

Lakanal House, 3rd July 2009

FIRES OF SPECIAL INTEREST

FIRST DRAFT (All information subject to confirmation)

FSIS Ref. No: 14/08-09

Date of fire: 3rd July 2009

Address of fire: Lakanal House, Sceaux Gardens, Camberwell, London, SE5 7DN

BRE Fire and Security Investigators: Martin Shipp, David Crowder and Richard Chitty

Report Completed: 7th July 2009

How BRE Fire and Security found out about the fire: News reports

Fire Service Contact: Peter Mansi, Borough Commander, Fire Investigation Group Manager, London Fire Brigade (LFB)

Type of building:

- High-rise maisonettes
- 14 accommodation storeys + undercroft + possible top floor plant (where is the boiler room?) (i.e. 7 levels of maisonettes)
- 12 maisonettes per "level", total 84 maisonettes
- Block walls
- Concrete floor slabs
- Unusual layout – see schematic plans, Figures 2, 3 and 4
- Single stair in middle of building (concrete), with two 30m corridors, one on each side, serving the length of the building.
 - Suspended ceiling (appears to be oriented strand board with polymeric laminate) above corridor concealing services. (See Fig. 7)
 - Maisonette timber staircases cut into the floor slab above the main corridor, protected using what appears to be mineral fibre board, although this was poorly fitted (figure 6 & 7)
 - Vinyl tiles on floor of corridor
- Ventilation grilles at ends of corridors and in lobbies. Lobby ventilation grilles span 2 floors such that smoke movement from one floor to the next is possible (see plans and figure 9).
- Lobby doors modified with open grille (a new opening in the fire door, or in place of wired glass?). (see Fig. 5)

Location and cause of fire:

- 9th floor bedroom 1
- Cause under investigation by LFB (no option currently eliminated)

Injuries:

- 6 fatalities
- Unconfirmed number of injuries

The fire:

- Fire in bedroom 1 discovered by flat occupant following actuation of smoke alarm in their flat
- Occupant (briefly) attempted to fight fire but unsuccessful.
- Building occupants alerted each other to fire vocally.
- Fire spread through:
 - Interior of maisonettes (initially)
 - Flame spread up window façade (initially)
 - Burning droplets down window façade (source of droplets under consideration)
- Fire pulled through corridor by prevailing wind passing through vents, believed to have caused flaming throughout height of corridor, evidenced by charring to flat doors (figure 8).

Potential Implications for Building Regulations:

Means of escape – Yes

Compartmentation – Yes

Cavity Barriers – Yes

External Fire Spread – Yes. Fire initially spread up externally from flat of origin. Fire spread down due to burning material falling – possibly lodged in anti-pigeon wires. Also wind may have been significant in blowing fire through corridor (see Fig 8)

Communications – Yes

Guidance to occupants - Yes

Fire Service Considerations – Yes; LFB report that vehicles blocked access for hydraulic platforms



Figure 1 – West face of Lakanal House. Arrow indicates room of origin on 9th floor. Fire spread to floors below believed by LFB to be caused by drop down of flaming material from window frames.

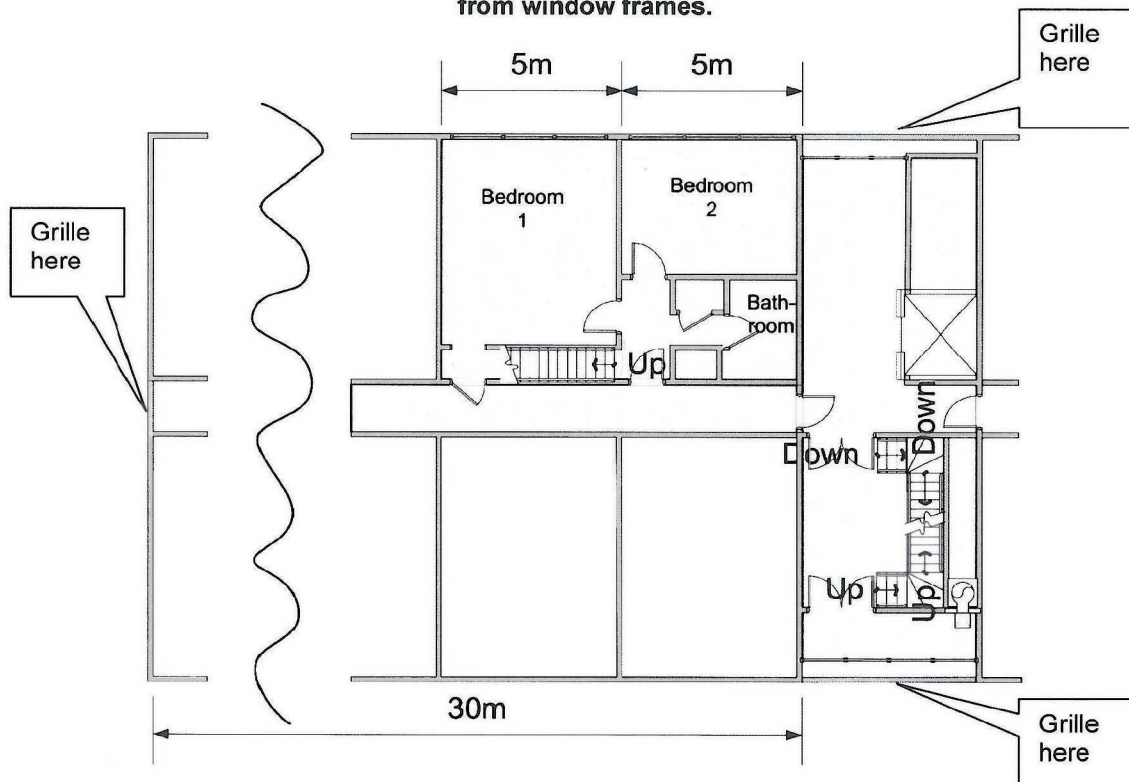


Figure 2 – Plan of odd numbered floor layout (lower floor of maisonettes). Flat volume highlighted in green, communal space highlighted red.

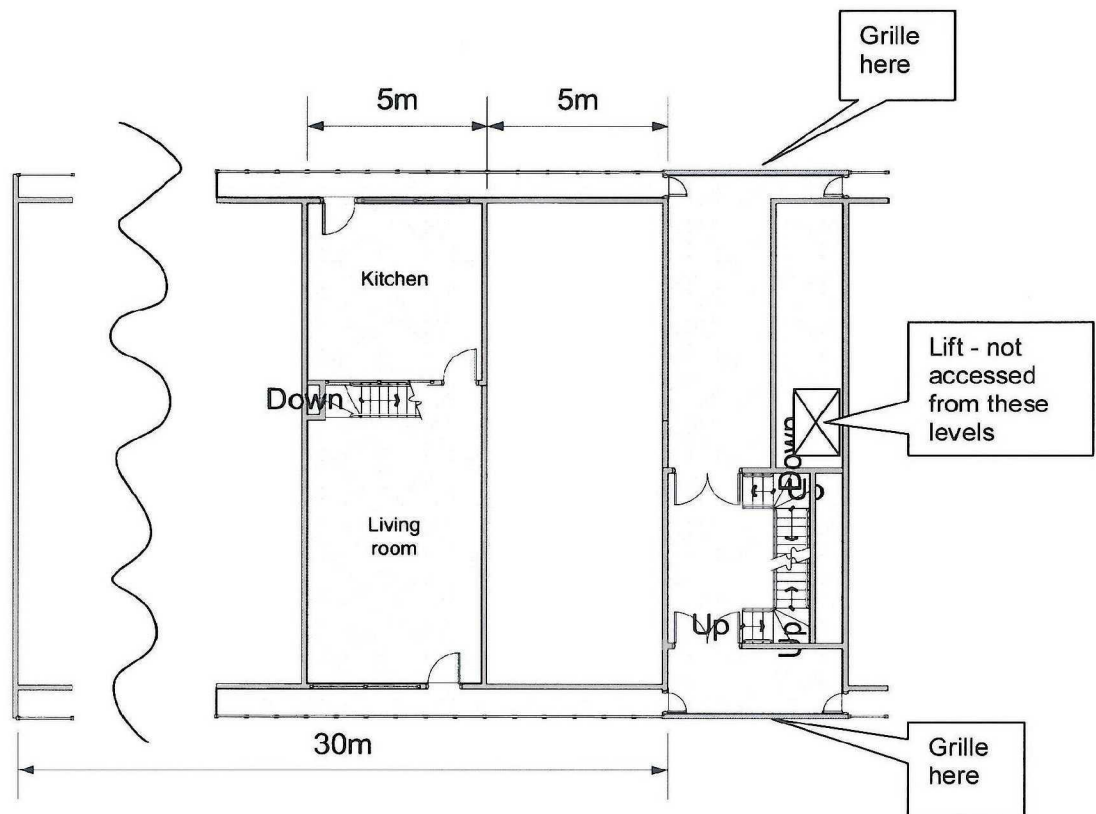


Figure 3 – Plan of even numbered floor layout (upper floor of maisonettes). Flat volume highlighted in green, communal space highlighted red.

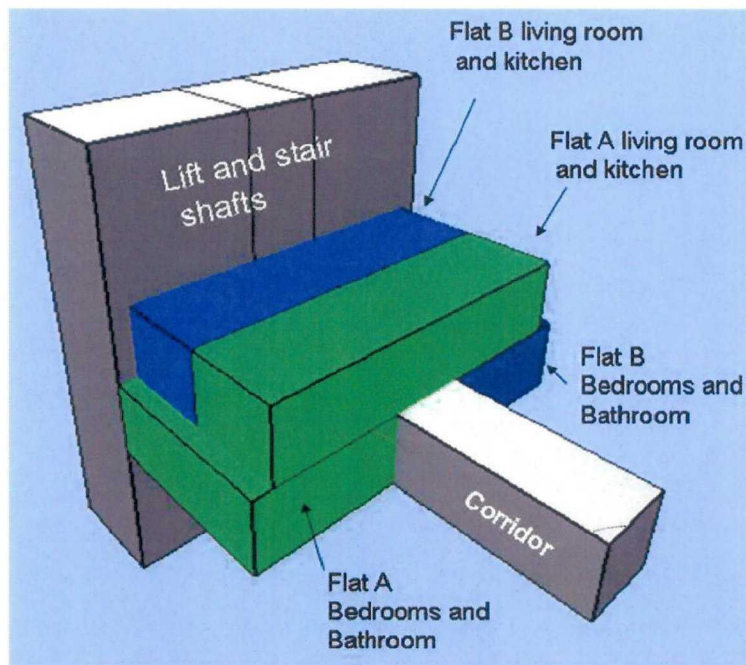


Figure 4 – Diagram showing interlocking of flats and corridor.



Figure 5 – Lobby doors with open grille.



Figure 6 – Mineral board covering staircase cut into corridor ceiling slab.



Figure 7 – Hole left by covering falling away and burnt staircase.



Figure 8 – Heavy charring to flat. Note even depth of char throughout height of door.



Figure 9 – Lobby ventilation grilles and gap allowing air and smoke movement between floors.