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Daylight and Sunlight Study

58 Regent's Park Road, Camden, London NW1 7SX

25th April 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 58 Regent Park Road, Camden, London NW1 7SX.

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 56 and 60 Regents Park 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.

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 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:

Matthew Springett Associates Ltd

P139-100 – Site Location Plan
P139-101 – Existing Site Plan
P139-102 – Existing Site Section
P139-110 – Proposed Site Plan
P139-111 – Proposed Site Section
P139-120 – Demolition Drawing: Site Plan
P139-200 – Existing Lower Ground Floor Plan
P139-201 – Existing Ground Floor Plan
P139-202 – Existing First Floor Plan
P139-203 – Existing Second Floor Plan
P139-204 – Existing Loft Plan
P139-205 – Existing Roof Plan
P139-210 – Proposed Lower Ground Floor Plan
P139-211 – Proposed Ground Floor Plan
P139-212 – Proposed First Floor Plan
P139-213 – Proposed Second Floor Plan
P139-214 – Proposed Loft Plan
P139-215 – Proposed Roof Plan
P139-220 – Demolition Drawing - Proposed Lower Ground Floor Plan
P139-221 – Demolition Drawing - Proposed Ground Floor Plan
P139-222 – Demolition Drawing - Proposed First Floor Plan
P139-223 – Demolition Drawing - Proposed Second Floor Plan
P139-224 – Demolition Drawing - Proposed Loft Plan
P139-225 – Demolition Drawing - Proposed Roof Plan
P139-300 – Existing Cross Section X-X
P139-301 – Existing Cross Section Y-Y
P139-302 – Existing Cross Section Z-Z
P139-310 – Proposed Cross Section A-A
P139-311 – Proposed Cross Section B-B
P139-320 – Demolition Drawing - Proposed Cross Section A-A
P139-321 – Demolition Drawing - Proposed Cross Section B-B
P139-400 – Existing South Elevation
P139-401 – Existing West Elevation
P139-402 – Existing North Elevation
P139-403 – Existing East Elevation
P139-410 – Proposed South Elevation
P139-411 – Proposed West Elevation
P139-412 – Proposed North Elevation
P139-413 – Proposed East Elevation
P139-420 – Demolition Drawing - Proposed South Elevation
P139-421 – Demolition Drawing - Proposed West Elevation
P139-422 – Demolition Drawing - Proposed North Elevation
P139-423 – Demolition Drawing - Proposed East Elevation

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 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 Window 9 at 56 Regents Park Road falls marginally short of the minimum Vertical Sky Component (VSC) target (the results indicate that window 9 receives 22.6% VSC after the proposed development. The reduction ratio of the window is 0.76 against the BRE target of 0.8). However, the guide acknowledges that a larger relative reduction in VSC may be unavoidable where an existing window has projecting wings on one or both sides of it (as is the case with window 9). The guide goes on to explain that an additional calculation may be carried out assuming that the projecting wing does not exist. If the window meets the target on this basis then this confirms that it is the existing building that prevents the target from being met as opposed to an unreasonable level of obstruction caused by the development. Window 9 passes the Vertical Sky Component test without the projecting wing in place (see Appendix 3).

4.3.2 All other windows pass the standard Vertical Sky Component test and therefore applying the alternative testing method is not required. The results confirm that the proposed development satisfies the BRE daylight requirements.

4.4 Sunlight to Windows

4.4.1 All windows do not face within 90 degrees of due south and do not need to be tested for direct sunlight. 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 more than 2% of any garden or amenity area which will receive less than two hours of sunlight on 21st March. This is better than the BRE minimum requirement which permits sunlight to be reduced by up to 20%. 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 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, 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

Key

Window 1 ● Window reference

Development site

Neighbouring Properties

(G1) Neighbouring Gardens and Amenity Areas

Project Name: 58 Regent's Park Road, Camden, London NW1 7SX

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 Rev: -

Rev	Date	Details of revision

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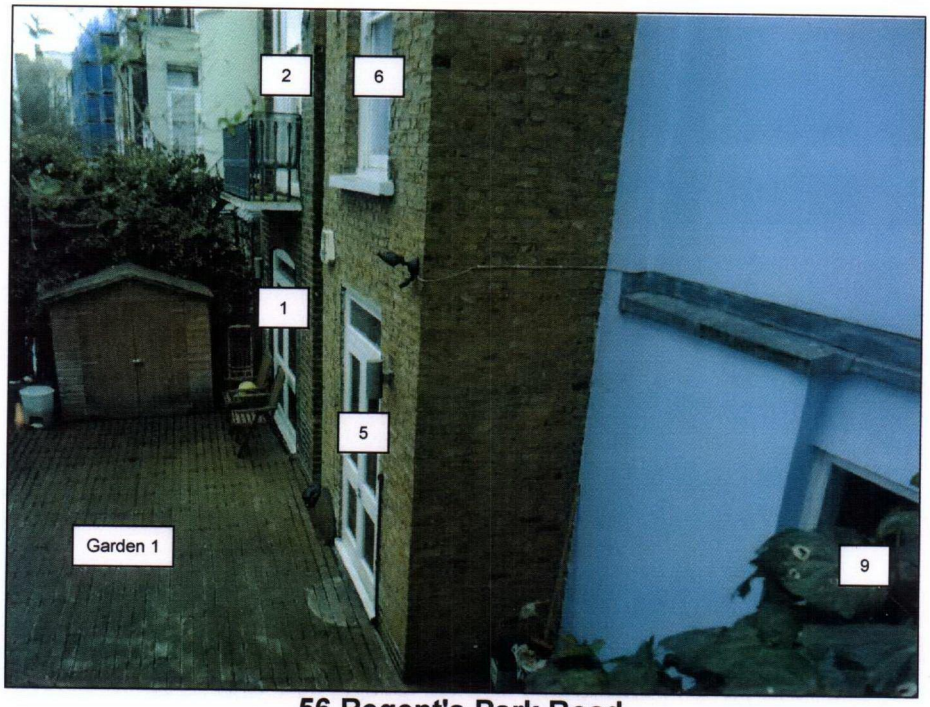
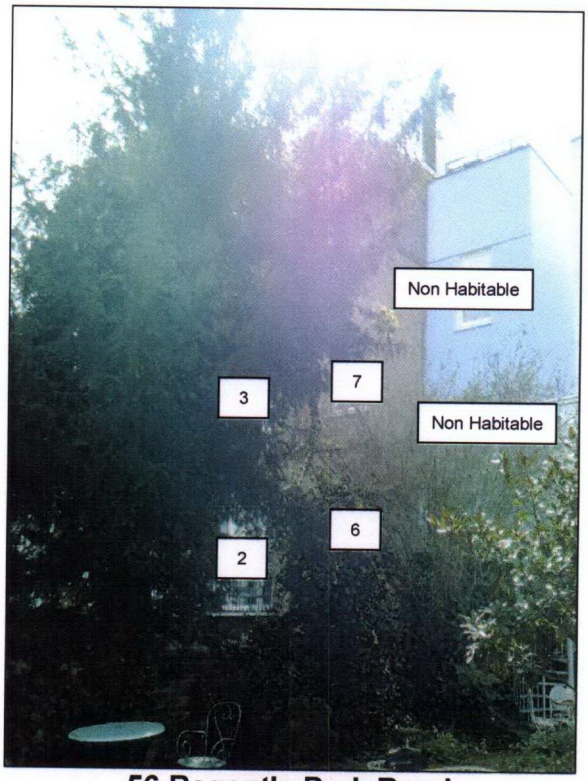
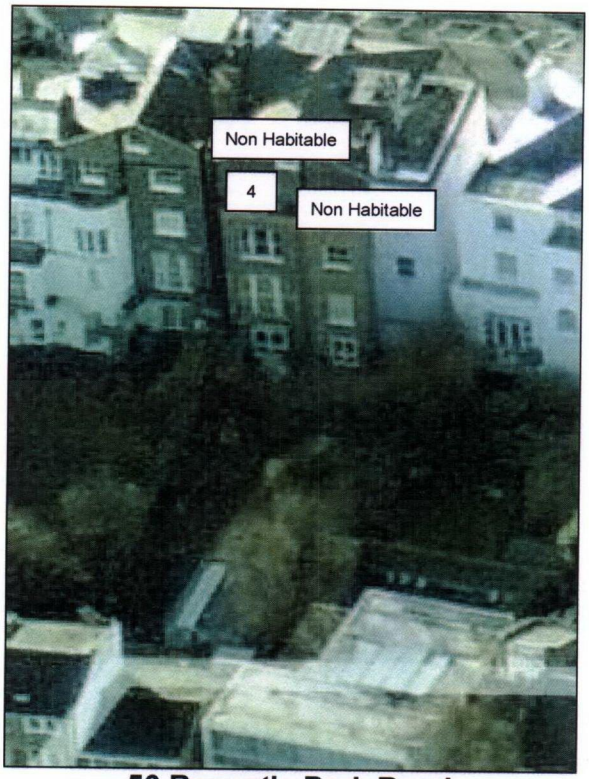
Neighbouring Windows



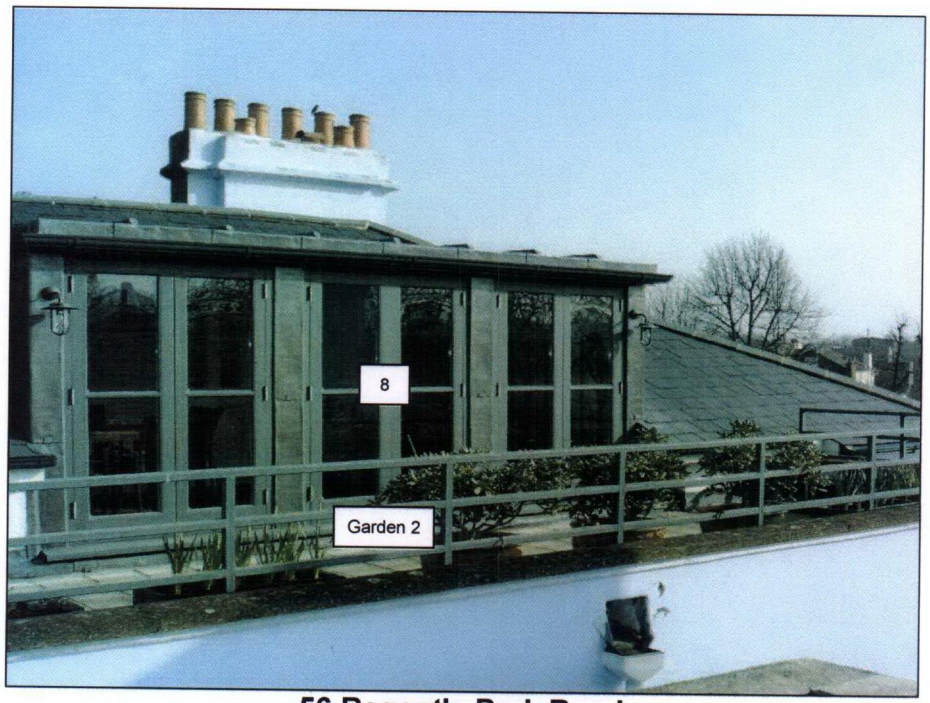
56 Regent's Park Road



56 Regent's Park Road



56 Regent's Park Road



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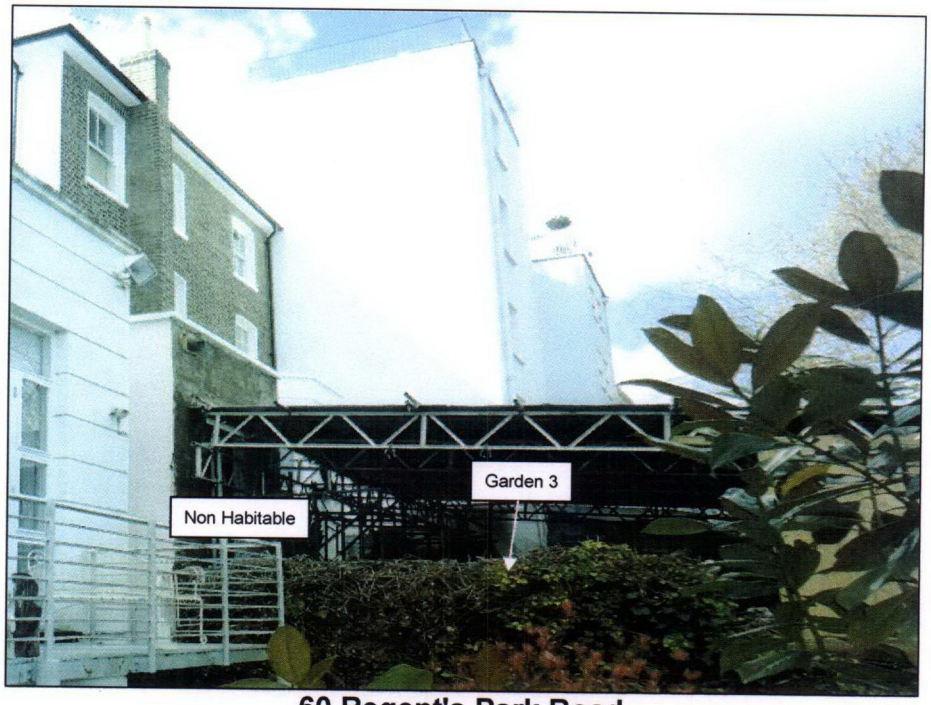

60 Regent's Park Road

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
58 Regent's Park Road, Camden, London NW1 7SX

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
56 Regent's Park Road					
Window 1	Habitable	32.2%	31.3%	0.9%	0.97
Window 2	Habitable	39.0%	38.6%	0.4%	0.99
Window 3	Habitable	39.5%	39.5%	0.0%	1.0
Window 4	Habitable	39.5%	39.5%	0.0%	1.0
Window 5	Habitable	35.8%	33.2%	2.6%	0.93
Window 6	Habitable	38.8%	37.3%	1.5%	0.96
Window 7	Habitable	39.4%	39.4%	0.0%	1.0
Window 8	Habitable	36.8%	36.2%	0.6%	0.98
Window 9	Habitable	29.6%	22.6%	7.0%	0.76

Appendix 2 - Overshadowing to Gardens and Open Spaces
58 Regent's Park Road, Camden, London NW1 7SX

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
56 Regent's Park Road								
Garden 1	334.24 m2	197.08 m2	59%	197.04 m2	59%	0.04 m2	0%	1.0
Garden 2	27.58 m2	25.36 m2	92%	25.36 m2	92%	0.0 m2	0%	1.0
60 Regent's Park Road								
Garden 3	165.65 m2	39.92 m2	24%	37.26 m2	22%	2.66 m2	2%	0.92

APPENDIX 3

ALTERNATIVE VERTICAL SKY COMPONENT

Appendix 3 - Alternative Vertical Sky Component
58 Regent's Park Road, Camden, London NW1 7SX

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
56 Regent's Park Road Window 9	Habitable	34.5%	27.5%	7.0%	0.8

APPENDIX 4

OVERSHADOWING TO GARDENS AND OPEN SPACES

Appendix 4 : Overshadowing to Gardens and Open Spaces

Key

Receives under two hours sunlight on 21st March before and after the development.

Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).

Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).

Receives at least two hours sunlight on 21st March before and after the development.

Notes:

1. Contours derived in accordance with BRE Guide : Site Layout Planning for Daylight and Sunlight

Project Name:	58 Regent's Park Road, Camden, London NW1 7SX
Drawing Title:	Appendix 4 - Overshadowing to Gardens and Open Spaces
Scale:	Do not scale
Drawing No:	1
Rev.	-

Rev	Date	Details of revision

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