

**Right of Light Consulting** 

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# Daylight and Sunlight Study 75 Lawn Road, London NW3 2XB

10 November 2017



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APPENDIX 2	DAYLIGHT AND SUNLIGHT RESULTS
APPENDIX 3	OVERSHADOWING TO GARDENS AND OPEN SPACES

#### **1 EXECUTIVE SUMMARY**

#### 1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Nicole Slayton Hogan to undertake a daylight and sunlight study of the proposed development at 75 Lawn Road, London NW3 2XB.
- 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 74 and 76 Lawn Road. 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. The results confirm that all neighbouring windows pass the BRE diffuse daylight and direct sunlight tests. The development also satisfies the BRE overshadowing to gardens and open spaces requirements.
- 1.1.4 In summary, the proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

# **2** INFORMATION SOURCES

#### 2.1 Documents Considered

2.1.1 This report is based on drawings:

# NASH BAKER ARCHITECTS

00	LOCATION EXISTING	AND	SITE	PLANS	AS	Rev -
101	GROUND FL	.OOR F	PLAN A	S EXISTI	١G	Rev -
102	FIRST FLOO	R PLA	N AS E	XISTING		Rev -
103	LOFT PLAN	AS EXI	STING			Rev -
104	ROOF PLAN	AS EX	ISTING	3		Rev -
110	FRONT ELE	VATIO	N AS E	XISTING		Rev -
111	REAR ELEV	ATION	AS EX	ISTING		Rev -
112	SIDE ELEVA	TION A	S EXIS	STING		Rev -
113	SECTION A-	A AS E	XISTIN	IG		Rev -
114	SECTION B-	B AS E	XISTIN	IG		Rev -
115	SECTION C-	C AS E	XISTIN	IG		Rev -
1_210	FRONT ELE	VATIO	N AS P	ROPOSEI	D	Rev -
1_211	REAR ELEV	ATION	AS PR	OPOSED		Rev A
1_213	SECTION D	- D AS	PROP	OSED		Rev -
1_060	SITE PLAN A	AS PRC	POSE	D		Rev -
1_201	GROUND	FLOC	DR	PLAN	AS	Rev -
	PROPOSED					
1_202	FIRST FLOO	R PLA	N AS P	ROPOSE	D	Rev -
1_203	SECOND FL	oor a	S PRO	POSED		Rev -
1_204	ROOF PLAN	AS PR	OPOS	ED		Rev -
1_215	SECTION B-	B AS P	ROPO	SED		Rev A
1_216	SECTION C-	C AS F	ROPO	SED		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<sup>2</sup>, 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 do and do not 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 21 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 sunlight on 21 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 windows pass the Vertical Sky Component test and where applicable, all rooms pass the Daylight Distribution test. The proposed development therefore satisfies the BRE daylight requirements.

#### 4.4 Sunlight to Windows

4.4.1 All 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 (annual probable sunlight hours between 21 September and 21 March). The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

## 4.5 Overshadowing to Gardens and Open Spaces

4.5.1 The results of the overshadowing test show that sunlight availability after the development will be no less than 0.98 times the former value. This is better than the BRE minimum requirement which permits sunlight to be reduced by up to 0.8 times. The proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

## 4.6 Conclusion

4.6.1 The proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

#### **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, 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 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.
- 5.1.7 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



# Neighbouring Windows



74 Lawn Road



74 Lawn Road



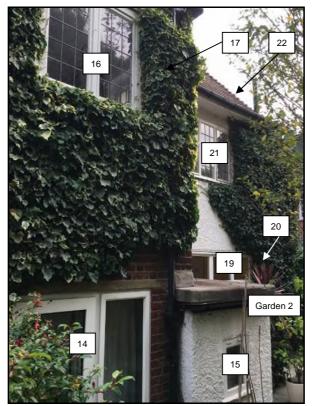
74 Lawn Road



74 Lawn Road



74 Lawn Road



76 Lawn Road



76 Lawn Road



76 Lawn Road

**APPENDIX 2** 

DAYLIGHT AND SUNLIGHT RESULTS

# Appendix 2 - Vertical Sky Component 75 Lawn Road, London NW3 2XB

Reference	Use Class	V			
			After	Loss	Ratio
74 Lawn Road					
Window 1	Domestic	31.0%	30.9%	0.1%	1.0
Window 2	Domestic	29.8%	29.8%	0.0%	1.0
Window 3	Kitchen	32.1%	32.0%	0.1%	1.0
Window 4	Kitchen	27.4%	24.9%	2.5%	0.91
Window 5	Kitchen	24.0%	21.4%	2.6%	0.89
Window 6	Domestic	32.6%	32.5%	0.1%	1.0
Window 7	Domestic	18.3%	18.3%	0.0%	1.0
Window 8	Domestic	33.8%	33.6%	0.2%	0.99
Window 9	Domestic	15.3%	14.5%	0.8%	0.95
Window 10	Domestic	23.7%	21.9%	1.8%	0.92
Window 11	Domestic	26.7%	25.8%	0.9%	0.97
Window 12	Domestic	74.7%	74.7%	0.0%	1.0
Window 13	dow 13 Domestic		73.4%	0.2%	1.0
76 Lawn Road					
Window 14	Domestic	33.5%	33.3%	0.2%	0.99
Window 15	Domestic	33.1%	33.1%	0.0%	1.0
Window 16	Domestic	35.9%	35.6%	0.3%	0.99
Window 17	Domestic	26.3%	26.3%	0.0%	1.0
Window 18	Domestic	24.9%	24.1%	0.8%	0.97
Window 19	Domestic	32.8%	32.8%	0.0%	1.0
Window 20	Domestic	21.3%	21.3%	0.0%	1.0
Window 21	Domestic	35.4%	35.4%	0.0%	1.0
Window 22	Domestic	29.0%	29.0%	0.0%	1.0
Window 23	Domestic	40.1%	28.4%	11.7%	0.71
Window 24	Domestic	61.3%	58.8%	2.5%	0.96
Window 25	Domestic	0.8%	0.8%	0.0%	1.0
Window 26	Domestic	1.8%	1.8%	0.0%	1.0
Window 27	Domestic	25.6%	25.2%	0.4%	0.98
Window 28	Domestic	28.2%	27.5%	0.7%	0.98
Window 29	Domestic	25.3%	25.3%	0.0%	1.0

# Appendix 2 - Daylight Distribution 75 Lawn Road, London NW3 2XB

Reference	Daylight Distribution					
		Before	After	Loss	Ratio	
74 Lawn Road						
Window 1	Domestic	85%	85%	0.0%	1.0	
Window 2	Domestic	85%	85%	0.0%	1.0	
Window 3	Kitchen	98%	98%	0.0%	1.0	
Window 4	/indow 4 Kitchen		98%	0.0%	1.0	
Window 5	Kitchen	98%	98%	0.0%	1.0	
Window 6	Domestic	88%	88%	0.0%	1.0	
Window 7	Domestic	88%	88%	0.0%	1.0	
Window 8	Domestic	99%	99%	0.0%	1.0	
Window 9	Domestic	49%	47%	2.0%	0.96	
Window 10	Domestic	100%	100%	0.0%	1.0	
Window 11	Domestic	100%	100%	0.0%	1.0	
Window 12	Domestic	100%	100%	0.0%	1.0	
Window 13	Domestic	100%	100%	0.0%	1.0	

# Appendix 2 - Sunlight to Windows 75 Lawn Road, London NW3 2XB

		Sunlight to Windows							
Reference	Use Class	Total Sunlight Hours			W	inter Sur	nlight Ho	urs	
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
74 Lawn Road									
Window 1	Domestic	43%	43%	0%	1.0	13%	13%	0%	1.0
Window 2	Domestic	43%	42%	1%	0.98	13%	12%	1%	0.92
Window 3	Kitchen	45%	44%	1%	0.98	14%	13%	1%	0.93
Window 4	Kitchen	64%	57%	7%	0.89	18%	13%	5%	0.72
Window 5	Kitchen	53%	50%	3%	0.94	14%	12%	2%	0.86
Window 6	Domestic	40%	40%	0%	1.0	14%	14%	0%	1.0
Window 8	Domestic	44%	44%	0%	1.0	15%	15%	0%	1.0
Window 9	Domestic	39%	38%	1%	0.97	17%	16%	1%	0.94
Window 10	Domestic	39%	36%	3%	0.92	7%	4%	3%	0.57
Window 11	Domestic	37%	35%	2%	0.95	11%	9%	2%	0.82
Window 12	Domestic	70%	70%	0%	1.0	21%	21%	0%	1.0
Window 13	Domestic	68%	68%	0%	1.0	21%	21%	0%	1.0
76 Lawn Road									
Window 14	Domestic	45%	45%	0%	1.0	13%	13%	0%	1.0
Window 15	Domestic	46%	46%	0%	1.0	14%	14%	0%	1.0
Window 16	Domestic	46%	46%	0%	1.0	14%	14%	0%	1.0
Window 17	Domestic	53%	53%	0%	1.0	18%	18%	0%	1.0
Window 19	Domestic	45%	45%	0%	1.0	12%	12%	0%	1.0
Window 20	Domestic	52%	52%	0%	1.0	11%	11%	0%	1.0
Window 21	Domestic	49%	49%	0%	1.0	15%	15%	0%	1.0
Window 22	Domestic	71%	71%	0%	1.0	21%	21%	0%	1.0
Window 23	Domestic	21%	21%	0%	1.0	0%	0%	0%	1.0

# Appendix 2 - Overshadowing to Gardens and Open Spaces 75 Lawn Road, London NW3 2XB

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
74 Lawn Road								
Garden 1	127.29 m2	84.34 m2	66%	83.31 m2	65%	1.03 m2	1%	0.98
76 Lawn Road								
Garden 2	169.13 m2	113.81 m2	67%	113.81 m2	67%	0.0 m2	0%	1.0

**APPENDIX 3** 

OVERSHADOWING TO GARDENS AND OPEN SPACES

