

# Risk Engineering Energy Forum

## Egress Awareness Safety Moment

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# The Importance Egress

## Station Night Club Fire

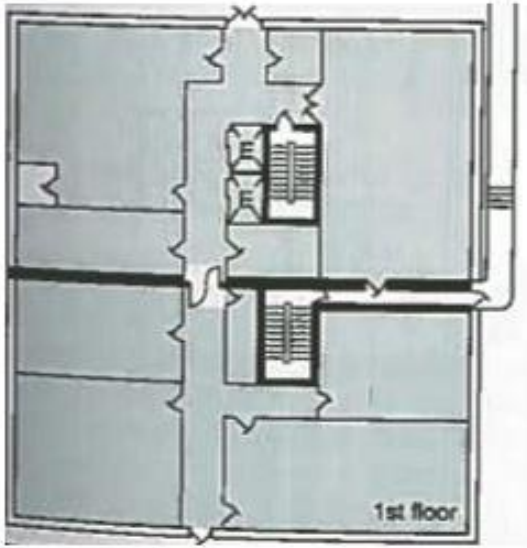


# Means of Egress

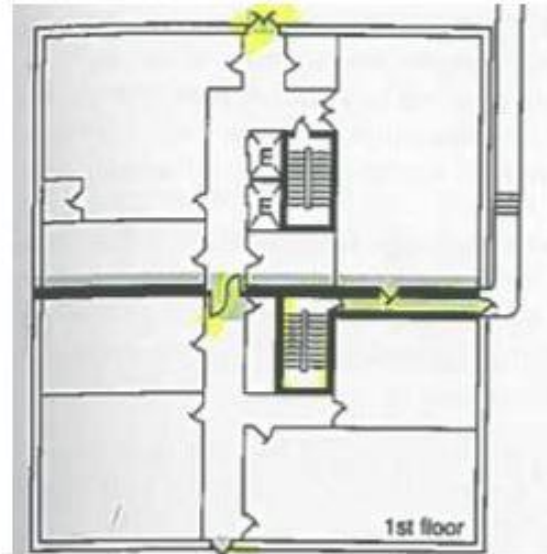
As defined by the International Building Code (IBC), the *Means of Egress* is made up of three separate and distinct components:

- **Exit Access:** *That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.*
  - The path occupants will transverse on their way to an exit. It often includes rooms/ spaces people occupy, corridors, aisles, etc.
- **Exit:** *That portion of a means of egress system between the exit access and the exit discharge or public way.*
  - Exterior doors, exit passageways, horizontal exits, rated stairways, etc.
- **Exit Discharge:** *That portion of a means of egress system between the termination of an exit and a public way.*

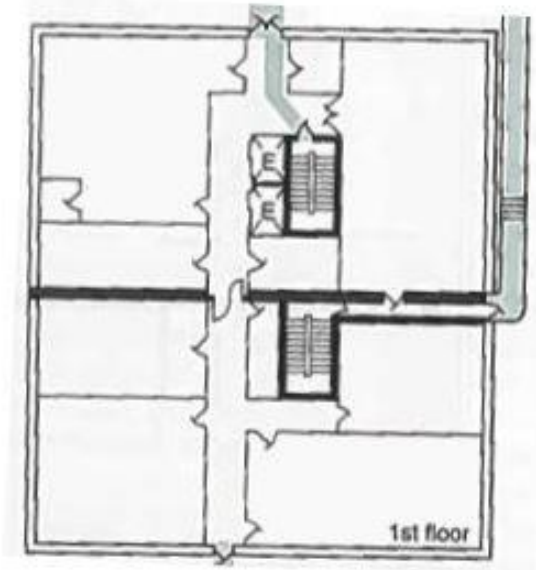
# Means of Egress Examples



Exit Access



Exit



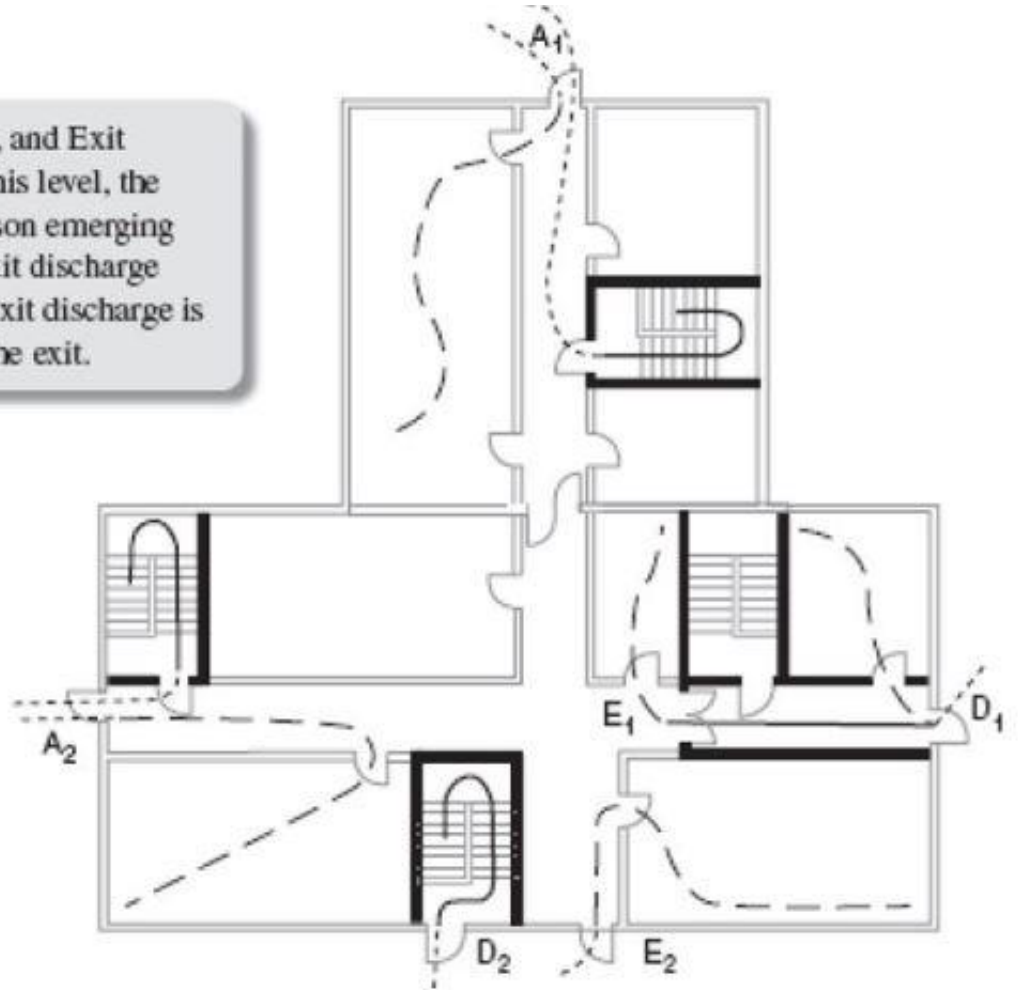
Exit Discharge

# Means of Egress Examples

**FIGURE 4.3.6** Examples of Exit Access, Exit, and Exit Discharge. To the occupant of the building on this level, the doors at  $A_1$ ,  $A_2$ ,  $E_1$ , and  $E_2$  are exits. To the person emerging from the exit enclosures doors  $D_1$  and  $D_2$  are exit discharge doors. Exit access is denoted by dashed lines. Exit discharge is denoted by dotted lines. Solid lines are within the exit.

Reference: NFPA Handbook

- Exit access
- Exit
- ..... Exit discharge



# Basic Principal of Egress Design

**Egress Capacity > Occupant Load**

# Egress Capacity

- Egress Capacity is capacity is calculated by dividing the widths of means of egress elements by an appropriate capacity factor.

*Table 7.3.3.1 Capacity Factors*

Area	Stairways (width per person)		Level Components and Ramps (width per person)	
	in.	mm	in.	mm
Board and care	0.4	10	0.2	5
Health care, sprinklered	0.3	7.6	0.2	5
Health care, nonsprinklered	0.6	15	0.5	13
High hazard contents	0.7	18	0.4	10
All others	0.3	7.6	0.2	5

# Occupant Load

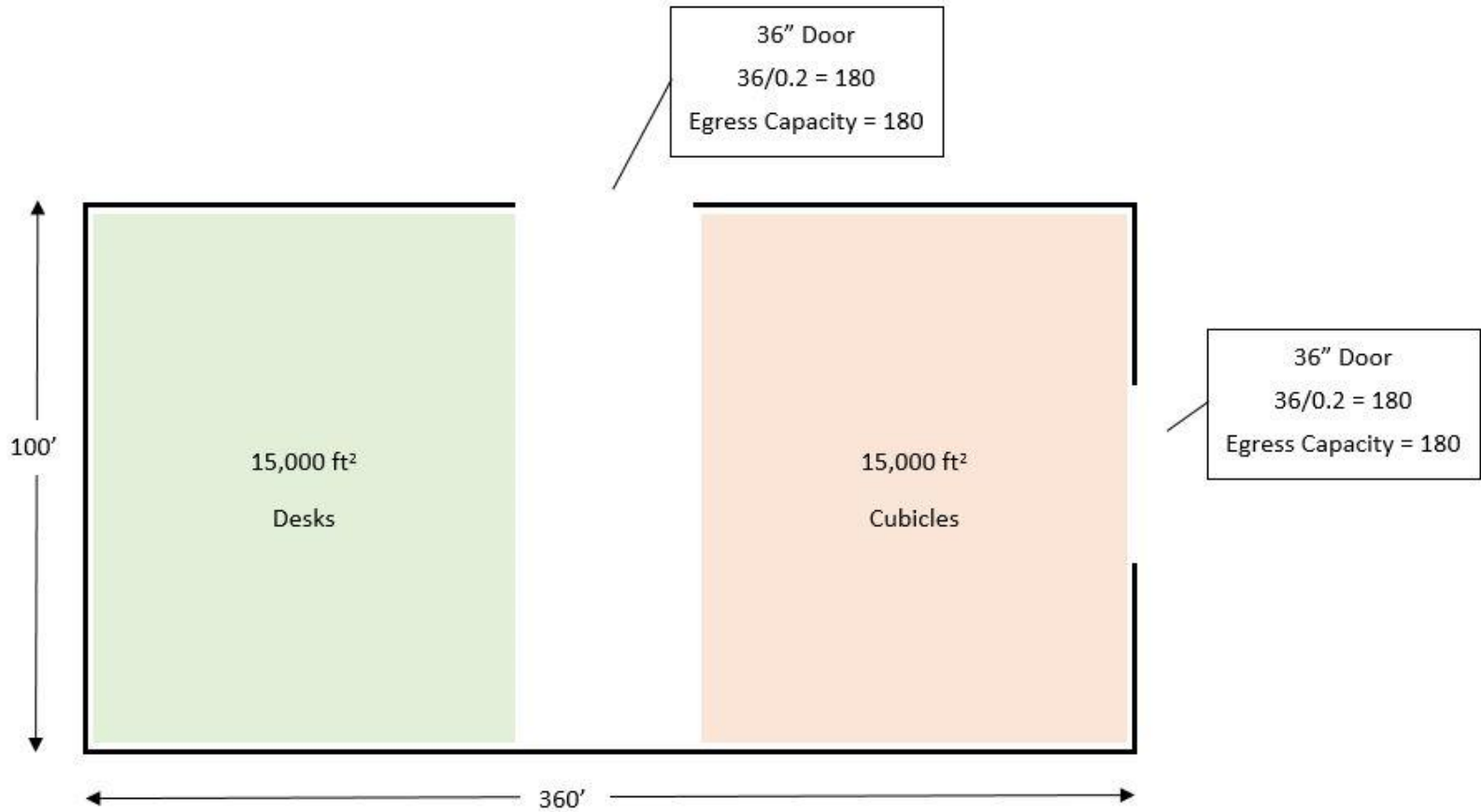
- Determined based on a space's use.
- Calculated by dividing a space's area by an occupant load factor specified for that space.

*Table 7.3.1.2 Occupant Load Factor*

Use	(ft <sup>2</sup> per person)*
<b>Assembly Use</b>	
Concentrated use, without fixed seating	7 net
Less concentrated use, without fixed seating	15 net
Bench-type seating	1 person/18 linear in.
Fixed seating	Number of fixed seats
Exercise rooms with equipment	50
Exercise rooms without equipment	15
Stages	15 net
Lighting and access catwalks, galleries, gridirons	100 net
Casinos and similar gaming areas	11
Skating rinks	50
<b>Educational Use</b>	
Classrooms	20 net
Shops, laboratories, vocational rooms	50 net
<b>Day-Care Use</b>	35 net
<b>Business Use (other than below)</b>	100
Air traffic control tower observation levels	40



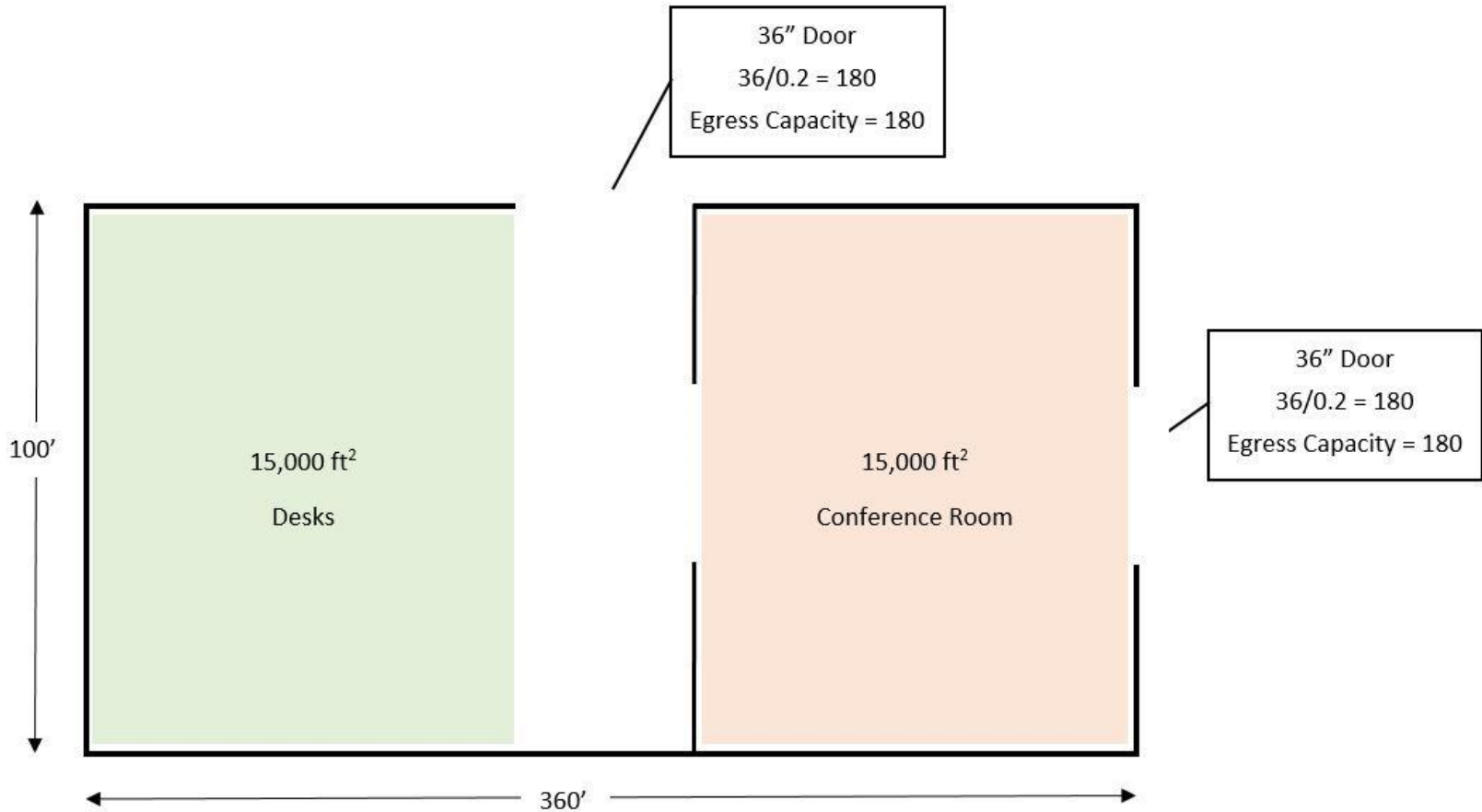
# Egress Capacity Example



Total Occupancy = 360 Persons (36,000 ft<sup>2</sup>/ 100)

Total Egress Capacity = 360 Persons (2 x 180)

# Egress Capacity Example



Total Occupancy = 1,210 Persons [(15,000/15 = 1,000) + (21,000/100 = 210)]  
Total Egress Capacity = 360 Persons (2 x 180)

# Egress Maintenance



# Final Remarks

- **Safety Takeaways**

- Know where all available exits are located.
- Resist initial inclination to exit through the main entrance. Consider other options.
- Look out for spaces with inadequate egress capacity.
- Ensure all elements of a means of egress are properly maintained.