

PROPORTIONATE AND PRACTICABLE CDM

DIOHAS



Tall Building Fire Safety

Monday 4th March 2024

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Agenda

1. Green Fire Safety

2. Two Stair Debate

Tall Building Fire Safety Management

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**Cost for course = £2195 + vat
(*Malta, price to be confirmed)**





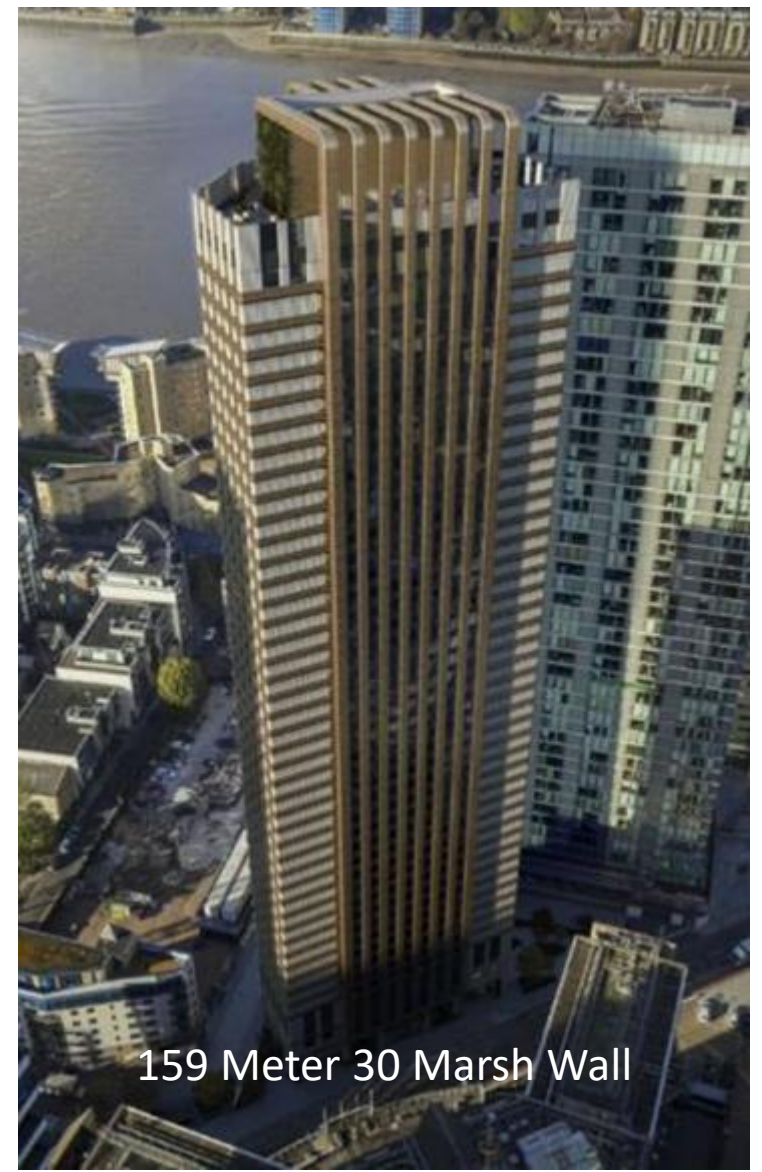


'GREENING' OF BUILDINGS





87 Meter Ascent Tower



159 Meter 30 Marsh Wall





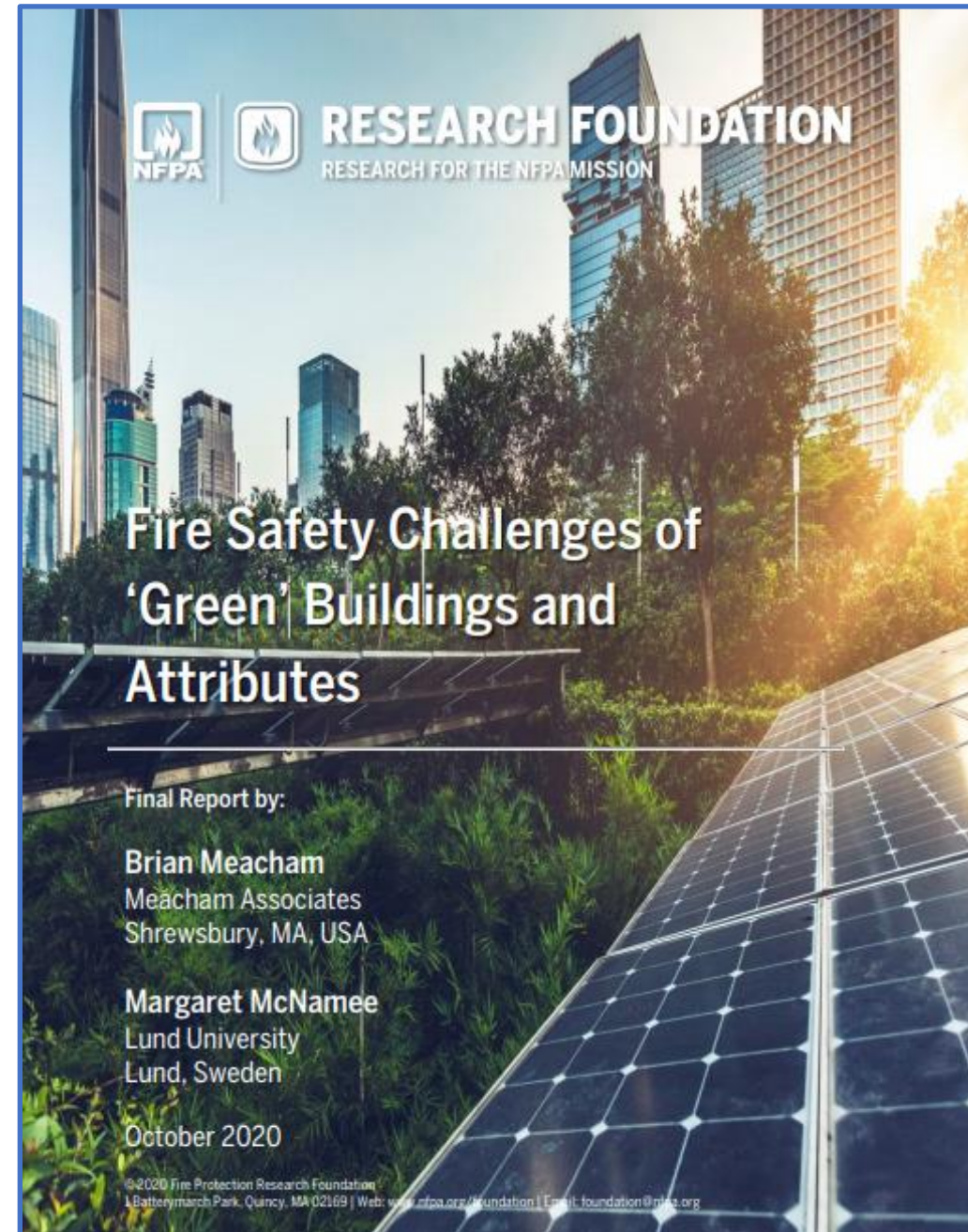




Reference:

The concept of
Sustainable And Fire
Resilient (SAFR)
structures

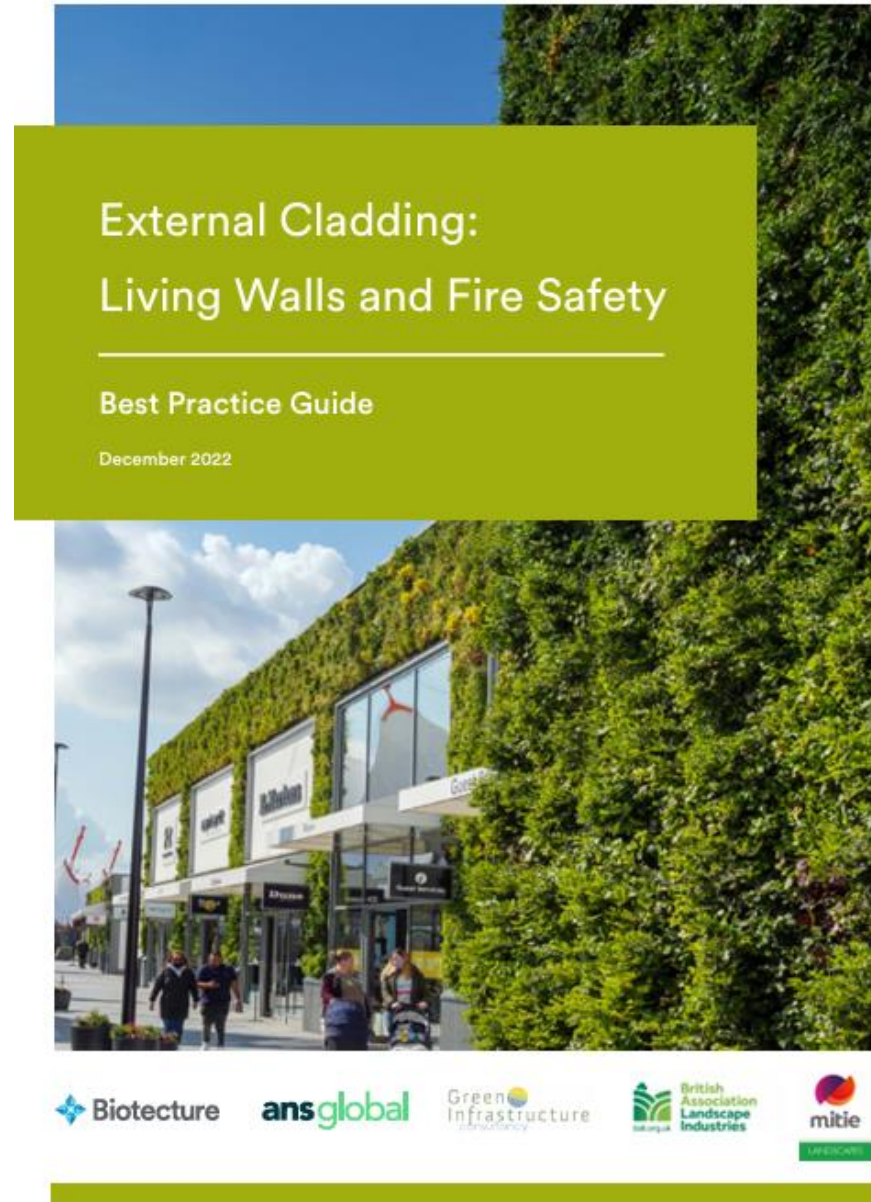
More testing
Required!



Recent Publication:

External Cladding: Living Walls and Fire Safety

'The fire guidance for living walls in UK, Fire Performance of Green Roofs and walls, is outdated, inappropriate and confusing'.



2 STAIR DEBATE



Design Assumptions for Fire Escape

1. The building is designed, constructed and commissioned correctly.
2. Occupants can escape if they choose to do so.
3. The building is well managed, and all systems are working correctly in line with the fire strategy.
4. Any fires that do occur conform to foreseeable 'common' scenarios and heat release rates.
5. Arson, terrorism and deliberate fire raising are not considered.
6. The building is occupied and used as designed in the fire strategy, i.e. capacity.
7. There will be a fire service response within agreed timeframes, with adequate resources.

Case for 2 Stairs – Vulnerable Occupants

1. Vulnerable Occupants who may struggle to escape
 - 1.1 Persons under the age of 18
 - 1.2 Elderly persons whose mobility may be reduced due to age
 - 1.3 Persons with a permanent, or temporary, physical or sensory impairment which, in interaction with the building features may hinder their full and effective evacuation
 - 1.4 Persons who have difficulty with social interaction and communication, or responding to fire alarms, evacuation alerts and/or first responders' instructions.
 - 1.5 Persons misusing alcohol, drugs or prescription medicines.
 - 1.6 Persons with mental health problems, learning disabilities or suicidal intent.



Case for 2 Stairs – Ignoring Stay Put

LFB Incident Database Date	Location	Nos of residents self-evacuated prior to arrival of FRS
12/04/2022	Aldgate	30
28/03/2022	Croydon	30
23/03/2022	Shepherd's Bush	26
07/03/2022	Whitechapel	70
06/03/2022	Farnborough	15
13/02/2022	Enfield	15
07/02/2022	Camden	11
04/02/2022	St John's Wood	10
31/01/2022	Purley	100
26/01/2022	Stratford	100
24/01/2022	Dagenham	100
21/01/2022	Roehampton	10
27/12/2021	Hounslow	50
29/11/2021	Sutton	18
20/11/2021	Battersea	10
28/10/2021	Vauxhall	120
26/10/2021	Isleworth	12
18/10/2021	Stratford	40
12/10/2021	Battersea	50
29/09/2021	Erith	40
23/09/2021	Limehouse	50
18/09/2021	Shoreditch	20
24/08/2021	Enfield	50
19/08/2021	Walthamstow	31
02/08/2021	Catford	50
02/08/2021	Tottenham	10
15/07/2021	Colindale	Everyone out
15/07/2021	Elephant & Castle	200
13/06/2021	New Barnet	10
24/05/2021	New Southgate	25
07/05/2021	Poplar	67
29/04/2021	Knightsbridge	10
26/04/2021	Thornton Heath	20
18/04/2021	Islington	50

Social Media Induced Simultaneous Evacuation

Case for 2 Stairs – Degraded Building Systems

1. *‘When we attend a High-Rise Fire, we expect 100% non-availability of building systems’*

1.1 Firefighting Lift

1.2 Smoke Control

1.3 Wet/Dry Riser – Water flow and pressure

1.4 Fire Doors

1.5 Signage and location marking

1.6 Access – bollards, skips, cars, etc.



SunFlower Seed Demonstration using a Fog Nozzle (Simulates tuberculated pipe)



Standpipe System debris from tuberculated pipe is expected.

Case for 2 Stairs – Hoarding

1. *Why Hoarding in High Rise is bad*
 - 1.1 Increases likelihood and severity of fire
 - 1.2 Hinders escape of resident in event of fire
 - 1.3 Hinders access/egress of firefighters in event of fire
 - 1.4 Risk to neighbouring properties
 - 1.5 High fuel loading/ extended burning duration
 - 1.6 Water absorption/structural damage

What is hoarding disorder?







Case for 2 Stairs – Cramming

1. *Over population of buildings*

CRAMMING



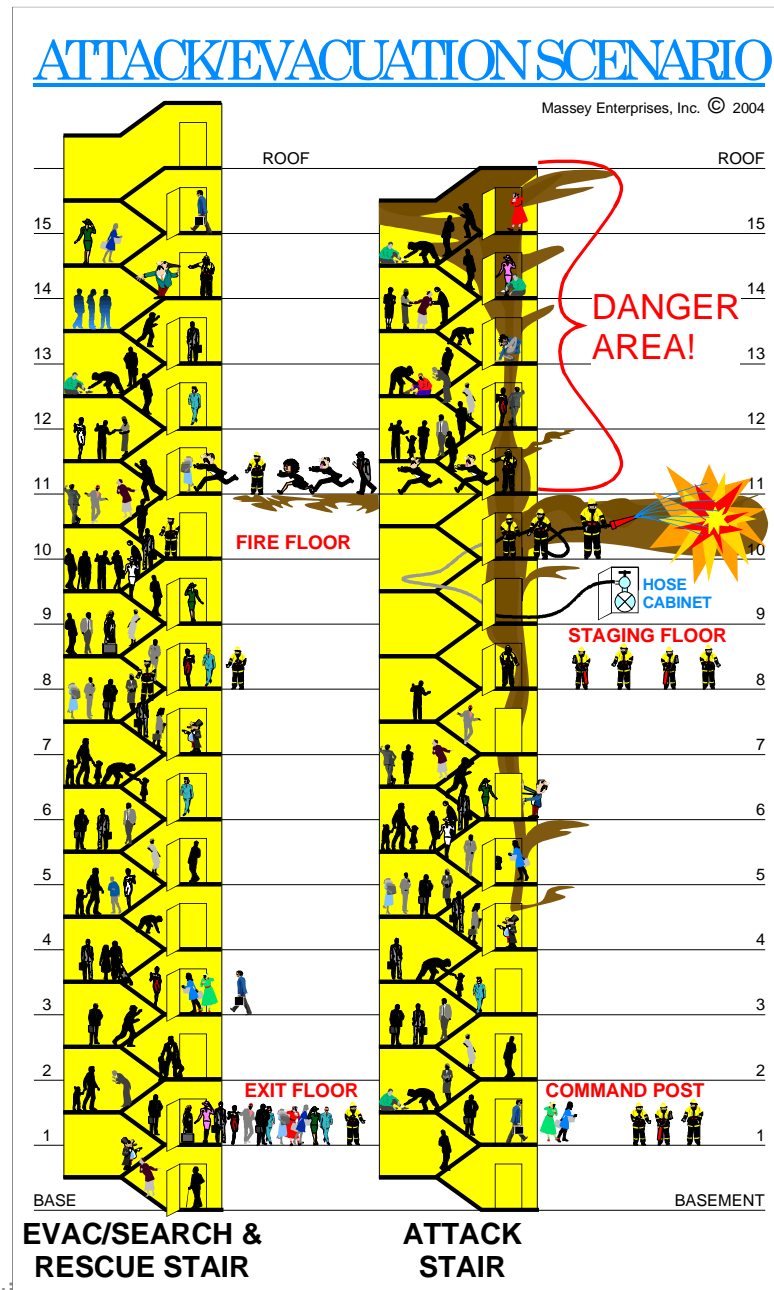
Case for 2 Stairs – Hazard Zone

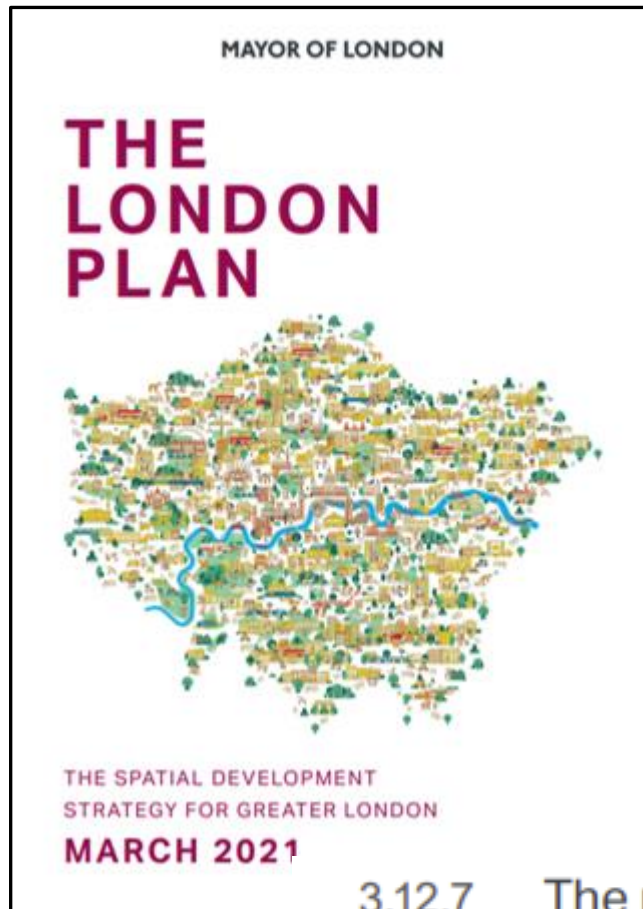


Figure 2. Hazard zone formed by falling facade debris.



Case for 2 Stairs – High Rise Firefighting





Policy D12 Fire safety

- A In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:
- 1) identify suitably positioned unobstructed outside space:
 - a) for fire appliances to be positioned on
 - b) appropriate for use as an evacuation assembly point
 - 2) are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures
 - 3) are constructed in an appropriate way to minimise the risk of fire spread
 - 4) provide suitable and convenient means of escape, and associated evacuation strategy for all building users
 - 5) develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in

3.12.7

The provision of **stair cores** which are suitably sized, provided in sufficient numbers and designed with appropriate features to allow simultaneous evacuation should also be explored at an early stage and provided wherever possible.



Home Office

Evacuation Guidelines for Fire and Rescue Services during Fire Emergencies

February 2024



NFCC
National Fire
Chiefs Council

The professional voice of the UK Fire & Rescue Service

Provision of multiple routes for evacuation of residential buildings – NFCC Opinion Paper

Version 1.0
Issued on: 30/01/2024



Department for Levelling Up,
Housing & Communities

Department for Levelling Up, Housing and
Communities
2 Marsham Street
London
SW1P 4DF

Our reference: TO2024/05242

Mr Russ Timpson
Email: russ.timpson@tallbuildingfiresafety.com

27 February 2024

Dear Mr Timpson,

Two Stair Debate in Higher Risk Buildings

Thank you for your email of 10 January 2024 to Lord Gascoigne, which included the article supporting the need for a second staircase in tall buildings.

I thought it would be helpful to set out the government's action in this area. In December 2022 we published a consultation which sought views on the inclusion of a second staircase in tall buildings. In July 2023, the DLUHC Secretary of State confirmed his intent that the threshold height beyond which second staircases would be called for was 18m. Proposed transitional arrangements were then published in the Building Safety Update Written Statement of 24 October 2023 (Annex A). These arrangements minimise the impact on housing supply by giving generous, but not excessive, periods for existing projects to progress as planned – if they choose to.

Projects will have 30 months from the point of statutory guidance being updated to submit building regulations applications which conform to either the previous guidance or the updated guidance. After that point, all applications will need to conform to the new guidance; then 18 months from the point that application is submitted to "progress work" on site.

The arrangements have been designed following engagement with the construction industry, local authorities, fire safety services and the financing and insurance industry. We believe the times given for these transitional arrangements will secure the viability of projects which are already underway whilst evolving our fire safety standards as quickly as a practicable for such a significant change to the way in which our tall buildings are constructed.

We recognise that detailed second staircase design guidance is needed for the sector to fully understand the implications for design and viability. We will publish this as soon as possible. Officials will continue to provide updates on the guidance and transitional arrangements where available.

I think it is important that the introduction of second staircases is seen in context with the other significant enhancements in fire safety that this government has introduced. We have banned the use of combustible materials in and on external walls, increased provisions for sprinklers in residential buildings, provided additional signage in new buildings to assist firefighters, and made provision for secure information boxes.

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- Russ Timpson

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We deliver Tall Building Fire Safety Management Training.