# Report for An Bord Pleanala

# on

# Appeal against Decision to Refuse Fire Safety Certificate (Fire Safety App. No. FSC2105033LM)

# for

# Works related to Change of Use new bar area, provision of roof terraces, new bar & toilets at Dunnes Bar, Main Street, Carrick on Shannon, County Leitrim.

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| Client: | An Bord Pleanala |
| An Bord Pleanala Ref: | 311781-21 |
| Our Ref: | ABP_R014_Issue 1 |
| Date: | 15th May 2022 |

## 1.0 Introduction

This report sets out my findings and recommendations on the appeal submitted by Noel Smith of Smith Associates on behalf of Paul Maye EVJJT Ltd. against the Decision to Refuse the Fire Safety Certificate (Fire Safety App. No. FSC2105033LM) by Leitrim County Council in respect of an application for works related to Change of Use new bar area, provision of roof terraces, new bar & toilets at Dunnes Bar, Main Street, Carrick on Shannon, County Leitrim.

## 1.1 Subject of Appeal

Notification of a Decision to Refuse to Grant a Fire Safety Certificate (Fire Safety App. No. FSC2105033LM)

**Reason:**

1. The proposed design does not comply with the requirements of B1 of the Building Regulations, 2006.

## 2.0 Documentation Reviewed

1.1 Fire Safety Application (application form, compliance report and fire safety drawings) submitted Noel Smith of Smith Associates on behalf of Paul Maye EVJJT Ltd. on 17th May 2021.

1.2 Notification of a Decision to Refuse to Grant a Fire Safety Certificate (Fire Safety App. No. FSC2105033LM) by Leitrim County Council dated 1st October 2021.

1.3 Letter of Appeal from Noel Smith of Smith Associates on behalf of Paul Maye EVJJT Ltd. dated 22nd October 2021.

1.4 Leitrim County Council response / observations to the Letter of Appeal received by An Bord Pleanala on 23rd November 2021.

1.5 Letter from Profire, on behalf of Paul Maye EVJJT Ltd., dated 24th January 2022 responding to Leitrim County Councils response / observations.

## 3.0 Building Control Authority's Case

Leitrim County Council's reason for refusing the Fire Safety Certificate application is that the proposed design does not comply with the requirements of B1 of the Building Regulations, 2006.

In their letter received by An Bord Pleanala on 23rd November 2021 they have stated the following: -

The applicant proposes a new total occupancy of 1008 persons. This is based upon an occupancy load factor of 0.5 which is considered highly conservative given the actual numbers common for this facility.

It is noted that the applicant submits that three exits form the premises are proposed including the Main Entrance, New 1st Floor exit & Existing Entry to Rear Courtyard. These three exits are said to provide 5070mm of exit width in total. Section 1.2.4 of Technical Guidance Document B requires the discounting of 'each escape route in turn'. When the largest exit of 2500mm is discounted this leaves only 2570mm of available width.

Based on previous granted Fire Safety Certificates the applicant proposed to use BS9999 to justify a measure of 4.1mm per person for exit width capacity calculations. Leitrim Fire Authority note that each application should stand entirely upon its own merit as it will supersede the previous approved design. In order to accept a calculation based upon 4.1mm per person of width then the entire of BS9999 should be adopted as the design strategy. Due to the use of risk profiles and other integrated measures including a comprehensive documented management strategy, BS9999 allows reductions of certain requirements, however, using the reduction and not providing any details of the rationale in the application to support it is a dangerous practice. Leitrim Fire Authority notes it is happy to accept applications of Fire Safety Certificates using BS9999 as the design strategy where the entire application is based on this strategy with no cherry-picking of requirements to suit the applicant only.

When using the minimum exit width calculations provided in TGD-B of 5mm per person, and when discounting all exits in turn, the available exit capacity would be only 514 persons. Even if we incorrectly use the BS9999 minimum width per person of 4.1mm we still only arrive at 627 persons. Furthermore, even when discounting the smallest exit and using 5mm per person, we arrive at 800 persons, using 4.1mm we arrive at 976 persons. These totals are still below the very conservative total occupancy number proposed of 1008 persons.

It is noted that these concerns were raised with the applicant, and they were provided ample opportunity to submit revised information by way of several extensions of time. The revisions received proposed the introduction of a 'Muster Area'. This new area would serve to increase the available floor area of this development even further, and the occupancy numbers along with it, with no solution proposed to the lack of available exits. This is of grave concern to the Fire Authority. A proposal such as this is not based upon any recognised standard or code of practice. This means it is impossible to consider its effectiveness using engineering principles within the Building Regulations or supporting standards. As an alternative approach it does not refer to recognised Fire Safety Engineering principles such as the BS 7974 suite or even to a case study or model.

Furthermore, it is noted that even if this type of approach was accepted there is no clarity as to how a very small number of untrained bar staff would be able to successfully herd this large crowd, round a labyrinthine escape routes and into the muster area without the onset of a rush, panic or crushing injuries. A comparable task, when carried out at an outdoor event, would require a very detailed event management plan providing explicit instructions of crowd safety and a very large number of staff to coordinate and control crowd movements safely and this would be without the human factors introduced by the existence of a fire, smoke or hot gases within proximity of the occupants.

Based on the above the assessment and the fact that no obvious solution to the problem of available exits was forthcoming, it was determined appropriate to refuse the application.

## Appellant's Case

In the Letter of Appeal from Noel Smith of Smith Associates on behalf of Paul Maye EVJJT Ltd. dated 22nd October 2021 they state the following: -

The existing premises has a granted Fire Safety Certificate (FSC/11/19) and comprises ground floor bar with entrance form Main Street and beer garden to rear with 2 no. exits to arched entry.

- The main bar has an occupancy of 210 persons based on a floor area of 150m$^2$ @ 0.5m$^2$/person standing room. This is provided with two exits 1800mm and 1070mm.

- The beer garden has an occupancy of 450 persons based on a floor area of 150m$^2$ @ 0.3m$^2$/person standing room. This is provided with two exits 1800mm and 1380mm.

- The exits routes from the beer garden leads to a side alley 'arched entry' exiting on to Main Street with a minimum width of 2500mm. The exit capacity of the route via the archway provides standing capacity in the external area en-route to archway, including along the route and can accommodate the occupancy loading of the bar area if the exit from the bar is unavailable. The 2500mm wide entry can accommodate the occupancy loading of the bar & beer garden simultaneously.

The proposed development comprises change of use of first floor accommodation to new bar area with the provision of 1500mm clear width concrete stair to Main Street and the provision of new roof terrace with bar & toilets.

- Proposed new areas:
    - Bar Floor Area with occupancy of 350 persons (71.48 m$^2$)
    - Roof Terrace Floor Area with occupancy of 520 persons (103.88 m$^2$)
    - New games room and terrace with occupancy of 66 persons (33.21 & 48.88 m$^2$)

- New exit widths:
    - New bar area: 2 no. 1500mm clear exits
    - New terrace area: 2 no. 1500mm clear exits
    - Games room & terrace: 1500mm & 1045mm

The new terrace bar is provided with 2 no. exits via first floor with concrete stairs to Main Street and external concrete stairs to a dedicated fire exit route. The provisions of a new first floor exit will be an additional exit from the upper floor areas, thus reducing the dependency on the archway.

The proposed development will see an increased overall design occupancy loading on the premises which will be addressed as follows: -

The new terrace bar area will be provided with 2 no. exit routes, both leading to the previously accepted external route leading to the arched entry. Beyond the boundary

enclosure of the terrace bar the exit route will be maintained as a sterile and unobstructed route. All exits routes from new terrace bar are external. All exit routes are sized accordingly to cater for the estimated peak occupancy loading of the new accommodation. Based on recommendations of BS9999 (on foot of previous approved FSC 11/19) this design loading will be 0.3 $m^2$/persons with exit widths based on 4.1mm/person.

The existing exit routes from the beer garden will be retained and further protected with the provision of dedicated unobstructed routes leading to existing archway, 2500mm clear width. The new terrace bar will have 2 no. exits, one via first floor, a 1500mm clear width concrete stairs and a new stairwell 1500mm wide to Main Street, external stairs at rear and dedicated exit route leading to archway. The new dedicated exit route will streamline the exit routes with no dead ends, to protect the archway as a controlled exit only. As such, it is considered by the Appellant, that the proposed development and reconfigured exit routes within the yard area will improve the overall means of escape because of additional exit capacity generated by the new upper floor level will provide fluidity within the premises.

The site to the rear is large and can accommodate a muster area at a safe distance away from buildings, with 2 no. routes to same. This muster area is sized to accommodate in excess of 50% occupancy and is located on higher ground and fully visible. The estimated peak occupancy loading for the premises will be that which can be safely accommodated and evacuated from the premises. Consequently, internal areas will continue to function during all conditions. During normal trading and weather permitting there will be transient movement between all areas resulting in an overall occupancy load factor average over the entirety of the premises. The exit capacity of the 3 no. exits is 1070mm, 1500mm and 2500mm equating to 1236 persons who can safely exit the premises.

Means of escape for disabled persons is available by means of horizontal exit route from main bar from Main Street and additional entry / exit, potentially via archway to smoking area in beer garden along gently sloping surfaces.

Letter from Profire, on behalf of Paul Maye EVJJT Ltd., dated 24th January 2022 responding to Leitrim County Councils response / observations states:

- The above mentioned Muster Area is omitted

- It is noted that the first floor bar and roof terrace have a floor to ceiling height greater than 3m but that the existing ground floor and external bar area do not have a height greater than 3m.

- It is noted that an automatic detection and alarm system of L3 coverage shall be installed and strobe alerts shall be used in any noisy areas where people might otherwise have difficulty in hearing the fire alarm.

- The observations from Leitrim Fire Authority highlighted the critical scenario for exit capacity is when a fire blocks access to the 2500mm wide archway leading to the street. This serves a number of stairs from the first floor and roof terraces. The other scenarios such as a fire in ground floor bar blocking 1070mm exit or a fire in

first floor stairway blocking 1500mm final exit route are less critical than a fire blocking the archway and they would yield higher occupancies than this scenario.

- Profire have attached a revised assessment of B1 of the Building Regulations.

## 4.0 Consideration

It is noted that DOECLG Circular Letter BC5/2011 dated 09.05.2011 addressed the use of BS9999. It concludes that having given careful consideration to the implications arising from the publication of BS9999 and taking account of the views of various stakeholders, the Department is satisfied that Building Control Authorities may consider designs based on BS9999 as *alternative solutions*, as provided for in section 0.1.4 of TGD-B, and designs based on this Code may in general be regarded as acceptable, provided the level of fire safety achieved is adequate to satisfy the requirements of the Building Regulations.

It is noted that this does not give the right to pick and choose but rather if an applicant wishes to use BS9999 as an alternative approach to TGD-B then they may do so. This is particularly relevant with BS9999 which uses risk profiles and other integrated measures including a comprehensive documented management strategy. Therefore, if a BS9999 approach is to be adopted then the applicant must use the full document and not just favourable sections.

The Appellant had this pointed out to them in the Leitrim County Council response / observations to the Letter of Appeal received by An Bord Pleanala on 23rd November 2021. In response to this letter ProFire, on behalf of the appellant, prepared a revised B1 (means of escape) submission. However, this is not sufficient as it is only deals with a limited part of BS9999. The application either must be to TGD-B or BS9999 but cannot be a mix of both.

In addition, it is noted that the revised B1 submission has a number of issues / omissions, on review the following was noted: -

- The applicant relies of the provision of a L3 automatic fire detection and alarm system to increase the capacity of the escape exits and stairs. It is noted that in a bar (i.e. a place of assembly and recreation) in Ireland the provision of an Automatic Fire Detection and Alarm system is a minimum requirement. Indeed, a L1 rather than a L3 system (assuming they actually mean L2/L3) would be expected. The use of a system that would be considered as a minimum requirement to increase the capacity of the building is not in keeping with DOECLG's circulars requirement to ensure to provide that the level of fire safety achieved is adequate to satisfy the requirements of the Building Regulations.

- The design of the stairs (i.e. Section 8. Vertical Means of Escape of submission) is incomplete, no design is provided to demonstrate compliance. Given that the application is specifically for a change of use that increase the capacity of the upper floor it is not acceptable to ignore clauses 17.3 to 17.7 of BS9999 (i.e. clauses that deal with number of stairs, widths of stairs, protections of stairs and external escape stairs).

- Section 5 (vii) of submission states that door leaves of any door or exit where reasonably practicable, will be hung to open is the direction of escape and always does so if the number of persons that might be expected to use the door at the time of a fire is more than 60 people. It is noted on the drawings however a number of doors are shown to open against the direction of trave. Some have a note saying that these doors will be held open even though one is direct to open external area

(i.e. door between existing Dunnes Bar and external bar area) and another is at the bottom of the stair from the first floor new bar area. These issues are not addressed in the ProFire B1 submission.

- It is noted that Figure 6 of BS9999 addresses the issue of merging flows for stairs from above combines with storey exit from the final exit level. This has not been addressed in the ProFire B1 submission.

- It is noted that the ProFire B1 submission is used to justify an increase capacity but in doing so ignores large sections of BS9999 that relate directly to means of escape and ignores all other sections of BS9999, this is not an acceptable approach.

## 6.0 Reasons and Considerations

The appellant has used a mix of BS9999 and TGD-B as part of their submission. Although the use of BS9999 is acceptable, the picking and choosing between approaches is not. As part of the appeals process, they were made aware of this and attempted to modify the means of escape section (i.e. B1) of their submission, however, this is not what was advised and is not adequate to demonstrate compliance.

The Building Control Authority have concerns with respect to the numbers that will be in the building, their review using TGD-B demonstrates that there is a potential issue. Their concerns have not been addressed by the appellant.

Although a BS9999 approach may be able to demonstrate compliance with the Building Regulations, the appellant has not done so with their submissions.

## 7.0 Conclusions and Recommendation

On the basis of my findings and conclusions I recommend that the applicants appeal is rejected.

**Signed by:**

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**Des Fortune**
MSc(Fire Eng), BSc(Eng), CEng MIEI, MIFireE

**Date:** **15th May 2022**