

Date: 20/04/01

Ref: 45/1/190

*Note: The following letter was issued by our former department, the Department for Environment, Transport and the Regions (DETR). DETR is now Communities and Local Government - all references in the text to DETR now refer to Communities and Local Government.*

## **Building Act 1984 - Section 16(10)(a)**

### **Determination of compliance with Requirement B1 (Means of Escape) of the Building Regulations 1991 (as amended) in respect of an additional gallery in a flat**

#### **The proposed work**

4. The proposed building work comprises the installation of a new, small, second gallery at fourth floor level in a second floor, one bedroom flat already containing a larger gallery at third floor level. The flat is one of 21 units contained in a purpose built, three storey block incorporating an office/shop unit and car park at ground floor level, and one bedroom and studio units on the first and second floors. The block is approximately 13m x 40m in plan and situated in a conservation area. It has a tiled lantern style ridge roof with the vertical elements containing fenestration to serve the third floor galleries which are provided in all the second floor units. The construction of the block is stated to incorporate a concrete compartment floor at second floor level with one hour protection to the structural steelwork.

5. The units are arranged to face along the two longitudinal sides of the block and are accessed by an internal, longitudinal, access corridor. The access corridor is sub-divided by two fire doors and leads to protected stairs at either end of the block.

6. The approximate overall internal dimensions of the flat are 7.5m x 7.0m. In common with all the other one bedroom units the front door leads into a protected entrance lobby with FD30 (30 minute fire resistant) self-closing fire doors. The lobby gives access to a bathroom on the right, and to a bedroom and dining room straight ahead. The kitchen is to the right of the lobby but accessed via the dining room from which it is part partitioned and part open-plan. The dining room has two inward opening balcony doors in the external wall; and at this end of the room is the foot of the stair which give access to the existing 5m x 7m gallery. This gallery spans across the totality of the bedroom, bathroom, lobby and kitchen; and across the 5m depth of the dining room by 2.5m.

7. The proposed new gallery at fourth floor level is in effect a conversion of part of the loft on the ridge side of the pitched roof. It spans the full width of the flat and has a depth of some 2.7m. It would be 2.5m above the existing gallery below. Access would be via a spiral stair of 700mm width positioned in the corner of the existing gallery away from the head of the stair leading up from the dining room. It is proposed to install three velux escape windows in the pitch of the roof above the new gallery. A mains operated interlinked smoke alarm system to BS 5446 (Components of automatic fire alarm systems for residential premises) is proposed for all habitable rooms and the two galleries.

8. These proposals were the subject of a full plans application which was rejected by the Borough Council on the grounds, inter alia, that because the travel distance from the proposed new gallery to the protected entrance lobby was excessive, there was inadequate provision for means of escape and the proposals did not therefore comply with Requirement B1 of the Building Regulations 1991. However, you took the view that because the proposals incorporated the interlinked smoke alarm system and fire doors to all rooms within the lobby, a fire would be contained within the rooms giving safe passage to final exit.

9. You responded to this rejection in a letter to the Borough Council and enclosed amended plans providing additional information about the building and building work. The Borough Council states that the plans were not formally deposited. However, they responded stating that the plans were not acceptable as they did not comply with the requirements in *Clause 9.8 of BS 5588: (Fire precautions in the design, construction and use of buildings) Part 1: 1990 (Code of practice for residential buildings)*.

10. You then made a further deposit of full plans for the proposed new gallery. At this point it was described on the application as a storage room with retractable ladder. The Borough Council approved the plans on the condition that the use of the new gallery area was limited to domestic storage only. However, your client was very unhappy with what he regarded as a further compromise of his original proposal to use the new gallery for habitable space. For that reason you therefore requested a determination based on the original full plans proposal. The material date for your determination is therefore... and it falls to be considered in respect of the Building Regulations 1991 (as amended).

### **The applicant's case**

11. You consider that the proposed new gallery combined with the alarm system gives greater safety to the existing flat. In support of your case you make the following points:

(i) the mains interlinked smoke alarm system included in your design to all habitable rooms and both galleries will give early warning of any potential fire hazard.

(ii) the provision of FD30 fire doors to all rooms opening onto the protected entrance lobby would contain fire within the rooms giving safe passage to the final exit.

(iii) the proposed new gallery is less than half the area of the existing gallery and this is in compliance with Approved Document B (Fire safety) which defines a gallery as being should not more than half the area over which it projects. The Approved Document makes no reference to a gallery above an existing gallery.

### **The Borough Council's case**

12. The Borough Council has referred to Clause 9.8 of BS 5588: Part 1: 1990 and takes the view that even with early warning via smoke detectors in the second floor access room (ie the dining room) and the existing gallery, the means of escape from the proposed new gallery would make it unsuitable for use as a habitable room. In support of this view the Borough Council has made the following points:

(i) the Borough Council's records show that the flat was intended to be a one bedroom unit with habitable accommodation at entrance level with a gallery over; but the gallery was to be restricted to storage use only.

(ii) the means of escape from the existing gallery does not conform to current guidance. The floor is greater in extent than 50 per cent of the room into which it projects. The travel distance from the foot of the existing gallery access stair to the protected entrance lobby exceeds 3m (albeit only slightly). The open-plan kitchen is adjacent to the door giving access to the lobby.

(iii) the total travel distance from the proposed new gallery to the protected entrance lobby is excessive - ie 15.5m excluding the travel distance down the two stairs.

13. Although the Borough Council does consider that with the extra provision of smoke alarms the existing gallery could be regarded as suitable for habitable accommodation, it does not consider this would be adequate compensation for the proposed new gallery to achieve compliance in respect of Requirement B1.

### **The Secretary of State's consideration**

14. The Secretary of State takes the view that what needs to be considered in this case is the safety of the occupants of the proposed new gallery should a fire occur on either the existing gallery immediately below, or the dining room further below at flat entrance level.

15. Gallery floor arrangements can present greater risks unless provisions additional to those in otherwise identical non-galleried accommodation are made. This is because each gallery floor is, in effect, an inner room where escape is only possible via another room or area. Where inner rooms are formed in dwellings it would normally be necessary to provide an alternative escape route which - where the height above ground level (or other suitable level) is within the recommended maximum height - could be via an escape window. Variations to this approach can be used which rely upon the occupants of a gallery floor having a greater awareness of fire in the room/floor below. This can be achieved, for example, by reference to Clause 9.8 of BS 5588: Part 1: 1990. However this approach is subject to restrictions on layout and distance so that the time taken to escape down to and through the access room is kept to a minimum; and to the need to ensure the level of fire risk along this route also kept to a minimum.

16. In this case the occupants of the proposed new gallery would need to travel down through two other levels and areas, potentially towards a fire. The hot smoke and gases generated by the fire meanwhile would be travelling upwards. With this exit arrangement, and without any adequate alternative escape route, the risk of becoming trapped is significantly greater than would be considered acceptable in a more conventionally arranged dwelling. Although it is noted that the plans indicate that the proposed velux windows will be set at a 1700mm maximum along the roof slope from the eaves with sill height between 600mm-1100mm off the level of the proposed new gallery, it is also noted that the edge of the new gallery floor is shown as in excess of 2m (measured horizontally) from the eaves. It is therefore unclear how the 1700mm maximum distance would be achieved in practice.

17. You have proposed the provision of mains powered interlinked smoke alarms as a compensatory feature and have argued that *Approved Document B* does not expressly address multiple gallery floors in dwellings. The Secretary of State does not consider that the proposed smoke alarm installation would be sufficient compensation for the additional life safety risks resulting from this proposal. Approved Documents are provided to give general guidance on compliance with the Building Regulations and should be read in this context.

## **The determination**

18. The Secretary of State has given careful consideration to the particular circumstances of this case and the arguments presented by both parties. On the basis of the proposals for which a determination has been requested i.e. to provide a second gallery at fourth floor level accessed by a spiral stair, for the purpose of habitable accommodation - he does not consider that they make adequate provision for safe escape. He has therefore concluded and hereby determines that your proposals do not comply with Requirement B1 (Means of escape) of Schedule 1 to the Building Regulations 1991 (as amended).