Report to An Bord Pleanala

on

Appeal against Condition No 1

Fire safety Certificate (Cert No. FSC1725/18 – Reg Ref No. FA/17/1558)

by

Dublin City Council

for

Material alteration/extension to a building: Extension including additional floor level and floor area and material alterations to existing hotel building

at

Ormond Quay Hotel, Ormond Quay, Dublin 7

CLIENT	:	AN BORD PLEANALA
AN BORD PLEANALA REF NO	:	ABP-301418-18
BCA CERT No.	:	FSC1725/18
OUR REF.	:	18121_ABP- 301418-18_R01
DATE	:	24 September 2018

1.0 Introduction

1.1 Subject Matter of Appeal

This report sets out my findings and recommendations on the appeal submitted by Michael Slattery & Associates [hereafter referenced as MSA] on behalf of their Client, Monteco Holdings, against Condition No 1 attached to the Fire safety Certificate (Cert No. FSC1725/18 – Reg Ref No. FA/17/1558) granted by Dublin City Council [hereafter referenced as DCC] in respect of Material alteration/extension to a building: Extension including additional floor level and floor area and material alterations to existing hotel building at Ormond Quay Hotel, Ormond Quay, Dublin 7

The Fire Safety Certificate was granted on 15th March 2018 with 2 conditions attached. Condition 1, which is the subject of the appeal, reads as follows:

Smoke ventilation shall be provided in the basement area in accordance with section 5.4.3.1 of Technical Guidance Document B 2006. Smoke vents shall be sited at high level and should be distributed around the building perimeter to maximise the effectiveness of cross-ventilation. The clear cross sectional area of all smoke vents, allowing for frames and louvres, shall not be less than 2.5% of the basement storey served. Smoke vents from basement shall be permanently open and unobstructed. As an alternative to outlet vents as described above, a system of mechanical extraction may be provided, the ventilation shall meet the criteria set out in 3.5.2.5 of Technical Guidance Document B 2006.

With the stated reason for the condition being*:*

Reason:

To ensure compliance with Part B of the Second Schedule to the Building Regulations 1997 - 2017.

The appeal is against a single condition. De novo consideration is not warranted and the Board can rely on the provisions of Article 40(2) of the Building Control Regulations and deal with the appeal on the basis of condition only.

1.2 Documents Reviewed

1.2.1 Fire Safety Certificate Application and Supporting Documentation submitted by MSA on behalf of their Client

1.2.2 Decision and grant by DCC on 15.03.2018 with 2 conditions attached

1.2.3 Appeal submissions to An Bord Pleanala by MSA dated 12.04.2018 and 02.07.2018.

1.2.4 Appeal submission to An Bord Pleanala by DCC dated 17.05.2018.

1.3 Scope of the FSC Application

It is noted that the development comprises:

a. demolition of the existing Ormond Quay Hotel at 7-11 Ormond Quay Upper and the construction of a new part 5 storey and part 4 storey hotel on the site of the existing hotel, and

b. change of the use of Nos 12 and 13 Ormond Quay Upper to hotel use together with associated alteration works.

The Condition which is the subject of the appeal concerns the provision of facilities for the ventilation of heat and smoke from the basement storey which is identified in Technical Guidance Document B Section 5.4.3.1 to be a requirement in basements which either exceed 200m^2 in plan area or exceed 3m in depth.

It is noted that the basements in No 12 and No 13 Ormond Quay Upper are entirely independent basements as are the buildings overhead. It is also noted that the floor area of these basements are each less than 200m^2 and the depth is identified to be 2.85m on the MSA FSC drawings. Accordingly Condition 1 does not apply to the basements in No 12 and No 13.

The plan area of the proposed new basement in No 7-11 Ormond Quay Upper is identified in the MSA appeal submission dated 12.04.2018 to be circa 480m^2 and the depth is identified on the MSA FSC Section drawings to be 3.2m. The basement therefore falls within the scope of 5.4.3.1 of TGD-B.

It is clear therefore that the Condition under appeal was intended to apply to the basement in No 7-11 and not to the basements in Nos 12 and 13. This is borne out in the submission made by DCC to ABP dated 17.05.2018

It is noted that the basement accommodation in No 7-11 includes the main hotel kitchen, staff changing rooms, storerooms, plantrooms and sanitary facilities.

2.0 Condition 1 – Consideration of Arguments by Appellant and BCA

Smoke ventilation shall be provided in the basement area in accordance with section 5.4.3.1 of Technical Guidance Document B 2006. Smoke vents shall be sited at high level and should be distributed around the building perimeter to maximise the effectiveness of cross-ventilation. The clear cross sectional area of all smoke vents, allowing for frames and louvres, shall not be less than 2.5% of the basement storey served. Smoke vents from basement shall be permanently open and unobstructed. As an alternative to outlet vents as described above, a system of mechanical extraction may be provided, the ventilation shall meet the criteria set out in 3.5.2.5 of Technical Guidance Document B 2006.

MSA state in their submission dated 12.04.2108 the following grounds for appeal:

I. MSA argue that the provision of venting in accordance with 5.4.3.1 of TGD-B goes beyond what is *"reasonably required"* under the B5 functional requirement notwithstanding the excess of the 200m^2/3m thresholds in 5.4.3.1 of TGD-B. MSA argue that the subject basement is sub-divided into smaller fire compartments and contains limited fire load and therefore the provision of smoke venting or automatic suppression facilities per 5.4.3.1 of TGD-B are not warranted in this instance.

II. MSA state that it is not practicable to achieve compliance with the Condition given the cellular nature of the fit-out of the basement. Whilst this is clearly the case in respect of the provision of natural smoke vents to open air, MSA do not elaborate on this in the context of the provision of automatic suppression and mechanical venting which is also provided for in 5.4.3.1 of TGDB as an alternative to natural ventilation. Equally MSA do not explain why automatic fire suppression on its own (e.g. sprinklers or water mist) - which would serve to mitigate the fire hazard at basement level – have not been considered.

III. MSA also make reference to the cellular nature of the existing basement in support of their case. However this is not considered relevant as the existing hotel is not subject to Part B of the Building Regulations and in any event is being entirely demolished and replaced with a new building.

IV. MSA refer to the Scottish Technical Standards also in support of their case and note that the Scottish standards 2016 do not require any venting in basements which are less than

4.5m deep irrespective of floor area. They reference the Scottish Standards as being much more current than TGD-B which was published in 2006.

DCC in their submission to the Board dated 17.05.2018 contend as follows:

I. DCC note that the basement in No. 7-11 is considerably larger than the threshold in TGD-B for smoke and heat venting - i.e. 480m^2 versus threshold of 200m^2 in TGD-B Section 5.4.3.1 - and therefore contend that this is not a marginal case and that the design should therefore comply with 5.4.3.1. They argue that the venting being proposed by MSA – presumably referring to the 0.4m^2 vents being proposed by MSA for the stairs lobbies at basement level in their Compliance Report Section 6.7.4 – falls short of what is required/necessary to assist the fire service.

II. DCC contend that the basement in No 7-11 is to be completely rebuilt and that on this basis the reference by MSA to *"the majority of the basement level is existing and at present is not provided with ventilation"* in Section 6.7.4 of their Compliance report is not relevant.

MSA dispute this is their subsequent submission to An Board dated 02.07.2017 and restate that "*the hotel development at basement level is a remodelling of an existing basement where there is no provision for smoke venting".* The inference in this is that MSA are contending that the works at basement level are material alterations to an existing hotel and as such the obligation is to avoid any new or greater contravention of Part B and in that respect there is no obligation to provide venting where there was no venting before.

From a review of the existing plans it is clear that the subject matter of the application is an entirely new building at No 7-11 including additional floors (the existing building has only 4 upper floors whereas the new building has 5), new stairs locations, new lifts, new floors etc. Accordingly I do not concur with the assertion implicit in the MSA commentary that the basement works are not fully subject to Part B of the Building Regulations.

III. DCC assert that the provision of smoke/heat ventilation facilities is essential to enable effective fire-fighting at basement level. MSA for their part contend that Dublin Fire

Brigade are overstating the fire-fighting challenges in this particular instance having regard to the cellularity of the basement and they go on to note that the kitchen cooking risk is being mitigated by the installation of an Ansul fire suppression system on the kitchen cooking island/canopy

IV. DCC contend that the MSA reference to Scottish Standards in not relevant and note that MSA in Section 6 of their Compliance Report identified TGD-B 2006 to be the basis for compliance with Requirement B5 of the Regulations. MSA in response state that they believe that DFB should have taken the reference to Scottish practice into account.

In considering the above arguments there are a number of factors to be taken account of in my opinion as follows:

I. Whilst on the one hand the MSA argument in relation to the cellularity of the basement has merit in terms of the likely size of the fire which the fire service may have to contend with, the complex cellular nature of the particular layout applying in this instance has a negative impact in terms of the potential difficulty which the fire service will have in locating the source of the fire.

Furthermore the probability of a fire occurrence is significantly higher in the subject basement than would be the case in a basement of less than 200m^2. In that regard it is noted that the probability of fire occurrence is identified in PD7974:7 2003 to be a function of the floor area per the formula in the code extract below. In the case of hotels, parameter "b" is identified to be unity and thus the risk of fire occurrence is linearly related to the floor area. Accordingly the risk of fire occurrence in the subject basement is 480/200 = 2.4 times more likely than is the case with a basement which falls below the threshold in TGDB for smoke/heat venting.

> Statistical studies [3,4,5] have shown that the frequency of ignition is approximately given by:
>
> $$F_i = aA_b^{\ b} \qquad (1)$$
>
> where a and b are constants for a particular type of building related to occupancy and A_b denotes the total floor area of the building.

II. Whilst noting that the Scottish Technical Standards 2016 does not require venting in basements of less than 4.5m in depth this is not the case in the Approved Document B (Wales) 2017 or BS9999: 2017 both of which are more recent publications than the Scottish Standard and both of which are consistent with the Irish Technical Guidance Document B 2006.

Furthermore the UK (England) Approved Document B 2013 and Northern Ireland Technical Booklet E are also consistent with the Irish TGD-B in regard to the requirement for basement venting i.e. require venting where the area > 200m^2 or depth > 3m. On the basis of the foregoing and noting also that the basis for compliance as set out in the MSA Compliance Report 13085.R001 is TGD-B 2006 it is not considered appropriate to attribute much weight to the Scottish position.

III. It is noted that both Stairs 1 and 2 extend down to basement level and are the only stairs serving 4th floor level. This is at odds with 1.3.7.2 of TGDB which recommends that one escape stairs should be terminated at ground level and not connect to the basement storey. In consequence a basement fire presents a greater risk to the means of escape from the upper floors than would otherwise be the case.

IV. This is further compounded by the fact that there are food hoists extending from the main kitchen at basement level and apparently discharging directly into the corridor leading from Stairs 2 to the open air at ground floor level i.e. denoted on drawing 13085-003A as a "*Servery Area"*. Accordingly a fire occurrence in the kitchen will place at immediate risk the fire service access route to Stairs 2 at ground floor level i.e. hoist doors have limited smoke resistance and there is no lobby proposed at basement level. It is noted that TGD-B advocates that all lifts which communicate with basements should have lobby protection at basement level which is not the case in this instance.

In light of the foregoing considerations which apply in this particular instance I conclude that the Appellant has not made sufficient case to set aside the requirements of 5.4.3.1 of TGD-B in its entirety as is being proposed in this appeal. It is recognised however that the provision of natural venting per 5.4.3.1 of TGDB is not a practical solution in this instance.

Accordingly I recommend that Condition 1 be amended to require the Applicant to fit automatic fire suppression throughout the basement level - thus substantially mitigating the risk presented by a basement fire - and that an appropriate fire service controlled mechanical smoke clearance system be installed in the corridor areas to remove smoke from the basement in the aftermath of the fire.

3.0 Recommendations

Having considered the submissions made by the Appellant and BCA I consider that the BCA should be directed to amend Condition 1 as follows:

An appropriate automatic fire suppression system shall be fitted throughout the basement accommodation. A manually operated fire service smoke clearance system shall be installed in the basement corridors in accordance with 3.5.2.5 of Technical Guidance Document B and based on the volume of the largest fire compartment opening off the corridor combined with the volume of the corridor. Details of these measures shall be agreed in writing with Dublin City Council Fire Prevention Section in advance of occupation of the building.

Reason

To comply with Part B of the Second Schedule to the Building Regulations 1997-2017

_____

MAURICE JOHNSON

Managing Director I Chartered Engineer I BE(Hons), CEng., MIStructE, MIEI, MSFPE

Date : _____