



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

Self-Certification Training 2018 International Building Code Architectural Provisions

John-Jozef “JJ” Proczka
Structural Plans Engineer

Self-Certification



What does it mean to self-certify a set of drawings?

- IBC 105.3.1. You are performing the legal requirement to examine the documents for code compliance

What is the difference between design and review?

Review for:

- ✓ Completeness
- ✓ Coordination between disciplines
- ✓ Technical accuracy of all disciplines
 - Refer to checklists for help with this

Complete Drawings



Commonly Missed:

- Provide the project scope
- Review consultants' drawings for coordination
- Code modifications provided and identified
- Inspection and Observation Certificates
- Deferred submittals
 - List on architectural drawings
 - Cover sheet or sheet code



Architectural Life Safety Principles of the IBC



1. Occupancy
2. Type of construction
3. Allowable height & area
4. Passive fire protection
5. Active fire protection
6. Egress

1. Occupancy (Chapter 3)

- Classify a building according to its use
- Everything starts with occupancy!
- Establishes the level of RISK
- 10 occupancy groups
 - A: Assembly
 - B: Business
 - E: Educational
 - F: Factory Industrial
 - H: High-Hazard
 - I: Institutional
 - M: Mercantile
 - R: Residential
 - S: Storage
 - U: Utility and Miscellaneous



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

1. Occupancy Continued



- What distinguishes occupancies?:
 - Fuel load
 - Type of activity
 - Occupants' capability of self-preservation

- Occupant load
- Occupants' level of awareness

Relative Hazards Between Groups

HEIGHTS AND AREAS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	A-1; A-2; A-3; A-4; I; R-1; R-2; R-4, Condition 2
3	E; F-1; S-1; M
4 (Lowest Hazard)	B; F-2; S-2; A-5; R-3; R-4, Condition 1; U

MEANS OF EGRESS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	I-2; I-3; I-4
3	A; E; I-1; M; R-1; R-2; R-4, Condition 2
4	B; F-1; R-3; R-4, Condition 1; S-1
5 (Lowest Hazard)	F-2; S-2; U

1. Mixed Occupancies

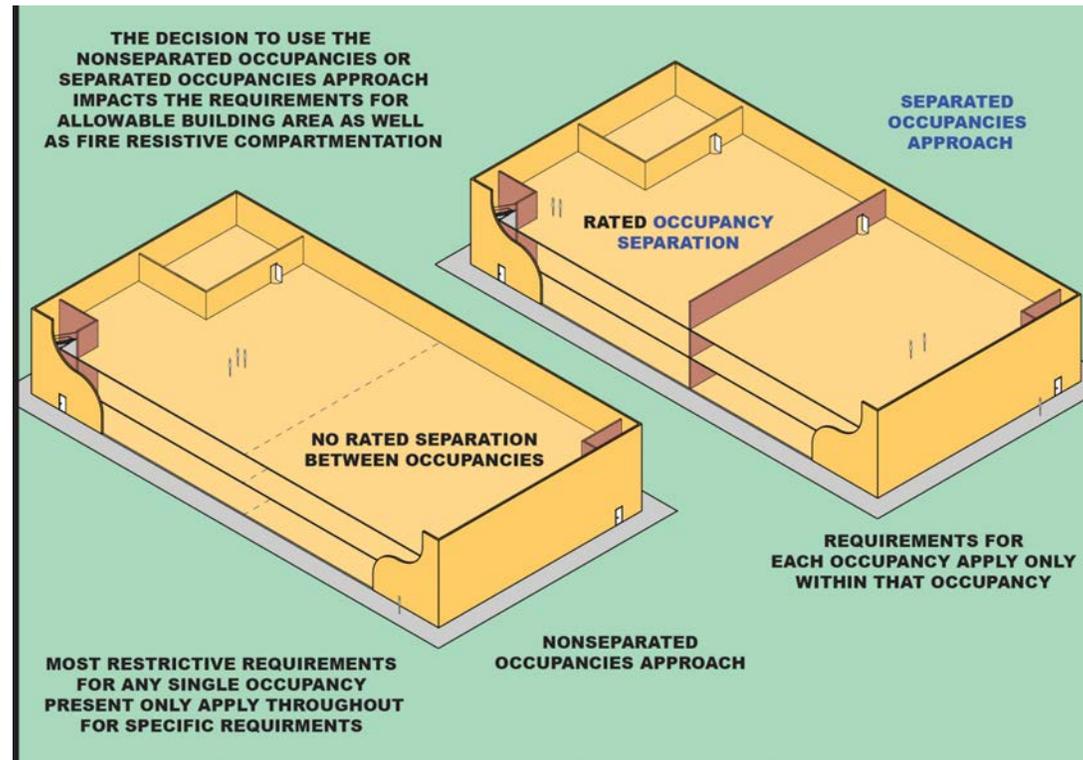
What do you have to show?

- Each portion of the building is individually classified, usually into multiple classifications.
- Method used as either accessory, separated, or non-separated (or a combination if you want to make your area calculations difficult)



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

2012 Interactive Guide Figure 1-19



2. Type of Construction (Chapter 6)



Five basic types:

I: non-combustible

II: non-combustible

III: non-combustible walls
with combustible roof & floor

IV: heavy timber

V: combustible (any material)



2. Type of Construction



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

- Affects the ability of a building to *resist* destruction by fire
- Accounts for the building elements participation in the fire
- Each building can only have one type of construction... unless...
- Fire-resistance rating
- Table 601: fire-resistance of building elements
- Table 602: fire-resistance of exterior walls due to *location on property*

2. Type of Construction



Defined

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A	B
<u>Primary structural frame</u> ^f (see Section 202)	3 ^{a, b}	2 ^{a, b}	1 ^b	0	1 ^b	0	HT	1 ^b	0
<u>Bearing walls</u>									
Exterior ^{e, f}	3	2	1	0	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	1/HT	1	0
<u>Nonbearing walls and partitions</u>	See Table 602								
<u>Exterior</u>									
<u>Nonbearing walls and partitions</u>							See Section 2304.11.2		
<u>Interior</u> ^d	0	0	0	0	0	0		0	0
<u>Floor construction</u> and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
<u>Roof construction</u> and associated secondary members (see Section 202)	1½ ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	HT	1 ^{b, c}	0

For SI: 1 foot = 304.8 mm.

- a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
- b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
- c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.

2. Type of Construction

Very important definition



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

**TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE^{a, d, g}**

<u>FIRE SEPARATION DISTANCE =</u> X (feet)	<u>TYPE OF CONSTRUCTION</u>	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R ⁱ , S-2, U ^h
X < 5 ^b	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.3.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- i. For a Group R-3 building of Type II-B or Type V-B construction, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Site Plan

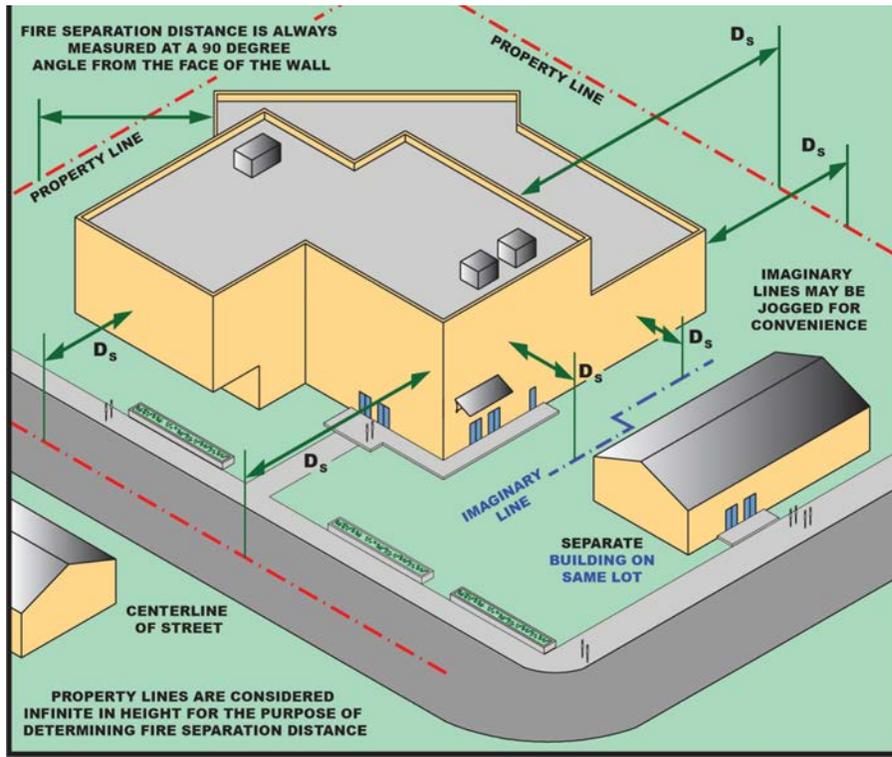
Commonly missed items to show:

- Fire separation distance
- Path of exit discharge all the way to the public way
- Accessible upgrades for tenant improvements (Tis)
- No locked/cane bolted site gates that are needed to egress to a street!

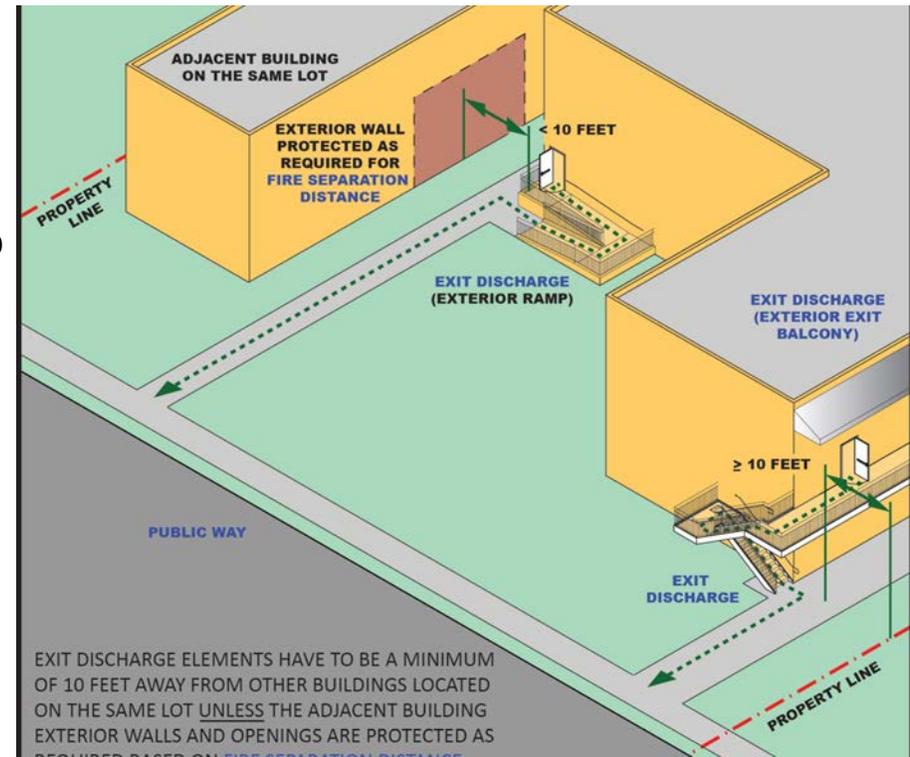


PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

2012 Interactive Guide Figure 2-01



2012 Interactive Guide Figure 3-23



3. Allowable Height & Area (Chapter 5)



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

- Regulate the size of buildings based on specific hazards associated with their occupancy & materials of construction
- Aims to reduce the risk of injury to an acceptable level for building occupants by limiting fire load and fire hazards
- Tables 504.3, 504.4 and 506.2
- Allowable area finally determined by calculation in Section 506.2
- Unlimited area buildings of specific occupancies and surrounded by large open spaces.

3. Allowable Height & Area



**TABLE 504.3
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE^a**

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A, B, E, F, M, S, U	NS ^b	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
H-1, H-2, H-3, H-5	NS ^{c, d}	UL	160	65	55	65	55	65	50	40
	S		180	85	75	85	75	85	70	60
H-4	NS ^{c, d}	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
I-1 Condition 1, I-3	NS ^{d, e}	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
I-1 Condition 2, I-2	NS ^{d, e, f}	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
I-4	NS ^{d, g}	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
R ^h	NS ^d	UL	160	65	55	65	55	65	50	40
	S13D	60	60	60	60	60	60	60	50	40
	S13R	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	85	70	60

3. Allowable Height & Area



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

TABLE 506.2—continued
ALLOWABLE AREA FACTOR ($A_t = NS, S1, S13R, S13D$ or SM , as applicable) IN SQUARE FEET^{a, b}

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
R-1 ^h	NS ^d	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-2 ^h	NS ^d	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000

$$A_a = [A_t + (NS \times I_f)] \times S_a$$

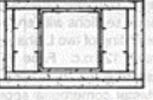
4. Passive Fire Protection (Chapter 7)



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

What it is:

- Resistance to the *spread* of fire and smoke
 - Separation walls and horizontal assemblies
- Protection against fire
 - Building Elements
- *Tested & listed* assemblies
 - 703.2 and 703.3 for options available
- MGM Grand Hotel fire, Las Vegas 1980
- http://www.youtube.com/watch?v=_xmsQrZ8MHY

GA FILE NO. CM 1451	GENERIC	1 HOUR FIRE
GYPSON WALLBOARD, STEEL COLUMN COVER		
Base layer 1/2" type X gypsum wallboard applied around TS4x4x0.188 tube steel column and held in place with paper masking tape. Second layer either 24 ga galvanized steel column cover consisting of two L-shaped sections with snap-lock sheet steel joints or 22 ga galvanized steel column covers consisting of two L-shaped sections with lap joints fastened with No. 8x1/2" sheet metal screws 12" o.c. Face layer 1/2" type X gypsum wallboard applied without horizontal joints to column cover with 1" Type S drywall screws 8" o.c. spaced 1" from vertical edges. Metal cornerbead applied to all corners with 1" Type S drywall screws 12" o.c. in each flange.		
		
		Fire Test: UL NC505-(1-6), 71NK2639, 12-23-75; UL NC505, 77NK1518; UL Design X526
GA FILE NO. CM 1452	GENERIC	1 HOUR FIRE
GYPSON WALLBOARD, STEEL STUDS		
Base layer 1/2" type X gypsum wallboard applied without horizontal joints to 1 1/2" steel studs located at each corner of TS4x4x0.188 tube steel column with 1" Type S drywall screws 24" o.c. Face layer 1/2" type X gypsum wallboard applied without horizontal joints to studs with 1 1/4" Type S drywall screws 12" o.c. Metal cornerbead applied to all corners with 1" drywall screws 12" o.c. in each flange. Joint compound 1/4" thick applied over cornerbead.		
		
		Fire Test: UL NC505, 77NK1747; 6-13-77; UL Design X528
GA FILE NO. CM 1453	GENERIC	1 HOUR FIRE
GYPSON WALLBOARD, STEEL COLUMN COVER		
Base layer 1/2" type X gypsum wallboard applied around TS4x4x0.188 tube steel column and held in place with paper masking tape. Second layer 1/2" type X gypsum wallboard applied around column and held in place with paper masking tape. Third layer either 24 ga galvanized steel column cover consisting of two L-shaped sections with snap-lock sheet steel joints or 22 ga galvanized steel column covers consisting of two L-shaped sections with lap joints fastened with No. 8x1/2" sheet metal screws 12" o.c. Face layer 1/2" type X gypsum wallboard applied to column cover with 1" Type S drywall screws 8" o.c. spaced 1" from vertical edges. Metal cornerbead applied to all corners with 1" Type S drywall screws 12" o.c. in each flange.		
Horizontal joints staggered 24" between layers.		
		
		Fire Test: Based on UL NC505-(1-6), 71NK2639, 12-23-75; UL NC505, 77NK1518; UL Design X526

4. Passive Fire Protection

Types:

- Vertical building elements
- Separation fire-rated walls:
 - Exterior walls
 - Fire walls
 - Fire barriers
 - Fire partitions
 - Smoke barriers
- Fire-rated horizontal assemblies
 - Floors (and ceilings)
 - Roofs (and ceilings)

Serve as both protection for the structure AND slow spread of smoke and flame



4. Passive Fire Protection



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

- Design factors:
 - Required fire rating (time)
 - Continuity
 - Openings & penetrations
 - Types of materials allowed
 - Structural support

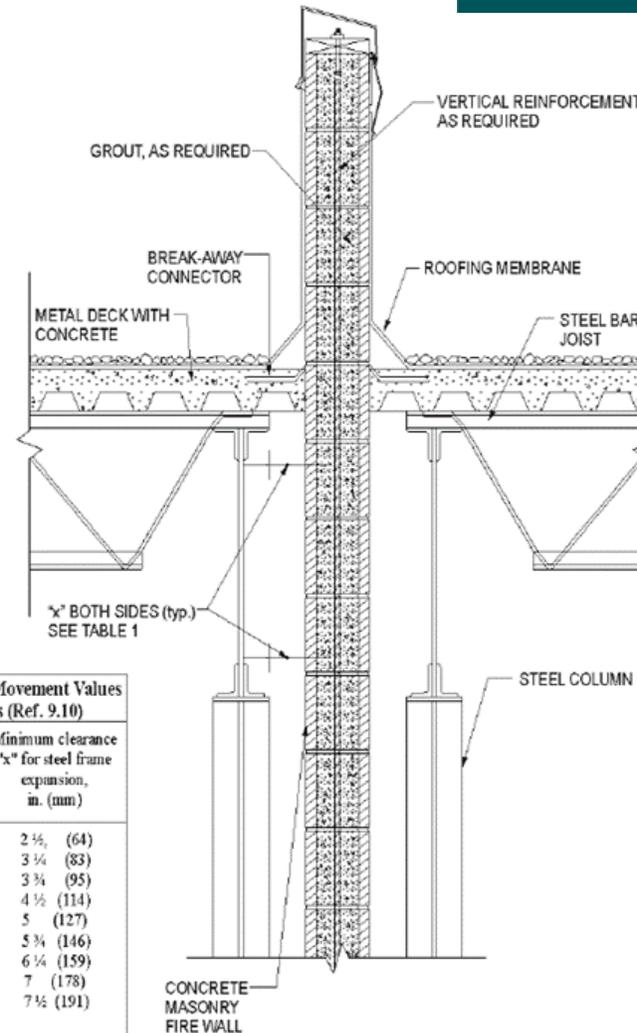


Table 1 — Thermal Movement Values for Steel Frames (Ref. 9.10)

Length of bay perpendicular to fire wall ft (m)	Minimum clearance "x" for steel frame expansion, in. (mm)
20 (6.10)	2 ½ (64)
25 (7.62)	3 ¼ (83)
30 (9.14)	3 ¾ (95)
35 (10.67)	4 ½ (114)
40 (12.19)	5 (127)
45 (13.72)	5 ¾ (146)
50 (15.24)	6 ¼ (159)
55 (16.76)	7 (178)
	7 ½ (191)

5. Active Fire Protection (Chapter 9)



Purpose: to put the fire out & control smoke & to make occupants aware of an emergency

- Fire sprinklers
 - Bret Tarver Ordinance
- Fire alarms
- Smoke control system
- Carbon monoxide and gas detection



6. Egress

Means of egress – What is it?

- A continuous & unobstructed path of egress from any occupied portion of a building to the public way
- Exit from a building – protected from fire & smoke – without special knowledge

What should you show?

- Have an egress plan
- Number of occupants using features
- Egress width: minimum and calculated
- Exit separation distance – measured
- Travel distances – measured



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**



6. Egress

- 3 components:
 - Exit access
 - Exit
 - Exit discharge
- Egress Concepts
 - Occupant load
 - Egress width
 - Exit separation distance
 - Travel distance



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

Occupant Load

What do you have to show?

- Show the use/Function of each space
- Number on every floor AND in every room and Space (IBC 107.2.3)
- Show the number of occupants using doors and stairways
- Show the entire path of egress, even for projects involving existing buildings



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

Commentary Figure 1004.2



EXIT DOOR #1 DESIGN:

# OF OCCUPANTS FROM OPEN OFFICE	= 150
# OF OCCUPANTS FROM BUILDING OFFICE	= 20
# OF OCCUPANTS FROM LOBBY	= 10
TOTAL # OF OCCUPANTS (BY COMBINATION)	= 180

6. Egress Tables

TABLE 1006.3.2
MINIMUM NUMBER OF EXITS OR
ACCESS TO EXITS PER STORY **Unless...**

OCCUPANT LOAD PER STORY	MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY
1-500	2
501-1,000	3
More than 1,000	4

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE^a

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200 ^c	250 ^b
I-1	Not Permitted	250 ^b
B	200	300 ^c
F-2, S-2, U	300	400 ^c
H-1	Not Permitted	75 ^d
H-2	Not Permitted	100 ^d
H-3	Not Permitted	150 ^d
H-4	Not Permitted	175 ^d
H-5	Not Permitted	200 ^c
I-2, I-3	Not Permitted	200 ^c
I-4	150	200 ^c

Definitions exist for
**FLOOR AREA, GROSS &
FLOOR AREA, NET**



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

TABLE 1004.5
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Accessory storage areas, mechanical equipment room	300 <u>gross</u>
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit gallery and museum	30 net
Assembly with fixed seats	See Section 1004.6
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 <u>net</u>
Standing space	5 <u>net</u>
Unconcentrated (tables and chairs)	15 <u>net</u>
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	150 <u>gross</u>
Concentrated business use areas	See Section 1004.8

Show these
in the space

Occupant Load - Gross

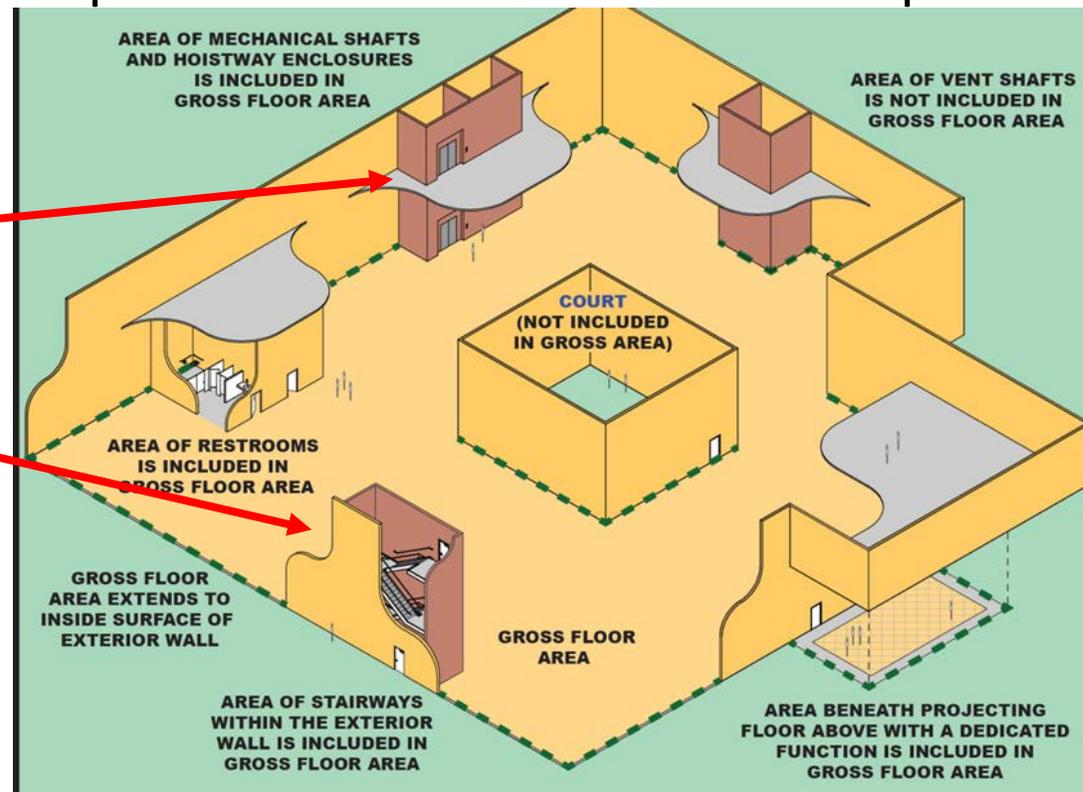
Floor Area, Gross

- The area within the exterior walls
- No deductions for any interior space
- Includes non-occupiable spaces
- How do you label the occupants associated with non-occupiable areas in accordance with IBC 107.2.3?



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

2012 Interactive Guide Figure 4-01



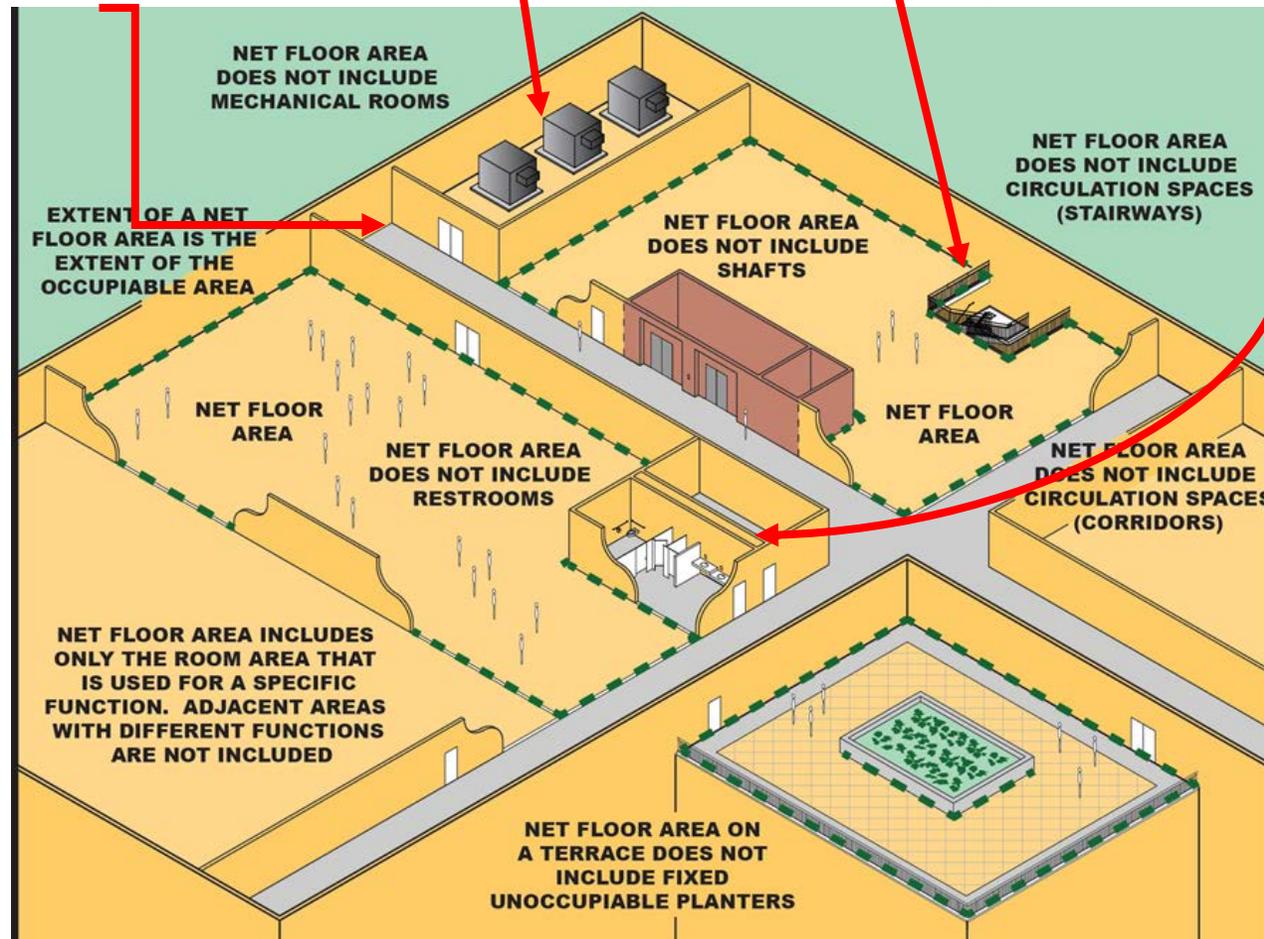
Occupant Load - Net

Floor Area, Net

- Actual occupied area
- Does not include corridors, mechanical rooms, stairways, restrooms, closets



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**



2012 Interactive Guide Figure 4-02

Occupant Load – Net Continued

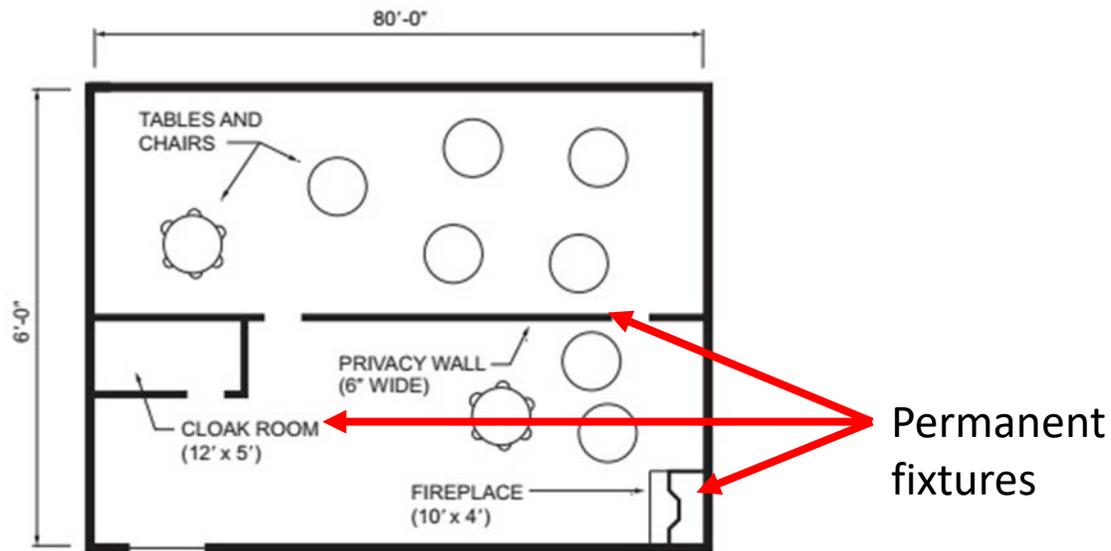
Floor Area, Net

- Deductions for walls and permanent fixtures? **Yes**
- Deductions for aisles and aisle accessways? **No**



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

Commentary Figure 1004.5

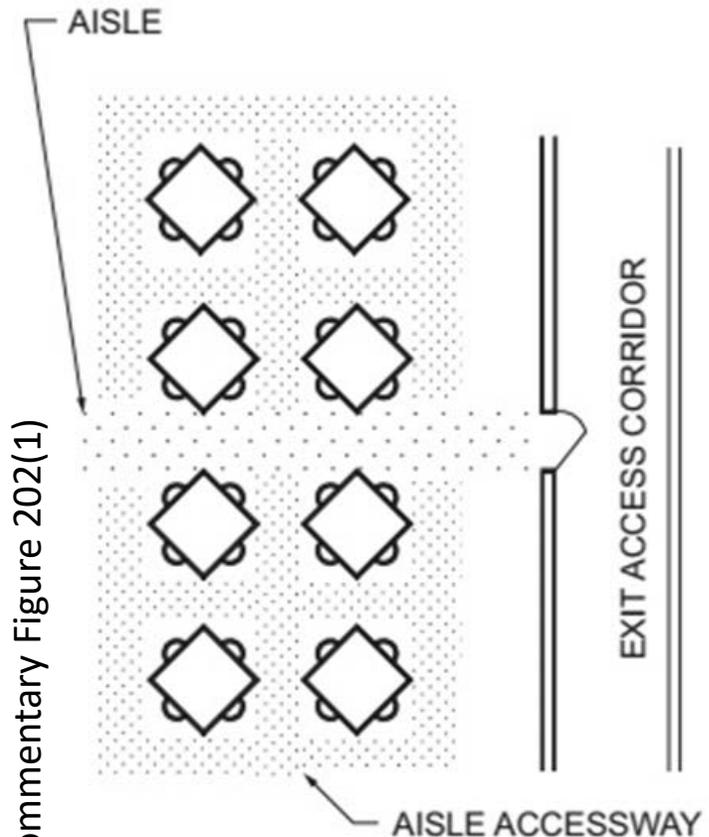


80' x 60'	=	4,800 SQ.FT.
PRIVACY WALL:	40 SQ.FT.	
FIREPLACE:	40 SQ.FT.	
CLOAK ROOM:	60 SQ.FT.	
TOTAL:	140 SQ.FT.	

(TOTAL AREA WITHIN WALLS) - (EXCLUDED ITEMS) = (NET FLOOR AREA)
4,800 SQ.FT. - 140 SQ.FT. = 4,660 SQ.FT.

(NET FLOOR AREA)/(TABLE 1004.5 VALUE) = (OCCUPANT LOAD)
4,660 SQ.FT./15 SQ.FT. PER OCCUPANT = 311 OCCUPANTS

Commentary Figure 202(1)



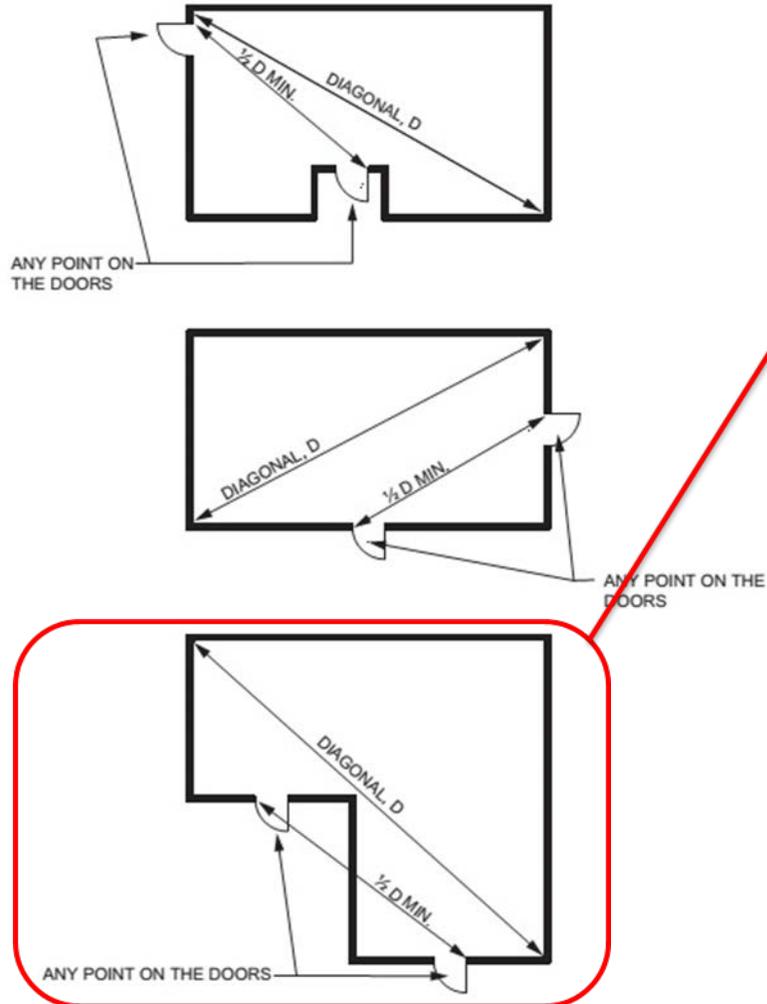
Egress Plan – Exit Remoteness



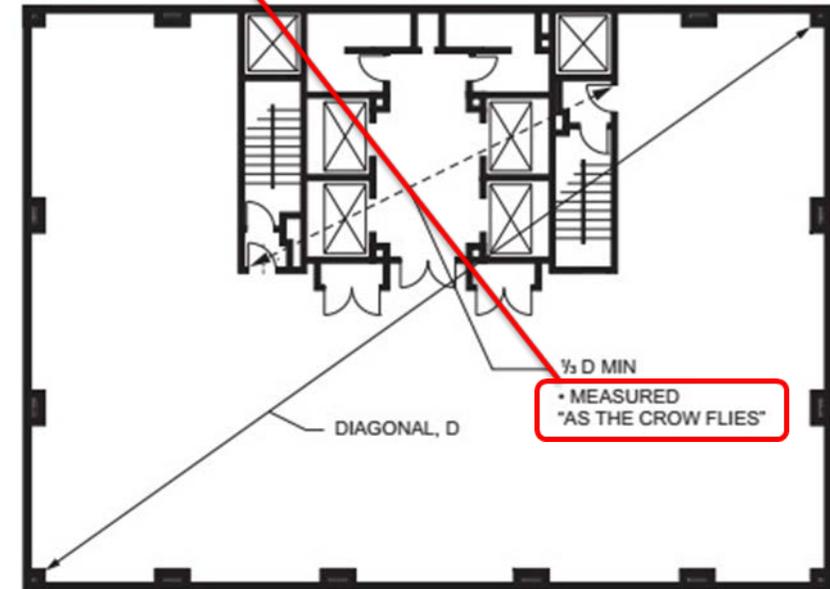
PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

Egress Component - Remoteness

- How is it measured?
- Exit Access AND Exits



Commentary Figure 1007.1.1.1(1)



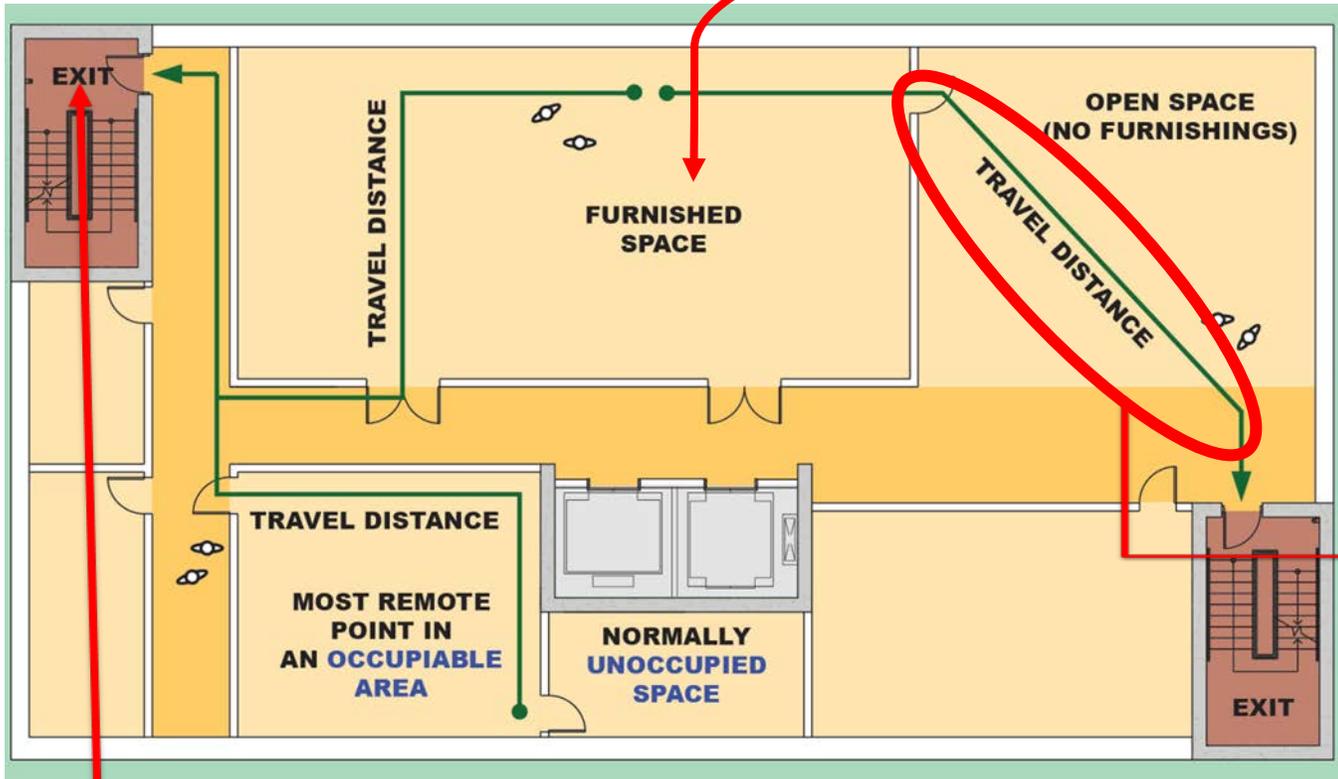
Commentary Figure 1007.1.1.1(3)

EXAMPLE:
DIAGONAL DIMENSION = 134'-0"
MIN. SEPARATION OF EXITS = $134' \div 3 = 44'-8"$

Egress Plan – Exit Access Distance



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**



Egress Access Travel Distance:

- Depends on occupancy classification
- Natural and unobstructed path (Generally like the furnished space example)
- Diagonal paths are generally not appropriate. There are exceptions.

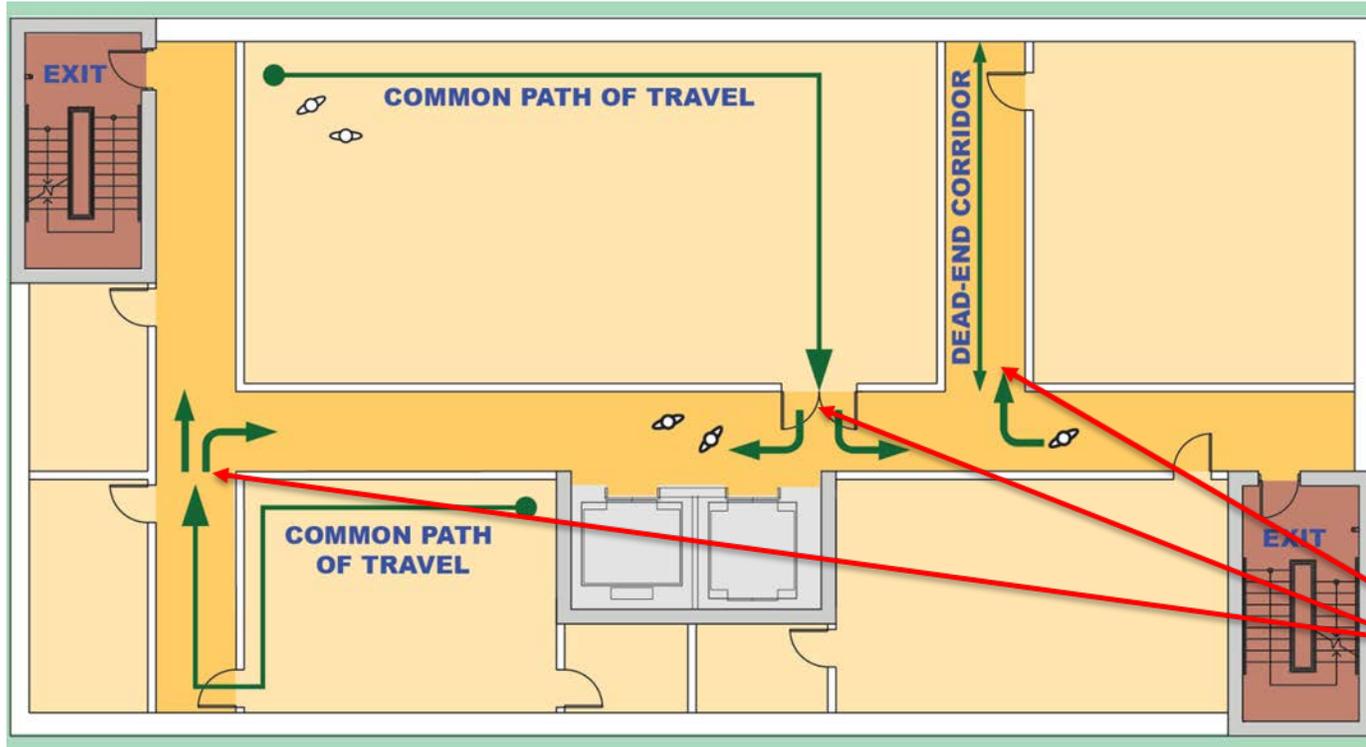
2012 Interactive Guide Figure 3-29

Not an exit access stair!

Egress Plan – Common Path



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**



Common Path of Egress Travel:

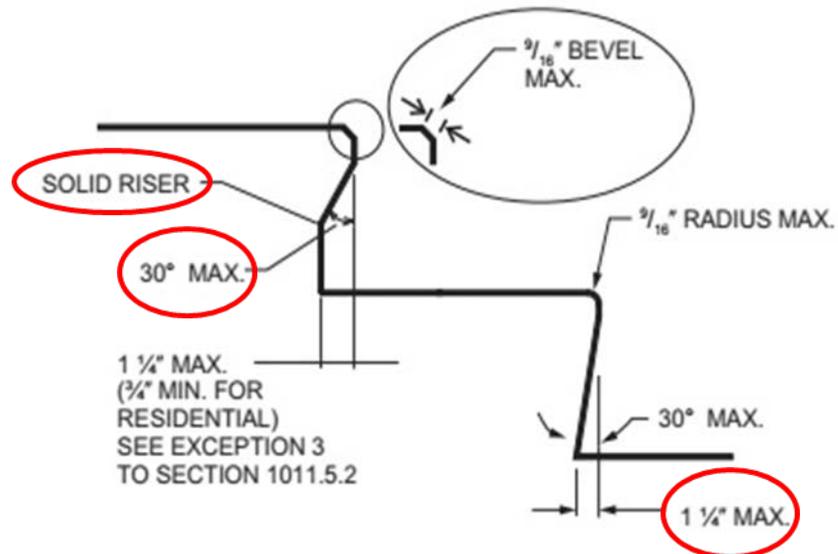
- Depends on occupancy classification
- Part of exit access travel distance
- Most remote point to choice of two paths for egress

2012 Interactive Guide Figure 3-34

Stair and Handrail Issues

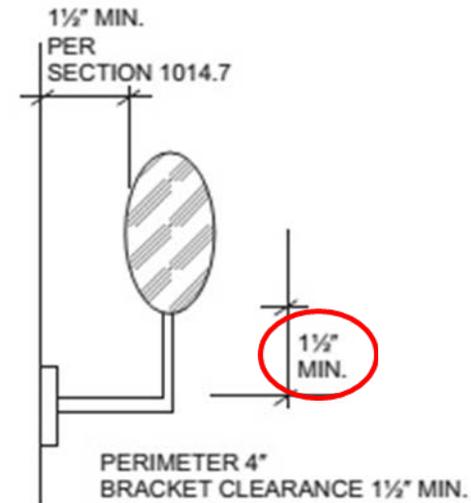


PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**



Commentary Figure 1011.5.5.1

not 1 1/2"



Partial Commentary Figure 1014.4(2)

Technical Accuracy



How we can help:

- Architectural Checklist
- TRT Technical Documents
www.phoenix.gov
- Meet with Consultants
- Read the Code!
- Use the Commentary
- Check with us!!!

New more complete IBC General checklist:

https://www.phoenix.gov/pddsite/Documents/TRT/dsd_trt_pdf_00711.pdf



City of Phoenix

PLANNING & DEVELOPMENT DEPARTMENT

Plan Review Checklist

IBC General

Scope:

This checklist covers the general amended 2018 IBC building code requirements. It is not all inclusive. The code requirements are very heavily abridged. Compliance with all codes and ordinances as written is required.

1. Cover Sheet and Code Data Sheets

1.A. General

- ❑ A cover sheet or code data sheet is provided. **IBC 107.2.1**
- ❑ Designer's seal, signature, and date signed on all sheets, if not exempt per state law. **IBC(AMD) 107.1**
- ❑ A list of the year and name of the adopted applicable codes from the adopting ordinance. **IBC 107.2.1**
- ❑ A list that includes all the drawing sheets in this permit's scope. **IBC 107.2.1**
- ❑ A detailed description of the work involved in this permit's scope. **IBC 105.3**
- ❑ A list of *deferred submittals* with a note to not install until *approved*. **IBC 107.3.4.1, TRT# 00469.**
- ❑ The *registered design professional in responsible charge* is named, with contact info. **IBC 107.3.4**
- ❑ Egress stairs, guards (guardrails), and storage racking are not deferred. **IBC 107.3.4.1, TRT# 00469.**
- ❑ An architectural special inspections certificate for: impervious moisture barriers, fire-resistant spray, intumescent, EIFS, or some penetrations and joints. **IBC 1705.1.1, 1705.14 – 1705.18, TRT# 00277**
- ❑ An architectural statement of special inspections, if required per the above items. **IBC 1704.3**

Common Issues

- Stairs and guards cannot be deferred
- Doors and stairs are sized based on the occupant load
- Existing buildings have selected one of the three compliance methods from IEBC Section 301.3 that has to be selected. There is no default.
- Show whether multiple buildings on one lot are separate or considered as one. If not, show an imaginary line.
- Special Inspections certificates are provided



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

New Code Requirement

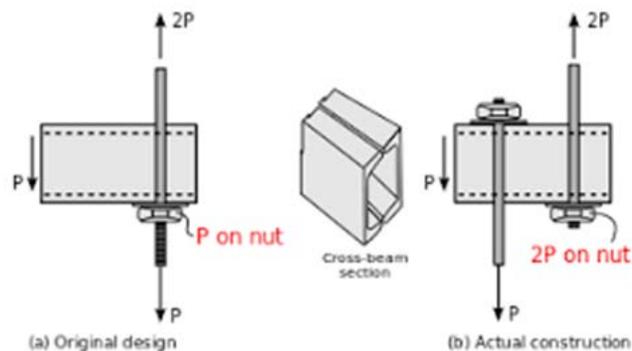
- IBC Sections 2304.12.2.5, 2304.12.2.6, 107.2.5, and 110.3.6 have all been created to address elevated exterior walking surfaces
- Wood framing for balconies, decks, patios, etc.
- Methods: Naturally durable, preservative-treated, or **impervious moisture barrier**



Source:
<https://archinect.com/news/article/132118750/after-deadly-balcony-collapse-berkeley-building-and-safety-codes-tighten>



- Includes framing under a concrete slab!
- Always requires cross ventilation openings
- Where an **impervious moisture barrier** is used:
 - Provide details for the connections of this moisture barrier
 - Include the manufacturer's installation instructions



PLANNING & DEVELOPMENT
**PRESERVE
SHAPE
BUILD**

QUESTIONS?



John-Jozef “JJ” Proczka
Structural Plans Engineer
602-534-7329

john-jozef.proczka@phoenix.gov