1.4%	0.96
Window 58	Supp Light	37.1%	36.2%	0.9%	0.98
Window 59	Supp Light	33.3%	30.7%	2.6%	0.92
Window 60	Supp Light	35.3%	33.2%	2.2%	0.94
Window 61	Supp Light	37.1%	35.4%	1.6%	0.96
Window 62	Supp Light	33.4%	30.7%	2.7%	0.92
Window 63	Supp Light	35.4%	33.1%	2.2%	0.94
111 & 113 Hampstead Road					
Window 64	Non Habitable	28.8%	27.6%	1.2%	0.96
Window 65	Non Habitable	34.8%	33.2%	1.6%	0.95
Window 66	Non Habitable	38.7%	37.0%	1.7%	0.96
Window 67	Non Habitable	39.6%	38.7%	0.8%	0.98
38 Netley Street					
Window 68	Supp Light	15.8%	15.8%	0.0%	1.0
Window 68a	Supp Light	14.5%	14.5%	0.0%	1.0
Window 68b	Supp Light	12.9%	12.9%	0.0%	1.0
Window 69	Supp Light	42.1%	29.3%	12.8%	0.7
Window 70	Bedroom	22.4%	21.3%	1.1%	0.95
Window 71	Bedroom	24.9%	23.8%	1.1%	0.96

Appendix 2 - Vertical Sky Component

107 & 109 Hampstead Road, Camdon, London NW1 3EE

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 72	Bedroom	31.1%	29.1%	2.1%	0.93
Window 73	Bedroom	97.1%	74.8%	22.3%	0.77
Window 74	Bedroom	31.7%	29.1%	2.6%	0.92
Window 75	Supp Light	21.4%	20.7%	0.7%	0.97
Window 76	Supp Light	28.1%	26.9%	1.2%	0.96

Appendix 2 - Sunlight to Windows

107 & 109 Hampstead Road, Camdon, London NW1 3EE

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
100 Hampstead Road									
Window 37	Supp Light	40%	38%	2%	0.95	8%	8%	0%	1.0
Window 38	Supp Light	39%	38%	1%	0.97	9%	9%	0%	1.0
Window 39	Supp Light	8%	7%	1%	0.88	2%	2%	0%	1.0
Window 40	Supp Light	10%	9%	1%	0.9	3%	3%	0%	1.0
Window 41	Supp Light	11%	11%	0%	1.0	4%	4%	0%	1.0
Window 42	Supp Light	36%	36%	0%	1.0	10%	10%	0%	1.0
Window 43	Supp Light	40%	36%	4%	0.9	9%	9%	0%	1.0
Window 44	Supp Light	37%	33%	4%	0.89	10%	10%	0%	1.0
Window 45	Supp Light	11%	10%	1%	0.91	5%	5%	0%	1.0
Window 46	Supp Light	13%	13%	0%	1.0	6%	6%	0%	1.0
Window 47	Supp Light	14%	14%	0%	1.0	7%	7%	0%	1.0
Window 48	Supp Light	49%	49%	0%	1.0	14%	14%	0%	1.0
Window 49	Supp Light	40%	37%	3%	0.93	10%	10%	0%	1.0
Window 50	Supp Light	43%	39%	4%	0.91	11%	11%	0%	1.0
Window 51	Supp Light	46%	42%	4%	0.91	12%	12%	0%	1.0
Window 52	Supp Light	47%	44%	3%	0.94	12%	12%	0%	1.0
Window 53	Supp Light	49%	49%	0%	1.0	14%	14%	0%	1.0
Window 54	Supp Light	41%	37%	4%	0.9	10%	10%	0%	1.0
Window 55	Supp Light	44%	40%	4%	0.91	11%	11%	0%	1.0
Window 56	Supp Light	46%	42%	4%	0.91	12%	12%	0%	1.0
Window 57	Supp Light	48%	45%	3%	0.94	13%	13%	0%	1.0
Window 58	Supp Light	50%	49%	1%	0.98	15%	15%	0%	1.0
Window 59	Supp Light	46%	41%	5%	0.89	13%	13%	0%	1.0
Window 60	Supp Light	47%	43%	4%	0.91	14%	14%	0%	1.0
Window 61	Supp Light	48%	46%	2%	0.96	14%	14%	0%	1.0
Window 62	Supp Light	44%	41%	3%	0.93	12%	12%	0%	1.0
Window 63	Supp Light	47%	44%	3%	0.94	14%	14%	0%	1.0
111 & 113 Hampstead Road									
Window 64	Non Habitable	36%	25%	11%	0.69	3%	0%	3%	0.03
Window 65	Non Habitable	44%	33%	11%	0.75	10%	4%	6%	0.4
Window 66	Non Habitable	50%	42%	8%	0.84	15%	8%	7%	0.53
Window 67	Non Habitable	50%	47%	3%	0.94	15%	12%	3%	0.8
38 Netley Street									
Window 71	Bedroom	64%	55%	9%	0.86	13%	13%	0%	1.0
Window 73	Bedroom	96%	65%	31%	0.68	27%	22%	5%	0.81
Window 74	Bedroom	72%	59%	13%	0.82	24%	22%	2%	0.92
Window 75	Supp Light	56%	51%	5%	0.91	9%	9%	0%	1.0
Window 76	Supp Light	72%	62%	10%	0.86	17%	17%	0%	1.0