



**MACON-BIBB COUNTY**  
**Department of**  
**Business Development Services**

200 Cherry Street, Suite 202  
Macon, GA 31201

INTERPRETATION #

MBC-0001

EFFECTIVE DATE:

May 1, 2020

REVISION DATE:

PAGE #

1 of 4

AUTHOR:

Don Wilkins, CBO, CFM, MCP

REVISION #:

**CODE INTERPRETATION: Simultaneous / Non-simultaneous Use Areas  
When Calculating the Design Occupant Load**

**1. SCOPE / PURPOSE**

- 1.1. The purpose of this interpretation is to establish a consistent method for calculating the design occupant load for the Means of Egress System within new construction, areas within existing buildings / structures being altered or within areas of existing buildings / structures undergoing a change of occupancy.
- 1.2. The prescriptive requirements for life safety when distilled down to their essence results in the need to safely evacuate the occupants of a building. In order to achieve this task it is vital to correctly size the means of egress system based on the design or calculated occupant load. Once the occupant load is established the other components within the means of egress system can be correctly sized to safely exit the occupants.
- 1.3. The process for determining the design occupant load is based on the anticipated occupant density of the various areas under consideration. This is achieved through the application of the prescribed occupant load factors that calculate the occupant density based on the use of the area under review.
- 1.4. The means of egress system must be designed to accommodate the worst-case scenario, based on a reasonable assumption of the building's use.

**2. ADOPTED CODE / DEFINITIONS**

**2.1. Adopted Codes:**

**2.1.1 2018 Life Safety Code Section 7.3.1.1.1** The total capacity of the means of egress for any story, balcony, tier, or other occupied space shall be sufficient for the occupant load thereof unless one of the following conditions exists:

- (1) The authority having jurisdiction shall be permitted to establish the occupant load as the number of persons for which existing means of egress is adequate, provided that measures are established to prevent occupancy by a greater number of persons.
- (2) The egress capacity shall have been previously approved as being adequate.



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2 of 4

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**2.1.2 2018 Life Safety Code Section 7.3.1.2 Occupant Load Factor.** The occupant load in any building or portion thereof shall be not less than the number of persons determined by dividing the floor area assigned to that use by the occupant load factor for that use as specified in Table 7.3.1.2, Figure 7.3.1.2(a), and Figure 7.3.1.2(b). Where both gross and net area figures are given for the same occupancy, calculations shall be made by applying the gross area figure to the gross area of the portion of the building devoted to the use for which the gross area figure is specified and by applying the net area figure to the net area of the portion of the building devoted to the use for which the net area figure is specified.

**2.1.3 2018 Life Safety Code Section 3.3.21.6 Normally Unoccupied Building Service Equipment Support Area.** A building service equipment support area in which people are not expected to be present on a regular basis.

**2.1.4 2018 Life Safety Code Section 3.3.21.7 Occupiable Area.** An area of a facility occupied by people on a regular basis.

**2.1.5 2018 Life Safety Code Section 3.3.162.2 Occupant Load.** The total number of persons that might occupy a building or portion thereof at any one time.

**2.1.6 2018 Life Safety Code Section 3.3.178 Means of Egress.** A continuous and unobstructed way of travel from any point in a building or structure to a public way consisting of three separate and distinct parts: (1) the exit access, (2) the exit, and (3) the exit discharge.

### **3. BACKGROUND**

- 3.1.** Per the Georgia State Amendments to the 2018 International Building Code, the 2018 Life Safety Code is the primary adopted code regulating the Means of Egress System. The 2018 International Building Code or the 2018 International Fire Code may not be used as a supplemental adopted code for this purpose.
- 3.2.** The design occupant load is prescriptively calculated using the methodology outlined within 2018 Life Safety Code Section 7.3.1.2. This section applies an occupant load factor, which is the minimum area or density assigned to an individual occupant based on how he or she is using the area in question.



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3 of 4

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- 3.3.** A worst case scenario for calculating the design occupant load of a building assumes that every space or area is being simultaneously occupied. Although this may be the most conservative methodology, it is also not the most realistic application of the model code for determining how a building is used by the occupants.
- 3.4.** This interpretation seeks to strike a balance between the extreme of assuming that every space or area is being occupied versus some liberal interpretations by registered design professionals that seek to minimize the occupant load in order to remove prescriptive requirements based on the design occupant load of a building.

#### **4. INTREPRETATION / CLARIFICATION**

- 4.1.** The 2018 Life Safety Code within Section 3.3.21.6 introduces the definition of a “Normally Unoccupied Building Service Equipment Support Area”, which is defined as: A building service equipment support area in which people are not expected to be present on a regular basis. (See Section 2.1.3, above)
- 4.2.** Understanding that not every area of the building is required to be simultaneously occupied. The reasonable approach to calculating the design occupant load must be centered around those spaces defined as Occupiable Areas (See Section 2.1.4, above).
- 4.3.** Taking a reasonable approach based on the prescriptive requirements of Chapter 7 of the 2018 Life Safety Code, which is meant to ensure a safe means of egress system. It is assume that some areas of the building will be occupied by the same occupant, but at different times. Under this process it is assumed that not all areas, based on the function of the space will be simultaneously occupied. Utilizing this approach, the following areas will be treated as being non-simultaneously occupied and may be omitted from the occupant load calculation process:
- 4.3.1** Dedicated electrical rooms;
  - 4.3.2** Dedicated mechanical rooms;
  - 4.3.3** Walk-in refrigeration / freezer units that are accessed solely by employees;
  - 4.3.4** Public and Private Restrooms;
  - 4.3.5** Janitorial Storage Closets, without an office function;



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4 of 4

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**4.3.6** Exit passageways.

**4.3.7** Corridors or hallways, without queuing areas.

**4.3.8** Defined egress aisles, without queuing areas. These are for egress aisles that are defined by fixed or moveable wall partitions.

**4.3.9** Interior exit stairways.

**4.3.10** Interior exit ramps.

## **5. SUMMATION**

- 5.1** The 2018 Life Safety Code prescriptively accepts the concept that some portions of the means of egress are not required to be counted within the design occupant load. Under this methodology it is acceptable to assume that an occupant counted within an office need not be counted a second time within the restroom or hallway.
- 5.2** When determining the design occupant load of a building or structure the process outlined within 2018 Life Safety Code Section 7.3.1.2 shall be utilized. The areas identified within Section 4.3 may be omitted from the calculation process, BUT must be shown on the Life Safety / Egress plan.