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Daylight and Sunlight Study
72 - 74 Parkway, Regents Park, London NW1 7AH

21st December 2010

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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 extension to No. 72-74 Parkway, Regents Park, London NW1 7AH.

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 66 to 70 and 76 Parkway. 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 good practice guide' by P J Littlefair 1991.

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 show that the development will have a relatively low impact on the light receivable by its neighbouring properties. Whilst we have identified one minor transgression of the BRE recommendations, we are of the opinion that the development design is acceptable when taking into account of the mitigating factors set out in this report.

1.1.5 I confirm that the overall bulk of the current design is smaller than the design considered in the earlier planning application 2007/0352/P. I note that the appeal relating to the refusal of application 2007/0352/P was dismissed, albeit not on the grounds of loss of daylight or sunlight. I note from the inspector's comments that he agreed with Right of Light Consulting's opinion that the impact on natural light is acceptable. Given that the current design is smaller in bulk than the design considered at appeal, it automatically follows that the impact of the design pertaining to the current application is also acceptable in terms of its impact on natural daylight and sunlight.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Herara Architects

1026/001	Existing Plans	Rev -
1026/002	Existing Elevations & Section	Rev -
1026/003	Proposed Plans	Rev -
1026/004	Proposed Elevations & Section	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 good practice guide' by P J Littlefair 1991. 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. In instances where there is a special requirement for daylight or sunlight, higher levels may be deemed necessary. In other situations, such as with urban developments, lower daylight and sunlight levels may be unavoidable. 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 is not mandatory and this document should not be considered as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the 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.

3.2.2 Diffuse daylight calculations should be undertaken to all main windows at adjoining residential properties. The calculations should be applied to non-domestic buildings where there is a reasonable expectation of daylight. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.2.3 The BRE guide contains three tests which measure diffuse daylight. These are explained in the following sections.

3.2.4 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 will 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.

3.2.5 Test 2 No-Sky Line

The no-sky line test involves calculating the percentage of a room's area which can receive direct sky light. Diffuse daylight is likely to be adversely affected if after the development the area of a room receiving direct skylight is less than 0.8 times its former value.

3.2.6 Test 3 Average Daylight Factor

The Average Daylight Factor takes into account a range of variables. For example, the size of the window, the type of glazing, whether the room has more than one window and factors such as the reflectivity of the internal decor.

The BRE test is based on the British Standard BS 8206 Part 2, which recommends an Average Daylight Factor of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. There are additional minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

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. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.

3.3.2 The BRE guide recommends that main living room windows should receive at least 25% of the total annual probable sunlight hours, including at least 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March. Sunlight availability will be adversely affected if both the total number of sunlight hours falls below these targets and is less than 0.8 times the amount before the development.

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, and allotments
- 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

3.4.2 The BRE guide recommends that for an open space to appear adequately lit throughout the year, no more than 40% and preferably no more than 25% of its area should be prevented from receiving any sunlight at all on 21st March. Sunlight availability will be adversely affected if these targets are not met and the amount of sunlight received on 21st March is less than 0.8 times the amount before the development.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

4.1.1 Appendix 1 provides 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 at No. 66-70 Parkway pass all three of the BRE Daylight tests. The main office area benefits from roof lights and large windows which point away from the development site. The office space achieves an Average Daylight Factor of 5.3% after the development. This is more than two times the minimum amount of light recommended by the BRE guide.

4.3.2 Window 6 at No. 76 Parkway passes the No Sky Line test which measures the distribution of daylight within the room. The Vertical Sky Component test and Average Daylight Factor test are used to measure the overall amount of diffuse daylight in each room. The Vertical Sky Component test measures the access to visible sky from a point at the centre of each main window. Window 6 falls slightly short of the recommended Vertical Sky Component target (before/after ratio of 0.72 – against the BRE target of 0.8). However, there are some important mitigating factors to mention. Firstly, the BRE guidelines are intended to be applied flexibly. It is not always practical to achieve full compliance with the guidelines – particularly in urban locations. Secondly, the non compliance in this case is isolated and fairly marginal. Finally, where a window does not satisfy the Vertical Sky Component test, it does not automatically follow that daylighting will be of a poor standard. Depending on factors such the size of its window and type of glazing, a room may still receive satisfactory levels of daylight. This can be checked by applying the Average Daylight factor test - which takes into account these additional variables. In the case of this development, the results of the Average Daylight Factor test indicate that the impact of the development will be relatively low.

4.3.3 Windows 7 and 8 at No. 76 Parkway pass all three of the daylight tests.

4.4 Sunlight to Windows

4.4.1 Two of the three roof lights to the open plan office area at No. 66 – 70 Parkway pass both the total annual sunlight hours test and the winter sunlight hours test. One roof light fails the sunlight tests. Since all three roof lights serve the same space, the room as a whole will continue to receive adequate levels of direct sunlight. There is a fourth roof light to the rear of No. 66-70 which will also add to the overall level of sunlight within the room.

4.4.2 All other windows at No. 66 – 70 Parkway and No. 76 Parkway do not face within 90 degrees of due south and do not need to be tested for sunlight.

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 cause any garden or amenity area to remain in permanent shadow on the 21st March. The proposed development satisfies the BRE overshadowing to gardens and open spaces requirements.

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 External areas will have been inspected from best vantage points or a standard twelve-foot surveyor's ladder. We shall have undertaken the survey following the guidelines of the RICS publication "Surveying Safely".

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

5.1.4 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.

5.1.5 Right of Light Consulting have indicated the sources of all information used in the report.

5.1.6 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.

5.1.7 Right of Light Consulting confirm that they have not entered into any arrangement where the amount or payment of fees is in any way dependent on the outcome of a planning decision.

5.1.8 Right of Light Consulting confirm that they have used their best endeavours to ensure that the facts stated in this report are correct and that the opinions expressed represent a true and complete professional opinion.

5.2 Project Specific

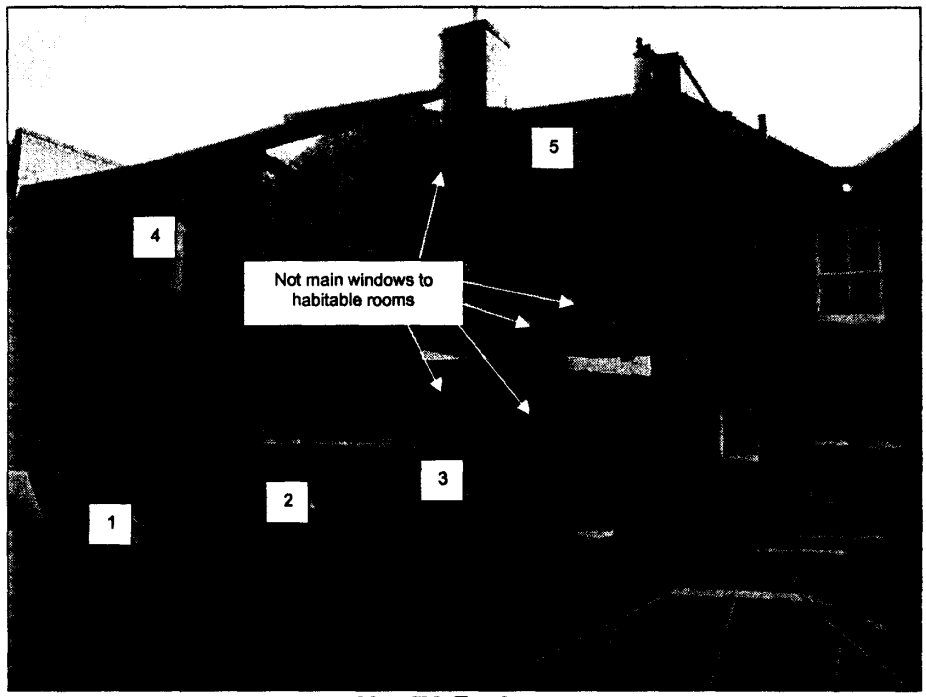
5.2.1 None

APPENDICES

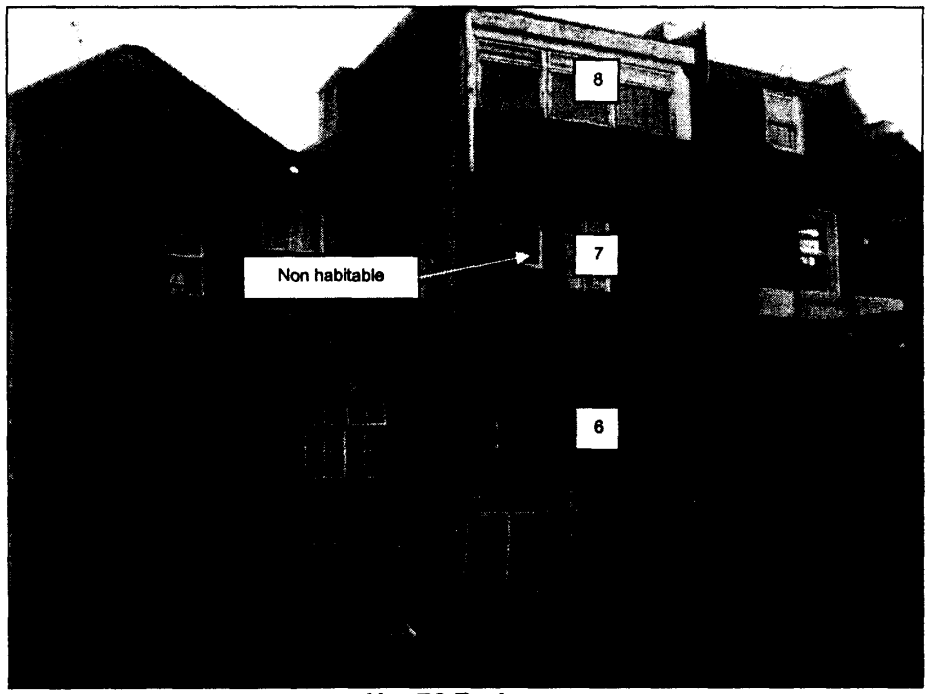
APPENDIX 1

WINDOW KEY

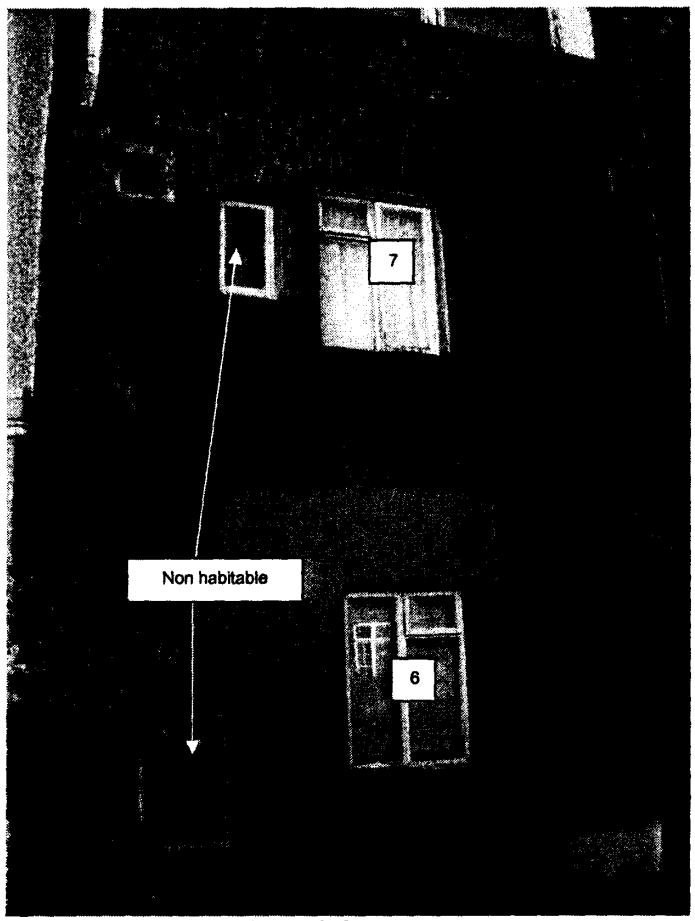
Window Key



No. 70 Parkway



No. 76 Parkway



No. 76 Parkway

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - BRE Daylight and Sunlight to Windows Results

Reference	Use	Daylight to Windows											Sunlight to Windows							
		Vertical Sky Component				No-Sky Line				Average Daylight Factor			Total Sunlight Hours				Winter Sunlight Hours			
		Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result	Target	Existing	Proposed	Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result
66 - 70 Parkway																				
Window 1	Office	85%	78%	0.92	Pass	99%	99%	1.00	Pass	2.0%	7.8%	5.3%	66%	50%	0.76	Pass	17%	9%	0.53	Pass
Window 2	Office	74%	62%	0.84	Pass	99%	99%	1.00	Pass	2.0%	7.8%	5.3%	55%	31%	0.56	Pass	12%	5%	0.42	Pass
Window 3	Office	47%	27%	0.57	Pass	99%	99%	1.00	Pass	2.0%	7.8%	5.3%	45%	5%	0.11	Fail	8%	0%	0.00	Fail
Window 4	Habitable Room	35%	34%	0.97	Pass	91%	90%	0.99	Pass	1.5%	1.6%	1.6%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Window 5	Habitable Room	32%	26%	0.81	Pass	94%	92%	0.98	Pass	1.5%	1.8%	1.6%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
76 Parkway																				
Window 6	Habitable Room	29%	21%	0.72	Fail	95%	83%	0.87	Pass	1.5%	1.2%	0.9%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Window 7	Habitable Room	36%	28%	0.78	Pass	96%	88%	0.92	Pass	1.5%	2.1%	1.7%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Window 8	Habitable Room	38%	37%	0.97	Pass	99%	99%	1.00	Pass	1.5%	5.7%	5.6%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a