Buck Street Market, Camden NW1

Daylight & Sunlight Assessment

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Urban Space Management Ltd

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1 Introduction

This report details a Daylight & Sunlight Assessment for the proposed development at Buck Street Market, Camden NW1. The site is situated to the south of Buck Street, and to the east of Camden High Street.

The existing site comprises retail stalls providing street food and goods in a vibrant market setting. The site is situated within an irregular-shaped urban block, with largely non-residential use classes to the surrounding buildings. The proposed development consists of a 3-storey building (top storey comprising mostly open terrace space) constructed from recycled shipping containers.

The purpose of this report is to perform a daylight and sunlight assessment for the habitable rooms of the surrounding properties, and to compare with guidance provided by the BRE (BR209: Site Layout Planning for Daylight and Sunlight 2011).

Figure 1: Aerial View: Buck Street Market & surrounding properties (source: Google Earth)

2 Executive Summary

There are two components of natural light which need to be considered when assessing the impact of a proposed development on the surrounding residential properties, being the level of daylight and the annual sunlight hours. In terms of daylight levels to a window, the BRE recommends a Vertical Sky Component (VSC) of 27%, or not less than 0.8 times its former level. The 27% figure relates to low-density suburban housing. The BRE advises that in inner city locations lower values can be acceptable.

The results of the daylight assessment indicate that all of the assessed neighbouring windows, which require assessment, would retain a VSC of 27% and not less than 0.8 times their former level. Thus the reduction in daylight levels to these windows would not be noticeable, according to the BRE.

In terms of Annual Probable Sunlight Hours (APSH), the assessed windows which serve habitable spaces face within 20° of due south and the reference point has a VSC of 27% or more, thus sunlight analysis is not necessary according to the BRE.

The values of daylight levels and annual sunlight hours are thus considered to be acceptable for all surrounding properties.

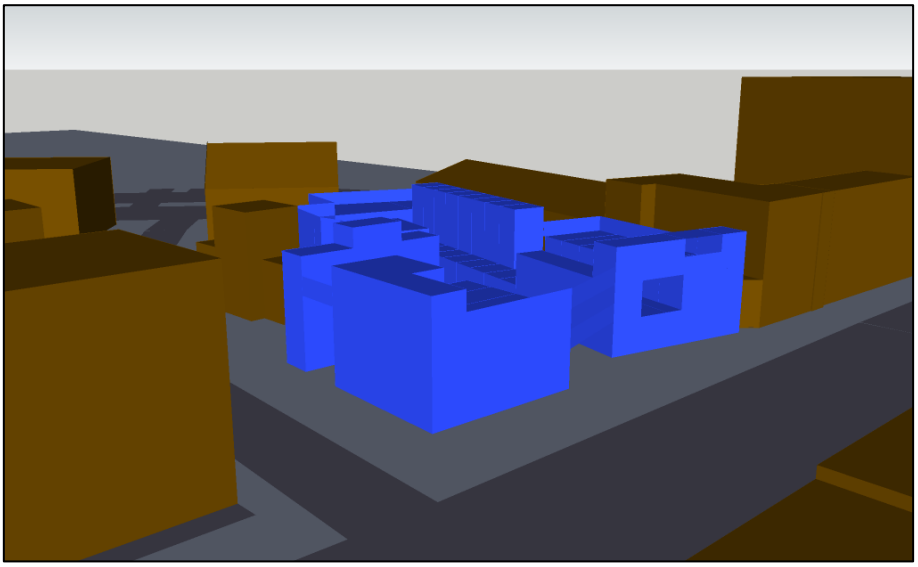

Figure 2: Buck Street Market - Proposed Development (3D Daylight Model)

3 Methodology

The introduction to the BRE document 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' states the following:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document 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 because natural lighting is only one of many factors in site layout design. In special circumstances the developer or Planning Authority may wish to use different target values."

With this in mind, the assessment has been carried out to assess the impact of the development on daylight and sunlight levels to neighbouring residential properties.

3.1 Measurement of Daylight

If a proposed development will fall beneath a 25° angle taken from the centre of the lowest window at an existing property, then no further assessment will be required. Furthermore, if the centre of a main window of the next door property lies on the extension side of a 45° line drawn in plan and elevation, then the extension may well cause a significant reduction in the skylight received by the window.

There are three mechanisms for determining the daylight levels to a window or room:

1. Vertical Sky Component (VSC)
2. No Sky Contours (NSC)
3. Average Daylight Factor (ADF)

The second and third methods (NSC and ADF) require knowledge of the internal layout of the property being assessed, whilst the first method is determined solely on the external skyline obstructions. In this instance the neighbouring properties have been assessed primarily based on the first method (VSC), whilst reasonable assumptions have been made with regards to internal geometry and surface finishes, in order to assess the NSC and ADF.

The VSC methodology is defined as:

'Ratio of that part of illuminance, at a point on given vertical plane, that is received directly from a CIE Standard Overcast Sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky'.

The VSC for a completely unobstructed CIE Standard Overcast Sky is 39.6%. The BRE guideline VSC for an existing window in a habitable room is 27%, or not less than 0.8 times its former value. This figure has been derived from a low-density suburban housing model. The BRE advises that these values are: *'..purely advisory and different targets may be used based on the special requirements of the proposed development or its location.'*

3.2 Measurement of Sunlight

The sunlight to a given window is quantified using the Annual Probable Sunlight Hours (APSH) method, which in London equates to approximately 1500 hours. An indicator is provided in the BRE guide which is overlaid with 100 spots, each representing approximately 15 hours. Each spot which is uncovered by an obstruction can thus be counted to provide a percentage of total APSH.

The guideline criteria for assessing annual sunlight at a reference point (centre of window) of an existing building is that it receives 25% of APSH including at least 5% of APSH in winter and not less than 0.8 times its former value.

According to the BRE guidance, it is not always necessary to do a full calculation to check sunlight potential. The guideline above is met if the following is true:

- If the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window (obstructions within 90° of due north of the existing window need not count here)
- The window wall faces within 90° of due south and no obstruction, measured in the section perpendicular to the window wall, subtends an angle of more than 25° to the horizontal (again, obstructions within 90° of due north of the existing window need not be counted).
- The window wall faces within 20° of due south and the reference point has a VSC of 27% or more

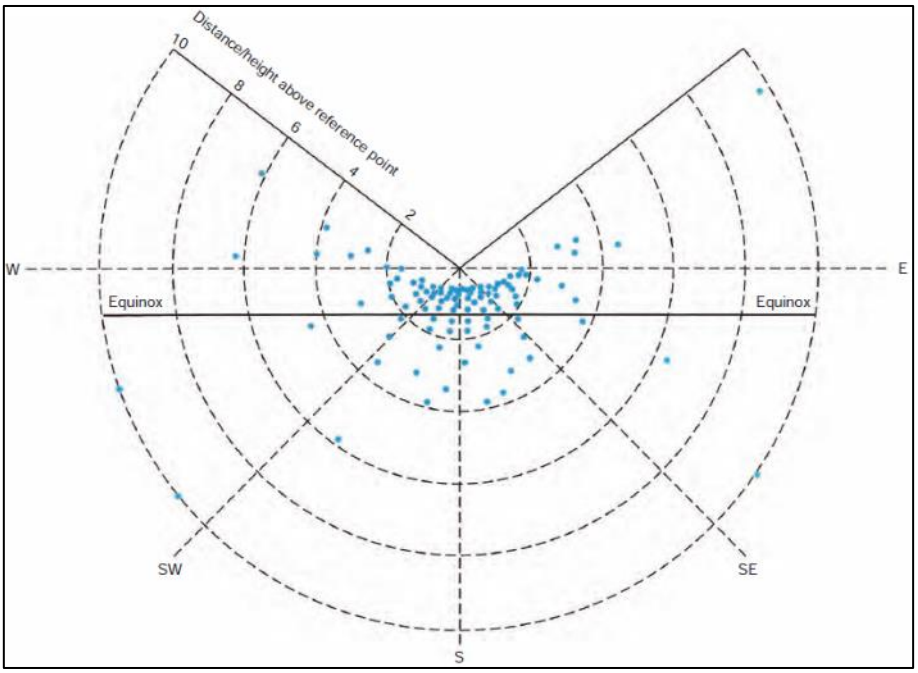

Figure 3: BRE Sunlight Availability Indicator - London

4 Daylight & Sunlight Analysis of surrounding properties

The surrounding properties which have been assessed include the following:

1. 1st Floor, 190 Camden High Street
2. 1st Floor, 221-235 Camden High Street
3. 1st Floor, The Bucks Head Public House
4. 1st Floor, 3 Buck Street

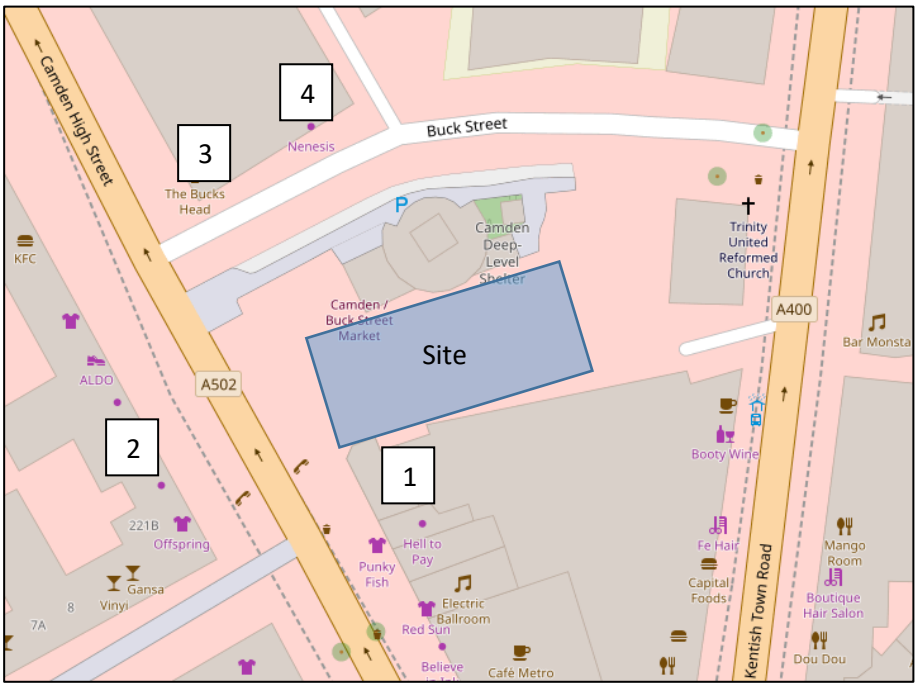

Figure 4: Location map (source: OpenStreetMap)

4.1 1st Floor, 190 Camden High Street

The property is shown below; Buck Street Market is located to the left-hand side from the camera position (outside of frame). The property comprises commercial office [B1] use at 1st and 2nd floor level, with retail [A1] use at ground floor and basement. The flank windows at 1st floor level (not shown) face the proposed development, and serve office spaces.

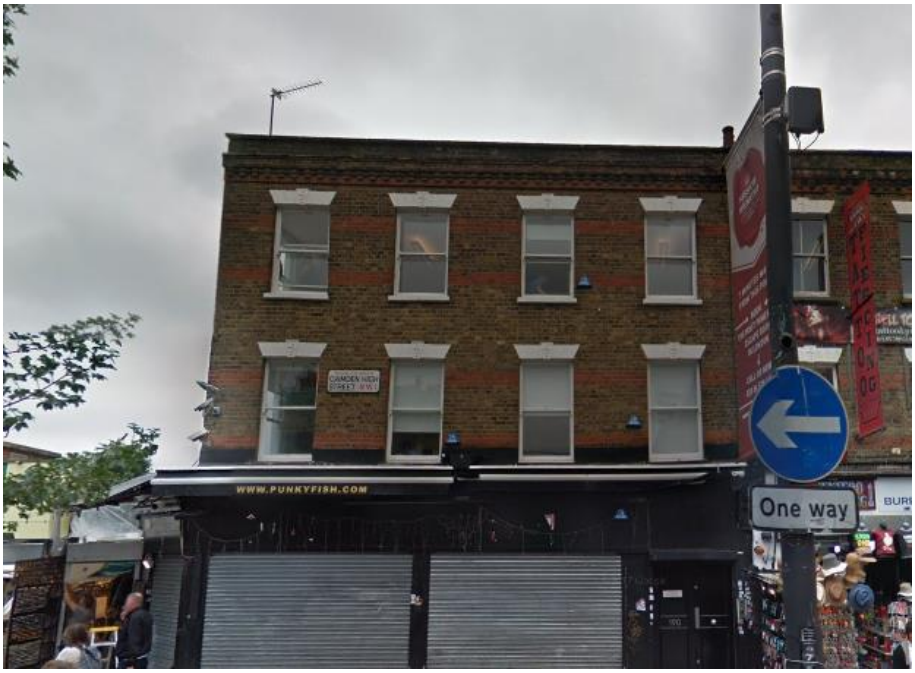

Figure 5: 1st Floor, 190 Camden High Street

4.1.1 Results of Daylight and Sunlight Analysis

The BRE guidance relates to windows which serve habitable spaces of residential properties, and properties which have a particular need for daylight. Thus the property (1st Floor, 190 Camden High Street) is considered to be outside of the scope of the guidance, and no further analysis is necessary according to the BRE.

4.2 1st Floor, Units 221-235 Camden High Street

The properties are shown below; Buck Street Market is visible toward the bottom of frame. The properties comprise retail [A1] use at ground floor, with varying use at 1st floor level (assumed to be non-residential). The properties (221-235 Camden High Street) face onto the site of the proposed development:

Figure 6: 1st Floor, Units 221-235 Camden High Street (source: Bing maps)

4.2.1 Results of Daylight Analysis

The BRE advises that windows which serve habitable spaces of residential properties, should be tested for daylight. Room uses for the 1st Floor windows facing onto Buck Street Market have been deduced from available public planning portal records, and are assumed to be mostly non-residential. For completeness, however, these windows have been tested against the BRE daylight criteria. The BRE advises that if a proposed development will fall beneath a 25° angle taken from the centre of the lowest window at an existing property, then no further assessment will be required.

Based on the assessment, the proposed development will fall beneath a 25° angle taken from the centre all of the assessed 1st Floor windows, thus no further assessment is required. This is demonstrated by the 3D model screenshot overleaf:

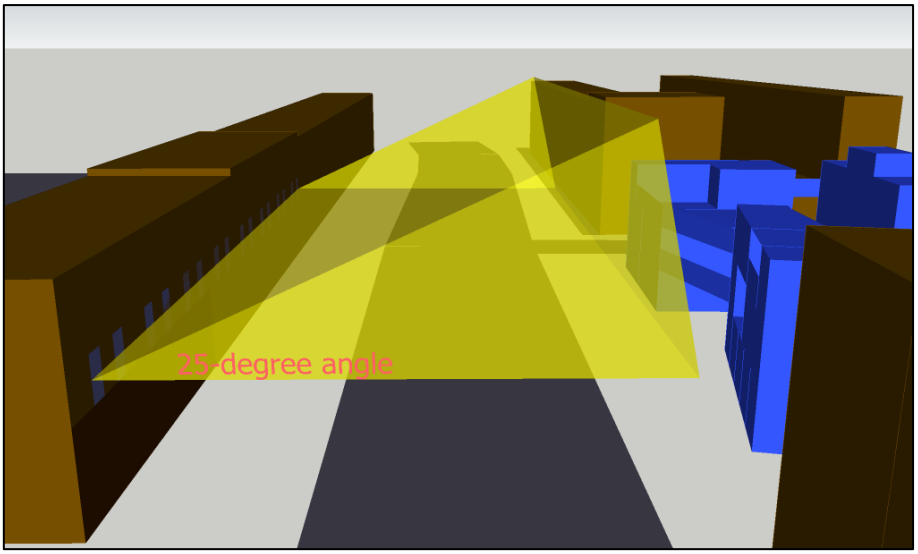

Figure 7: 25° angle, 1st Floor Units 221-235 Camden High Street (proposal: blue)

4.3 1st Floor, The Bucks Head Public House

The property is located to the north of Buck Street. The ground floor comprises commercial [A4] use: public house, whilst the 1st floor window which faces onto the proposed development is shown below, and consists of residential accommodation. The room use has been established as a bathroom, and thus does not require daylight analysis according to the BRE, however VSC analysis has been undertaken for the sake of completeness:

Figure 8: 1st Floor, The Bucks Head Public House

4.3.1 Results of Daylight Analysis

The BRE advises that windows which serve habitable spaces of residential properties, should be tested for daylight. Room uses for the 1st floor have been obtained from public planning portal drawings. The room use has been established as a bathroom, however VSC analysis has been undertaken for the sake of completeness. The assessment has been performed for the 1st floor front windows only, being the lowest floor of the residential accommodation:

Window Map ID	Address	Existing VSC (%)	Proposed VSC (%)	Ratio	Notes	Impact
W1	1F, The Bucks Head	36.80	34.55	0.94	Reduction of 6.1%	Negligible

Table 1: 1st Floor, The Bucks Head Public House VSC Results

The results indicate that the 1st Floor window would achieve a VSC of 27% and not less than 0.8 times its former level, following the proposed development. Thus the reduction in daylight levels to this window would not be noticeable, according to the BRE.

4.3.2 Results of Sunlight Analysis

The assessed window wall faces within 20° of due south and the reference point has a VSC of 27% or more, thus sunlight analysis is not necessary according to the BRE.

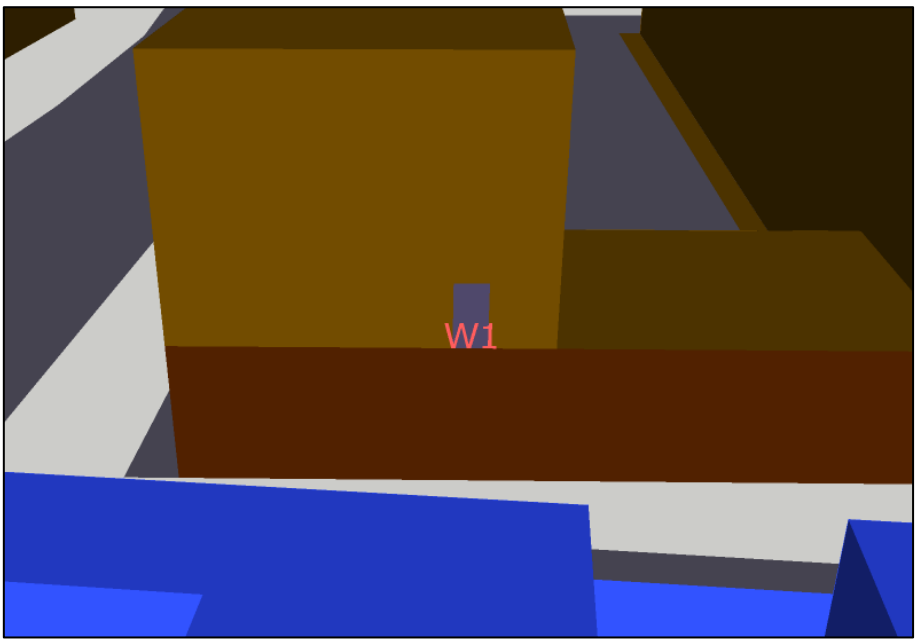

Figure 9: Window map – 1st Floor, The Bucks Head Public House

4.4 1st Floor, 3 Buck Street

The property is located to the north of Buck Street. The ground floor of 3 Buck Street comprises retail [A1] use, whilst the 1st floor windows which face onto the proposed development are shown below, and consist of residential accommodation:

Figure 10: 1st Floor, 3 Buck Street

4.4.1 Results of Daylight Analysis

The BRE advises that windows which serve habitable spaces of residential properties, should be tested for daylight. Room uses for the 1st floor windows have been obtained from public planning portal drawings. The assessment has been performed for the 1st floor front windows only, being the lowest floor of the residential accommodation:

Window Map ID	Address	Existing VSC (%)	Proposed VSC (%)	Ratio	Notes	Impact
W2	1F, 3 Buck Street	36.40	35.49	0.97	Reduction of 2.5%	Negligible
W3	1F, 3 Buck Street	36.41	35.55	0.98	Reduction of 2.4%	Negligible

Table 2: 1st Floor, 3 Buck Street VSC Results

The results indicate that the 1st Floor windows would achieve a VSC of 27% and not less than 0.8 times their former level, following the proposed development. Thus the reduction in daylight levels to these windows would not be noticeable, according to the BRE.

4.4.2 Results of Sunlight Analysis

The assessed window wall faces within 20° of due south and the reference point has a VSC of 27% or more, thus sunlight analysis is not necessary according to the BRE.

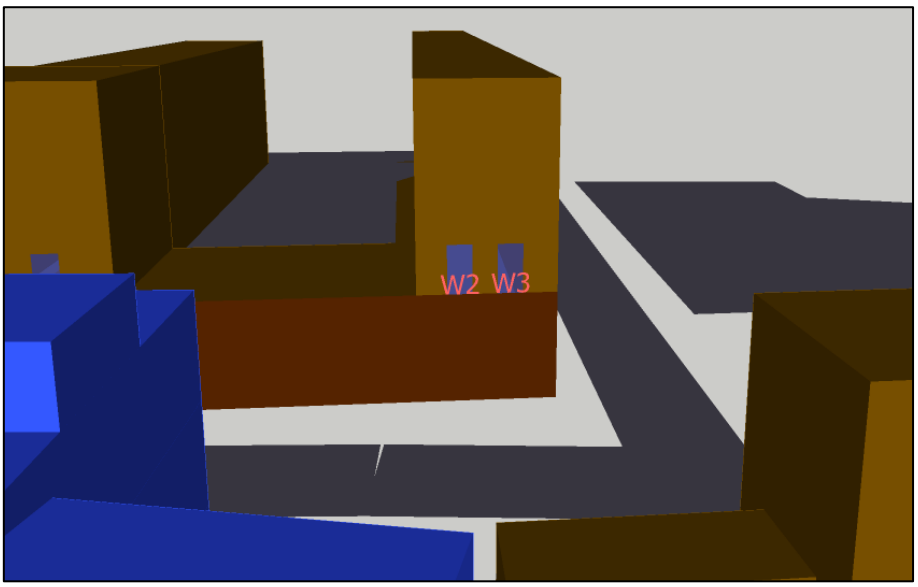

Figure 11: Window map – 1st Floor, 3 Buck Street