

EXIT ROUTE CAPACITY REPORT

Foodfest 2019
Lullingstone Castle
Grounds



MD Fire Safety Ltd
Promoting safer business

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1. Introduction and scope

- 1.1 MD Fire Safety Ltd have been requested to assess the exit route capacity of the enclosed castle grounds in preparation for a food festival to be held within the grounds.
- 1.2 The report only relates to the exit route capacity from the open air grounds and does not constitute a fire risk assessment and should be used by event organisers and other interested parties for guidance only.
- 1.3 The event as a whole will require effective event safety management to ensure that there is suitable and sufficient means of escape for relevant persons at all material times.

2. Event Information

- 2.1 The event planned is a food festival to be held within the enclosed castle grounds and ticketed capacity has been set at 2000 persons. The event is planned for two days, finishing on each day by 2100hrs.
- 2.2 Specialist food concessions and associated small tents and small marquees will be located around the grounds.

3. Relevant guidance documents

- 3.1 The exit route capacity has been calculated in accordance with the guidance contained within *Fire Safety Risk Assessment Open Air Events and Venues* issued by DCLG.

4. Exit route capacity assessment

- 4.2 The castle grounds are extensive and enclosed by boundary walls, hedges and a lake. For the purpose of the event, three exit routes have been identified by the event organisers.



- 4.3 Exit route 1 is via the main gatehouse and is a roadway and has an effective width of 3.18m.
Exit route 2 is via a roadway to the front of the castle grounds and has an effective width of 2.95m
Exit route 3 is a pathway to the main car park and has an effective width of 1.2m.

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| Risk level | Small food concessions/ low risk of fire spread / persons can move away easily in the open air Castle and gatehouse are occupied buildings and therefore risk should be considered as Normal | Risk level = Normal |
| Escape time | Open air escape times Higher < 5 mins Normal >5<10 minutes Lower <10 minutes | Applicable escape time = 8 min |
| Exit flow rate | Flat open air escape routes | Flow rate = 109 persons / metre width / minute |
| Occupancy | 2000 people + 100 exhibitors / event staff | 2,100 |
| Exit width required for occupancy | $2,100 / 109 / 8 = 2.4\text{m}$ | Exit width required = 2.4m |
| Exit width available | Exit 1 = 3.18m Exit 2 = 2.95m Exit 3 = 1.2m | Available exit width = 7.3m |
| Number of exits required and effective exit capacity | 3 exit routes available in open air and have suitable angles of divergence, however as gatehouse is occupied calculations should allow for discounting this exit route as worst case scenario. | Exit 2 & 3 = 4.15m $4.15 \times 109 \times 8 = 3618$ persons |

5. Conclusion

5.1 The occupancy limit of the event is 2000 persons and allowing for staff and exhibitors the total occupancy will be no more than 2100 persons within the enclosed event area.

Three separate exit routes are available from the event area and are suitably separated from each other. As the two of the exits are adjacent to occupied buildings discounting of an exit has been applied.

The level of fire risk of the event is assessed as Normal and therefore an evacuation time of 8 minutes is applied.

The required exit width for the occupancy is 2.4m

The available exit width after discounting exit 1 (largest) is 4.15m

It can be concluded that there is sufficient exit capacity for the stated occupancy from the event area to a place of ultimate safety.

