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Architecture & Planning

Redevelopment Proposal of 2 - 16 Clifton Down Road by THAT Group

Technical Review of Eb7 Daylighting and Sunlighting Statement  
for  
Clifton & Hotwells Improvement Society  
and  
Mall Garden's Residents Association

15 March 2019

## Introduction

In writing this report I have paid close attention to BCC's relevant Planning Policy, in particular DM27, and the BRE Guide to which it refers. The Council uses the original version of this report dated 1991 and not the revised version dated 2011 to which the report refers.

The daylighting and sun lighting requirements for both the existing buildings and the proposed development are perfectly clear, but are frequently misunderstood and misrepresented by lighting and planning consultants. BCC Policy is based on The BRE's 'Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice'; this guide does not envisage any reduction from the minimum standards recommended and certainly does not countenance the reduction of daylighting to windows that already receive a sub standard level of daylight.

For the purposes of clarity it has been considered important to highlight some of the most pertinent points in relation to this proposal. The Guide recommends as a **minimum** standard, a vertical sky component (VSC) of at least 27%.

Furthermore, the Guide makes no distinction between different types of buildings: the Guide does not only apply to residential buildings.

The most serious and significant omission in the report concerns daylighting and sunlighting to the properties in Kings Road due to the four storey building which is proposed to be built on the back of pavement. Daylight diagrams have been drawn up for both the existing and proposed buildings: these indicate that full calculations should be undertaken for all properties on Kings Street and for the windows to the proposed building. Calculations have not been provided for reasons which are not considered to have any validity whatsoever. It is thought highly probably that the proposal would result in an unacceptable reduction in daylight and possibly sun lighting in addition. No concern has been given either to the removal of sunlight from Kings Road and the deterioration of the microclimate in what the community wish to see as an extension of the vibrant street life in Boyces Avenue.

## BCC's Planning Policies

### 1. DM27

DM27 requires that both existing and proposed development '*achieve appropriate levels of privacy, outlook and daylight*' and '*Sunlight and daylight studies may be required for*

schemes where there is doubt over the acceptability of their impact on the amenity of existing development'. **The Council uses the original version of the BRE Guide 'Site layout planning for daylight and sunlight: a guide to good practice'** published in 1991. The Guide recommends a minimum standard of daylighting of 27% vertical sky component (VSC).

**DM27 requires development to: 'enable existing and proposed development to achieve appropriate levels of privacy, outlook and daylight' and 'Sunlight and daylight studies may be required for schemes where there is doubt over the acceptability of their impact on the amenity of existing development'**. The Council uses the BRE Guide 'Site layout planning for daylight and sunlight: a guide to good practice'. The Guide is principally a methodology for calculating levels of daylighting and sun lighting but **recommends a minimum standard of daylighting of 27% vertical sky component (VSC). The Policy does not envisage any reduction from this minimum standard, and certainly does not envisage reducing sub-standard levels of daylight still further as this proposal envisages.**

## 2. DM29

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## 3. SPD2

SPD2 states that the Council uses the principles set out in the BRE's 'Site Planning for Daylight and Sunlight: A Guide to Good Practice'.

**SPD2 states that the Council uses the principles set out in the BRE's 'Site Planning for Daylight and Sunlight: A Guide to Good Practice'**. The Guide is intended *'for building designers, their clients, consultants and planning officials.'*

## 4. BRE Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice

The Guide gives *'advice on site layout to achieve good sun-lighting and daylighting, within buildings and in the open spaces between them'*. This therefore applies to the proposed building as well as to the existing buildings near the site on Kings Road, Boyces Avenue and Mortimer House. It would be expected that any modern sustainable building would be both naturally lit and ventilated. It would seem that the excessive areas of glass proposed are not even intended to provide natural lighting.

*The Guide also states that 'if the guidelines in the Guide are followed, along with the detailed window design in the British Standard and the CIBSE manual, there is the potential to achieve good daylighting in new buildings, (and) to retain it in existing buildings nearby'*.

**The guide states that if for any part of the new development the angle subtended from the centre of windows to existing buildings is less than 25 degrees, a more detailed check is needed to ensure there is a 27 degree sky component.**

**The BRE guide actually states:**

*'If the vertical sky component (VSC), with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight.'*

The BRE Guide states that, for **new development** '*..there is the potential for good daylighting provided that the vertical sky component....is not less than the value of a continuous obstruction of altitude 25deg. **This is equal to a vertical sky component of 27%***'.

The Guide gives '*advice on site layout to achieve good sun-lighting and daylighting, within buildings and in the open spaces between them*'. The Guide also states that '**if the guidelines in the Guide are followed...there is the potential to achieve good daylighting in new buildings, (and) to retain it in existing buildings nearby**'.

### **3.0 The Eb7 Daylight and Sunlight Report 2 July 2018: Introductory sections 1 - 5.**

The report is stated to be based on the June 2018 proposals by FCBS. **Astonishingly the 3 dimensional drawings of the proposals are of another building altogether.**

It is therefore not clear whether or not the calculations presented in the report are even relevant to the application proposal. The assessment is stated to have been undertaken on the basis of the BRE report 'Site Layout planning for daylight and sunlight: a guide to good practice.' (BRE 2011).

However, the Council's guide SPD2 dated October 2005 refers to the original version of the BRE report which is dated 1991. The comments and possibly the calculations as well provided in this report are therefore are not necessarily relevant.

The report is quick to stress the various qualifications made in the report by way of preparation for non compliance. Paragraph 2.3 the BRE report is mis-represented: the Eb7 report states, as if of fact, that: '*post development properties should enjoy at least 27% or that the VSC is reduced to no less than 0.8 times its former value*'. However, The BRE report does **not** state that a **VSC of less than 27% would be acceptable** nor that a VSC less than 27% **and** less than 80% of the existing VSC would be acceptable. It is somewhat unfortunate that the developers and their consultants have used this as an argument in defence of their proposals. These changes take place over time as the new building is constructed and because light levels change throughout the day and the season

The BRE summary guidance is in fact as follows: (page 7): '*if any part of a new building... subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building **may** be adversely affected. This **will** be the case if .... the vertical sky component measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value.*'

The point here is that **any** window which subtends an angle of more than 25 degrees might be adversely affected and should be checked using the BRE methodology. It is not a correct interpretation to say that a window that has sub standard daylighting (ie a VSC of less than 27% ) can be further reduced to 0.8 times its former value.

In paragraph 2.8 the report states, again as if of fact: '*it is important to note that within urban centres achieving good levels of daylight and sunlight in accordance with BRE guidelines can be weighed in the balance against other beneficial factors.*' However, BCC Policy applies to urban centres and makes **no such proviso**: the BRE guidance is expected to be complied with in full. In paragraph 2.10 the report states that the targets in the BRE document are 'guidelines'. **However, BCC have adopted the BRE guidelines as the minimum level of daylight both to existing and new buildings irrespective of use.**

In paragraph 2.11, the report offers the argument that '*rigid adherence to the BRE application in certain situations could easily result in an inappropriate development, in which case it may be appropriate to adopt lower target values more appropriate to the location concerned.*' BCC Policy provides **no such room for relaxation**. Residential owners are required to rigorously comply with the 45 degree rule: it is not acceptable to allow commercial developers to evade BCC policy requirements.

In paragraph 5.4 the Eb7 report states that the only building they have considered is Mortimer House. It appears that the report also fails to consider external spaces. The report has omitted to consider the impact of the proposed development on the properties on Kings Road which are understood to be retail use on the ground floor and residential on the first and second floors. In any event, the BRE guide makes no distinction between buildings of different planning use types. Indeed the BRE guide ( section 2.3 ) refers to '**non-domestic development as well as housing**'. In the introduction to the BRE report it is stated that '*the guide gives advice on site layout planning ... to achieve good daylighting in new buildings*' and to '*retain it in existing building nearby*' ie **the guide refers to buildings not just to dwellings**.

#### **4.0 The Eb7 Daylight and Sunlight Report 2 July 2018: Mortimer House Results**

As stated above the report only considered Mortimer House and not any of the properties on Kings Street, nor the windows on the flank and front elevation of Boyces Buildings. **This omission is extremely serious and should be rectified immediately.**

Although the report concludes that '*the results of our VSC assessment is that all windows retain at least 0.8 times their former value and as such are fully compliant with the BRE criteria.*' **As stated above this conclusion is incorrect.**

For the basement of Mortimer House, the report tabulates VSC daylight measurements of 19.6, 17.3, and 21. 1 in the basement and 24.0 and 24.1 on the ground floor.

**Significant VSC daylight losses of up to 6.5% are reported for no less than 11 windows having a sub standard VSC of less than 27%.** The BRE Guidelines state that '*for a room with non-continuous obstructions there is the potential for good daylighting provided that the vertical sky component... is not less than the value for a continuous obstruction of altitude 25degrees. This is equal to a vertical sky component of 27%.*' The minimum level of VSC for good daylighting therefore is 27%.

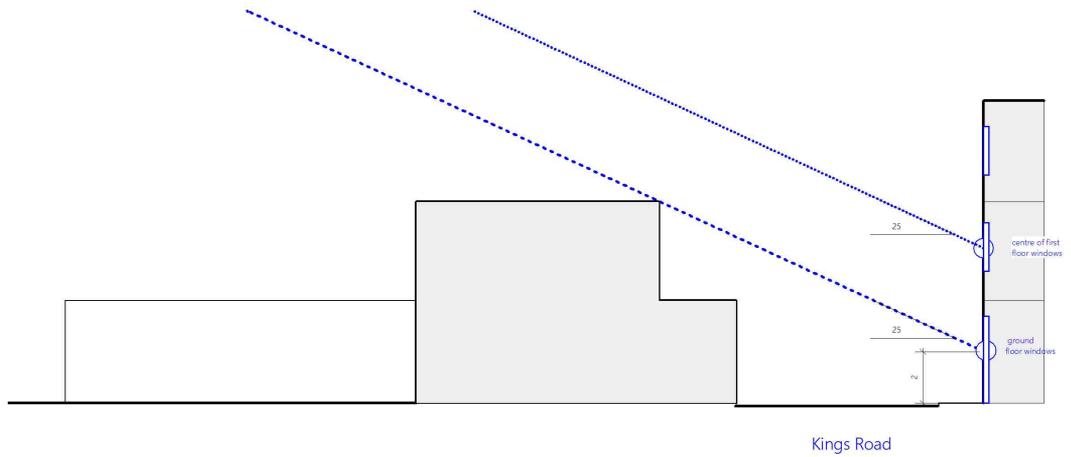
#### **5.0 The Eb7 Daylight and Sunlight Report 2 July 2018: Kings Road and Boyces Buildings**

As stated above, the report does not show any evidence of the impact of the proposal on these properties.

In line with the recommendations set out in the BRE Guide, a section on a plane perpendicular to each main face of the buildings on Kings Road has been drawn for both the existing building and for the proposed building at the 2m reference height.

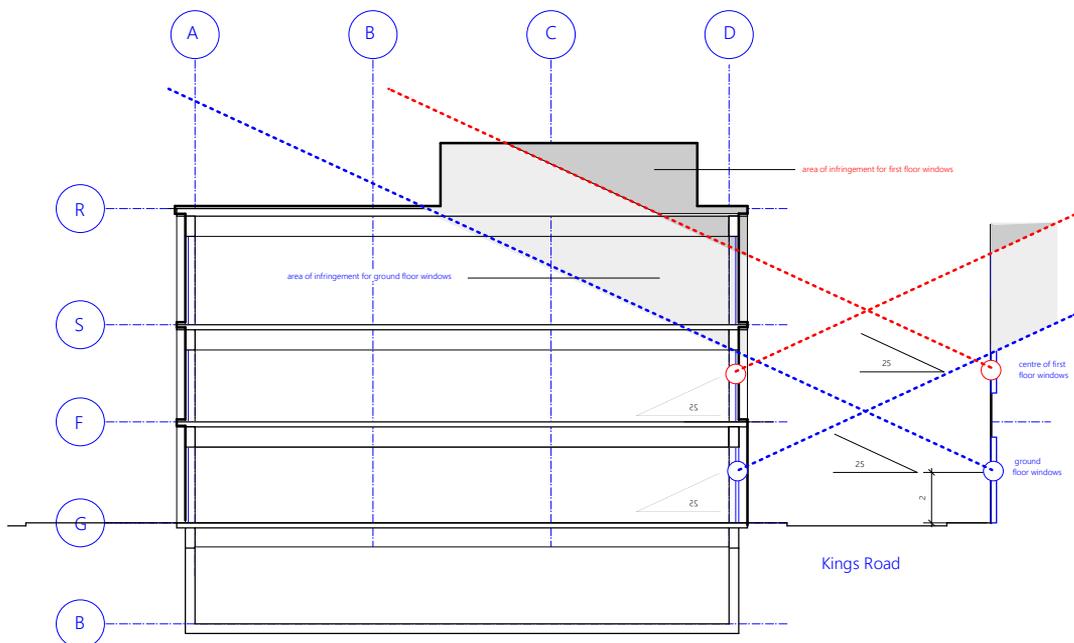
### Daylighting Diagram for Kings Road as Existing

The diagram makes it clear that the setback of the existing building preserves good daylighting to both the shop windows on Kings Road as well as the assumed residential accommodation above. Had the two storey building been built right up to the back of pavement the achievement of 27% VSC daylighting could not have been assured.

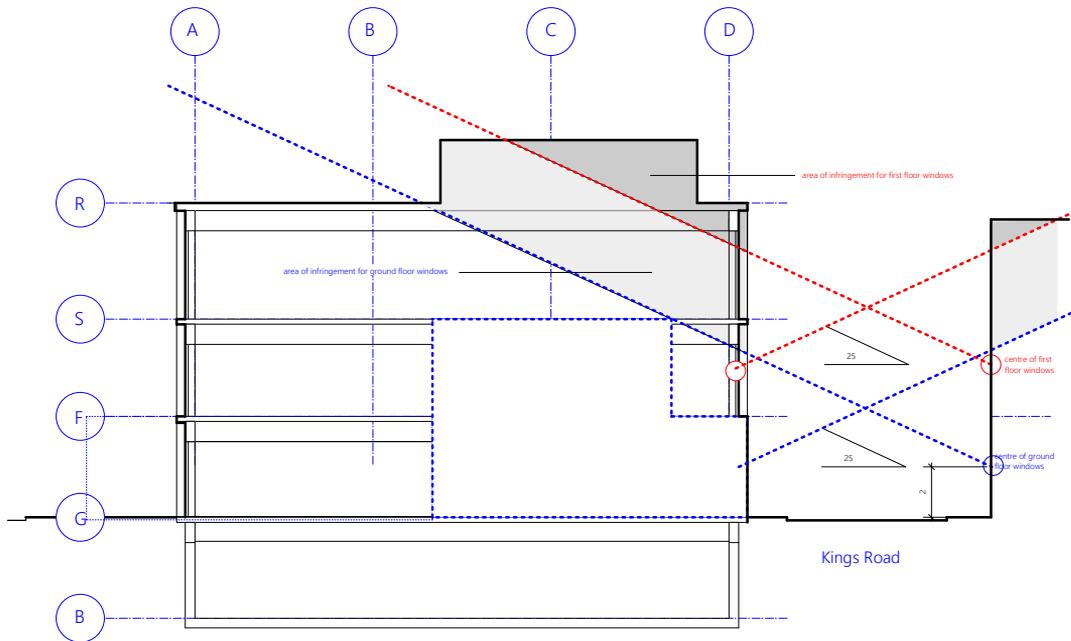


### Daylighting Diagram for Kings Road as Proposed

The diagram makes it clear that the proposed building fails to comply with the 25 degree test and that full VSC calculations are required. The evidence would suggest, as the proposed building presents a continuous skyline, is that good daylighting would **not** be preserved neither to the shop windows on Kings Road nor to the assumed residential accommodation above.



In addition, the tall narrow street thus formed would be devoid of sunlight except for just a few hours in the morning. The street would be without sun from midday onwards.



Daylighting Diagram for Kings Road Existing and Proposed

## 6.0 Sunlighting

**There are no sunpath diagrams.** Such diagrams are of **fundamental importance** to understand the impact of the proposals on the external environment. It is clear that the additional storey height will shield sunlight from the buildings on Kings Road, especially in winter when sun angles are low.

**The local community wish to see the successful pedestrianisation of Boyces Avenue extended to Kings Road.**

It would appear that the proposals, rather than enhancing the external environment would create a street that was largely devoid of sunlight for much of the day. This is the antithesis of good placemaking.