



An
Coimisiún
Pleanála

FSC Report ABP-321995-25

Appeal v Refusal or Appeal v Condition(s)

Appeal against Conditions 1 and 17

Development Description

Blocks A, B1 & B2, Glenageary Gate Development. Glenageary Gate Blocks A, B1 & B2 consist of residential accommodation at all levels and a number of ancillary areas at Basement and Ground level including a car park, residential amenities, storage areas and plant spaces. Development is located at Glenageary Avenue, Sallynoggin, Co. Dublin

Building Control Authority Fire Safety Certificate application number:

Dun-Laoghaire Rathdown County Council – Submission No. 3018926

Appellant

Red Rock Development

Appellant's Agent

Jensen Hughes

Building Control Authority:

Dun-Laoghaire Rathdown County Council

Inspector

Mr. Bryan Dunne

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1.0 Introduction

- 1.1. The application is for the development of 3 residential blocks (A, B1 & B2) at Glenageary Avenue, Sallynoggin, Co. Dublin. The blocks range in height from 4 to 5 stories over a shared basement level (incorporating car parking, storage and plant areas). It is proposed that all blocks will consist of open plan residential apartments along with ancillary accommodation.
- 1.2. The application made to the Building Control Authority (BCA) was for a standard Fire Safety Certificate application.
- 1.3. A decision was made by the BCA to grant a Fire Safety Certificate (FSC) with 18 No. conditions, of which, only Condition 1 and Condition 17 are being appealed.

Condition 1:

Sprinkler protection in accordance with I.S. EN 12845:2015+A1:2019 shall be provided to the basement car park.

Reason:

To comply with Part B of the Second Schedule to the Building Regulations, 1997 to 2023.

Condition 17:

Vehicle access for high-reach appliances shall be provided to the building in accordance with Table 5.1 (vehicle access to the building) and is to comply with Section 5.2.4 (Design of Access Routes and Hard standing), Table 5.1 (vehicle access to the building), Table 5.2 (including a turning area in the courtyard) and Diagram 32 of Technical Guidance Document B with the following modifications:

- (i) The minimum width of the road between kerbs is 3.7 m with a jack spread of 5.7 m – jacks extended to give the platform a stable base and to raise all wheels off the ground.*
- (ii) The maximum carrying capacity is 26 tonnes.*

Reason:

To comply with Part B of the Second Schedule to the Building Regulations, 1997 to 2023.

2.0 Information Considered

2.1. The information considered in this appeal comprised the following:

- An Bord Pleanála Case No. ABP-321995-25
- A copy of the Fire Safety Certificate application documentation uploaded to the BCMS system on the 22nd April 2024
- A copy of the additional information uploaded by the Appellant to the BCMS system on the 7th May 2024
- A copy of the additional information uploaded by the Appellant to the BCMS system on the 18th June 2024
- A copy of the additional information uploaded by the Appellant to the BCMS system on the 15th November 2024
- A copy of the granted Fire Safety Certificate (Submission No. 3018926) dated 31st January 2025
- Appeal submission letter by The Appellant to An Bord Pleanála dated 26th February 2025
- A copy of the Fire Officers Report dated 21st May 2025
- Additional submission letter by The Appellant to An Bord Pleanála dated 11th July 2025

3.0 Relevant History/Cases

3.1. I am not aware of any relevant Building Control history relating to this appeal site.

There was no documentation of any previous Fire Safety Certificate (FSC), Revised FSC, Regularisation FSC or any dispensation/relaxation of the Building Regulations (relating to this site) included in the file being reviewed.

4.0 Appellant's Case against Condition 1

4.1. The development consists of three apartment blocks (Block A, B1 and B2) over a shared basement level (incorporating car parking, storage and plant areas).

- Block A is a 5 storey building, served by a single stair
- Block B1 is a 5 storey building, served by a single stair
- Block B2 is a 4 storey building, served by a single stair

In all three blocks the stair serving the upper floors is separated from the stair serving the basement, with both stairs discharging to outside at ground level.

4.2. Their basis of compliance for this application was TGD-B: 2006 + A1 2020 and BS5588: Part 1 1990.

4.3. Sprinkler protection of the dwellings, apartments and common corridors was included as part of the application. The appellant states that it wasn't their intention to sprinkler protect the basement as:

- The top story height of the development is less than 30 meters and therefore does not meet the criteria for providing sprinkler coverage to the entire building
- The basement level is designed as a separate compartment and is enclosed in 60 minute fire resistant construction
- Travel distances are compliant with the limits set out in TGD-B
- The basement level is smoke ventilated with at least 2.5% natural smoke ventilation, and all lifts are double lobby protected including a smoke ventilated outer lobby served by 0.4m² fire rated duct discharging to atmosphere
- Dry risers are being provided within the basement level which will provide sufficient coverage and adequate water supply and allow firefighter personnel to respond effectively to an incident anywhere in the basement

4.4. The appellant points out that basement car parks are not normally expected to be fitted with sprinklers with Section 3.5.2 of TGD B stating:

- i. The fire load is well defined and not particularly high;

- ii. Where the car park is ventilated, there is a low probability of fire spread from one story to another. Ventilation is the important factor, and as the heat and smoke cannot be dissipated so readily from a car park that is not open sighted fewer concessions are made

Note: Because of the above car parks, are not normally expected to be fitted with sprinklers

4.5. The appellant gives examples of 'normal' and 'abnormal' car parks and considers the car park in this development 'normal' for the following reasons:

- The basement level is designed as a separate 60 minute compartment
- It has sufficient exit capacity and the travel distance to the exits within the basement are within recommended limits, as such the provision of sprinklers would offer little to no improvement with respect to code compliance
- The basement level is smoke vented with approx. 5.1% natural ventilation with 50% of this on the opposing sides as per section 5.4.3.1. of TGD-B
- There is sufficient access to the basement car park via protected stairs that are fire separated from the stairs serving the residential apartments above
- An automatic fire detection alarm system has been provided
- All surface linings within the ground floor underground car park will meet the minimum Class C s3, d2 classification
- The risk of smoke spread from the carpark compartment to the upper floors of the development will be further mitigated by the incorporation of double lobby protection to each lift with the outer lobby provided with a minimum 0.4m² permanent ventilation
- There is sufficient access to the basement level via protected stairs each provided with internal fire mains

It is for the above reasons the appellant requests Condition 1 be removed.

5.0 Appellant's Case against Condition 17

The BCA have conditioned that vehicle access for high reach appliances should be provided to 50% of the perimeter of each of the blocks and comply with Section 5.2.4 (including Table 5.2 and Diagram 32) of TGD B: 2006+A1: 2020, citing the reason to comply with Part B of the Second Schedule of the Building Regulations 1997 to 2021.

The appellant puts forward the case that as an alternative to providing 50% perimeter access the blocks will instead be provided with internal fire main's and pump vehicle access to within 18m and within sight of a fire main inlet connection point. They note that this arrangement is permitted under section 5.2.2 of TGD B where it states:

In the case of a building fitted with a dry internal fire main, access for a pump appliance should be provided to within 18 meters and within sight of the inlet connection point.

Included in their FSC application, fire tender access or aerial platform/turntable ladder/special appliance) was demonstrated by way of a swept pass analysis shown on drawing No. EI/4738/1/2 Rev A. It was confirmed that the route specifications would comply with the following:

Vehicle access route specifications						
Appliance type	Minimum width of road between kerbs (m)	Minimum width of gateways between kerbs (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	Minimum carrying capacity (tonnes)
High Reach	>3.7m ²	>3.1m	26m ¹	29m ¹	>4	26

The appellant states that the access route to the building will meet the standards for high reach appliances with the exception of providing 50% perimeter access and as an alternative the blocks will instead be provided with internal fire mains and vehicle access to within 18 meters and within sight of a fire main inlet connection point.

They are on the view that buildings fitted with dry risers do not have to comply with the Table 5.1 in terms of vehicle access to the perimeter of the building but only need to ensure that the fire appliance (higher each appliance in this case) can park within 18m

and inside of the dry riser inlet and as such is compliance with the recommendations of TGD B Part B5 of the Second Schedule of the Building Regulations.

The following additional points are made by the appellant as part of their appeal:

- While Paragraph 3 of Section 5.2.2 only makes reference to 'pump appliance' access the proposed design exceeds this requirement when providing high reach appliance access is being provided to within 18 meters of the dry riser inlet
- Apartment blocks are provided with the significant amount of compartmentation, as every apartment is compartmented within the 60 minute fire rated closure
- The apartments and common corridors are sprinkler protected which will reduce the growth and spread of fire from one part of the building to another
- The development will employ a simultaneous evacuation strategy which will immediately alert occupants if a fire were to occur

Finally, three case studies are put forward by the appellant which identify developments where there were residential buildings (many taller than those in this development) where high reach appliance access to 50% of the building perimeter was not required under TGD B or requested by the BCA, see below.

- Case Study 1 – Block A, Shanganagh Castle, Shankhill, Dun Laoghaire Rathdown.
Fire Safety Cert No: FSC2001121DR
Decision Order No: FSC/DR/232/21

The application consists of a single, 6 storey residential block, with a top storey height of 17.6m. The block is provided with a single escape stair. The development was designed in accordance with TGD B 2006 + A1: 2020. The application was granted in June 2021.

With regard to vehicle access in this application, a similar approach was accepted and subsequently granted where access for a pump appliance and the provision of an internal fire main is considered sufficient for the purposes of firefighting as per Part B5. The application for Block A, Shanganagh Castle also provided a Swept Path Analysis to demonstrate adequate vehicle access routes.

The fire strategy approved by Dublin Fire Brigade consisted of dry risers and access for pump appliances to demonstrate compliance Part B5 of the Second Schedule to the Building Regulations, 1997 to 2019. In addition, route access and turning facilities for high reach appliances were provided to address the need for aerial platforms at the scene of a fire. The proposed blocks present a similar case and therefore, based on the paragraph from Section 5.2.1 of TGD B above, should not be deemed to require further access requirements.

- Case Study 2 – Block 1, Griffith Wood Development, Griffith Avenue, Dublin City.
Fire Safety Cert No: FSC2102491DC/7DN
Decision Order No: FSC3460/21/7D

The application consists of a single, 5 story residential block, with a top storey of 12.6m. The block is provided with a single escape stair. The development was designed in accordance with BS 9991: 2015. The application was granted in September 2021.

With regard to vehicle access in this application, the only vehicle access provided is for a pump appliance to within 18m of the dry riser inlets and within sight. No high reach access was required.

The application was granted based on the strategy that the Fire Brigade would either fight a fire from the outside using pump appliances or would instead fight the fire internally using the protected stair/lobby (on the floor below the fire floor) as a bridgehead, as per the Standard Operation Guidance 3.02 - Fighting fires in high-rise buildings.

- Case Study 3 – Blocks H, J, M & Q, The Grange, Stillorgan, Dun Laoghaire Rathdown.
Fire Safety Cert No: 19/8186/7day
Decision Order No: FSC/DR/141/21

The application consists of three high rise residential blocks over a shared basement, with a top storey of 29.3m. Each block is provided with a firefighting stairs and lift (with a protected corridor functioning as a firefighting lobby). The development was designed in accordance with BS 9991: 2015. Blocks J & M are single stair buildings. The application was granted in March 2021.

With regard to vehicle access in this application, it was considered sufficient to provide an internal fire main (dry riser), vehicular access for a pump appliance and the provision of easy and speedy entry to the site and/or interior of the building for fire-fighters and their equipment.

By comparison, Blocks A, B1 & B2 of the Glenageary Gate Residential Development also provides internal fire mains, vehicular access for a pump appliance (as demonstrated above, this access can also accommodate high reach appliances) and provides an accessible & swift entry to both the site and the interior of the building.

In summary the appellant reiterates that vehicle access for high reach appliances is provided in accordance with Section 5.2.4 (design of access routes and hard standing) and Table 5.2 (including a turning area) of TGD B and that a valid alternative (widely accepted by the BCA in the past) to providing 50% high reach access is to provide internal fire mains and access for a pump appliance to within 18m and in sight of an inlet connection point. They are of the view that this development has been designed in compliance with TGD B 2006+A1: 2020 and Part B of the Second Schedule of the Building Regulations 1997 to 2021 and as such request the removal of Condition 17.

6.0 Building Control Authority Case in favour of Condition 1

6.1. In support of their case for sprinkler protecting the proposed basement car park the BCA's response to this appeal was broken down under the following headings:

- (a) BS 9251 Overview
- (b) Technical Guidance Document B Review
- (c) TGD-B Basement Car Park Ventilation
- (d) Draft Building Regulations
- (e) Background Research into Car Fires
- (f) Case Studies
- (g) Electric Vehicles
- (h) Dublin Fire Brigade Intervention
- (i) Firefighting Operations with ICE Cars
- (j) EV Firefighting Operations
- (k) Structural Integrity/Fire Protection Concerns
- (l) Broader Implications Considered
- (m) Conclusion

(a) BS 9251 Overview

The BCA open their rebuttal by pointing that the appellant used BS 9251: 2021 to justify the open plan apartment layout as permitted under Section 1.6.3 of TGD-B and that BS 9251 is clear in highlighting the requirement for sprinklers in other areas where the code of practice is being used for domestic and residential occupancies and in particular:

- Note 3 of Section 4.1 which states:

NOTE 3 In buildings where there is a mix of residential, non-residential and commercial use (e.g. where flats are above shops, car parks, bin stores, offices and retail units), it is generally appropriate to protect the residential parts using this British Standard and the non-residential parts using BS EN 12845. See also [5.5](#) and [5.6](#).

and

- Point h) of Section 5.4 which they say suggests that any ancillary space directly connected to a residential building should be sprinkler protected

(b) Technical Guidance Document B Review

The BCA draws attention to Section 3.5.2 in the 1997 version and the 2020(Reprint) of TGD-B and in particular the fact that the wording 'There is evidence that fire spread is not likely to occur between one vehicle and another' was removed in the reprinted version, see below.

Car Parks

3.5.2 Buildings or parts of buildings used as parking for cars and other light vehicles are unlike other buildings in certain respects, and merit some departures from the usual provisions for the restriction of fire spread within buildings because:

- the fire load is well defined; and
- there is evidence that fire spread is not likely to occur between one vehicle and another, in well-ventilated above ground parking, and there is a correspondingly low probability of fire spread from one storey to another. Ventilation is all important in car parks, and as heat and smoke cannot be dissipated so readily from a car park that is not open-sided fewer concessions are made.

(1997)

Car Parks

3.5.2 Buildings or parts of buildings used as parking for cars and other light vehicles are unlike other buildings in certain respects, and merit some departures from the usual provisions for the restriction of fire spread within buildings because:

- (a) The fire load is well defined and not particularly high;
- (b) Where the car park is well ventilated, there is a low probability of fire spread from one storey to another. Ventilation is the important factor, and as heat and smoke cannot be dissipated so readily from a car park that is not open-sided fewer concessions are made. The guidance in paragraphs 3.5.2.2 to 3.5.2.5 is concerned with three ventilation methods; open-sided (high level of natural ventilation), natural ventilation and mechanical ventilation.

Note: Because of the above, car parks are not normally expected to be fitted with sprinklers.

(2020 Reprint)

(c) Basement Car Park Ventilation

They note that under Section 3.5.2 of TGD-B the current minimum ventilation requirements for mechanical or natural ventilation are typically 10 air changes per hour or 2.5% of the car park floor area, with the ventilation being provided primarily to move the products of combustion away from the fire location which in turn assists in the control of fire spread and protects the lives of fire fighters. The point is raised that there is currently no requirement in BS 7347-7: 2013 to meet any set visibility or temperature criteria for either the means of escape or the firefighting phase of any fire incident and that the existing ventilation requirements are very likely to be inappropriate for multiple vehicle fires.

In addition, they make the point that EV car fires produce higher volumes of smoke with a prolonged burn period which in turn exasperates the risk in the basement from both a means of escape and firefighting operations point of view.

(d) Draft Building Regulations

The BCA make reference to both the Draft Building Regulations (brown book) and the Proposed Building Regulations (blue book) and the fact that both recommended basement car parks be provided with sprinkler systems to BS5306 and that they are making the case for this same provision now, some 50 years later. In addition, they make that point that in the interim period the types of cars have drastically changed and have now more plastics and combustible components in them.

(e) Background Research into Car Fires

As part of their submission the BCA makes reference to the following documents:

1. Fire Note 10 "Fire and Car Park Buildings" produced by The Ministry of Technology and Fire Offices Committee Joint Fire Research Organisation, 1968
2. "Fire Spread in Car Parks" produced by the BRE in 2006 after been commissioned by the UK Department of Communities and Local Government
3. "Natural Fires in Closed Car Parks" research undertaken by Daniel Joyeux, 2007

A summary of the research above identified:

- The cars used and the material they were constructed from have a far lower calorific value than modern vehicles.
- Compared to when the above studies were undertaken, the predominant manufacturing material in cars is now plastics.
- It is expected that during the early stages of a vehicle fire the failure of plastic fuel tanks is expected and will spread fire.
- Modern cars are larger than those used in the above studies.

- Vehicle fire temperatures in excess of 1100dec C are expected as a result of larger vehicles in tighter spaces with lower ceilings.
- Sprinklers are effective in both controlling a developing and fully developed fire. Without sprinklers fire is likely to spread from car to car and dangerous levels of smoke are likely for longer periods (BD2552 p.46).
- Basement car parks can no longer be considered to have well defined fire loads.
- Concerns are raised with regard to assumptions that fire services attend 3 out of 5 fires within 3 minutes in metropolitan areas.

(f) Case Studies

The BCA includes a list and brief summary of relevant case studies from car park fires both nationally and internationally where fire spread beyond the vehicle of origin and involved multiple vehicles which in some instances resulted in fatalities.

(g) Electric Vehicles

They put forward evidence from Hertzke et al (2018) on the increase in the sales of EV cars in the period 2010 to 2017 and from Diaz et al (2020) & DETEC (2020) stating that fires involving lithium-ion batteries pose hazards significantly different to conventional fires in terms of initiation, rate of development and toxicity of emissions. In addition, Diaz et al (2020) identifies particular challenges with respect to EV's including thermal runaway, the fact that lithium-ion batteries can fail very quickly after sustaining damage, the long extinguishing time for these types of vehicles, water quantity required for extinguishing purposed and recycling of damaged vehicles.

(h) Dublin Fire Brigade Firefighting Intervention

The BCA note that it is generally accepted that fires in electric vehicles pose a significant range of challenges not normally associated with internal combustion engine (ICE) vehicles, including the need for greater quantities of water to extinguish a fire and the fact that EV fires also have a propensity to reignite.

(i) Firefighting Operations with ICE Cars

The BCA point out that in their standard approach to dealing with ICE car fires, typically the fire is extinguished within 3-4 minutes with the entire incident taking less than 15-20 minutes.

Electric (EV) Car Fires

In this section of their report the BCA provides a comparison of some of the risks associate with EV fires compared to ICE car fires, see below.

Risk	ICE Car Fires	EV Car Fires	EV Vehicle Notes
Environmental Damage	Environmental damage from firefighting water run off	Environmental damage from firefighting water run off	Exponentially higher toxic run off containing heavy metals given the quantities of water needed to extinguish
Gases produced	Large volumes of Carcinogenic/Mutagenic/Reproductive toxin gases	Large volumes of Carcinogenic/Mutagenic/Reproductive toxin gases	Given the extinguishment difficulties, Toxic Smoke production is like to greatly exceed ICE Vehicle values
Fire Spread	Potential for fire spread to other vehicles	Potential for fire spread to other vehicles	Given the extinguishment difficulties, the likelihood for fire spread to adjoining vehicles increases significantly
Heat Release Rate	High heat release rate ($\geq 3\text{MW}$)	High heat release rate ($\geq 3\text{MW}$)	Similar values identified
Effluent	Corrosive/Toxic effluent from battery	Corrosive/Toxic effluent from battery	See environmental damage above
Fuel Tanks	Potential for plastic fuel tank to rupture creating a running fuel fire	Not Applicable	Not Applicable
Pyrotechnic Explosion	Potential for Pyrotechnic explosion of airbag inflators system	Potential for Pyrotechnic explosion of airbag inflators system	Similar characteristics
Smoke Spread and Volume	Possible smoke egress into stairwells compromising means of escape	Possible smoke egress into stairwells compromising means of escape	Higher smoke volumes exacerbate this risk
Shock Hazard	Not Applicable	Electric Shock hazard	High Voltage Battery System

Table 2: Car Fire Risk Comparison

(j) EV Firefighting Operations

Here the BCA address the phenomenon known as thermal runaway which is a chain reaction that produces an uncontrolled release of heat from the battery pack. The difficulty firefighters experience in dealing with this process include:

- Access to the battery area to deliver water
- The high levels of water required to extinguish this type of fire
- The possibility of the battery reigniting several hours later

(k) Structural Integrity/Fire Protection Concerns

The BCA make reference to the research carried out by Mr. Martin Shipp et al for the BRE on enclosed car park fires which concluded that as a result of the presence of alternative fuels further research should be undertaken on the structural protection to enclosed car parks. They give the example of a Merseyside car park which while having significantly higher protection than the minimum 15-minute requirement still had significant structural failures during a fire.

(l) Broader Implications Considered

Additional considerations identified by the BCA include:

- The significant amount of water required to extinguish an EV fire
- An increase in the number of responding appliances to 2 possibly 3 pumps per incident
- The high quantity of toxic water runoff
- Toxic gases contaminating firefighters PPE requiring a full change after each EV fire
- The increase in the number of EV's increases the potential for multi-EV incidents putting additional demands on BCA resources
- The transport of the EV post suppression to mitigate against the potential for re-ignition
- The likely hood of the fire brigade having to escort the transported EV post fire incident
- The possible need for the BCA to consider full vehicle immersion technology post suppression

(m) Conclusion

The BCA are of the view that the provision of sprinklers is vital to allow the suppression and control of fire development to allow for both the safe means of escape of occupants and allow fire crew safely access the basement car park for firefighting.

Is it for these reasons that the BCA are looking for Condition 1 to be upheld.

7.0 Building Control Authority Case in favour of Condition 17

In their rebuttal the BCA refer to the following sections of TGD B:

Section 5.0.1 – Scope states:

'.....Fire Authorities have functions under the Fire Services Act, 1981 to provide fire brigades for the extinguishment of fires and for the protection and rescue of persons and property from injury by fire. Regulation B5 provides for the provision of access and other facilities to assist the fire service in the protection of life and property from fire.....'

To assist the fire service some or all of the following facilities may be necessary, depending mainly on the size of the building:

- *Vehicle access to the building for fire fighting personnel.....*

Section 5.0.2 - Factors Determining Facilities Appropriate to a Specific Building states:

'The main factor for determining the facilities needed to assist the fire service is the size of the building.

The facilities provided also depend on the expected method of fire fighting, whether this will be from outside or inside the building.....'

a) In deep basements and tall buildings

b) In other buildings the combination of personnel access facilities offered by normal means of escape, and the ability to work from ladders and appliances on the perimeter is sufficient without special internal arrangements. Depending on the size of the building, vehicle access may be needed to some or all of the perimeter.....'

Section 5.2.1 – Introduction states:

'Fire brigade access to the exterior of a building is required to enable high reach appliances, such as turntable ladders and hydraulic platforms, to be deployed, and to enable pumping appliances to supply water and equipment for firefighting.

Access requirements increase with building size and height and also depend on whether the building is fitted with internal fire mains (see 5.1).

Access for fire appliances should be provided in accordance with the provisions outlined in 5.2.2 below.

Vehicle access routes and hard-standings should meet the criteria described in 5.2.4 if they are to be used by fire service vehicles.

Section 5.2.2 – Provision of Vehicle Access states:

'For effective firefighting operations, fire brigade appliances should be able to get within easy reach of a building.....larger buildings will require access to all or a number of elevations.

Vehicle access should be provided in accordance with the criteria indicated in Table 5.1.....

In the case of a building fitted with a dry internal fire main, access for a pump appliance should be provided to within 18m and within sight of the inlet connection point.....'

Table 5.1 – Vehicle access to buildings states:

Table 5.1 Vehicle access to buildings			
Volume of building (m3)	Height of top storey above ground (m)	Provide vehicle access	Type of appliance
7,000 to 28,000	Over 10	To 50% of perimeter	High reach

Section 5.2.4 – Design of Access Routes and Hard-standings states:

'A vehicle access route may be a public or private road, or other route, which, including any manhole or other covers, meets the standards in Table 5.2, Diagram 32 and the following paragraphs.

Access routes to buildings with any storey at more than 10 m above ground level should meet the standards for high reach appliances.....

Where access is provided to an elevation in accordance with Table 5.2, overhead obstructions such as overhead cables that would interfere with the setting of ladders etc. should be avoided in the area shown in Diagram 32.

Where access roadways are provided within the site of a building, turning facilities for appliances, in accordance with the requirements of Table 5.2 should be provided in any dead-end access route that is more than 20 m long.

Table 5.2 Vehicle access route specifications						
Appliance type	Minimum width of road between kerbs (m)	Minimum width of gateways between kerbs (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	Minimum carrying capacity (tonnes)
High Reach	3.7	3.1	26	29	4	16.25

Note:

Use of these figures will cater for nearly all of the fire appliances in use at present. Some fire authorities use different sized appliances and it is therefore advisable that the relevant fire authority be consulted.

The BCA state that the requirements of Section B5 are very clear in that high reach vehicle access is required for this development. They make the point that the appellant was informed that there was an issue with the vehicle access being proposed during the application process and were told that they were required to comply fully with B5 of TGD B on the basis that the building was being built on a green field site and fit the parameters of having to have 50% high reach access.

They suggest that vehicle access route be designed, installed and maintained in accordance with Section 5.2 but with the following modifications to take account of current fire appliances characteristics:

- Minimum width of road between kerbs to be 3.7m with a jack spread of 5.7m
- A maximum carrying capacity of 26 tonnes

They stress that TGD B does not state 'If dry internal fire mains are installed in the building then the requirements for vehicle access is not required' and that the statement 'In the case of a building fitted with a dry internal fire main access for a pump appliance should be provided to within 18m and within sight of the inlet connection point' made by the appellant doesn't apply to high reach appliances.

Is it for these reasons that the BCA are looking for Condition 17 to be upheld.

8.0 Response by the Appellant to the Building Control Authority Report

Further comments provided in relation to Condition 1

1. Guidance provided in BS 9251: 2021 Code of Practice for Fire Sprinkler Systems for Domestic and Residential Occupancies.

The appellant makes the following points:

- The FSC application was based on the building being designed in accordance with TGD B: 2006 + A1: 2020 and BS5588-1: 2024
- Residential sprinklers accommodate open plan layouts and extended travel distances within common areas of apartment buildings which are not impacted by the provision of sprinkler systems in car parks

- The provision of sprinklers in the basement level was not proposed as
 - The top storey height of the development is less than 30m
 - The basement is designed as a separate 60 minute fire resisting compartment
 - Travel distances comply with the limit set out into TGD B
 - Adequate escape capacity is provided
 - The basement stairs do not communicate with the upper residential floors and the exit directly to outside
 - The three lifts connect with the residential area over and are provided with double lobby protection with the 0.4m² permanent ventilation discharging directly to the outside
 - The overall natural ventilation is more than double that recommended in Section 3.5.2 of TGD B (5.1% being provided > 2.5% required)
 - Dry riser outlets as well as fire hose reels will be provided within the basement level
 - The building is designed for simultaneous evacuation of residents

The appellant carried out qualitative comparative analysis between two buildings demonstrating how the provision of sprinklers in car parks in residential developments should be considered independently from the provision of sprinklers within open plan apartments and conclude that sprinkler protection is required to compensate for a specific aspect of design i.e. the provision of open plan apartments and extended travel distances in apartment common corridors.

2. Review of TGD B provisions in 1997, 2006, 2020 edition and in the Draft Building Regulations (Brown & Blue Book).

The appellant emphasises that the provision of residential sprinklers in this development is as a compensatory measure for open plan apartments and extended travel distances in residential corridors which is in compliance with Section 1.6 of TGD B. They reiterate that this car park would be considered a 'normal' car park with no non-code compliant issues such as extended travel distances, difficult fire brigade access, insufficient smoke control etc arising.

3. Background Research into car fires, in which DCC reference various car park fires in Ireland, UK and Europe in which multiple cars were ignited.

The appellant draws attention to the fact that the research outlined by DFB was carried out between 2006-2010 and focused on petrol/diesel as opposed to EV cars which were only entering the market around this time. They identify two similar appeals where ABP's decision recommended the removal of the condition (case files ABP-314945-22 and ABP-315096-22).

4. The appellant draws attention to the NFPA research report 'Modern Vehicle Hazards in Parking Structures and Vehicle Carriers' in July 2020 where it was concluded that while battery electric vehicles are now in larger production than in the past these vehicles have not been shown to yield larger fires than vehicles with internal combustion engines

5. Summary

For all the reasons previously mentioned the appellant argues that the Installation of sprinklers in car parks is not required for compliance with the Building Regulations as set out in the Fire Safety Certificate report for the building and request the removal of Condition 1.

Further comments provided in relation to Condition 17

The appellant notes that as part of an additional information (AI) request on the 19th September 2024, the BCA expressed concerns with the vehicle access being provided and that they required the building to comply fully with Section B5 of TGD B. The appellant responded on the 14th November 2024 outlining their reasons as to why in their opinion the proposed design complied with the requirements of Section B5 (reasons already summarised above from their appeal letter).

As part of the additional information submitted in November a swept pass analysis was included which identified the high reach appliance access routes and claimed that it was not feasible for a high reach appliance to get access to 50% of the buildings perimeter without alterations that would have a significant impact on the planning application for the site.

The requirements set out in Table 5.1 of TGD B don't take into account the benefit of providing dry writers within buildings. The appellant makes reference to another widely accepted guidance document BS9991: 2015, Section 50.1.1 of which states *"The provisions made for vehicle access should be determined according to whether or not a fire main is provided (see 50.1.1, 50.1.3 and 51.1)"*

50.1.3 Buildings fitted with fire mains

Fire mains enable fire-fighters within a building to connect their hoses to a water supply. In buildings fitted with fire mains, pumping appliances should have access to the perimeter at points near the mains, so that fire-fighters can enter the building to make a hose connection from the fire appliance to pump water into the main. Fire mains should be provided in accordance with 51.1.

Buildings fitted with dry fire mains should have access for a fire appliance to within 18 m of each fire main inlet connection point, typically on the face of the building close to the entrance point leading to the fire-fighting shaft, with the inlet visible from the fire appliance.

The appellant argues that a large number of granted residential property projects have been designed and approved by the BCA in accordance with this recommendation and states that they provided three such examples in their original appeal letter of the 11th March 2025.

The swept pass analysis that was submitted with the FSC application identify that sufficient access for a turntable ladder appliance is being provided to most of the northwest of Block A1 and some of the northeast elevation of Block B1/B2 which accounts for approximately 30% of the building perimeter.

The appellant contends that it is not necessary for higher reach appliances to get within 2 meters of 50% of the building's perimeter to fight a fire given the availability of a safer alternative solution in the form of dry risers. They make the point that the provision of dry risers allows firefighters to easily access water from each individual floor of the building without specialized equipment and allows the fire to be fought from within the building.

With regards the BCA's reference to Section 5.0.1 of TGD B, the appellant maintains that in addition to the facilities identified below the provision of internal fire mains and hose reels should also be considered in the fire tender access strategy for the development.

To assist the fire service some or all of the following facilities may be necessary, depending mainly on the size of the building:

- vehicle access to the building for fire appliances;
- access to and within the building for fire fighting personnel;
- fire mains around and within buildings, including the provision of hydrants;
- provisions for venting of heat and smoke from basement areas and other spaces;
- other facilities such as foam inlets to basement boiler-houses and fuel storage and electrical isolation switches.

Finally the appellant points out that in Section 5.0.2 of TGD B highlighted by the BCA it clearly states that within situations where you have tall buildings or deep basements firefighters will *‘invariably work inside’* these types of buildings and the provision of internal fire mains and hose reels (at basement level) will be provided to assist firefighting personnel fight a fire from within this building.

In summary, it is for the above reasons that the appellant claims that the proposed vehicular access to this development is in compliance with both TGD B and Part B5 of the Second Schedule of the Building Regulations, 1997 and 2019 and requests the removal of Condition 17.

9.0 Assessment (Condition 1)

9.1. De Novo assessment/appeal v conditions

Having considered the drawings, details and submissions on the file and having regard to the provisions of Article 40 of the Building Control Regulations 1997, as amended, I am satisfied that the determination by the Board of this application as if it had been made to it in the first instance would not be warranted. Accordingly, I consider that it would be appropriate to use the provisions of Article 40(2) of the Building Control Regulations, 1997, as amended.

9.2. Content of Assessment

Section 5.4.3.1 of TGD B (reprinted edition 2020) is very clear in that “basement car parks are not normally expected to be fitted with sprinklers”, see below.

5.4.3.1 Basements - Smoke ventilation from basements generally take the form of outlets vents connected directly to the open air. Such ventilation should be provided from every basement storey except in the following:

- (a) a basement in a dwelling house (Purpose Group I(a) and I(b));
- (b) a basement having an area less than 200 m² and a floor which is not more than 3 m below the adjacent ground level.

Smoke vents should 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, should not be less than 2.5% of the basement storey served. Where a basement is compartmented, each compartment should be ventilated separately. Generally, smoke vents from basements should be permanently open and unobstructed, but where they are readily accessible from the outside, consideration can be given to suitably indicated removable covers. Smoke vents should not be positioned where they would prevent the use of the means of escape from the building.

As an alternative to outlet vents as described above, a system of mechanical extraction may be provided, where the basement is also protected by an appropriate sprinkler system complying with BS 5306: Part 2: 1990. The ventilation system should meet the criteria set out in 3.5.2.5 and should operate automatically on activation of the sprinkler system.

Basement car parks are not normally expected to be fitted with sprinklers.

It would be my opinion that not having the basement car park sprinkler protected is in compliance with Section 5.4.3.1 of TGD B which would generally be accepted as prima facie compliance with Part B of the Second Schedule of the Building Regulations. In addition, I would be of the view that conditions such as this that are imposed by some BCA's lead to inconsistency in building design nationally which is something I believe is to be avoided.

Furthermore, it is worth noting that a new version of TGD B (2024) has recently been published by the Department of Housing, Local Government and Heritage and there is no mention of basement car parks requiring sprinklers.

10.0 Assessment (Condition 2)

10.1. De Novo assessment/appeal v conditions

Having considered the drawings, details and submissions on the file and having regard to the provisions of Article 40 of the Building Control Regulations 1997, as amended, I am satisfied that the determination by the Board of this application as if it had been made to it in the first instance would not be warranted. Accordingly, I consider that it would be appropriate to use the provisions of Article 40(2) of the Building Control Regulations, 1997, as amended.

10.2. Content of Assessment

It is a well-established fact that over the years the BCA have been accepting the provision of internal fire mains in lieu of high reach appliance access to buildings. I have put forward this argument on apartment projects previously and it has been accepted by the BCA without it being conditioned or appealed.

At the time this FSC application was made other guidance documents that were relevant would have included both Approved Document B (ADB) 2019 edition incorporating 2020 amendments and BS9991: 2015. Both of these documents are recognised in Ireland and have been used successfully to show compliance with Part B of the Second Schedule of the Building Regulations.

Section 15 of ADB has the following comments in relation to buildings fitted with fire mains:

Buildings not fitted with fire mains

- 15.1** For small buildings (up to 2000m², with a top occupied storey that is a maximum of 11m above ground level), vehicle access for a pump appliance should be provided to whichever is the less onerous of the following.
- 15% of the perimeter.
 - Within 45m of every point of the footprint of the building (see Diagram 15.1).
- 15.2** For all other buildings, provide vehicle access in accordance with Table 15.1.
- 15.3** Every elevation to which vehicle access is provided should have a door, a minimum of 750mm wide, to give access into the building. The maximum distance between doors, or between a door and the end of the elevation, is 60m (e.g. a 150m elevation would need a minimum of two doors).

Table 15.1 Fire and rescue service vehicle access to buildings not fitted with fire mains

Total floor area ⁽¹⁾ of building (m ²)	Height of floor of top storey above ground (m) ⁽²⁾	Provide vehicle access to:	Type of appliance
Up to 2000	Up to 11 Over 11	See paragraph 15.1 15% of perimeter	Pump High reach
2000–8000	Up to 11 Over 11	15% of perimeter 50% of perimeter	Pump High reach
8000–16,000	Up to 11 Over 11	50% of perimeter 50% of perimeter	Pump High reach
16,000–24,000	Up to 11 Over 11	75% of perimeter 75% of perimeter	Pump High reach
Over 24,000	Up to 11 Over 11	100% of perimeter 100% of perimeter	Pump High reach

NOTES:

- The sum of the area of all storeys in the building (excluding basements).
- For storage buildings (purpose group 7(a)), measure height to mean roof level (see Appendix D).

Buildings fitted with fire mains

- 15.4** For buildings fitted with dry fire mains, both of the following apply.
- Access should be provided for a pumping appliance to within 18m of each fire main inlet connection point. Inlets should be on the face of the building.
 - The fire main inlet connection point should be visible from the parking position of the appliance, and satisfy paragraph 16.10.
- 15.5** For buildings fitted with wet fire mains, access for a pumping appliance should comply with both of the following.
- Within 18m, and within sight of, an entrance giving access to the fire main.
 - Within sight of the inlet to replenish the suction tank for the fire main in an emergency.
- 15.6** Where fire mains are provided in buildings for which Sections 16 and 17 make no provision, vehicle access may be as described in paragraphs 15.4 and 15.5, rather than Table 15.1.

It is clear from this that when fitted with fire mains, perimeter access is not considered apart from pump appliance access to within 18m of a fire main inlet point.

50.1.2 Buildings not fitted with fire mains

Houses not fitted with fire mains should allow access for a fire appliance to within 45 m of all points within the house, measured on a route suitable for laying hose.

Blocks of flats not fitted with fire mains should have vehicle access for a fire appliance not more than 45 m from all points within each dwelling, measured on a route suitable for laying hose.

NOTE If the internal layout of partitions, fittings, etc. is not known when plans are deposited, direct distances may be used for assessment. The direct distance is taken as two thirds of the travel hose laying distance.

Where sprinklers in accordance with BS 9251:2014 or BS EN 12845 (see 11.2, Table 2) are fitted throughout a house or block of flats:

- a) the distance between the fire appliance and any point within the house (in houses having no floor more than 4.5 m above ground level) may be up to 90 m;
- b) the distance between the fire and rescue service pumping appliance and any point within the house or flat may be up to 75 m (in houses or flats having one floor more than 4.5 m above ground level).

50.1.3 Buildings fitted with fire mains

Fire mains enable fire-fighters within a building to connect their hoses to a water supply. In buildings fitted with fire mains, pumping appliances should have access to the perimeter at points near the mains, so that fire-fighters can enter the building to make a hose connection from the fire appliance to pump water into the main. Fire mains should be provided in accordance with 51.1.

Buildings fitted with dry fire mains should have access for a fire appliance to within 18 m of each fire main inlet connection point, typically on the face of the building close to the entrance point leading to the fire-fighting shaft, with the inlet visible from the fire appliance.

Multi-storey buildings fitted with wet fire mains should have fire appliance access:

- a) within 18 m of, and within sight of, a suitable entrance giving access to the wet fire main; and;
- b) within sight of the inlet for the emergency replenishment of the suction tank for the wet fire main.

The provision here is similar to ADB in that if a building is fitted with fire mains then all that's required is for a fire appliance to get within 18m of the inlet connection point.

More recently TGD B has been updated to TGD B 2024 which in my opinion clarifies this issue. Section 5.4.1 leads the reader to Section 5.4.3 which clearly states that where dry internal fire mains are provided access for pump appliance should be provided to within 18m and in sight of the inlet connection, see extracts below.

5.4 Vehicle Access

5.4.1 Introduction

Fire brigade vehicle access to the exterior of a building is required to enable firefighting operations.

In any particular case the type of vehicle access is dependent on whether or not the building is provided with internal means of firefighting, e.g. a firefighting shaft or an enhanced stairway with fire main.

For buildings not fitted with an internal fire main, vehicular access should be provided in accordance with the provisions of [Para 5.4.2](#).

For buildings fitted with an internal fire main (see [Para 5.3.2](#)), vehicular access should be provided in accordance with the provisions of [Para 5.4.3](#).

Vehicle access routes and hardstandings should meet the criteria described in [Para 5.4.4](#).

5.4.3 Buildings Fitted with Fire Mains

In the case of a building fitted with a dry internal fire main (see [Para 5.3.2](#)), access for a pump appliance should be provided to within 18 m, and within sight of the inlet connection point. Inlets should be on the face of the building, and should be located in accordance with I.S. 391. A hydrant should also be within 30 m of the access point for the pumping appliance.

In the case of a building fitted with a wet internal fire main, access for a pump appliance should be provided to within 18 m, and within sight of an entrance giving access to the main, and within sight of the inlet connection to the suction tank for the main.

For the reasons identified above it would in my opinion that the provision of dry internal fire mains in lieu of high reach access is acceptable.

11.0 Recommendations

On the basis of my assessment, I recommend that An Bord Pleanála grant the appeal and instruct the BCA to remove Conditions 1 and 17 from the Fire Safety Certificate for the reasons and considerations set out below.

12.0 Reasons and Considerations

Having regard to the original FSC application and appeal made, I am of the opinion that the appellant has demonstrated that there is no requirement for either Condition 1 or 17. Therefore, these conditions as originally attached by the BCA to the Fire Safety Certificate are not necessary to meet the guidance set out in TGD B or accordingly to demonstrate compliance with Part B of the Second Schedule to the Building Regulations 1997, as amended and should be removed.

13.0 Conditions

N/A - on this occasion both Condition 1 and Condition 17 should just be removed.

14.0 Sign off

I confirm that this report represents my professional assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Bryan Dunne

MSc, BSc, Dip (Eng), CEng, MIEI, Eur Ing

5th September 2025