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Daylight and Sunlight Study
26 Netherhall Gardens, London NW3 5TL

30 July 2014



RICS

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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 of the proposed development at 26 Netherhall Gardens, London NW3 5TL.
- 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 21 to 28 Netherhall Gardens and 47 Maresfield Gardens. 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 confirm that the development will have a low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight/sunlight related reason why planning permission should not be granted for this scheme.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Squire and Partners

JA12_E_E_001	Existing East Elevation	Rev –
JA12_E_N_001	Existing North Elevation	Rev –
JA12_E_S_001	Existing South Elevation	Rev –
JA12_E_W_001	Existing West Elevation	Rev –
JA12_P_00_001	Existing Ground Floor Plan	Rev –
JA12_P_01_001	Existing First Floor Plan	Rev –
JA12_P_02_001	Existing Second Floor Plan	Rev –
JA12_P_B1_001	Existing Basement Floor Plan	Rev –
JA12_P_UG_001	Existing Upper Ground Floor Plan	Rev –
P005	Existing Lower Ground Floor Plan	Rev A
P006	Existing Raised Ground Floor Plan	Rev A
P007	Existing First Floor Plan	Rev A
P008	Existing Second Floor Plan	Rev A
P009	Existing Roof Plan	Rev A
P010	Existing West Elevation	Rev A
P011	Existing East Elevation	Rev A
P012	Existing North Elevation	Rev A
P013	Existing South Elevation	Rev A
04009_C645_P_00_001	Proposed Ground Floor Plan	Rev A
04009_C645_P_00_001	Proposed First Floor Plan	Rev A
04009_C645_P_00_001	Proposed Second Floor Plan	Rev A
04009_C645_P_00_001	Proposed Third Floor Plan	Rev A
04009_C645_P_00_001	Proposed Lower Floor Plan	Rev A
04009_C645_P_00_001	Proposed Roof Plan	Rev A
04009_C645_S_AA_001	Section AA	Rev A
04009_C645_S_CC_001	Section CC	Rev A
04009_C645_E_E_001	Proposed North Elevation	Rev A
04009_C645_E_E_001	Proposed East Elevation	Rev A
04009_C645_E_E_001	Proposed South Elevation	Rev A
04009_C645_E_E_001	Proposed East Elevation	Rev A
04009_C645_E_E_001	Proposed West Elevation	Rev A

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 13m² 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 Vertical Sky Component

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 less 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 and gardens 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 room windows pass the Vertical Sky Component test with the exception of window 76 at 24a Netherhall Gardens. However, there are mitigating factors to mention. Firstly, the BRE guide acknowledges that if an existing building stands close to the common boundary, as is the case with 24a Netherhall Gardens, a higher degree of obstruction may be unavoidable. Similarly, if new developments are to match the height and proportions of existing buildings a higher degree of obstruction may also be unavoidable. The proposed development at 26 Netherhall Gardens is to be of similar height as 24a Netherhall Gardens. Finally, the BRE guide is intended to be used flexibly, particularly in urban locations. Therefore, in this instance we are of the opinion that the development design is likely to be acceptable.

4.4 Sunlight to Windows

4.4.1 All living room 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 The proposed development will not create any new areas which receive less than two hours of sunlight on 21st March. The before/after ratios are 1 (no loss) and the proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

4.6 Conclusion

- 4.6.1 The results confirm that the development will have a low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight/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 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.

5.2 Project Specific

- 5.2.1 None

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

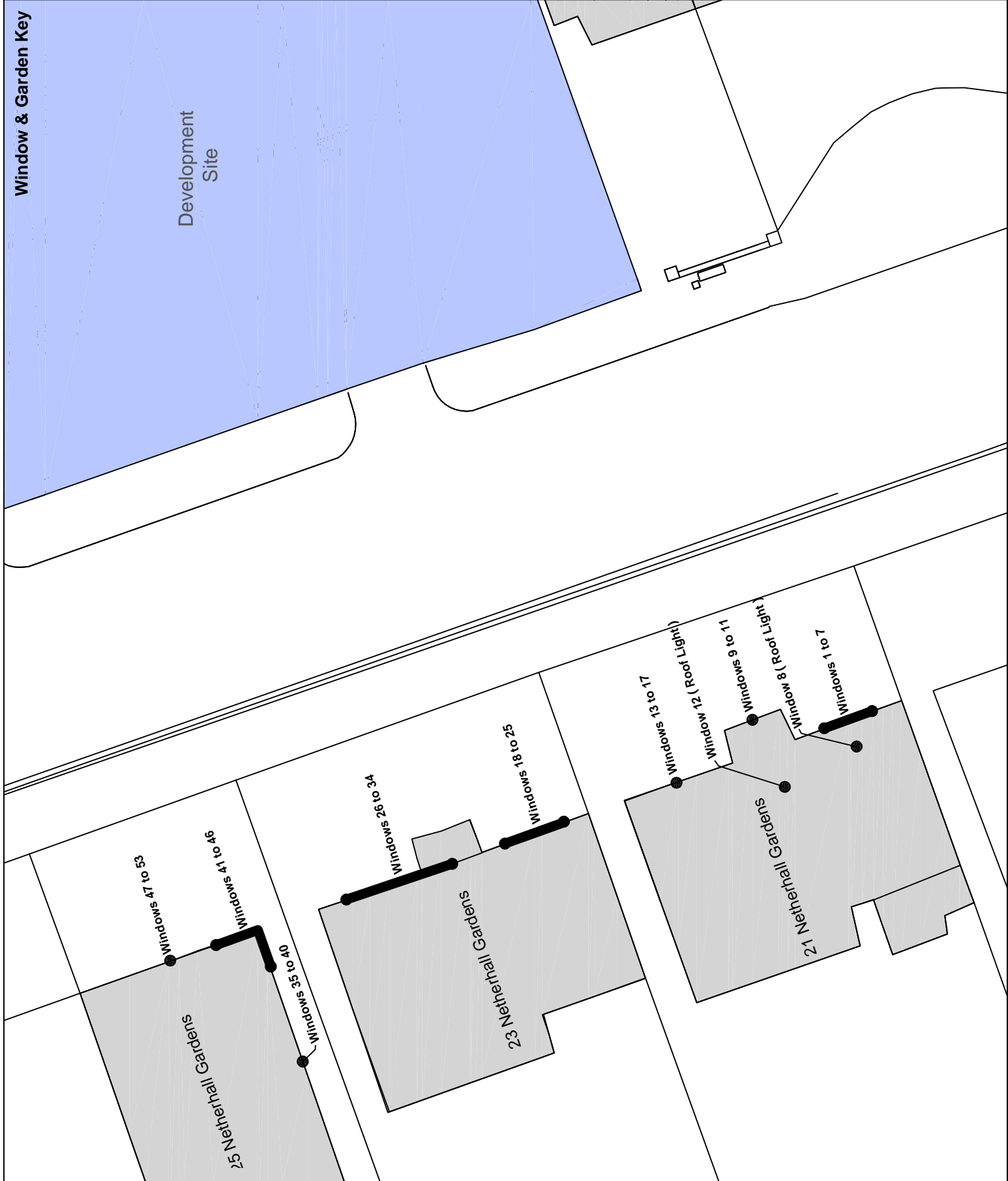
Window & Garden Key

Development Site

Key

- Window 1
- Window reference
- Development site
- Neighbouring Properties
- G1
- Neighbouring Gardens and Amenity Areas

125 90m 1



Project Name		26 Netherhall Gardens, London NW3	
Drawing Title		Appendix 1 - Neighbouring Windows	
Scale		Do not scale	
Drawing No.		1 of 2	
Rev	Date	Details of revisions	

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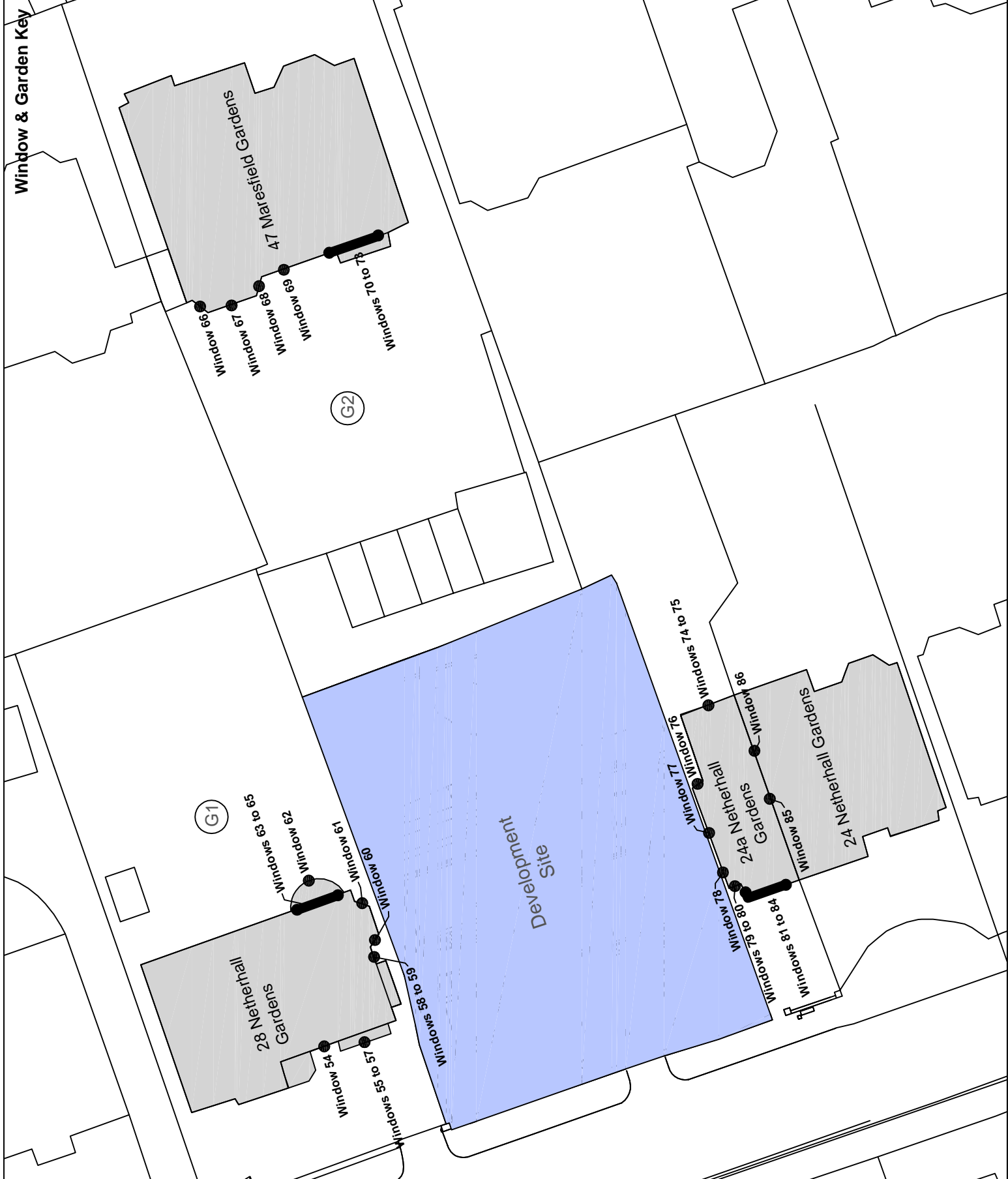
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Window & Garden Key

Key

- Window 1 ● Window reference
- Development site
- Neighbouring Properties
- Neighbouring Gardens and Amenity Areas
- (G1)



Project Name: **26 Netherhall Gardens, London NW3**
 STL

Drawing Title: **Appendix 1 - Neighbouring Windows**

Scale: **Do not scale**

Sheet: **2 of 2**

Rev: -

Rev	Date	Details of revision

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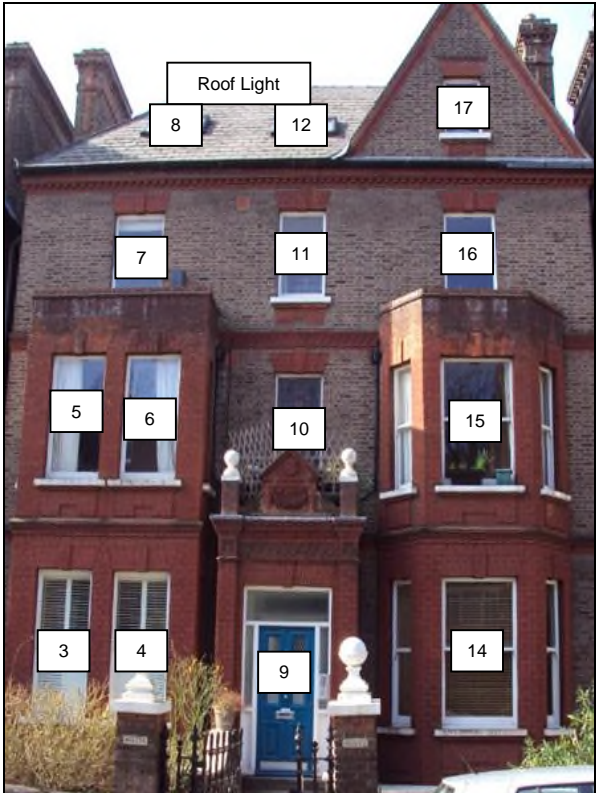
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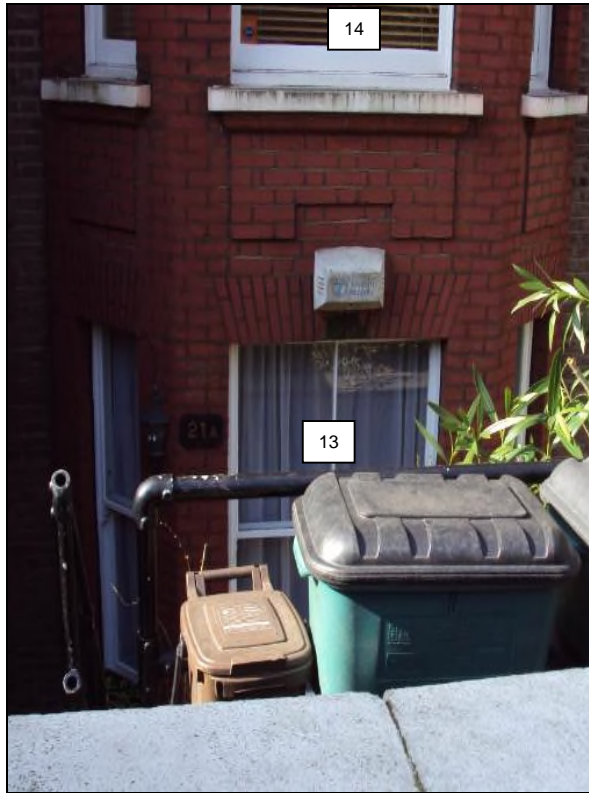
Neighbouring Windows



21 Netherhall Gardens



21 Netherhall Gardens



21 Netherhall Gardens



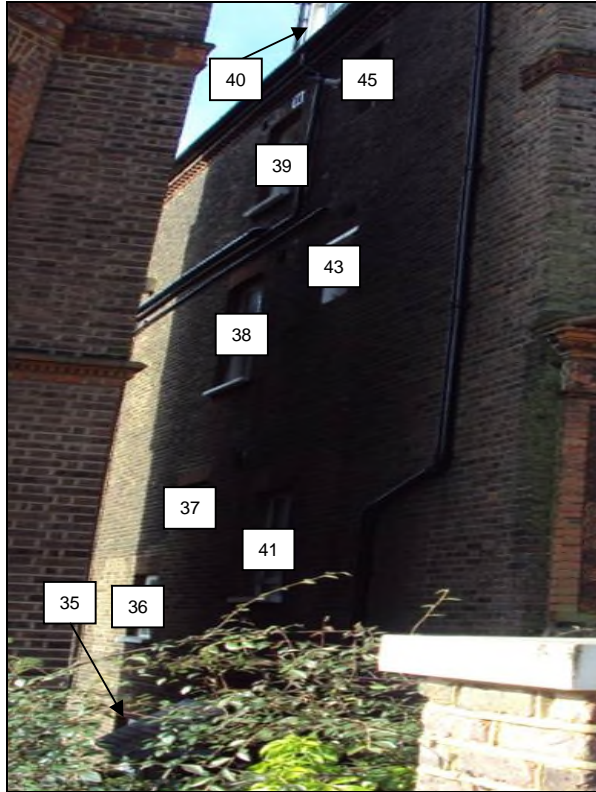
23 Netherhall Gardens



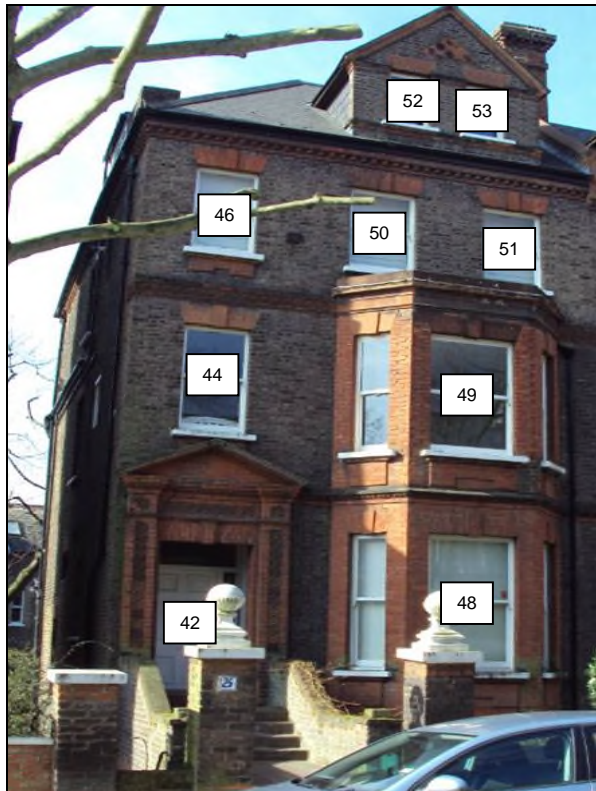
23 Netherhall Gardens



23 Netherhall Gardens



25 Netherhall Gardens



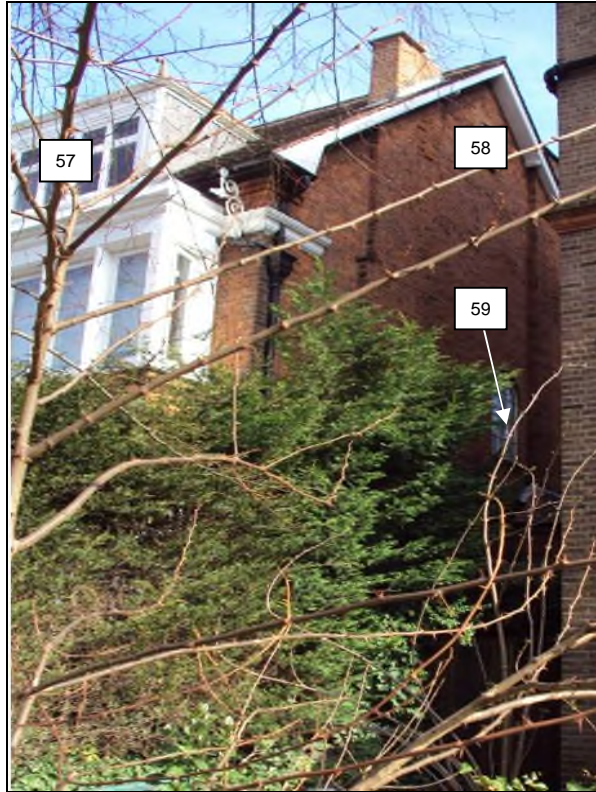
25 Netherhall Gardens



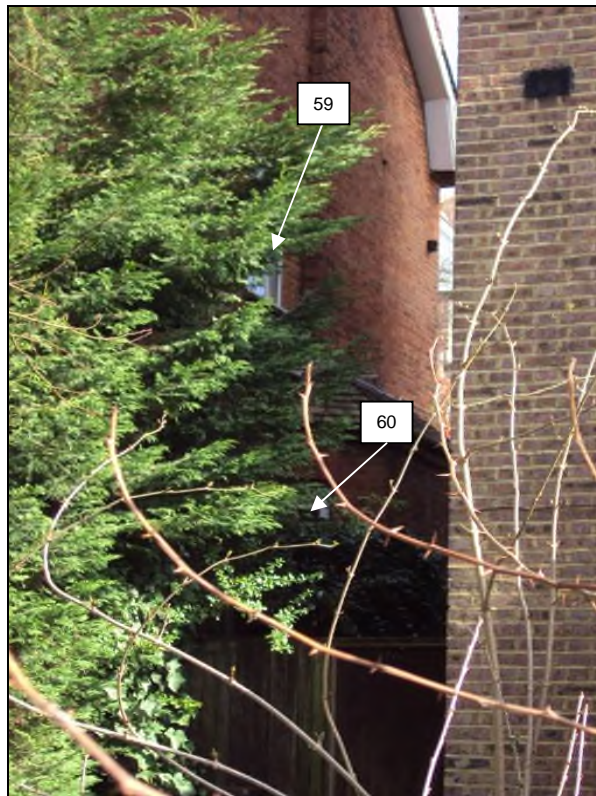
25 Netherhall Gardens



28 Netherhall Gardens



28 Netherhall Gardens



28 Netherhall Gardens



28 Netherhall Gardens



28 Netherhall Gardens



47 Maresfield Gardens



24a Netherhall Gardens



24a Netherhall Gardens



24a Netherhall Gardens



24a Netherhall Gardens



24 Netherhall Gardens

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
26 Netherhall Gardens, London NW3 5TL

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>21 Netherhall Gardens</u>					
Window 1	Bed Sitting Room	27.8%	27.8%	0.0%	1.0
Window 2	Bed Sitting Room	24.0%	24.0%	0.0%	1.0
Window 3	Bed Sitting Room	34.7%	34.7%	0.0%	1.0
Window 4	Bed Sitting Room	34.4%	34.5%	-0.1%	1.0
Window 5	Bedroom	36.8%	37.0%	-0.2%	1.01
Window 6	Bedroom	36.7%	36.9%	-0.2%	1.01
Window 7	Bedroom	37.3%	37.5%	-0.2%	1.01
Window 8	Living Room	76.6%	76.6%	0.0%	1.0
Window 9	Porch	32.8%	32.8%	0.0%	1.0
Window 10	Lobby	32.7%	32.9%	-0.2%	1.01
Window 11	Lobby	37.1%	37.4%	-0.3%	1.01
Window 12	Lobby	74.4%	74.5%	-0.1%	1.0
Window 13	Bed Sitting Room	9.3%	9.3%	0.0%	1.0
Window 14	Bed Sitting Room	19.6%	19.6%	0.0%	1.0
Window 15	Sitting Room	31.6%	31.7%	-0.1%	1.0
Window 16	Sitting Room	37.0%	37.3%	-0.3%	1.01

Appendix 2 - Vertical Sky Component
26 Netherhall Gardens, London NW3 5TL

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 17	Bedroom	39.0%	39.2%	-0.2%	1.01
<u>23 Netherhall Gardens</u>					
Window 18	Lounge	25.6%	25.6%	0.0%	1.0
Window 19	Lounge	23.4%	23.4%	0.0%	1.0
Window 20	Lounge	33.7%	33.7%	0.0%	1.0
Window 21	Lounge	33.5%	33.5%	0.0%	1.0
Window 22	Bedroom	36.0%	36.2%	-0.2%	1.01
Window 23	Bedroom	35.9%	36.2%	-0.3%	1.01
Window 24	Lounge	36.9%	37.2%	-0.3%	1.01
Window 25		38.8%	39.0%	-0.2%	1.01
Window 26	Habitable	38.7%	39.0%	-0.3%	1.01
Window 27	Bedroom	38.9%	39.1%	-0.2%	1.01
Window 28	Porch	31.8%	32.0%	-0.2%	1.01
Window 29	Habitable	32.0%	32.3%	-0.3%	1.01
Window 30	Habitable	36.8%	37.1%	-0.3%	1.01
Window 31	Bedroom	9.2%	9.2%	0.0%	1.0
Window 32	Bedroom	18.5%	18.6%	-0.1%	1.01
Window 33	Lounge	30.7%	30.9%	-0.2%	1.01
Window 34	Study	36.7%	37.1%	-0.4%	1.01
<u>25 Netherhall Gardens</u>					
Window 35	Habitable	3.4%	3.4%	0.0%	1.0
Window 41	Habitable	2.2%	2.2%	0.0%	1.0
Window 36	Habitable	3.8%	3.8%	0.0%	1.0
Window 42	Habitable	13.9%	13.9%	0.0%	1.0
Window 37	Habitable	3.1%	3.2%	-0.1%	1.03
Window 38	Habitable	4.1%	4.2%	-0.1%	1.02
Window 43	Habitable	5.3%	5.4%	-0.1%	1.02
Window 44	Habitable	35.0%	35.3%	-0.3%	1.01
Window 39	Habitable	12.9%	12.9%	0.0%	1.0
Window 45	Habitable	14.2%	14.3%	-0.1%	1.01
Window 46	Habitable	37.2%	37.6%	-0.4%	1.01
Window 40	Habitable	28.3%	28.3%	0.0%	1.0
Window 47	Habitable	13.6%	13.7%	-0.1%	1.01
Window 48	Habitable	29.2%	29.3%	-0.1%	1.0
Window 49	Habitable	31.7%	31.9%	-0.2%	1.01
Window 50	Habitable	37.2%	37.5%	-0.3%	1.01
Window 51	Habitable	37.2%	37.5%	-0.3%	1.01
Window 52	Habitable	39.1%	39.2%	-0.1%	1.0
Window 53	Habitable	39.1%	39.2%	-0.1%	1.0
<u>28 Netherhall Gardens</u>					
Window 54	Reception	21.0%	21.0%	0.0%	1.0

Appendix 2 - Vertical Sky Component
26 Netherhall Gardens, London NW3 5TL

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 55	Reception	31.9%	31.9%	0.0%	1.0
Window 56	Bedroom	34.7%	34.7%	0.0%	1.0
Window 57	Habitable	36.8%	36.8%	0.0%	1.0
Window 58	Habitable	33.4%	34.6%	-1.2%	1.04
Window 59	Bath room	12.0%	13.3%	-1.3%	1.11
Window 60	Lounge	7.5%	6.5%	1.0%	0.87
Window 61 (Secondary)	Lounge	24.3%	14.6%	9.7%	0.6
Window 62 (Secondary)	Lounge	31.8%	28.4%	3.4%	0.89
Window 63	Bedroom	36.3%	35.6%	0.7%	0.98
Window 64	Bedroom	36.4%	36.0%	0.4%	0.99
Window 65	Habitable	38.0%	37.8%	0.2%	0.99
<u>47 Maresfield Gardens</u>					
Window 66	Habitable	28.5%	28.5%	0.0%	1.0
Window 67	Habitable	36.3%	36.3%	0.0%	1.0
Window 68	Habitable	29.0%	29.0%	0.0%	1.0
Window 69	Habitable	35.0%	35.1%	-0.1%	1.0
Window 70	Habitable	36.0%	36.1%	-0.1%	1.0
Window 71	Habitable	36.2%	36.2%	0.0%	1.0
Window 72	Habitable	36.2%	36.3%	-0.1%	1.0
Window 73	Habitable	36.3%	36.3%	0.0%	1.0
<u>24a Netherhall Gardens</u>					
Window 74	Living Room	27.9%	27.8%	0.1%	1.0
Window 75	Supp Light	28.3%	28.3%	0.0%	1.0
Window 76	Habitable	29.1%	11.6%	17.5%	0.4
Window 77	Non Habitable	25.7%	10.8%	14.9%	0.42
Window 78	Hall	23.4%	13.1%	10.3%	0.56
Window 79	Habitable	17.5%	16.5%	1.0%	0.94
Window 80	Habitable	21.7%	21.8%	-0.1%	1.0
Window 81	Breakfast Area/Kitchen	19.6%	18.0%	1.6%	0.92
Window 82	Breakfast Area/Kitchen	31.6%	31.6%	0.0%	1.0
Window 83	Breakfast Area/Kitchen	31.8%	31.8%	0.0%	1.0
Window 84	Bedroom	29.9%	30.0%	-0.1%	1.0
Window 85	Habitable	36.7%	37.2%	-0.5%	1.01
Window 86	Habitable	38.1%	38.4%	-0.3%	1.01

Appendix 2 - Sunlight to Windows
26 Netherhall Gardens, London NW3 5TL

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>21 Netherhall Gardens</u>									
Window 1	Bed Sitting Room	31%	31%	0%	1.0	7%	7%	0%	1.0
Window 3	Bed Sitting Room	33%	33%	0%	1.0	7%	7%	0%	1.0
Window 13	Bed Sitting Room	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 14	Bed Sitting Room	21%	21%	0%	1.0	2%	2%	0%	1.0
Window 15	Sitting Room	40%	40%	0%	1.0	8%	8%	0%	1.0
<u>23 Netherhall Gardens</u>									
Window 18	Lounge	24%	24%	0%	1.0	3%	3%	0%	1.0
Window 20	Lounge	33%	33%	0%	1.0	6%	6%	0%	1.0
Window 33	Lounge	38%	39%	-1%	1.03	8%	8%	0%	1.0
<u>25 Netherhall Gardens</u>									
Window 35	Habitable	11%	13%	-2%	1.18	0%	0%	0%	1.0
Window 41	Habitable	13%	14%	-1%	1.08	2%	2%	0%	1.0
Window 36	Habitable	17%	18%	-1%	1.06	2%	2%	0%	1.0
Window 37	Habitable	17%	18%	-1%	1.06	3%	3%	0%	1.0
Window 38	Habitable	14%	14%	0%	1.0	2%	2%	0%	1.0
Window 43	Habitable	17%	17%	0%	1.0	0%	0%	0%	1.0
Window 39	Habitable	38%	38%	0%	1.0	1%	1%	0%	1.0
Window 45	Habitable	44%	44%	0%	1.0	1%	1%	0%	1.0
Window 40	Habitable	70%	70%	0%	1.0	15%	15%	0%	1.0
Window 47	Habitable	9%	9%	0%	1.0	0%	0%	0%	1.0
Window 48	Habitable	37%	38%	-1%	1.03	8%	8%	0%	1.0
Window 49	Habitable	42%	42%	0%	1.0	10%	10%	0%	1.0
<u>28 Netherhall Gardens</u>									
Window 54	Reception	32%	32%	0%	1.0	5%	5%	0%	1.0
Window 55	Reception	51%	50%	1%	0.98	14%	14%	0%	1.0
Window 57	Habitable	55%	55%	0%	1.0	18%	18%	0%	1.0
Window 58	Habitable	80%	81%	-1%	1.01	24%	25%	-1%	1.04
Window 60	Lounge	11%	9%	2%	0.82	2%	1%	1%	0.5
Window 61 (Secondary)	Lounge	27%	11%	16%	0.41	5%	0%	5%	0.0
Window 62 (Secondary)	Lounge	39%	32%	7%	0.82	8%	5%	3%	0.63
<u>47 Maresfield Gardens</u>									
Window 67	Habitable	54%	54%	0%	1.0	17%	17%	0%	1.0
Window 68	Habitable	54%	54%	0%	1.0	18%	18%	0%	1.0
Window 69	Habitable	55%	55%	0%	1.0	18%	18%	0%	1.0
Window 70	Habitable	55%	55%	0%	1.0	18%	18%	0%	1.0
Window 71	Habitable	55%	55%	0%	1.0	18%	18%	0%	1.0
Window 72	Habitable	54%	54%	0%	1.0	17%	17%	0%	1.0
Window 73	Habitable	54%	54%	0%	1.0	17%	17%	0%	1.0
<u>24a Netherhall Gardens</u>									
Window 75	Habitable	43%	43%	0%	1.0	10%	10%	0%	1.0
Window 79	Habitable	15%	15%	0%	1.0	1%	1%	0%	1.0
Window 80	Habitable	17%	17%	0%	1.0	0%	0%	0%	1.0
Window 82	Breakfast Area/Kitchen	47%	47%	0%	1.0	17%	17%	0%	1.0
Window 83	Breakfast Area/Kitchen	50%	50%	0%	1.0	17%	17%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces
26 Netherhall Gardens, London NW3 5TL

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss	Ratio	
<u>28 Netherhall Gardens</u>								
Garden 1	214.43 m2	213.56 m2	100%	213.56 m2	100%	0.0 m2	0%	1.0
<u>47 Maresfield Gardens</u>								
Garden 2	417.78 m2	417.58 m2	100%	417.58 m2	100%	0.0 m2	0%	1.0