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64 KING HENRY'S ROAD

LONDON

NW3 3RR

DAYLIGHT AND SUNLIGHT STUDY

Ref: LT/lt/14157
Date: May 2014

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INTRODUCTION

Delva Patman Redler LLP have been instructed to prepare a daylight and sunlight study to assess the likely impact of the proposed development at 64 King Henry's Road on the neighbouring residential amenity adjacent to the site.

This study has been carried out in accordance with the recommendations of the Building Research Establishment Report "Site Layout Planning for Daylight & Sunlight 2011" (BRE209).

The template drawings, which are attached, illustrate the results for the daylight and sunlight assessments and identify the drawings used in these studies.

THE PROPOSAL

The development proposal is to add an additional bedroom on top of the existing flat room terrace which is set back from the edge of Quickswood providing private amenity space.

POLICY / GUIDELINES

This study has been carried out in accordance with the recommendations of the Building Research Establishment report "Site Layout Planning for Daylight & Sunlight 2011". This is the recognised standard against which daylight and sunlight should be assessed.

The BRE guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design. In certain circumstances the developer or planning authority may wish to use alternative target values.

Whilst technical analysis can be carried out in accordance with numerical guidelines and reported factually by comparison with those guidelines, the final assessment as to whether affected dwellings are left with acceptable amounts of daylight and sunlight in an inner city context where the findings are to be interpreted in a flexible manner is a matter of subjective opinion.

METHODOLOGY

The Daylight and Sunlight assessments have been undertaken in accordance with the Building Research Establishment (BRE) guidelines.

The BRE Report advises that daylight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time.

Daylight

The BRE Guide states that:

> *"If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25^{o}, then a more detailed check is needed to find the loss of skylight to the existing buildings."*

The BRE guidelines propose several methods for calculating daylight.

The two main methods predominantly used are those involving the measurement of the total amount of skylight available (the vertical sky component (VSC)) and its distribution within the building (the No-Sky line or daylight distribution).

The VSC calculation is a general test of potential for daylight to a building, measuring the light available on the outside plane of windows.

The "No-Sky" Line divides those areas of the working plane which can receive direct skylight, from those which cannot. It provides an indication of how good the daylight distribution is within a room.

The third recognised method of assessment for daylight is the Average Daylight Factor (ADF) calculation which assesses the quality and distribution of light within a room served by a window and takes into account the VSC value, the size and number of the windows and room and the use to which the room is put. ADF assesses actual light distribution within a defined room area whereas the VSC considers potential light. British Standard 8206, Code of Practice for Daylighting recommends ADF values of 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. For other uses, where it is expected that supplementary electric lighting will be used throughout the daytime, such as in offices, the ADF value should be 2%. There is no general requirement within the BRE guidelines to assess ADF values, other than for neighbouring residential buildings.

This report considers the primary method of assessment, the VSC analysis only

Sunlight

The BRE have produced sunlight templates for London, Manchester and Edinburgh indicating the Annual Probable Sunlight Hours (APSH) for these regions. The London template has been selected for this study as the London indicator template is the closest of the three available from BRE in terms of latitude.

Sunlight analysis is undertaken by measuring annual probable sunlight hours (APSH) for the main windows of rooms which face within 90^{o} of due south. The maximum number of annual probable sunlight hours for the London orientation is 1,486 hours. The BRE guidelines propose that the appropriate date for undertaking a sunlight assessment is on 21st March, being the spring equinox. Calculations of both summer and winter availability are made with the winter analysis covering the period from the 21st September to 21st March. For residential accommodation, the main requirement for sunlight is in living rooms and it is regarded as less important in bedrooms and kitchens.

Due to orientation and room uses only the ground floor living room window at 62 King Henry's Road was considered for the sunlight assessment in accordance with BRE Guidance.

SOURCE DATA

The studies have been undertaken by calculating the daylight & sunlight based on the template drawings provided within the BRE guidelines. The study was undertaken with plan drawings derived from:

- Existing and surrounding buildings:
  3D Z Map Model

- Proposed Scheme:
  Dwg No's:
  13004 – PL003, PL004

All neighbouring windows around the site have been constructed using a combination of brick counting from site photography and plans/elevations which have been obtained from the London Borough of Camden Planning website.

SIGNIFICANCE CRITERIA

The guidance given by BRE has been used as a basis for the criteria to assess the potential effect of the Development.

In describing the significance criteria as set out below, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.

TABLE 1: BRE DAYLIGHT GUIDANCE USED IN THE ASSESSMENT

Issue	Criteria
Neighbouring Daylight	A window may be affected if the vertical sky component **(VSC)** measured at the centre of the window is less than 27% and less than 0.8 times its former value.
Neighbouring Sunlight	A window may be adversely affected if a point at the centre of the window receives in the year less than 25% of the annual probable sunlight hours including at least 5% of the annual probable sunlight hours (APSH) during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period.

BASELINE CONDITIONS

An analysis of the impact of the existing buildings (the baseline conditions) against which to compare any potential impact arising from the development has been undertaken based on drawing 14157SPT/800 in Appendix A.

The site is in close proximity to the adjacent properties including 62 and 66 King Henry's Road and 79 Quickswood. These all have an aspect of the development site.

These are all purpose built ground plus one storey residential accommodation which all currently receive good levels of light over and above the existing and surrounding buildings.

The windows which were tested are shown on Drawing 13472/LOC/801-802 in Appendix A.

This can be seen from the technical results, both in graphical and tabular form in the Technical Appendices A -C.

An analysis of the existing daylight and sunlight levels enjoyed by the neighbouring residential amenity has been undertaken in order to provide a baseline against which the impacts arising from the proposed development can be assessed.

RESULTS – COMPLETED DEVELOPMENT

DAYLIGHT – VSC

The full results of the daylight analysis are presented in Appendix B in tabular form. A summary of the results of the Vertical Sky Component (VSC) analysis on the relevant overlooking windows are presented in the Table 2 below. This identifies where habitable rooms are left with adequate light.

TABLE 2: NUMBER OF WINDOWS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (VSC METHOD)

Address	Total Number of Windows Tested	Number of Windows Meeting BRE Guidelines for VSC	Number of Windows Experiencing Adverse Impacts
79 Quickswood	**2**	**2**	**0**
66 King Henry's Road	**2**	**2**	**0**
62 King Henry's Road	**4**	**4**	**0**
Total	**8**	**8**	**0**

Table 2 indicates that all 8 neighbouring windows (100%) assessed will fully comply with BRE Guidance for daylight in VSC terms.

SUNLIGHT – APSH

The full results of the sunlight analysis are presented in Appendix C in tabular form with a sample attached. A summary of the results of the Annual Probable Sunlight Hours (APSH) analysis on the relevant overlooking windows are presented in Table 4 below. This identifies where habitable rooms are left with inadequate light.

Due to the orientation of the site and room uses, not all of the windows tested for the daylight analysis qualify for sunlight analysis.

TABLE 3: Number of Rooms Experiencing Negligible and Adverse Sunlight Impacts as a Result of the Development (APSH Method)

Address	Total Number of Rooms Tested	Rooms Meeting BRE Guidelines for APSH	Number of Rooms Experiencing Adverse Impacts
66 King Henry's Road	1	1	0

Table 3 shows that the single living room at 66 King Henry's Road will fully comply with the BE Guidance in APSH terms.

CONCLUSIONS

The site is in close proximity to the adjacent properties including 62 and 66 King Henry's Road and 79 Quickswood.

Considering the site is set in an urban environment, the neighbouring residential properties generally receive good levels of light over and above the existing and surrounding buildings due to their relative height and proximity.

To assess the potential impact of the Development on daylight and sunlight on the neighbouring properties a baseline assessment was undertaken. The methods of assessment used were Vertical Sky Component (VSC) for daylight and Annual Probable Sunlight Hours (ASPH) for sunlight. .

The daylight assessment demonstrates that the neighbouring rooms/windows adjacent to the development site will remain fully compliant and within BRE Guidelines for daylight.

The sunlight assessment demonstrates that the only living room facing within 90^{o} of due south will remain fully compliant.

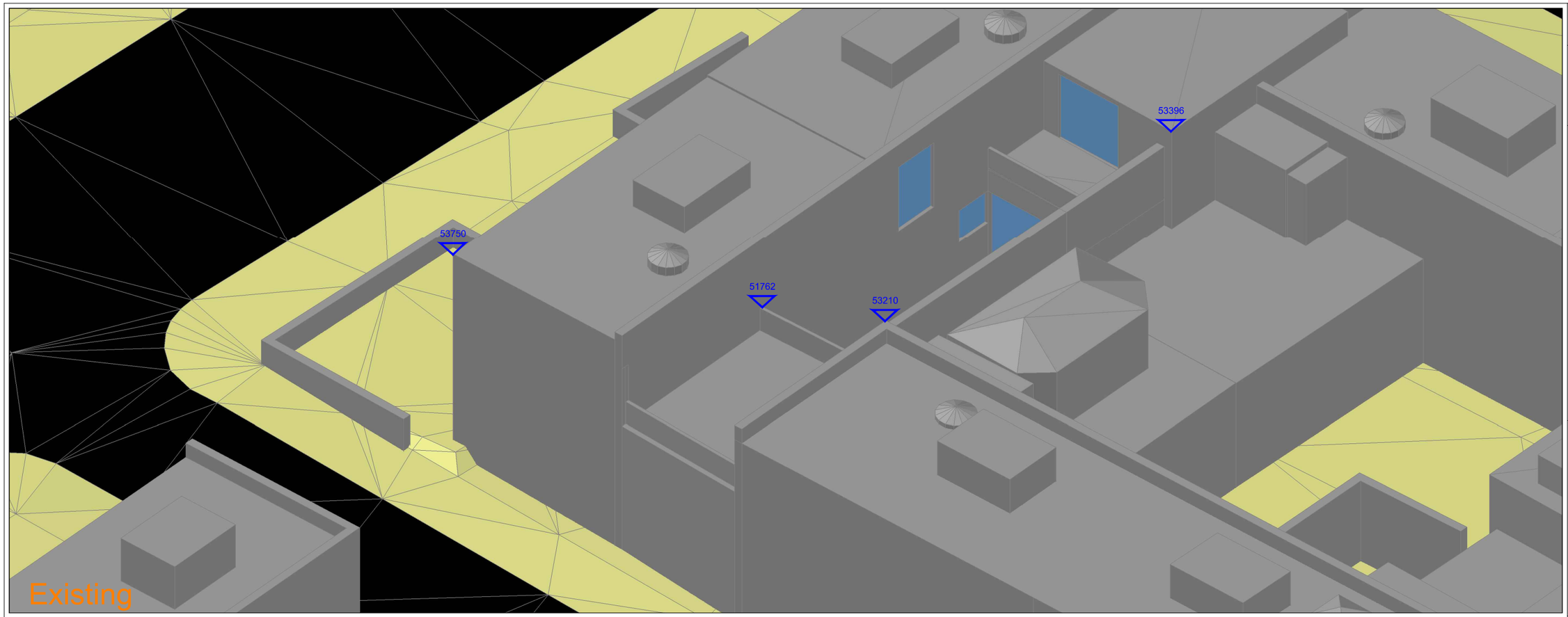
The development proposals should be considered to address the requirements of the London Borough of Camden in daylight and sunlight terms.

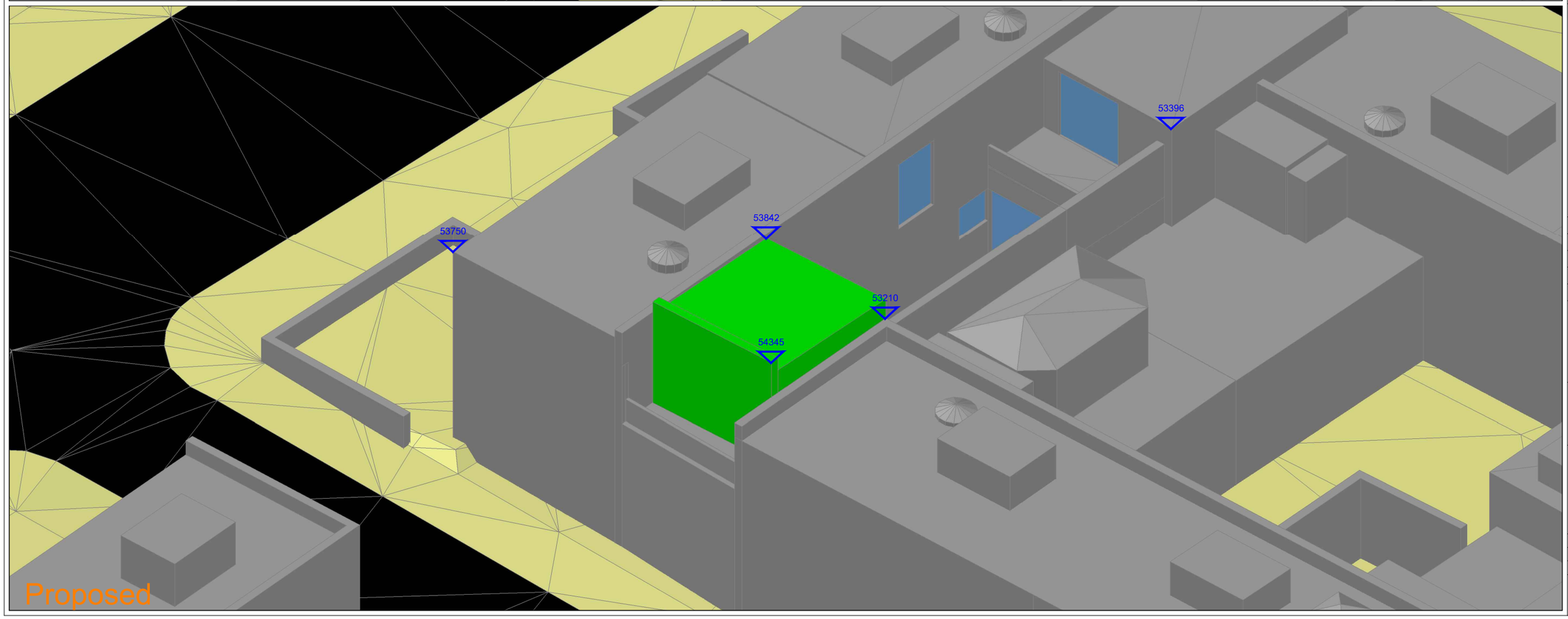
APPENDIX A

LOCATION DRAWINGS

14157/LOC/801 -802

14157/SPT /800





NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Surrounding
Proposed
Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
3D Z Map Model

Proposed Scheme:
Dwg No's:
13004 - PL003, PL004

NOTES

All heights are measured in mm AOD.

Neighbouring windows have been constructed using brick counts, site photography and plans/elevations obtained from the local authority.

REV	Description	Drawn	Ch'kd	Date

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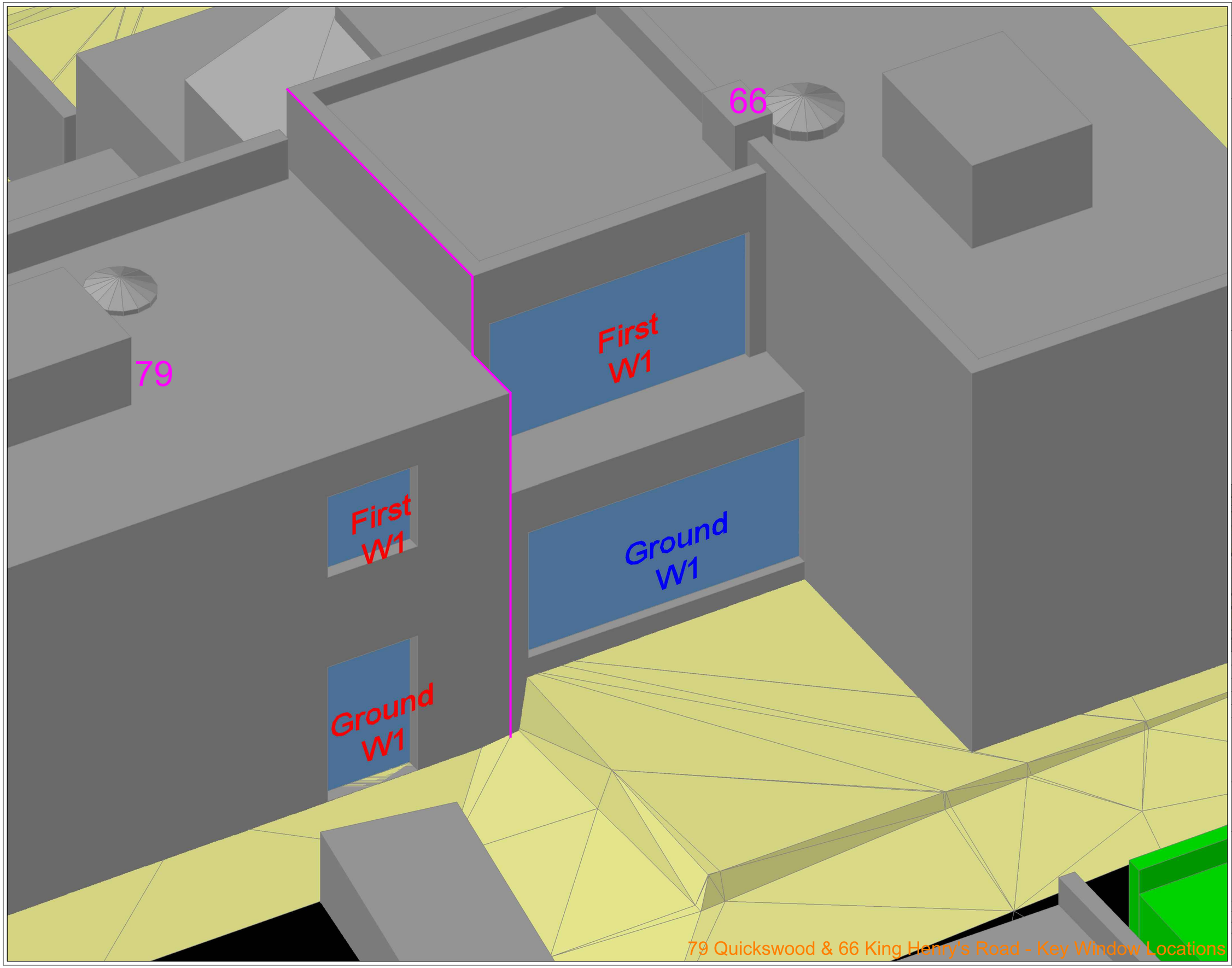
TITLE:
64 KING HENRY'S ROAD
LONDON
NW3 3RR
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
64 King Henry's Road
Daylight / Sunlight Analysis
Key Building Heights
Existing & Proposed Schemes
-
-
-

DRAWN:	LT	JOB NO:	14157
SCALE:	NTS		
DATE:	28/04/2014		

DWG NO: SPT/800

REV: -



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
3D Z Map Model

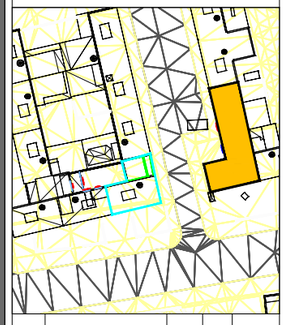
Proposed Scheme:
Dwg No's:
13004 - PL003, PL004

NOTES

All heights are measured in mm AOD.

Neighbouring windows have been constructed using brick counts, site photography and plans/elevations obtained from the local authority.

Site Plan



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TITLE:
64 KING HENRY'S ROAD
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-
DAYLIGHT / SUNLIGHT ANALYSIS

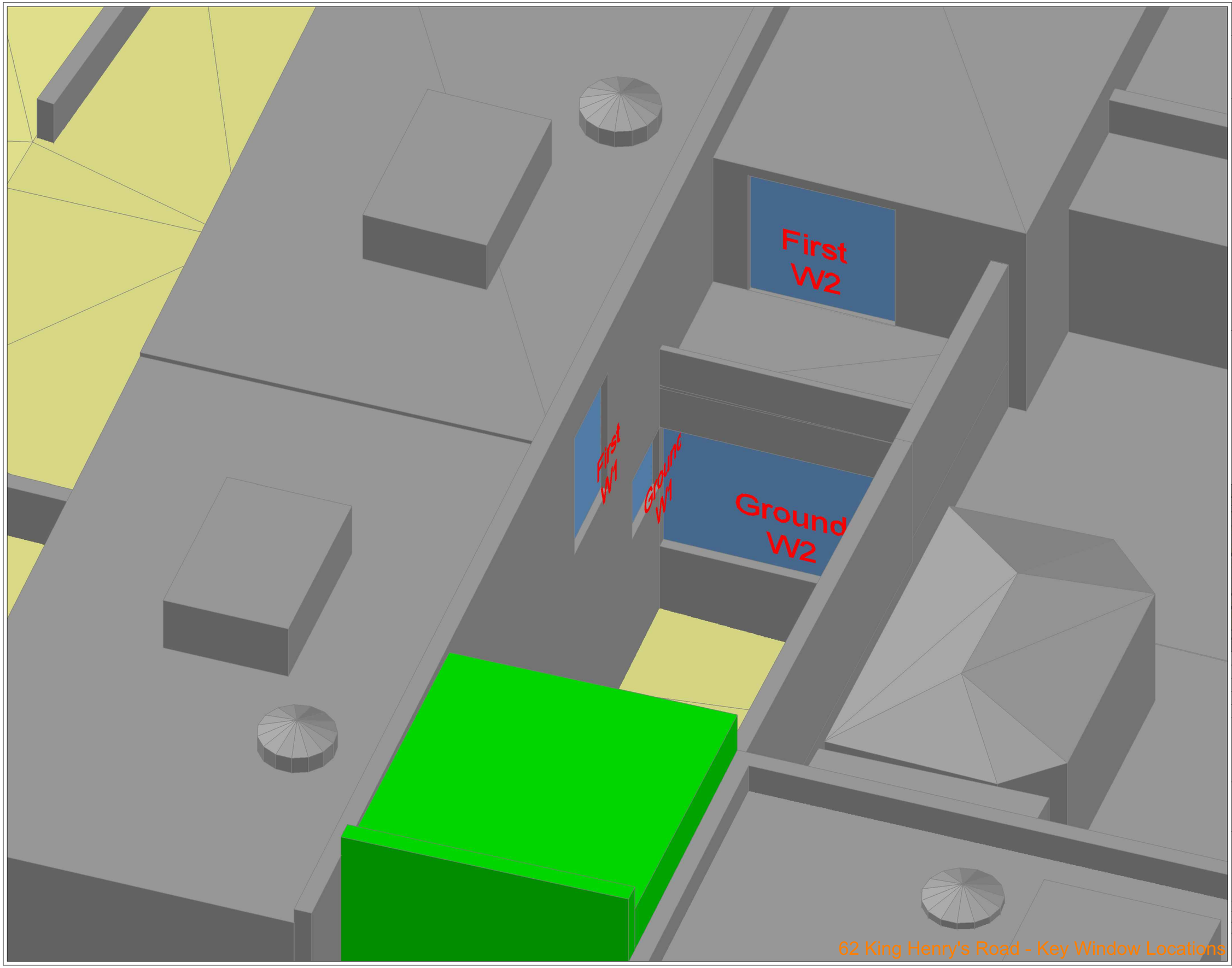
DRAWING:
79 Quickswood & 66 King Henry's Road
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN:	LT	JOB NO: 14157
SCALE:	NTS	
DATE:	28/04/2014	

DWG NO: LOC/801

REV: -

79 Quickswood & 66 King Henry's Road - Key Window Locations



62 King Henry's Road - Key Window Locations

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
3D Z Map Model

Proposed Scheme:
Dwg No's:
13004 - PL003, PL004

NOTES

All heights are measured in mm AOD.

Neighbouring windows have been constructed using brick counts, site photography and plans/elevations obtained from the local authority.

Site Plan

REV	Description	Drawn	Ch'kd	Date

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LONDON
NW3 3RR
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
62 King Henry's Road
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN:	LT	JOB NO:	14157
SCALE:	NTS		
DATE:	28/04/2014		

DWG NO:	REV:
LOC/802	-

APPENDIX B

DAYLIGHT ANALYSIS

DAYLIGHT TABLES

Vertical Sky Component Daylight Report: 64 King Henry's Road, London, NW3 3RR
Testing: All Neighbouring Residential Properties

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	79 Quickswood	Ground	Dining Room	W1	28.21	27.80	-1.48%	Pass
-		First	Bedroom 1	W1	34.56	34.23	-0.94%	Pass
-	62 King Henrys Road	Ground	Living Room	W1	23.64	23.05	-2.48%	Pass
-		First	Bedroom 1	W1	30.67	30.30	-1.19%	Pass
-	66 King Henrys Road	Ground	Kitchen	W1	13.55	13.19	-2.63%	Pass
-			Living Room	W2	13.68	12.13	-11.33%	Pass
-		First	Bedroom 1	W1	35.06	34.71	-1.01%	Pass
-			Bedroom 2	W2	28.06	27.59	-1.67%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: LOC/801-802

APPENDIX C

SUNLIGHT ANALYSIS

SUNLIGHT TABLES

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	79 Quickswood	Ground	Dining Room	W1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-		First	Bedroom 1	W1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-	62 King Henrys Road	Ground	Living Room	W1	15	15	0.00%	Pass	0	0	0.00%	Pass
-		First	Bedroom 1	W1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-	66 King Henrys Road	Ground	Kitchen	W1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-			Living Room	W2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-		First	Bedroom 1	W1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-			Bedroom 2	W2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: LOC/801-802