

## Horizontal plane

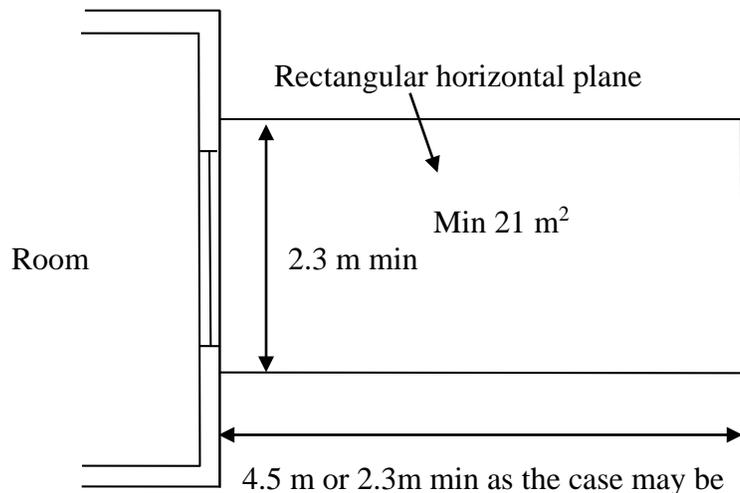
Terry K. Y. NG MSc MRICS MHKIS MCIQB

### Introduction

Under Building (Planning) Regulation 30, rooms for habitation, office or kitchen use are required to have natural lighting and ventilation. Such natural lighting and ventilation has to be provided by means of one or more windows facing directly into the external air. To meet this requirement, a window has either to face a street of at least 4.5 wide or an unobstructed space delineated by the horizontal and inclined planes under Building (Planning) Regulation 31. In this article I will explore the relationship of the planes and the window in greater depth.

### The regulation

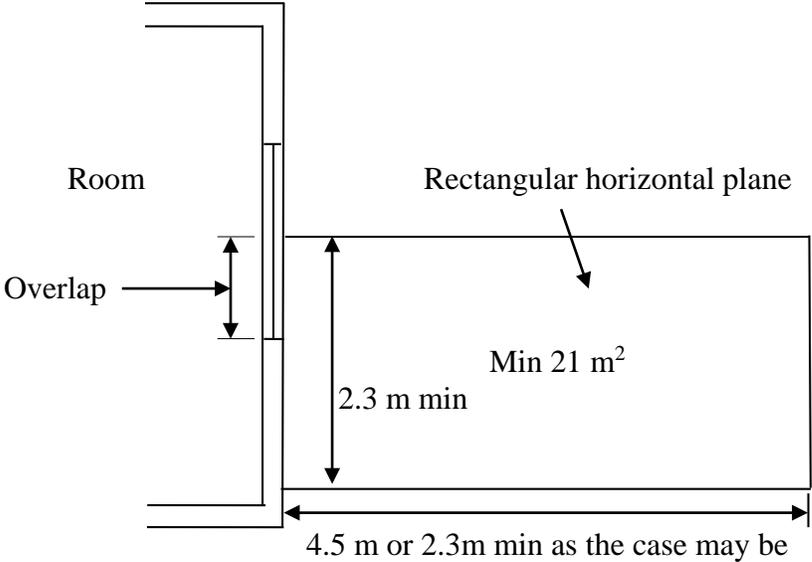
I believe readers are familiar with the requirements for the planes in the various situations under the Building (Planning) Regulation 31 (B(P)R 31).



Plan

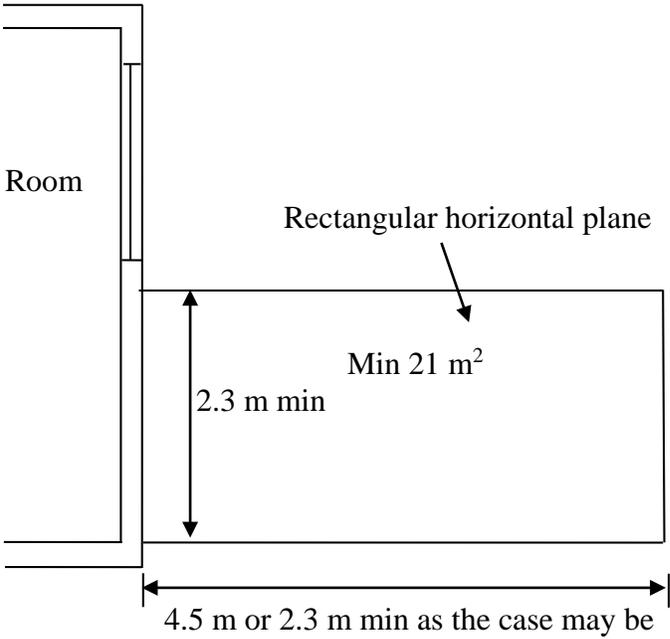
Is it necessary for the window to be wholly within the horizontal plane? What about the following situations:

Situation 1



Plan

Situation 2



Plan

In B(P)R 31(1)(b), it states that no prescribed window shall, for the purpose of regulation 30, be deemed to face into the external air unless it faces into a space uncovered and unobstructed above the area delineated by the rectangular horizontal plane. The key word is “face” which, in general sense, means that the rectangular plane has to be in front of the window. In addition, B(P)R 30(2)(b) requires the area of the prescribed window for lighting and ventilation to face directly into the external air. However it cannot infer, neither explicitly nor implicitly, that the window has to be as wide as the base of the plane.

In B(P)R 31(3), it states that the base of the horizontal plane means that side of the plane common with the line of the sill of the window. It can infer that the base cannot be standing proud of the wall.

In my article titled “window for ventilation” published in Surveyors Times May 2011 issue, I concluded that window for ventilation has to face into the external air, like the window for lighting.

In situation 1, the window does face the horizontal plane, though not fully. Hence only that portion of the window facing the horizontal plane and overlapping with the base can be taken into consideration for the purpose of the 1/10 and 1/16 requirements in B(P)R 30(2)(a).

In situation 2, the window does not face the horizontal plane at all and hence no part of the window can be taken into consideration for the purpose of the 1/10 and 1/16 requirements in B(P)R 30(2)(a). Consequently the window cannot be considered as prescribed window for the purpose of with B(P)R 30.

### Balcony and projecting window situations

Where should the base of the horizontal plane be in the situations of a balcony and projecting window? To answer this query, it is necessary to find out where the external wall is as it is the position from which the horizontal plane projects.

In B(P)R 2, balcony is defined as any structure projecting from any wall of any building to carry a floor or roof load either cantilevered or supported by brackets. This definition refers to the construction of the balcony and it cannot be used to infer that the wall is an external wall. In B(P)R 23(3)(a), gross floor area (GFA) is defined as “the area contained within the external walls of the building measured at each floor level (including any floor below the level of the ground), together with

the area of each balcony in the building, which shall be calculated from the overall dimensions of the balcony (including the thickness of the sides thereof), and the thickness of the external walls of the building” This definition implies that the balcony is considered as similar to other parts of the building within the external wall. It can therefore conclude that in the case of balcony, the external wall is at the perimeter of the balcony. This conclusion is in line with the spirit in B(P)R 33 which relates to window opening on to an enclosed balcony.

Projecting window is exempted from GFA calculation if it meets the criteria laid down in Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) App-19. This kind of window is by definition a projecting feature from the external wall. As such the position of the external wall is at the internal perimeter of window and this is where the base of the horizontal plane should project from irrespective of the shape of the window. One would wonder why the position of the external wall would be different in situations where the projecting window is exempted from GFA calculation or not. The reason is that when the projecting window is too extensive and dominates the façade, therefore not qualifying for GFA exemption, it is no longer reasonable to treat the inner side of the window as the external wall.

### Comment

This article is based on my comprehension of the content, context and spirit of the relevant regulations and PNAP. Reader may not agree to my findings. Anyway, this is what I envisage as a consistent and reasonable interpretation of the law regarding horizontal plane.