

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

## **Instruction**

In accordance with instructions we have considered the proposals for the site at rear of 234 Belsize Road with reference to the Building Research Establishments 2011 publication "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice".

## **Principles**

To assist in the understanding of this report, attached at Appendix A are the Principles of Daylight and Sunlight.

## **Information**

We have used the following information:-

Drawings referenced – **078-02A**

## **Proposals**

The proposals for the site are to change the use of the existing structure. No change to the structure of building is proposed under this application.

## **Neighbouring Properties**

During our analysis of the proposals we have considered the three neighbouring residential properties adjacent to the site, these being:-

236 Belsize Road

234 Belsize Road

232 Belsize Road

## **Daylight Analysis**

With regard to daylight to the neighbouring residential properties, we have considered the Vertical Sky Component (VSC) to all habitable rooms. This establishes the amount of daylight enjoyed on the face of the window.

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

The BRE Guidelines state that if the VSC calculated at the centre of each window is 27% or more, then enough skylight should be reaching the window. If with the new proposal in place the window does not achieve 27% VSC but is more than 0.8 times its former value then the guidelines state that skylight is unlikely to be seriously affected.

The BRE Guidelines in relation to daylight also make reference to BS 8206 Part 2 which contains advice and guidance on internal daylighting. This should also be read in conjunction with the Guidelines.

BS8206 Part 2 makes reference to two analyses, the Average Daylight Factor (ADF) and the No Sky Line (NSL).

The ADF analysis takes into account the size of the window in question, the size of the room it serves and any other windows serving the room. The recommended minimum ADF levels depend on the room use with these being 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

In relation to the NSL, the BRE Guidelines state that a significant area of the room should not lie behind the NSL and that bedrooms are less important than living rooms.

## **Daylight and Sunlight Assessment**

## **Conclusions**

### **Diffuse Daylighting to Windows**

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.

The BRE daylight calculations measure the percentage of the sky visible from the centre of each main window. This is known as the Sky Component. The diffuse daylighting will be adversely affected if after a development the Sky

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

component is both less than 27% and less than 0.8 times its former value.

The diffuse daylight test is undertaken on a window by window basis. Special techniques are used to assess daylight to rooms which have more than one window.

**There is no change to the application building and therefore having considered the impact on the existing levels of daylight/sunlight of properties and buildings near the application site the effect is NONE. The BRE Guidelines are therefore achieved.**

## **Sunlight availability to Windows**

Sunlight is measured in terms of how many hours of sun a window will receive over the course of a year.

The BRE sunlight tests are only applicable to windows which face within 90 degrees of due south. The BRE guidance recommends that main windows should receive at least 25% of the total annual probable sunlight hours, including at least 5% of the annual probable sunlight hours in the winter months between 21st September and 21st March. Sunlight availability will be adversely affected if the total number of sunlight hours falls below these targets and is less than 0.8 times the amount prior to the development.

Computer modelling techniques can be used to trace the path of the sun through the sky for each day of the year. The final result is an accurate assessment of the number of sunlight hours a window will receive both before and after the development

**There is no change to the application building. Due to the orientation of the neighbouring properties no analysis of sunlight is required. The effect is NONE. The BRE Guidelines are therefore achieved.**

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

## **Sunlight to gardens and open spaces**

The BRE guide recommends that no more than two-fifths and preferably no more than one quarter of any garden or other amenity area should be prevented from receiving any sunlight at all on 21st March.

Computer modelling techniques can be used to trace the path of the sun on 21st March and identify areas of an open space which will be in permanent shadow.

**There is no change to the application building and therefore having considered the impact on the existing levels of daylight/sunlight of properties and buildings near the application site the effect is NONE. The BRE Guidelines are therefore achieved.**

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

## Appendix A

### Principles of Daylight and Sunlight

In 2011 the Building Research Establishment (BRE) published a handbook called "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice."

As stated within the Introduction of this document, the main aim is:-

"To help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions."

### DAYLIGHT

When considering daylight, the handbook introduces a number of ways of assessing this. The first check is to establish whether the proposals will subtend an angle of 250 from the centre of the window. If it does not then it is considered there will be good daylight.

#### (i) No Sky Line

This divides those areas that can see direct daylight from those which cannot and helps to indicate how good the distribution of daylight is in a room. The guidelines is that, should the implementation of a scheme result in the area receiving direct skylight less than 0.8 times the existing area, then this will be noticeable to the occupier.

#### (ii) Vertical Sky Component (VSC)

This may be calculated using either the skylight indicators of Waldram Diagrams contained within the handbook and is the ratio of the direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky.

The principle is that from the face of a window, with no obstruction 50% of the hemisphere is visible which equates to 40% VSC.

The Handbook sets out different guidelines when considering both new developments and existing buildings adjacent to a development, but in both

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

situations these are applicable to principal rooms, such as kitchens and living rooms.

## **Existing Buildings**

If any part of a new building or extension measured in a vertical section perpendicular to a main window wall or an existing building, from the centre of the lowest window, subtends an angle of more than 250 to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be case if either:-

(a) the VSC measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value.

or

(b) the area of the working plane level is a room which can receive direct sunlight is reduced to less than 0.8 times its former value.

## **SUNLIGHT**

This is measured in a similar method to calculating VSC and relates to windows within 900 of due south.

The BRE handbook has calculated that the total annual probable sunlight hours in London amount to 1486.

Again the handbook sets out criteria for both new developments and existing buildings.

## **Existing Buildings**

If a living room of an existing dwelling has a main window facing within 900 of due south, and any part of a new development subtends an angle of more than 250 to the horizontal measured

from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, receives in the year less than one quarter of annual probable sunlight hours including at least 5% of annual probable sunlight hours in the

# Daylight & Sunlight Report for Rear of 234 Belsize Road, London NW6 4BT

Winter months between 21 September and 21 March or less than 0.8 times its  
former sunlight hours during either period