FLAT 2, JACK STRAW'S CASTLE LONDON BOROUGH OF CAMDEN

DAYLIGHT AND SUNLIGHT REPORT

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CLIENT: ALBANY HOMES DEVELOPMENTS LTD.
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PROJECT: P1303

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Appendices

1 Introduction

1.1 This report relates to the NLA Interiors design for the commercial conversion of Flat 2, Jack Straw's Castle, insofar as it affects the daylight and sunlight amenity received within the proposed residential unit, in particular the ground floor Living/Kitchen/Dining Room ("LKD").

1.2 The Local Authority will be informed in this by the BRE document entitled Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011 (the BRE guidelines). This document is the principal guidance in this area and sets out the methodology for measuring light and recommends what it considers to be permitted or unobtrusive levels of change.

1.3 The BRE guidelines are not mandatory, though local planning authorities and planning inspectors will consider the suitability of a proposed scheme for a site within the context of BRE guidance. Consideration will be given to the urban context within which a scheme is located and the daylight and sunlight will be one of a number of planning considerations which the local authority will weigh.

Sources of Information

In the process of compiling this report, the following sources of information have been used:

Point 2 Surveyors
Site Photography

APR Services
Survey Info (received 16/03/17)
915377.dwg

NLA
Proposed Drawings received 30/09/2019
02-2 [Proposed Ground Floor].dwg

2 Methodology

2.1 It is usual to assess daylight and sunlight in relation to the guidelines set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair. This document is most widely accepted by planning authorities as the means by which to judge the acceptability of a scheme. One of the primary sources for the BRE Report is the more detailed guidance contained within 'British Standard 8206 Part 2:2008'.

2.2 In relation to the properties surrounding a site, usually the local planning authority will only be concerned with the impact to main habitable accommodation (i.e. living rooms, bedrooms and kitchens) within residential properties.

2.3 To determine whether a neighbouring existing building may be adversely affected, the initial test provided by the BRE is to establish if any part of the proposal subtends an angle of more than 25˚ from the lowest window serving the existing building. If this is the case then there may be an adverse effect, and more detailed calculations are required to quantify the extent of any impact.

2.4 The BRE guidelines provide two principal measures of daylight for assessing the impact on properties neighbouring a site, namely Vertical Sky Component (VSC) and No-Sky Line (NSL). They also detail a third measure of daylight which is primarily used for assessing amenity within proposed accommodation, namely Average Daylight Factor (ADF).

2.5 In terms of sunlight we examine the BRE Annual Probable Sunlight Hours (APSH); and in relation to sunlight amenity to gardens and amenity spaces, we apply the quantitative BRE overshadowing guidance.

2.6 These measures of daylight and sunlight are discussed in the following paragraphs.

Diffuse Daylight

2.7 **Vertical Sky Component (VSC)** – VSC is a measure of the direct skylight reaching a point from an overcast sky. It is the ratio of the illuminance at a point on a given vertical plane to the illuminance at a point on a horizontal plane due to an unobstructed sky.

2.8 For existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall.

2.9 The BRE guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value (i.e. the proportional reduction is greater than 20%), then the reduction in skylight will be noticeable, and the existing building may be adversely affected.

2.10 **No-Sky Line (NSL)** - NSL is a measure of the distribution of daylight within a room. It maps out the region within a room where light can penetrate directly from the sky, and therefore accounts for the size of and number of windows by simple geometry.

2.11 The BRE suggest that the area of the working plane within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value (i.e. the proportional reduction in area should not be greater than 20%).

2.12 **Average Daylight Factor (ADF)** - ADF is a measure of the overall amount of diffuse daylight within a room. It is the average of the daylight factors across the working plane within a room. This equates to the ratio of the average illuminance across the working plane, to the illuminance due to an unobstructed sky.

2.13 In addition to accounting for external obstructions, the ADF accounts for the number of windows and their size in relation to the size of the room, the window transmittance and the reflectance of the internal walls, floor and ceiling.

2.14 While the ADF can be calculated from first principles using a lighting simulation software suite such as Radiance, in simple situations it can approximated using the empirical formula detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report.

2.15 Both the BRE Report and BS 8206 Part 2:2008 provide guidance for acceptable ADF values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen.

Sunlight

2.16 **Annual Probable Sunlight Hours (APSH)** - In relation to sunlight, the BRE recommends that the APSH received at a given window in the proposed case should be at least 25% of the total available, including at least 5% in winter.

2.17 Where the proposed values fall short of these, and the absolute loss is greater than 4%, then the proposed values should not be less than 0.8 times their previous value in each period (i.e. the proportional reductions should not be greater than 20%).

2.18 The BRE guidelines state that '...all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block out too much sun'.

2.19 The APSH figures are calculated for each window, and where a room is served by more than one window the contribution of each is accounted for in the overall figures for the room. The acceptability criteria are applied to overall room based figures.

3 Standard Survey Limitations

3.1 Although we have undertaken as detailed an inspection as possible, we are required by our professional indemnity insurers to notify you that our report is based upon the Standard Terms and Conditions provided along with our fee proposal. Our understanding of the existing massing, including the surrounding context was established from the sources of information details within Section 3.

3.2 In addition to our standard limitations the following limitations and assumptions also apply.

- Best estimates were made in establishing building use (residential or commercial) and room uses; generally, these were made from external observations and recourse to planning records where available.

- When floor plans of surrounding properties were not available, room depths have been assumed from external observations. Where no indicators of room depth were available a standard of 4m, 6m or 8m depths have been used.

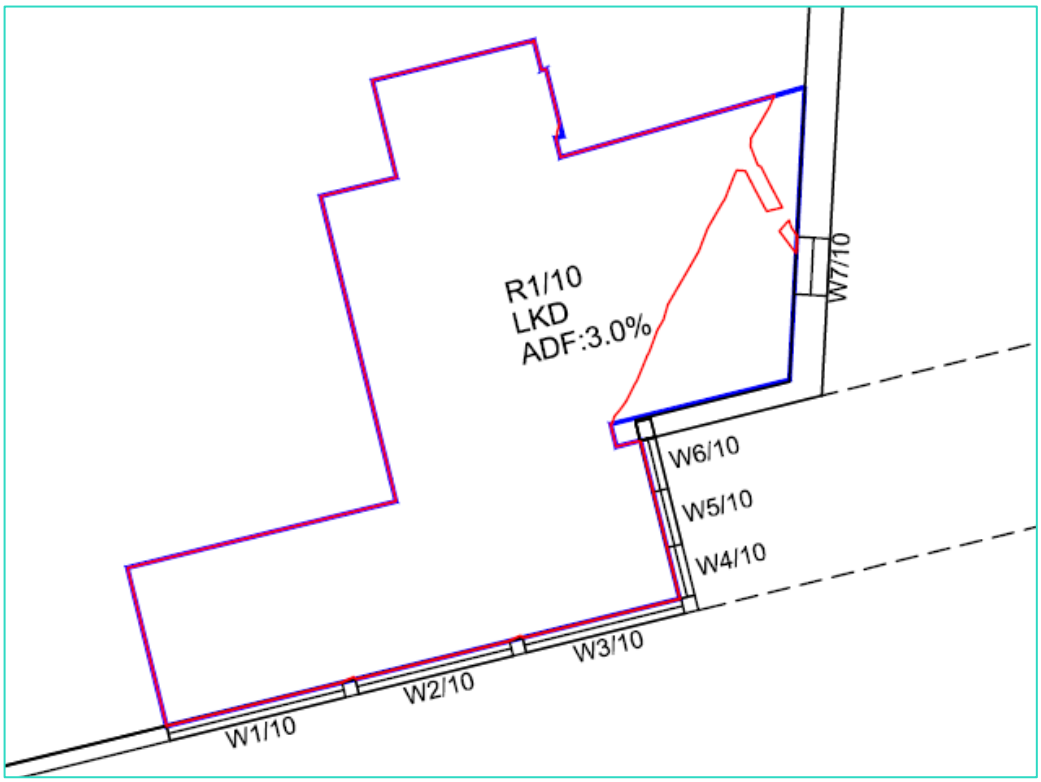
4 The Site

4.1 The site is located in the London Borough of Camden.

Drawing Number: P385/5 – Elevation to North End Way

4.2 Our understanding of the site location and existing building(s) that occupy the site are based on the sources of information detailed in section 1.

5 Daylight and Sunlight Assessment



Extract from Drawing P1303/I/07 – Average Daylight Factor (ADF) Assessment

5.1 In terms of daylight amenity, the results of our analysis demonstrate that the changes to the above room still means the new proposed Living/Kitchen/Dining Room (LKD) will receive 3% ADF once constructed. This positively surpasses the 2% recommended within the BRE Guidelines thus it can be concluded this room will receive adequate levels of daylight amenity.

5.2 In terms of sunlight amenity, the new proposed LKD will receive 49 APSH, with 15 PSH in Winter. This positively surpasses the BRE recommendation of 25 APSH, with 5 PSH in Winter thus it can be concluded this room will receive adequate levels of sunlight amenity.

6 Conclusion

6.1 The above report and technical analysis found in Appendix 1 demonstrates, in respect to the proposed LKD at Flat, will enjoy BRE compliant levels of daylight and sunlight amenity once the proposed changes have been made.

6.2 It can, therefore, be concluded the room will receive adequate levels of daylight and sunlight amenity after implementation of the changes.

6.3 We fully support this planning application in terms of daylight and sunlight amenity.

Appendix 1:
Technical Analysis

Ground Floor - Flat 2

Sources: APR Services
Survey Info (received 16/03/17)
915377.dwg
NLA Proposed Drawings

Key:
Proposed
NSL Contour

Project: Jack Straw's Castle
London

Title: Daylight Distribution Contours
and Internal ADF Results
Jack Straw's Castle
Flat 2

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Scheme Confirmed: Date :

Drawn By: DT | Scale: 1:125 @ A3 | Date: Sep 19 | Dwg No: **P1303_I_07** | Rel: 07