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Note: The following letter was issued by our former department, the Office of the Deputy Prime Minister (ODPM). ODPM became Communities and Local Government on 5 May 2006 - all references in the text to ODPM now refer to Communities and Local Government.

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

Determination of compliance with Requirement B1 (Means of warning and escape) and Requirement B5 (Access and facilities for the fire service) of the Building Regulations 2000 in respect of building work involving the conversion of the upper levels of a water tower into a maisonette

The proposed work

4. The proposed building work relates to a change of use of the upper storeys of an eleven storey (including basement) disused rectangular water tower 6.2m x 2.8m in plan area to form a six storey maisonette. The tower is a Grade II listed building and is approximately 42m in height; with the top floor being approximately 35m above ground level. You indicate that the remaining five lower storeys are to remain vacant. All floors comprise in situ concrete and the levels are designated on plan as B+5, G+5 and 1.5 to 9.5. The walls of the tower are of brick construction.

5. The tower stands 6m in front of, and off centre to, the longitudinal elevation (approximately 35m in length) of an existing six storey (including basement car park) brick built building comprising apartments which is approximately 25m in height. The side of the tower facing the apartment block is linked to the block by a 3.8m x 5.8m brick built stair enclosure containing parallel half flights of stairs which rise as far as the top floor of the apartment block where they terminate at Level 4.5 (22m above ground level). The enclosure has an automatic smoke vent. The stairs discharge at ground level to a place of safety and serve as an escape stair to each floor of the apartment block, but do not open on to any of the lower floors of the tower. Access to the basement car park is via a fire lobby at the foot of the stair. The escape stair is linked on each floor to the main common circulation areas of the apartments (within the existing apartment block), by means of a lobbied corridor that is provided with two 30 minute self-closing fire doors. These corridors contain a dry riser at each floor level. A firefighting lift is located in one corner of the tower's structure and gives access to all the floors of the apartment block up to, and including, Level 4.5.

6. Access to the proposed accommodation, which will be located on the upper levels of the tower (levels 6.5 to 9.5), will be via the top landing of the escape stair at Level 4.5. At present the upper floors of the tower are accessed by fixed ladder but it is proposed to install a new internal stair to all upper floors which will comply with Part K (*Protection from Falling, Collision and Impact*) of the Building Regulations. This stair will be separated from the actual living accommodation (and the adjacent lift shaft and motor room, which are all that occupy levels 4.5 and 5.5 respectively) with 30 minute fire resisting construction, including 30 minute fire resisting self-closing doors.

7. Details of each of the floors comprising the living accommodation in the proposed maisonette are as follows:

Level 6.5 27m above ground level (reception room)

Level 7.5 29m above ground level (bedroom, and shower/WC)

Level 8.5 32m above ground level (bedroom and bathroom)

Level 9.5 36m above ground level (open plan kitchen and living room).

8. A vertical fixed internal steel ladder with safety hoops is proposed, which will pass through all the levels proposed for living accommodation in the maisonette, to provide an alternative means of escape down to Level 5.5, should the internal stair become unavailable due to effects of fire. The ladder will pass through sliding hatches in each floor which will provide 30 minute fire protection when closed. In addition, an automatic fire detection and alarm system (comprising smoke detectors to all habitable rooms and circulation spaces and heat detection in the kitchen) in accordance with BS 5839- Part 1: 1988 (*Fire Detection and Alarm Systems for Buildings. Code of Practice for System Design, Installation and Servicing*) is indicated.

9. These proposals formed the basis of a full plans application which was rejected by the borough council. The council took the view that because the proposed maisonette was more than three storeys above ground level an independent means of escape was required from all its storeys to ground level. The provision of an early warning fire detection system was not considered to be a sufficient compensatory feature. In addition, the council considered that a firefighting shaft should be provided to the upper floors of the tower. However, you took the view that given the unusual nature of the tower and the fact that it is a listed structure, the provision of a 'normal' alternative means of escape is impossible. In the circumstances you considered that the proposed secondary means of escape, i.e. the fixed internal ladder, was satisfactory. You therefore applied for a determination in respect of the compliance of your proposals with Requirement B1 (Means of warning and escape) and Requirement B5 (Access and facilities for the fire service) of the Building Regulations.

The applicant's case

10. You make the following points to support your case:

- (i) the existing structure of the tower is dense masonry and reinforced concrete floors which are of limited combustibility.
- (ii) the kitchen and dining rooms in the proposed maisonette are located above the sleeping accommodation, which reduces the problem associated with sleeping above a fire risk.
- (iii) each floor of the proposed maisonette is served by an internal protected stair.
- (iv) the fire detection and alarm system indicated on your plan, shows smoke detectors to all habitable rooms and circulation spaces and a heat detector in the kitchen in the proposed maisonette.
- (v) the existing escape stair is adjacent to the access to the proposed maisonette at Level 4.5 where it terminates, and where there is access to a dry riser fire main.
- (vi) the access arrangements would allow a high reach appliance to park adjacent to the building and reach the roof adjacent to the tower at Level 5.5.
- (vii) you would be prepared to increase the fire compartmentation to 60 minutes if considered appropriate.

11. You conclude that you understand that there is a need to ensure the future of listed buildings of the type in question and that the borough council should therefore adopt a flexible approach to assist in finding a use for such buildings.

The borough council's case

12. The borough council refers to *paragraph 3.19 of Approved Document B (Fire Safety)* which relates to situations in which single stairs are permissible in flats and maisonettes provided, inter alia, that "there are no more than 3 storeys above the ground level storey". As this is not the situation in your case, the council takes the view that an independent means of escape is required from all storeys, comprising a conventional stair leading directly to the ground floor - ie two stairs are required throughout the building.

13. The borough council also refers to an earlier appeal decision by the Secretary of State, relating to a case which the council believes is similar to yours, and states that the provision of an early warning system, with smoke/heat detectors installed throughout the maisonette, is not considered to be a sufficient compensatory feature for omission of an independent means of escape.

14. The borough council considers that, in addition, an extension of the firefighting shaft would be required to the upper floors of the tower as these are more than 18m above the access level - as recommended in *paragraph 18.2 of Approved Document 'B'*.

The Secretary of State's consideration

15. The First Secretary of State takes the view that there are two principal questions that need to be considered in this case:

- is the means of escape for the occupants of the proposed maisonette adequate, in respect of both the maisonette's internal arrangement and also the escape route from Level 4.5 of the maisonette down through the common escape stair of the building to the final exit at ground level?
- have reasonable facilities to assist firefighters, engaged in the protection of life, been provided should a fire occur in the proposed maisonette?

16. In addition, it will be important in terms of compliance with the Building Regulations to assess whether the proposed building work will result in the building as a whole (ie tower and apartment block) being less satisfactory in respect of Requirement B1 or Requirement B5 than before the work was carried out.

Means of escape

17. The First Secretary of State considers that additional measures, such as those described in *Approved Document B* for maisonettes, are necessary to address the increased risk of the occupants becoming trapped, because of a fire occurring within the maisonette itself. This is due to the time it may take to travel down the internal stairway of the maisonette; the reluctance of the occupants to use an escape route, albeit the primary route, which may be becoming obscured by smoke; and because emergency egress through the upper floor windows is not feasible. In this case the height of the top floor at Level 9.5 of the proposed maisonette is over 30m above ground level and 14m above its entrance at Level 4.5.

18. In an attempt to address this you have proposed an extensive fire detection and alarm system within the maisonette. Whilst the benefits of such a system are acknowledged it is considered that having had regard to the height of the proposed maisonette - which in effect covers six floors (albeit there is no living accommodation at levels 4.5 and 5.5) - early warning of fire is not sufficient compensation, in itself, for the lack of a suitable alternative escape route.

19. You have also proposed the provision of a vertical fixed steel ladder passing through the accommodation at each level within the maisonette. This ladder terminates within the enclosure to the common escape stair at Level 4.5 opposite the entrance door to the proposed maisonette. It is considered that fixed ladders should not be used as a means of escape for members of the public. In addition the most likely cause of the internal stair becoming unavailable would be as a result of a fire occurring within the living accommodation through which the ladder passes. In such circumstances the potential for this ladder to be of any benefit in an emergency is negligible.

20. With respect to escape through the common parts of the building the borough council has suggested that according to *paragraph 3.19 of Approved Document B* a single stair would not be appropriate for this proposal, because the application of the guidance in paragraph 3.19 is limited to buildings with no more than three storeys above ground level.

21. However, the guidance in paragraph 3.18 and Diagram 12 of the Approved Document does provide for a single common stair serving flats and maisonettes, with no restriction on the height of the building, subject to: adequate provision of suitable separation of each dwelling from other dwellings and the common areas of the building; observation of appropriate travel distance; and the adequate ventilation of each of the common escape routes. This ventilation is intended to disperse smoke and to afford additional protection to common stairs. In this case, whilst there is an automatic ventilator at the head of the common stair, there would appear to be no provision for smoke ventilation in the common corridors leading to the stair.

22. The First Secretary of State takes the view that although the proposed maisonette will not, in this case, adversely affect the common escape arrangements for the adjacent apartment block, these existing arrangements are not acceptable for the purposes of an entirely new dwelling.

Access and facilities for the fire service

23. The borough council has also rejected your proposals on the grounds that a firefighting shaft should be provided to serve each floor of the proposed maisonette. In response you have suggested that, in addition to the existing firefighting shaft that extends up as far as the maisonette entrance at Level 4.5, a high reach appliance could also access the roof of the apartment block from where it is possible to enter the tower at Level 5.5. The First Secretary of State considers that, in the circumstances of this case, access via a high reach appliance is not a suitable alternative to internal access via a firefighting shaft.

24. In addition it would appear that the existing firefighting shaft does not fully accord with BS 5588: Part 5: 1991 (*Fire Precautions in the Design, Construction and use of Buildings. Code of Practice for Firefighting Stairs and lifts*). In particular the normal standards of smoke control and separation between the firefighting lift and the stair have not been provided. This would be further exacerbated by the proposed maisonette, which is accessed

directly from the fire fighting stair and as such could be regarded as adversely affecting the existing fire service access to the adjacent apartment block.

Potential of a sprinkler system

25. Your submission indicates that you have offered the installation of an automatic sprinkler system. However, you did not include such a system on your plans. There is therefore no indication of the extent and specification of the system you envisaged. The First Secretary of State takes the view that the installation of a suitable sprinkler system throughout the proposed maisonette, as part of an overall fire safety package, might have the potential to resolve the issue of compliance with Requirements B1 and B5. But there are several other detailed issues which would need to be addressed such as the treatment of the lift motor room and shaft as a separate compartment from that of the maisonette, and the continuity of the fire resisting enclosure around the proposed new internal maisonette stair. These would be additional matters which you might wish to address and put to the borough council for their consideration in the light of this determination decision.

The determination

26. The First Secretary of State has given careful consideration to the particular and novel circumstances of this case, and the arguments presented by both parties. He has also noted that the borough council has referred to a previous appeal decision which they suggest supports their case. However, the First Secretary of State is required to consider all cases on their individual merits and issues which are specific to previous cases will not necessarily be relevant to subsequent ones.

27. The First Secretary of State is sensitive to the need to recognise the constraints which may be imposed on compliance with the Building Regulations when the building concerned is a listed one, and he has taken into account the points you have made regarding the design and construction of the building in question. However, on the basis of your proposals as submitted he does not consider that they make adequate provision for safe escape or access for the fire service. He has therefore concluded and hereby determines that your proposals do not comply with Requirement B1 (Means of warning and escape) and Requirement B5 (Access and facilities for the fire service) of Schedule 1 to the Building Regulations 2000.