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Preliminary Fire Safety Strategy

For

**Construction of 2 no. 3 – 5 storey Residential Blocks and 6 no. 3-bed
2-storey terraced houses known as Cloverhill Court**

At

Bessboro Road, Mahon, Cork

CLIENT : Cork City Council
PROJECT TITLE : Cloverhill Court
REPORT NUMBER : 20238 FSS2 R01 Issue 01

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1.0 INTRODUCTION

1.1 SCOPE OF REPORT

This Report is submitted in support of a planning application for the proposed construction of 2 no. 3 – 5 storey buildings and 6 no. 3-bed 2-storey terraced houses known as Cloverhill Court.

The Fire Safety is being submitted with the planning application to demonstrate that the proposed design is in substantial compliance with Part B (Fire Safety) of the Building Regulations and that it will be possible in due course to obtain a Fire Safety without giving rise to changes that would require planning permission.

1.2 OUTLINE DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development consists of construction of 28 no. 1-bed & 56 no. 2-bed apartments in two blocks ranging from 3 to 5 storeys, and 6 no. 3-bed 2-storey terraced houses provided to secure the site boundary with existing housing at Clover Lawn estate. It is intended that the construction of the scheme will be modular (3D volumetric or 2D panelised system). In addition to the structures, the development will consist of road infrastructure and car parking spaces, relocation of ESB substation within site and all other associated site development, drainage, and landscaping works.

1.3 BASIS OF COMPLIANCE

Purpose Group	Design Guidance (Fire Safety / Access & Use)
PG 1 (c) Flats and Maisonettes	Technical Guidance Document B 2006 + A1: 2020 and BS 5588: Part 1: 1990 Code of Practice for Residential Buildings

2.0 FIRE SAFETY STRATEGY

2.1 MEANS OF ESCAPE IN CASE OF FIRE

2.1.1 Internal Layout of Apartments:

The individual apartment units shall be sprinkler protected with all habitable rooms accessed via an entrance hall. The exit door from each apartment leads to a protected common lobby/corridor which leads to the common escape stairway for the upper floor apartment units that leads direct to open air.

2.1.2 Protection of Common Escape Stairway and Common Lobbies:

The upper floor apartments within the 2 no. blocks shall be served by a single escape stairway. The escape stairways shall be treated as protected shafts achieving 60 minutes fire resistance with FD30s doorsets. The stairways shall be provided with a 1m² automatically opening smoke vent located at the head of the escape stairways. It shall be arranged to open on activation of the smoke detection within the stair, it will also have a manually opening mechanism.

The stairways shall be separated from the apartment entrance doors by way of ventilated lobbies protected by 60 minutes fire resistance and FD30s doorsets. The lobby shall be ventilated via 1.5m² natural automatically opening window that shall be a full tested system to BS EN 12101-2.

The maximum dead-end travel distance from within a common lobby to the escape stairway shall not exceed 15m. This is measured from the most remote apartment entrance door to the door entering the ventilated lift lobby. 15m is deemed sufficient as the internal apartment units shall be sprinkler protected in accordance with Clause 1.7.1 of TGD-B: 2006 + A1: 2020.

2.1.3 Active Fire Protection Systems:

The 2 no. apartment blocks will be provided with a fire detection and alarm system designed, installed and commissioned in accordance with IS 3218: 2013 + A1: 2019 and shall achieve a coverage of L3X automatic detection throughout the building.

Each individual apartment unit shall be provided with standalone LD2 category systems.

The proposed sprinkler system shall be designed to BS 9251: 2021 and Section 1.8 of TGD-B: 2006 + A1: 2020.

The apartment blocks will be provided with an emergency lighting system that shall provide coverage to all common lobbies and escape stairs and the areas outside the final exits. The system shall be designed to comply with IS 3217: 2013 + A1: 2017.

Maintained illuminated exit signs will be provided at all common storey and final exits serving the building. The exit signage shall comply with BS 5499-1: 2002.

2.2 INTERNAL FIRE SPREAD (STRUCTURE)

The floor construction of the upper floors have been designed to achieve minimum 60 minutes fire resistance (stability, integrity and insulation) as applicable noting that any load bearing walls or elements to achieve the same including the following:

- Structural frame of the building
- Each floor
- Walls fire separating apartments from each other
- Enclosure to escape stairs
- Lift shaft

All separating walls to the development will achieve a minimum 60 minutes fire resistance (stability, integrity and insulation) on each side separately.

Cavity barriers achieving at least 30 minutes fire integrity and 15 minutes insulation ratings shall be provided in accordance with TGD-B: 2006 + A1: 2020 whereby they will be located at:

- An internal fire barrier meets the external façade
- At compartment junctions including horizontally at all floors
- At lengths of undivided cavities that exceed
- At the top of any cavity

2.3 EXTERNAL FIRE SPREAD

The external walls and roof of the blocks will be so designed including the locations and areas of any windows and doors on the external elevations and constructed that they afford adequate resistance to the spread of fire to and from neighbouring boundaries as per the external fire spread requirements of BRE 187.

The roof coverings will be selected to achieve a minimum Class AA, AB or AC designation and with reference to Table 4.4 of TGD-B: 2006 + A1: 2020, such roof coverings can be used without restriction.

Rooflights that do not achieve the minimum Class AA, AB or AC designation shall be limited in extent as set out in Table 4.5 (and Diagram 29 where applicable) of TGD-B: 2006 + A1: 2020.

2.4 ACCESS & FACILITIES FOR THE FIRE SERVICE

The external site access routes serving the development have been designed such that there will be adequate provision for Fire Brigade appliance access.

Fire Brigade access is provided to the North and East elevations of the Block. The block has a top floor height of circa 12.6m, therefore the fire tender access will be sufficient to allow for a high reach tender and will meet the requirements of Table 5.2 of TGD-B:2006 + A1: 2020.

The location and number of external fire hydrants shall be provided in accordance with TGD-B: 2006 + A1: 2020.