



Tom Kasper
Plan Review Section Chief
Integrated Services Bureau
tom.kasper@wi.gov
Tel. 608-267-7586

Thanks!



**Building Inspectors Association
Northeastern Wisconsin**
est 1971



**SOUTHWESTERN WISCONSIN
BUILDING INSPECTORS ASSOCIATION**



Building Inspectors Association
Southeastern Wisconsin Region



Email Notice Signup – Just Do It!

dpsps.wi.gov/sb

Also other resources...

Official Website of the Wisconsin Department of Safety and Professional Services

Change text size: A A A A A A A

Select a search option search text (alt+) Search

[Announcement of Creation of DSPS by Secretary Dave Ross](#)

SHARE Home > [Safety & Buildings](#)

Safety and Buildings Division Home Page

New Madison office location for S&B license and manufactured home services - [Info](#)

Bill Wendle is now S&B administrator in new Department of Safety and Professional Services. [Contact Info.](#)

Most contractors in Wisconsin need a license of some sort. [See info on various types of contractors' licenses.](#) See [Building Contractor Registration Program.](#)

Dwellings in Wisconsin need [smoke alarms and carbon monoxide alarms.](#)

Online Renewal Payment	Daily News Updates	Search S&B Records	Choose Program
Address Change	License Check	Education Classes	Codes Online
Sign-up for Email Messages	License Forms	Lists of Credential Holders	Code Changes

RESOURCES

- Contact S&B Staff
- Online Services
- Forms
- Codes
- Programs
- Plan Review
- Licenses
- Calendar
- Home Page

Reporter Contacts

Environmental and Regulatory Services and Safety and Buildings
Barbro McGinn
barbro.mcgin@wisconsin.gov
(608) 261-7713

Safety and Buildings Division
(608) 266-3151

Central Building Location:
201 W. Washington Ave.
Madison, WI 53703

Commercial Building Staff Resources:

<http://dsps.wi.gov/sb/SB-CommercialBuildingsProgram.html#contacts>

Wisconsin Department of Safety and Professional Services: -- Windows Internet Explorer provided by Department of Commerce

<http://dsps.wi.gov/sb/SB-CommercialBuildingsProgram.html#contacts>

File Edit View Favorites Tools Help

☆ Favorites AOL Mail (587) Wisconsin Department of...

S&B Commercial Buildings Program Contacts

- Email technical questions about commercial buildings, Comm 61-69, to bldgtech@commerce.state.wi.us
- Fax technical questions about commercial buildings, Comm 61-69, to: 608-283-7402
- Technical questions about **general lighting plan review** can be emailed to comsbbuildingtech@wi.gov, or faxed to 608-283-7402.
- Technical questions about **emergency lighting plan review** can be emailed to comsbemergencylighting@wi.gov, or faxed to 608-283-7421.
- Email questions about **plan review scheduling**, or about address and personnel changes to planschedule@commerce.state.wi.us
- Commercial Buildings [Plan Reviewers list](#)
- Commercial Buildings Code **Inspectors** districts [map](#)
- List of **delegated municipalities** [GO](#)
- Commercial Buildings Delegated Municipality Application Form, [PDF file](#). For information about the form and process, contact Gloria Kocovsky, gloria.kocovsky@wi.gov, 608-267-9706.
- Printable [list of contacts](#) for commercial buildings construction questions.
- Commercial Building Section Chiefs:
Steve Dobratz - Green Bay, steve.dobratz@wi.gov, 920-492-5611
Brian Ferris - Holmen, brian.ferris@wi.gov, 608-785-9335
Tom Kasper - Madison, tom.kasper@wi.gov, 608-267-7586
Dan Meneguín - Madison, dan.meneguín@wi.gov, 608-266-0056
John Spalding - La Crosse/Hayward, john.spalding@wi.gov, 608-789-4693
- Jim Smith, Commercial Buildings Program Manager, 608-266,0251, jsmith@commerce.state.wi.us
- Commercial Buildings Code Advisory [Council](#)
- **Accessibility**: Send email questions to: bldgtech@commerce.state.wi.us or contact a commercial buildings [plan reviewer](#). - ICC/ [ANSI](#) Standard A117.1-2003 is referenced by the

mailto:planschedule@commerce.state.wi.us

Internet 100%

Start I... 3... W. D... R... a... R... M... 10:39 AM

Code Change Enforcement Cycle

- Complacency
- Fear, Anxiety, Rumor
- Information overload
- Education and Enforcement emphasis
- Unforeseen applications & unintended consequences
- Feedback
- Code clarifications
- Change in design & construction methods
- Market delivers new materials
- Code changes....

Slide Format

Key Current & *Revised* Provisions

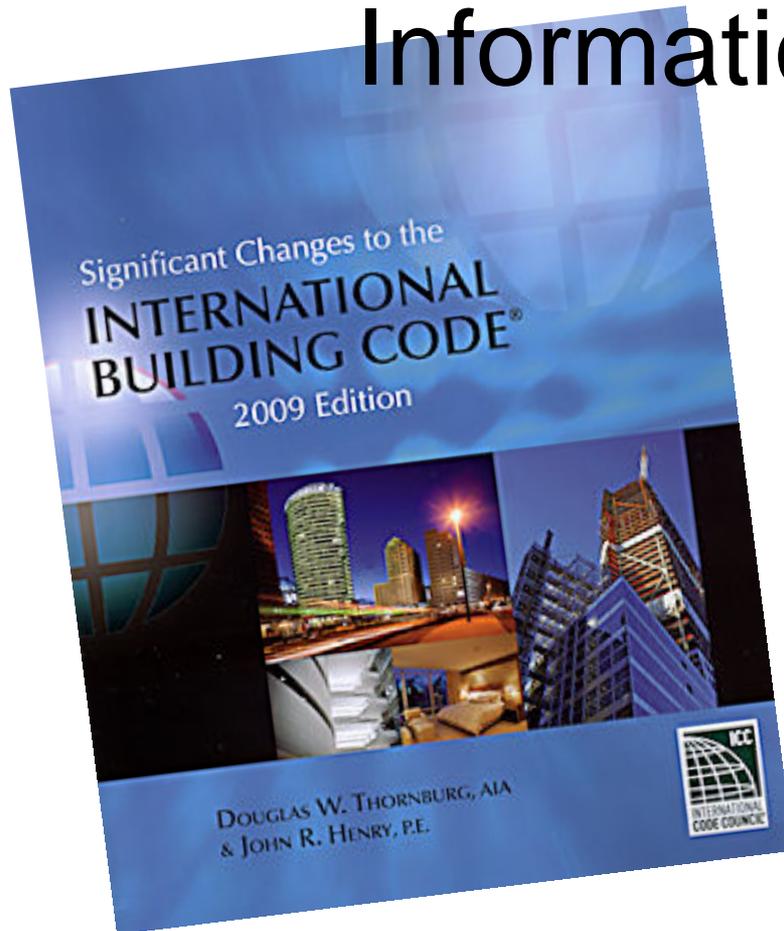
- Current Key Provisions in black Roman font
- *Revised Significant 2009 IBC Provisions & WI Comm Amendments effective for projects submitted on or after September 1, 2011 in red italics – **Don't Enforce Them Until then unless noted as a clarification***
- **IBC Codebook Page Number Given**
- **For quick summary of code changes:**

<http://dsps.wi.gov/sb/docs/Sb-CodeDevComm6166AdoptDraftSumm0611.pdf>

Within I-Codes:

- **Margin lines for new or revised material**
- ➔ • **Arrows for deleted material**
- **Italicized *text* in I-codebooks now indicates a term defined elsewhere in that code**

2009 IBC Changes - For More Information:



Thanks to ICC for allowing the use of their graphics for parts of this presentation

- Available from International Code Council – www.iccsafe.org or 1-800-786-4452

Comm 61.02 - In or Out of the Commercial Building Code?

- Place of Employment or Public Building or Having 3 or More Tenant Spaces – If not, then not covered by the Commercial Building Code. A family or self-formed group is considered one residential tenant.



See S&B Q&As on rental lodges, hangars and other topics at:
<http://dsps.wi.gov/sb/SB-CommercialBuildingsCodeQuestionsNew.html#comm61.02two>

Comm 61.02(3)(c) - Farming Exemption Plants & Animals Produced by that Owner Except for $\leq 10\%$ From Elsewhere



Split of Lighting Component Into Emergency Egress Lighting Energy Conservation Lighting

CONDITIONAL APPROVAL ¶
 PLAN APPROVAL EXPIRES: 01/25/2011 ¶
 ¶
 SITE: ¶
 Gussel Shell Station ¶
 911 Us Hwy 12 ¶
 City of Wisconsin Dells, WI 53965 ¶
 Sauk County ¶

Identification Numbers
Transaction ID No. 1893049
Site ID No. 763311
Please refer to both identification numbers above, in all correspondence with the agency.

FOR: ¶
 ¶
 Facility: 709956 GUSSEL SHELL STATION DUNKIN DONUTS CONVENIENCE STORE ¶
 911 US HWY 12 ¶
 WISCONSIN DELLS 53965 ¶
 ¶
 Object Type: **Building-ICC** Regulated Object ID No.: 1295153 Code Applies Date: 01/05/11 ¶
 Major Occupancy: Mercantile; Type VB Combustible Unprotected class of construction; New plan; 4,128 project sq ft; Unsprinklered; Occupancy: B Business; Lighting Do Not Use ¶
 ¶
 Object Type: **HVAC-ICC-System** Regulated Object ID No.: 1295158 Code Applies Date: 01/05/11 ¶
 ¶
 Object Type: **Lighting-Energy Conservation** Regulated Object ID No.: 1298146 Code Applies Date: 01/26/11 ¶
 ¶
 Object Type: **Lighting-Emergency Egress** Regulated Object ID No.: 1298147 Code Applies Date: 01/26/11 ¶
 ¶
 ¶

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in:

Lighting reviews required for new buildings, additions and initial tenant space build-outs

Emergency Egress Lighting Approvals – Standard Paragraph

- **IBC 1006** - Your emergency egress lighting plans have been approved based on the room, equipment and furnishing layout provided. If shown elements are moved, additional elements are added or if less-reflective surface finishes are used, revised lighting plans may need to be submitted to ensure that egress paths have adequate emergency lighting. Contact your designer or field inspector for further information.

Revised Comm 61.30(2) – Project Registration

Revised to Eliminate Option to Register Projects in Lieu of Submitting for Review

Table 61.30-2

Buildings Exempt from Plan Review if Registered

Building Type or Occupancy	Building Description
Assembly Group A-2, A-3 Business Group B Factory Group F Mercantile Group M Storage Group S Utility and Miscellaneous Group U	Containing 25,000 to less than 50,000 cubic feet in volume
Assembly Group A-1, A-4, A-5 Educational Group E High Hazard Group H Residential Group R	Containing less than 25,000 cubic feet in volume

Buildings registered prior to September 1 may have their follow-up components registered until the expiration date of the building registration.

Revised Comm 61.30(3) Fire Protection Reviews – Effective 1/1/2012

Revised to Require All
Fire Suppression and
Fire Alarm Systems to
Be Reviewed, except:

- ≤ 20 sprinklerheads or alarm devices added to existing system
- Pre-engineered kitchen hoods
- Residential occupancies without common area alarm devices

Table 61.30–3

Building Components and Systems

Building Component or System	Building Type or Occupancy
Premanufactured and Pre-engineered structural components	Public buildings or places of employment
Heating, ventilating and air conditioning system	Public buildings or places of employment
Fire protection system	Atria public building or places of employment
	Public buildings exceeding 60 feet in height
	Educational Group E
	Institutional Group I–1, I–3
	Mercantile Group M buildings that combine retail areas with rack storage and have floor areas exceeding 50,000 square feet
	Residential Group R–1, R–2
	State-owned buildings except hospitals and nursing homes

s. 101.123, WI stats Smoking Ban

Smoking Area Code

Considerations

- Scoping
- Occupancy Classification
- Construction Requirements
- Fire Area
- Egress
- Accessibility
- Sanitary Requirements
- Energy Conservation
- HVAC



Revised 2009 IBC 308.5.1 – Adult Care Facilities – IBC p.34

- Supervision & personal care services for adults
- Less than 24 hours
- Also see IBC 308.5 for adults needing physical assistance
- But not really residences, so not UDC

	Occupant Load	
	≤ 5 Persons	>5 Persons
Occupants capable of responding to an emergency w/o physical assistance from staff	A-3 <u>R-3</u>	A-3 <u>R-3</u>
Occupants require physical assistance from staff (IBC 310.1)	R-3	I-4

Residential Adult-care Facilities Classification

	NON-CONVERTED BUILDING ^a				CONVERTED BUILDING ^b		
	Type of Facility	Number of Adult-Care Residents	Pre-7/1/02 Code	Post-7/1/02 Code	Number of Adult-Care Residents	Pre-7/1/02 Code	Post-7/1/02 Code
UDC	One- or 2-Family Dwelling	1-2	UDC	UDC	1-2	UDC, if post-6/1/80 building	UDC, if post-6/1/80 building
	Adult Family Home ^c	3-4 ^d	Excluded from CBC and Comm 14; apply UDC	Excluded from CBC and Comm 14; apply UDC	3-4 ^d	Excluded from CBC and Comm 14; apply UDC	Excluded from CBC and Comm 14; apply UDC
CBC and Comm 14	Community-Based Residential Facility ⁱ	5-8	Comm 61.001 put these within the scope of UDC ^e	Comm 62.0400 (4) applies UDC ^e	5-8	Excluded from CBC; apply UDC ^f	R-4 occupancy ^f ; owner can apply UDC or CBC
		9-16	Comm 57 ^e	R-4, I-2 occupancy ^{e,j}	9-16/20 ^k	Comm 61 ^{f,g,h}	R-4, I-2 ^{f,g,j}
		>16	Comm 57 ^e	I-1, I-2 ^{e,j}	>16/20 ^k	Comm 57 ^e	I-1, I-2 ^{e,j}

Class C CBRFs serving > 8 persons are typically I-2. For more information:

<http://dsps.wi.gov/sb/SB-FirePreventionCodeQuestions.html#14011>

Revised IBC 310.1 Group R-1 Congregate Living Facilities – IBC p. 35

- Transient occupancy for <30 days
- Shared living facilities like kitchens
- Examples are bed & breakfast inns and some rooming houses
- Normally R-1, Revised exception to be R-3 if 10 persons or less
- Also see R-3 occupancy exemption for non-transient for up to 16 occupants to be R-3



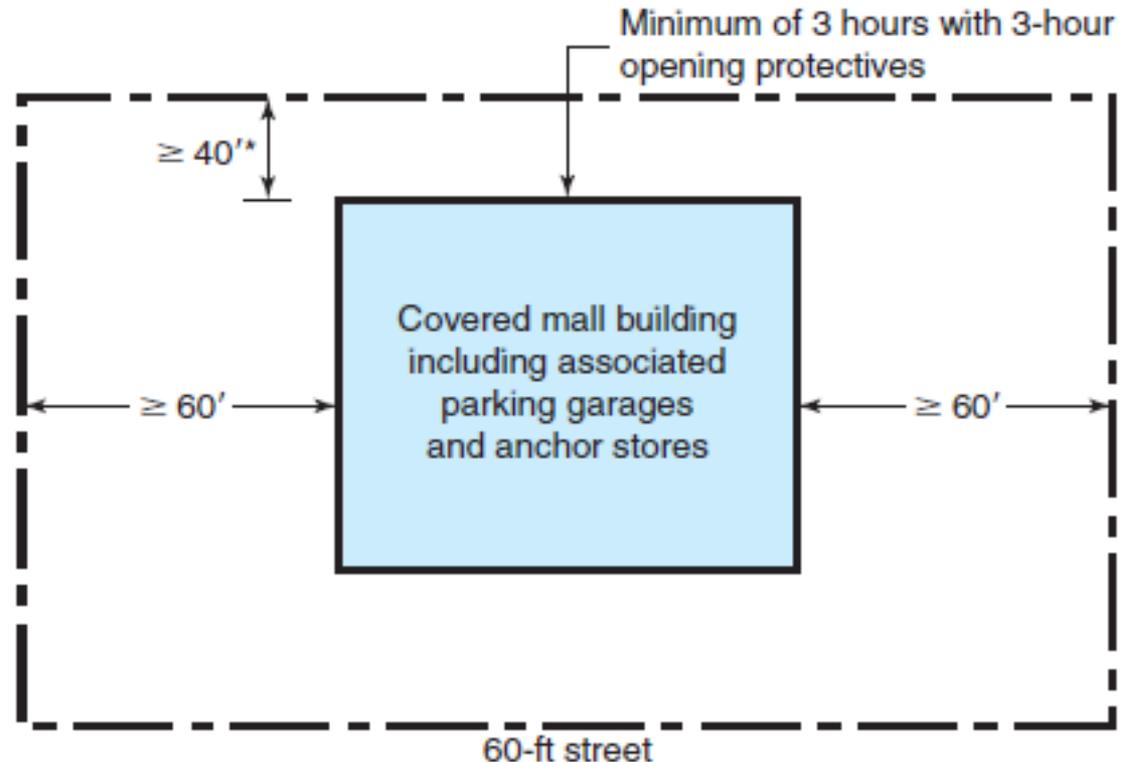
Revised 2009 IBC 402.2 – Open Mall Buildings – IBC p. 37

- *May comply with IBC 402 like covered mall buildings*
- *Can include strip malls*



Revised 2009 IBC 402.6.1 – Reduced Open Space Width for Covered Malls - IBC p. 38

- *Similar to provisions for Unlimited Area Buildings per IBC 507.5*



*Reduced open space permitted:

- Up to 75% of building perimeter
- Where exterior wall facing reduced open space has minimum 3-hour fire-resistance rating
- Openings in such walls are protected for minimum 3 hours
- Not applicable for Group E, H, I, and R occupancies.

Reduced open space

Revised 2009 IBC 402.8 – Interior Finish Rating for Mall and Exits – IBC p. 39

- *Class B Finish Rating*
- *Other mall areas per IBC ch. 8*



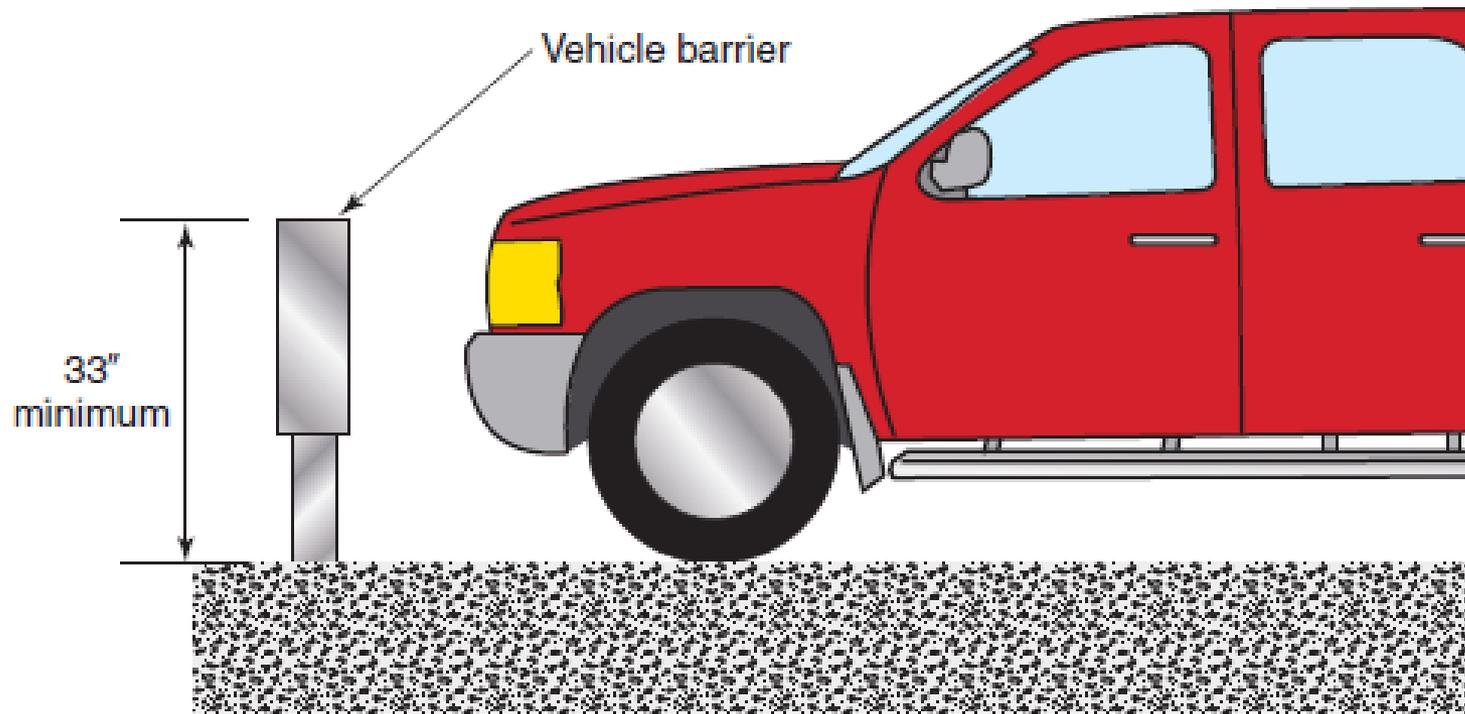
Revised 2009 IBC 403 High-Rise Requirements – IBC p. 40

- *High-rise buildings generally defined in IBC 202 as being >75' above lowest FD access*
 - *Emergency responder radio coverage*
 - *Post-fire smoke removal opening or system*
 - *Luminous egress path markings*
- *Fire service access elevator for buildings >120'*
- Also Wisconsin amendment s. Comm 62.0903(11) requires sprinklers in most buildings >60'



Revised 2009 IBC 406.2.4 – *Vehicle Barrier Height – IBC p. 46*

- Increase in minimum barrier height from 24" *to 33"*



Minimum vehicle barrier height

Revised 2009 IBC 408.7 – Security Glazing Option in I-3 – IBC p. 52

- *In lieu of 1-hour rated glazing, may use sprinkler protection on both faces, subject to limitations*



Revised IBC 410.3.5 – Proscenium Curtain – IBC p. 53

- Deleted current IBC specs in favor of NFPA 80 compliance



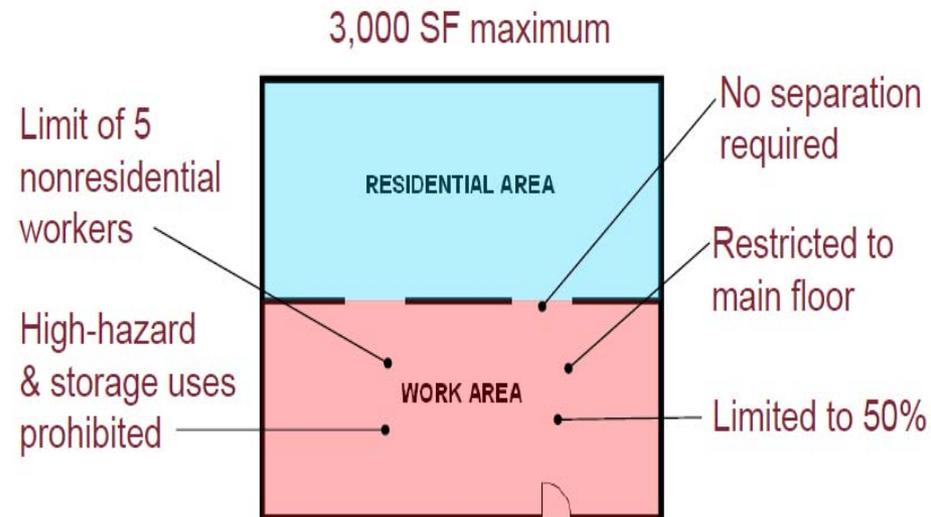
Revised 2009 IBC 419 – *Live/Work* *Units – IBC p. 75*

- *Classified as R-2*
- *May apply to detached or multi-family dwellings*
- *Dwelling unit with an office that is <10% of dwelling area is exempt from additional requirements*
- s. Comm 61.03(3)(h) & (4) may still exempt 1 or 2 family dwellings with <25% of floor area of dwelling is business and ≤ 1 FTE non-family employee



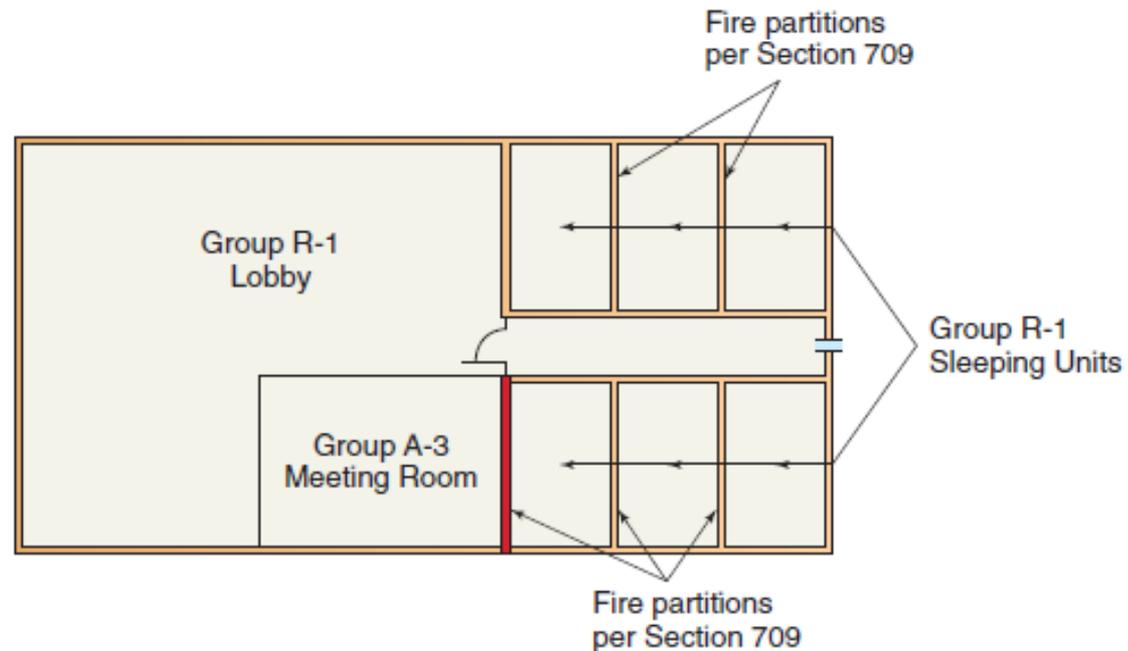
Revised 2009 IBC 419 – Live/Work Units – IBC p. 75

- *Live/work units:*
 - *Limited to 3000 sf*
 - *Business use \leq 50% of area*
 - *Business use on 1st or 2nd floor only*
 - *Max 5 non-residential employees in unit*
 - *Max 10% storage area in business area*
 - *Generally comply with R-2 requirements, except for egress occupant load, floor loading, accessibility & ventilation.*



Revised 2009 IBC 420.2 &.3 – Fire Partition Separation of Dwelling & Sleeping Units from Rest of Building – IBC p. 76

- Will require same fire partition separation from rest of building as is required between dwelling or sleeping units
- Applies if another part of building is a different occupancy (note a hotel lobby is also R-1)
- May need a greater fire barrier occupancy separation if separated mixed use design



Separation of dwelling units and sleeping units

Revised 2009 IBC s. 422 – *Ambulatory Health Care Facilities –* *IBC p. 77*

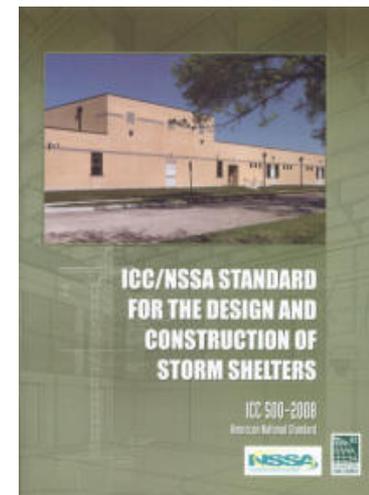
AMBULATORY HEALTH CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation.



- *If >10,000 sf, then at least one smoke barrier on each floor with refuge areas and independent exits on each side*
- *Max 200' travel distance to a smoke barrier door*
- *Sprinklered if ≥ 4 incapacitated patients or if any located on other than level of exit discharge*
- *Manual fire alarm system unless sprinklered*

Revised 2009 IBC 423 – Storm Shelters – IBC p. 77

- *If designated as a storm shelter, then comply with this section*
- *Built per ICC-500*
 - *Signage*
 - *Structural*
 - *Siting*
 - *Egress*
 - *Accessibility*
 - *Fire Safety*
 - *Features & Accessories*
 - *Test Standards*
- Currently subject to commercial building code if serving public – may instead use temporary use approval from local code officials



Revised 2009 IBC Table 503 – Reduced Allowable Building Stories – IBC p. 80

TABLE 503

ALLOWABLE HEIGHT AND BUILDING AREAS^a

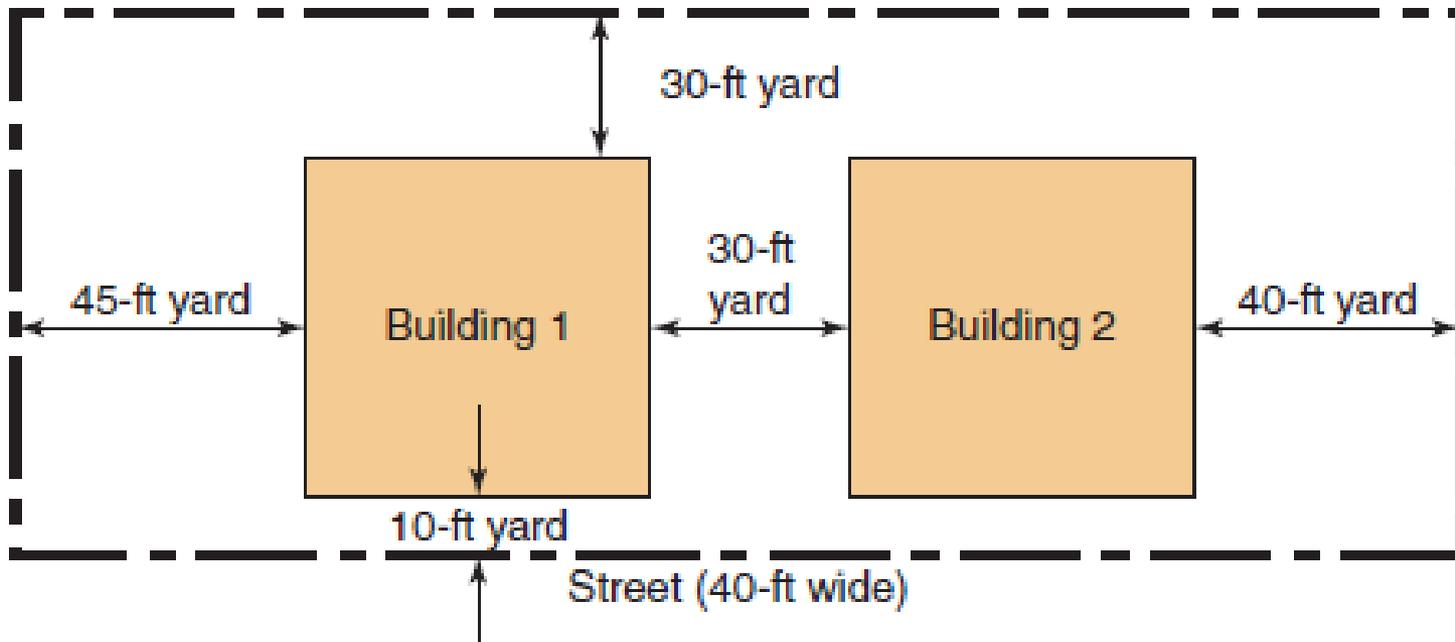
Height limitations shown as stories and feet above grade plane.

Area limitations as determined by the definition of "Area, building," per story

GROUP	HGT(feet) HGT(S)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		UL	160	65	55	65	55	65	50	40
B	S	UL	11	5	4 3	5	4 3	5	3	2
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
M	S	UL	11	4	4 2	4	4 2	4	3	1
	A	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
S-1	S	UL	11	4	3 2	3	3 2	4	3	1
	A	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
S-2 ^{b,c}	S	UL	11	5	4 3	4	4 3	5	4	2
	A	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500

Clarified 2009 IBC 506.2.1 – Frontage Increase Determination – IBC p. 82

- The frontages for buildings on the same lot may overlap
- Measure between opposing building faces – don't measure to the imaginary property line
- Similar to the 60' open area measurement



Clarified 2009 IBC 506.5 – Allowable Area for Separated Mixed Use Buildings >3 Stories – IBC p. 83

- Sum of the allowable area ratios shall not exceed 3

Given: A fully sprinklered four-story Type IIA hotel containing a Group A-2 restaurant, Group A-3 meeting rooms, and Group M retail stores. The floor areas of each occupancy are as shown. Inadequate frontage provides for no area increase.

Determine: If the building complies with the allowable area provisions of Chapter 5 if the occupancies are separated under the provisions of Section 508.4 (separated occupancies).

A-2 8,000 sq ft	R-1 38,000 sq ft	
R-1 46,000 sq ft		
R-1 46,000 sq ft		
A-3 24,000 sq ft	R-1 8,000 sq ft	M 14,000 sq ft

Solution for total building area:

Allowable area per occupancy

- A-2: $15,500 + 15,500 (200\%) = 46,500$
- A-3: $15,500 + 15,500 (200\%) = 46,500$
- M: $21,500 + 21,500 (200\%) = 64,500$
- R-1: $24,000 + 24,000 (200\%) = 72,000$

Sum of ratios calculation per story

1st story $\frac{24,000}{46,500} + \frac{8,000}{72,000} + \frac{14,000}{64,500} = 0.52 + 0.11 + 0.22 = 0.85 \leq 1.0$

2nd story $\frac{46,000}{72,000} = 0.64 \leq 1.0$

3rd story $\frac{46,000}{72,000} = 0.64 \leq 1.0$

4th story $\frac{8,000}{46,500} + \frac{38,000}{72,000} = 0.17 + 0.53 = 0.70 \leq 1.0$

Each story complies

Sum of ratios calculation for building

$0.85 + 0.64 + 0.64 + 0.70 = 2.83 \leq 3.0$

Entire building also complies

Revised 2009 IBC 507.7 –
Unlimited Area Type IIB A-3
Occupancies May Have a Floor
>21” Above Grade – IBC p. 85

- *Permits mezzanines and balconies*
- Still must be a one-story building



Revised 2009 IBC 508.2.5 – Limit Incidental Use Areas as Accessory Uses – IBC p. 85

- Aggregate accessory uses, *including “incidental accessory” uses*, limited to 10% of the building floor area of that story, but no greater than the unmodified Table 503 allowable areas
- Delete Parking Garages and Storage Rooms as Incidental Uses – Would be Accessory Use or another occupancy if >10%* (Table 508.3.3.4 may require 0 hour separation)
- An incidental use area is classified with its parent occupancy

TABLE 508.2.5
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic fire-extinguishing system
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic fire-extinguishing system
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen cutoff rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing system
Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy	1 hour or provide automatic fire-extinguishing system
Laundry rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Group I-3 cells equipped with padded surfaces	1 hour
Group I-2 waste and linen collection rooms	1 hour
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Rooms containing fire pumps in nonhigh-rise buildings	2 hours; or 1 hour and provide automatic sprinkler system throughout the building
Rooms containing fire pumps in high-rise buildings	2 hours

Current IBC Table 508.4 - Separated Mixed Use Design Option

**TABLE 508.3.3
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)**

OCCUPANCY	A ^e , E		I		R ^d		F-2, S-2 ^{c,d} , U ^d		B ^b , F-1, M ^b , S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A ^e , E ^c	N	N	1	2	1	2	N	1	1	2	NP	NP	3	4	2	3 ^a
I	—	—	N	N	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
R ^d	—	—	—	—	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2 ^{c,d} , U ^d	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3 ^a
B ^b , F-1, M ^b , S-1	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2 ^a
H-1	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m².

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

N = No separation requirement.

NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2.

b. Occupancy separation need not be provided for storage areas within Groups B and M if the:

1. Area is less than 10 percent of the floor area;
2. Area is equipped with an automatic fire-extinguishing system and is less than 3,000 square feet; or
3. Area is less than 1,000 square feet.

c. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.

d. See Section 406.1.4.

e. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

Revised 2009 IBC Table 508.4 – Minimum 2-hour Occupancy Separation between I-2 and Other Occupancies – IBC p. 86

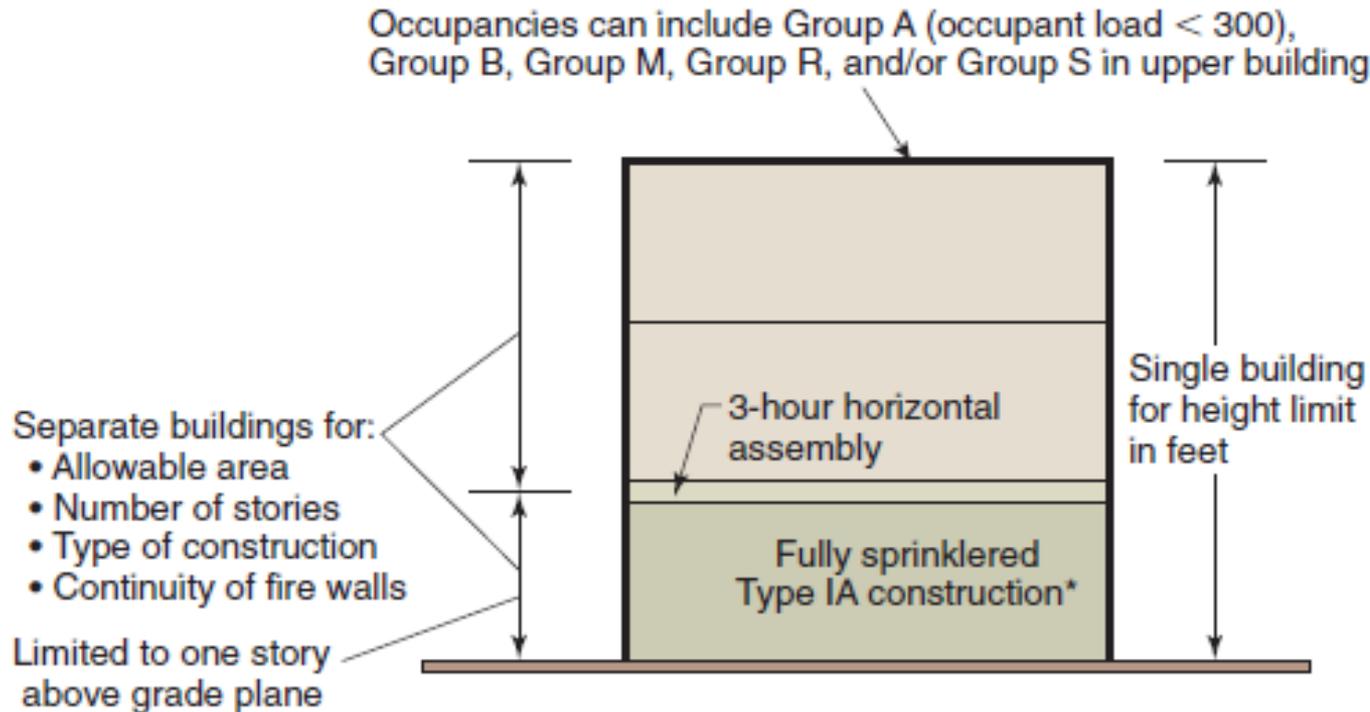
Applicable to Separated Mixed-Use Design Option

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	Ad, E		1-1,1-3,1-4		I-2		R		F-2, 5-2 ^b , U		B, F-1, M, 5-1		H-1		H-2		H-3, H-4, H-5	
	5	N5	5	N5	5	N5	5	N5	5	N5	5	N5	5	N5	5	N5	5	N5
Ad, E	N	N	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3 ^a
1-1,1-3,1-4	-	-	N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
I-2	-	-	-	-	N	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP

Revised 2009 IBC 509.2 – Liberalize “Pedestal” Design Option – IBC p. 87

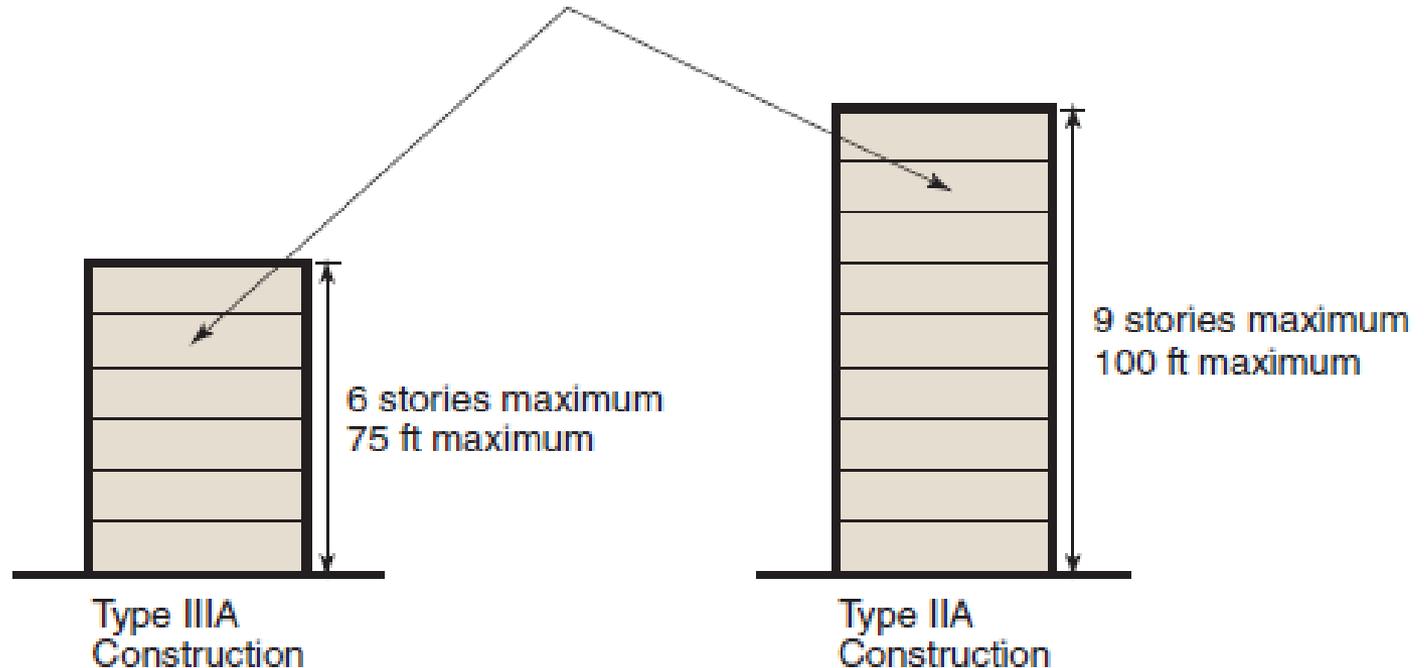
- *The base does not need to include a parking garage*
- The base may include **Group R**, as well A-2 up to 300 persons, B, or M and incidental uses



*Group S-2 parking, R, B, M, and/or limited size A occupancies and incidental operational uses permitted to occupy a portion, or all, of floor area

Revised 2009 IBC 509.5 & .6 – Allow Height Increases for R-1 – IBC p. 88

Applicable to both **Group R-1** and Group R-2 occupancies



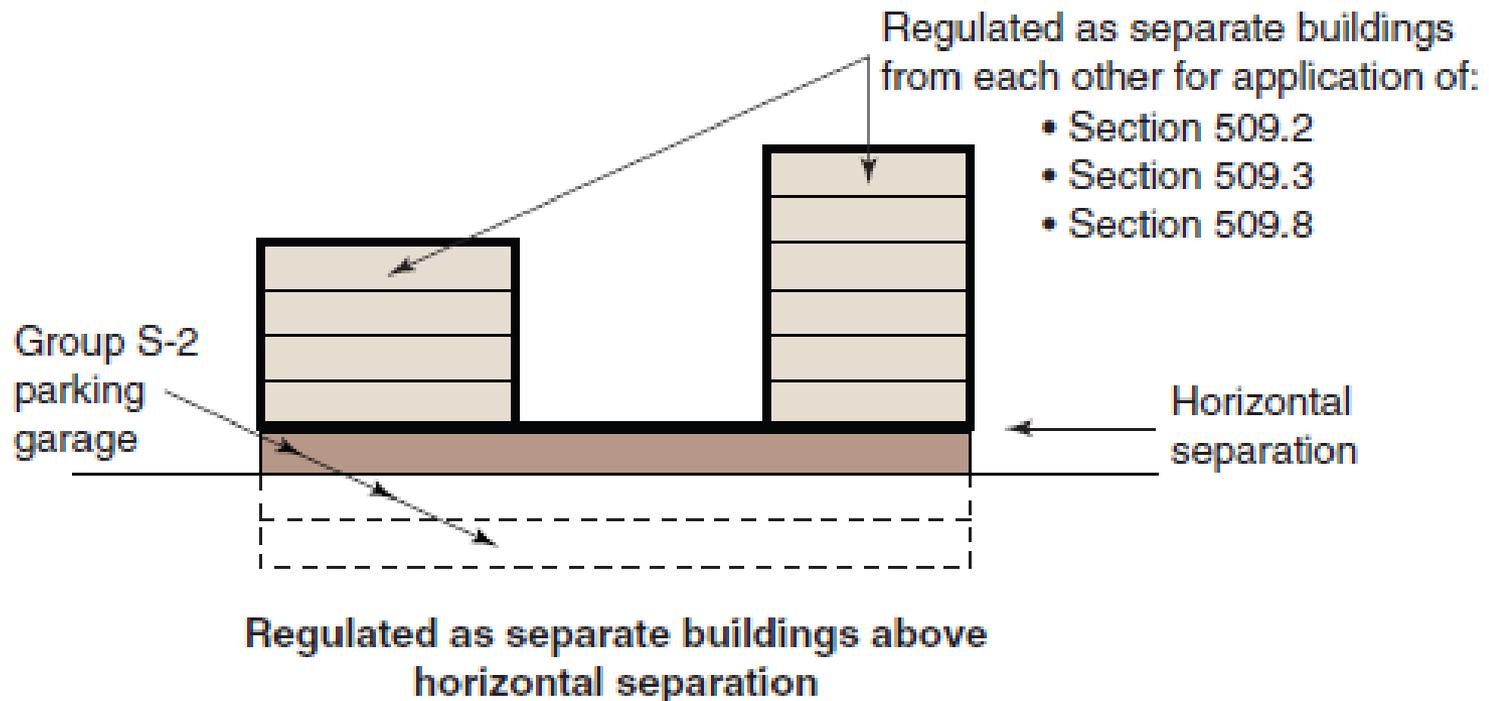
- 1st floor above basement has minimum 3-hour rating
- Minimum 2-hour fire walls subdivide floors into maximum 3000 sq ft areas

- Minimum 50-foot separation from lot lines and other buildings on site
- Exits segregated in area enclosed by 2-hour fire wall
- Minimum 1 1/2-hour first floor construction

Increased height for Group R-1 occupancies

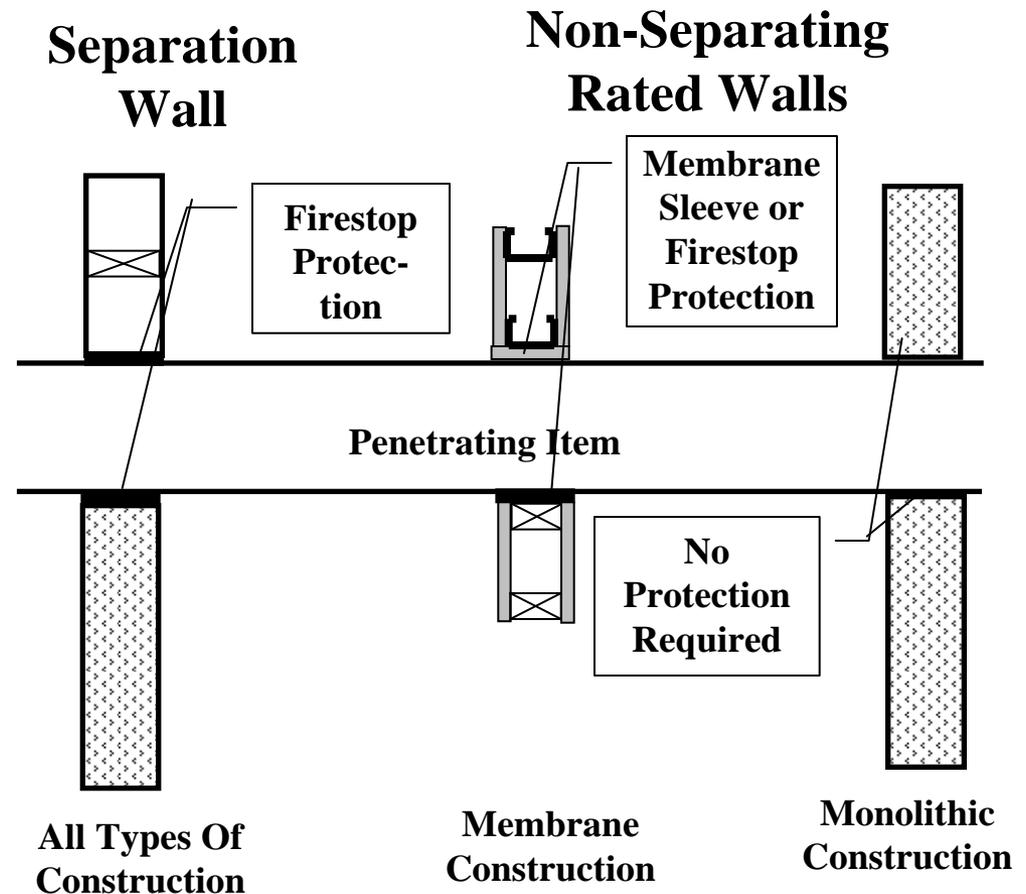
Clarified 2009 IBC 509.9 – Multiple Pedestal Buildings Above a Parking Garage – IBC p. 88

- Apply the pedestal building option separately to each of the buildings above



Clarified 2009 IBC 602.1 – Unprotected Openings in Class of Construction Elements – IBC p. 89

- Generally do not need to be rated, unlike openings in rated separations
- However membrane assemblies may need protection of openings to protect framing
- Do generally need shafts or alternatives for openings between floors

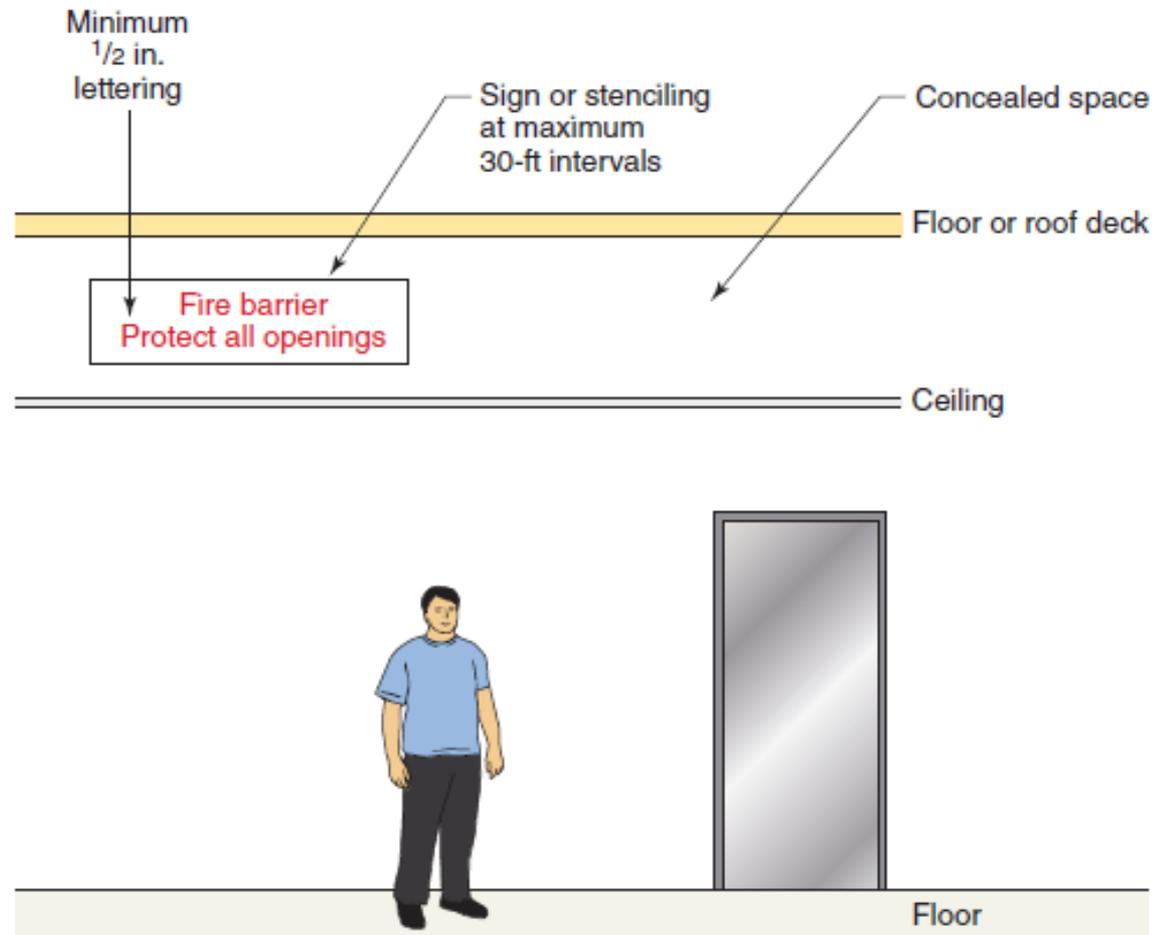


Renumbering of 2009 IBC Ch. 7

- *2006 IBC 714 Fire Resistance of Structural Members is moved to 2009 IBC 704*
- *So all 2006 Ch 7 code sections between IBC 703 and 714 are renumbered up one digit*
- *2006 IBC 704 Exterior Walls is now 2009 IBC 705, and so forth*

Revised 2009 IBC 703.6 – Marking of Separation Walls – IBC p. 95

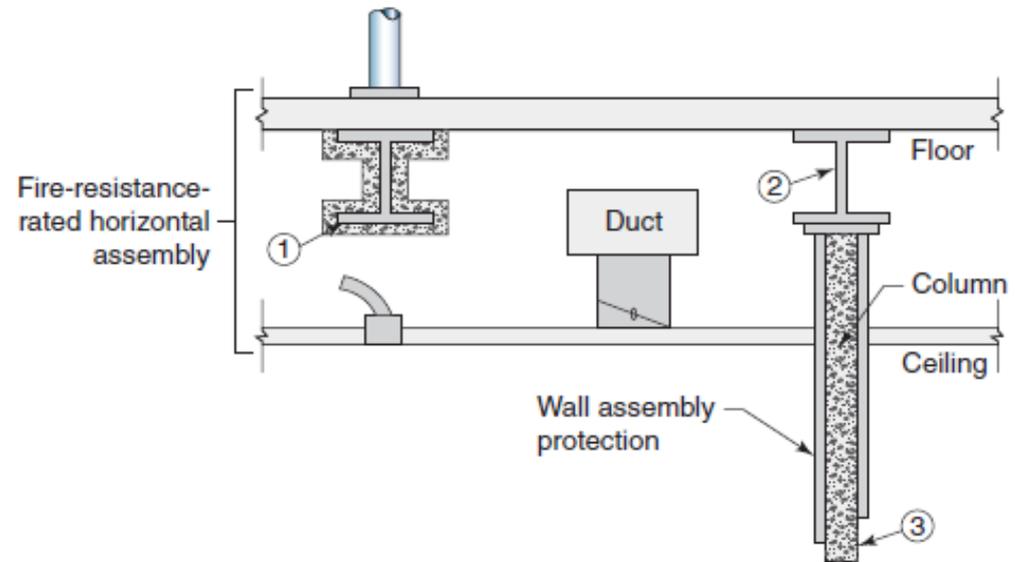
- *In accessible, concealed floor, floor-ceiling, and attic spaces*
- *Every 30'*
- *½" lettering*
- *Exemption for R-2 occupancies without removable decorative ceilings*



Identification sign for fire barrier

Revised 2009 IBC 704.2 – Individual Fire Protection of All Columns Requiring Fire Ratings – IBC p. 95

- Currently, individual protection, rather than membrane protection is required for fire-rated structural members supporting >2 floors, or 1 floor & 1 roof, or walls > 2 stories
- *All columns will need individual protection if they need a fire rating*



Code requirements:

1. Individual protection for structural members is required if supporting loads are from more than two floors or from one floor and roof
2. Otherwise, protection may be by individual encasement membrane or ceiling protection per Section 712 or combination of both
3. Columns must be protected for full height by individual encasement regardless of loading conditions (Section 704.2)

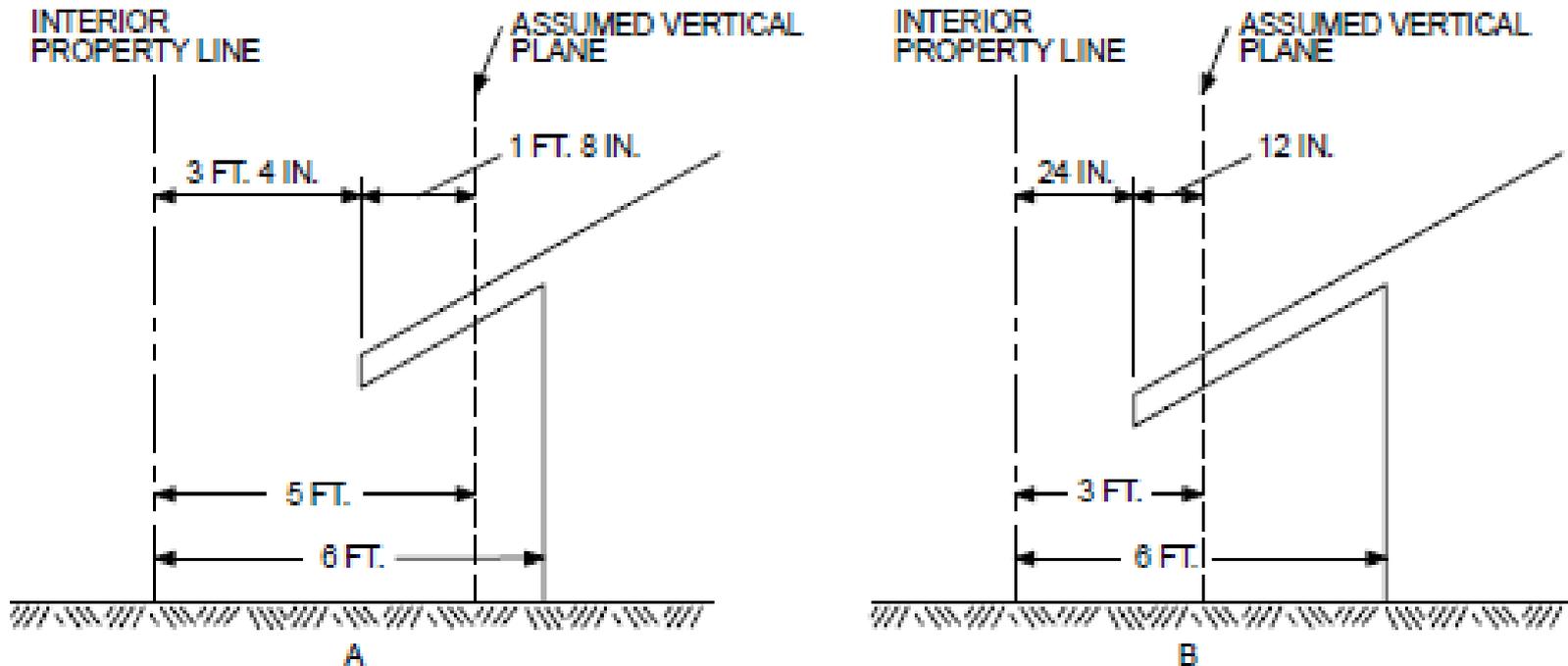
Protection of structural members

Revised 2009 IBC 704.13 – SFRM *Installation Details – IBC p. 96*

- *Summarizes typical installation requirements for Sprayed Fire-Resistant Materials (SFRM)*



Current 2006 IBC 704.2 Projection Limits – The lesser of A and B



PROJECTIONS BEYOND THE EXTERIOR WALL

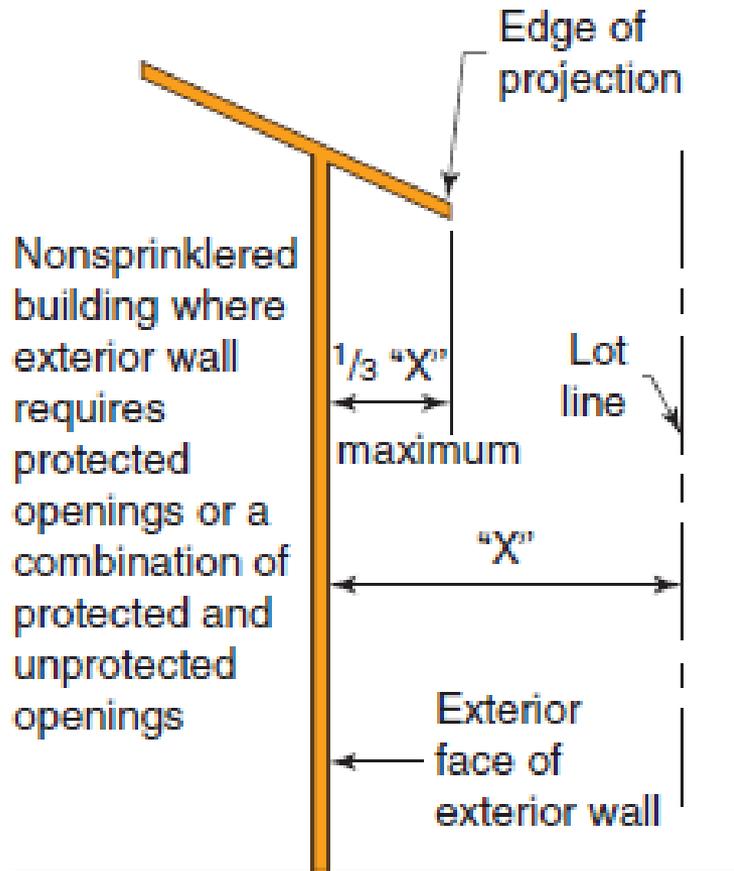
FIGURE 704-1

Exterior wall rated per IBC 602, including behind projection

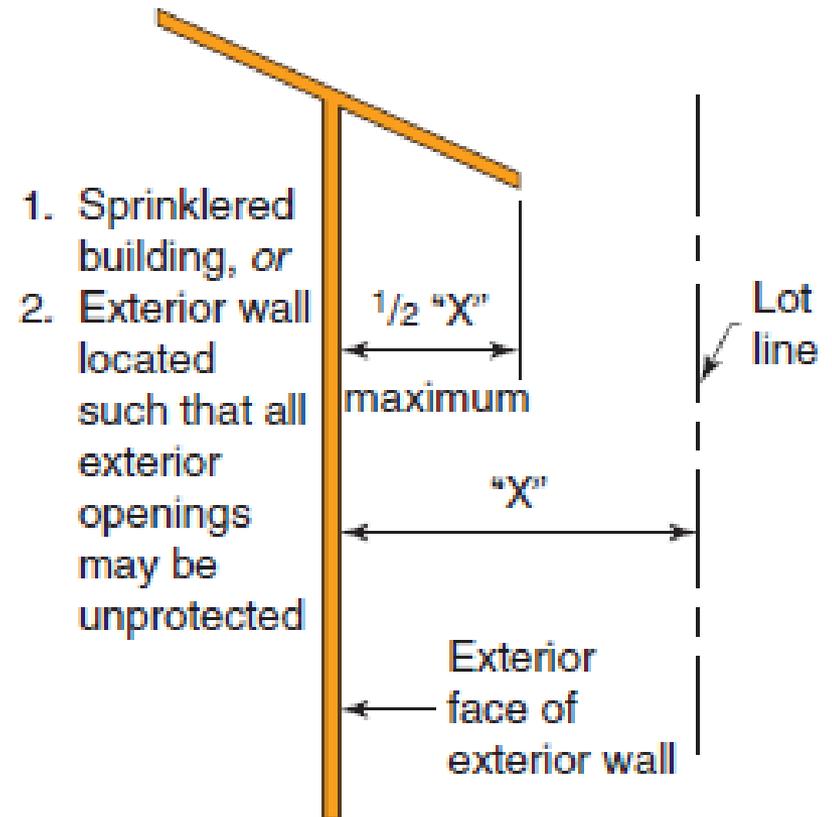
Current 2006 IBC 704.2

Fire Separation Distance of Projection	≤24''	>24''to <36''	36 to <40''	40'' to <60''	≥60''
Unsprinklered Buildings					
Types I & II Construction	Table 602			NC or IBC 1406	NC or IBC 1406
Types III, IV & V Construction	Table 602			1 hour, HT, FRTW or NC	Any Materials
Sprinklered Buildings					
Types I & II Construction	Table 602	NC or IBC 1406	NC or IBC 1406		
Types III, IV & V Construction	Table 602	1 hour, HT, FRTW or NC	Any Materials		

Revised 2009 IBC 705.2 – Wall Projection Limits – IBC p. 97



Method 1



Method 2

Limitations on extension of projections

Revised 2009 IBC 705.2 - Wall Projections

2009 IBC 705.2 Maximum Wall Projections at Property/Imaginary Lines

Distance Between Wall & Property Line	<3'	3' to <20'	20' to <30'	≥30'
Unsprinklered Buildings	No Projection	1/3 of wall setback		1/2 of wall setback
Sprinklered Buildings	No Projection	1/3 of wall setback	1/2 of wall setback	

2009 IBC 705.2.1&.3 Allowable Projection Materials

Distance Between Projection & Property Line	<3'	3' to <5'	≥5'
Types I & II Buildings	NC or IBC 1406 Allowed Materials		
Types III, IV & V Buildings			
Unsprinklered	1 hour, HT, FRTW or NC		Any Materials
Sprinklered	1 hour, HT, FRTW or NC	Any Materials	

Revised 2009 IBC 705.5 – Rating of Exterior Wall for Fire Exposure on Both Faces If $\leq 10'$ Setback – IBC p. 97

- Currently if exterior wall is setback 5' or less to property line or imaginary (fire setback distance), then need rating for fire exposure from both sides
- Rated wall required to roof deck and to any required parapet

Design No. U326

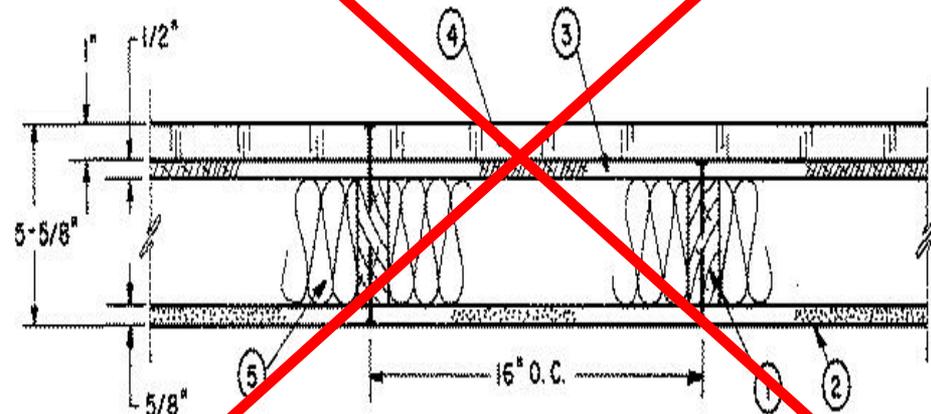
September 30, 2010

(Exposed to Fire on Interior Face Only)

Bearing Wall Rating – 1 HR.

Finish Rating - 25 Min.

Load Restricted for Canadian Applications – See Guide [BXU17](#)



1. Wood Studs – Nom 2 by 4 in., spaced 16 in. OC.

2. Gypsum Board* – 5/8 in. thick, 4 ft wide, applied vertically. Attached to studs with 1-3/4 in. long steel drywall nails with 0.102 in. diameter shank and 0.29 in. diameter head, spaced 7 in. OC. Vertical joints located over studs. Joints covered with paper tape and joint compound. Nail heads covered with joint compound.

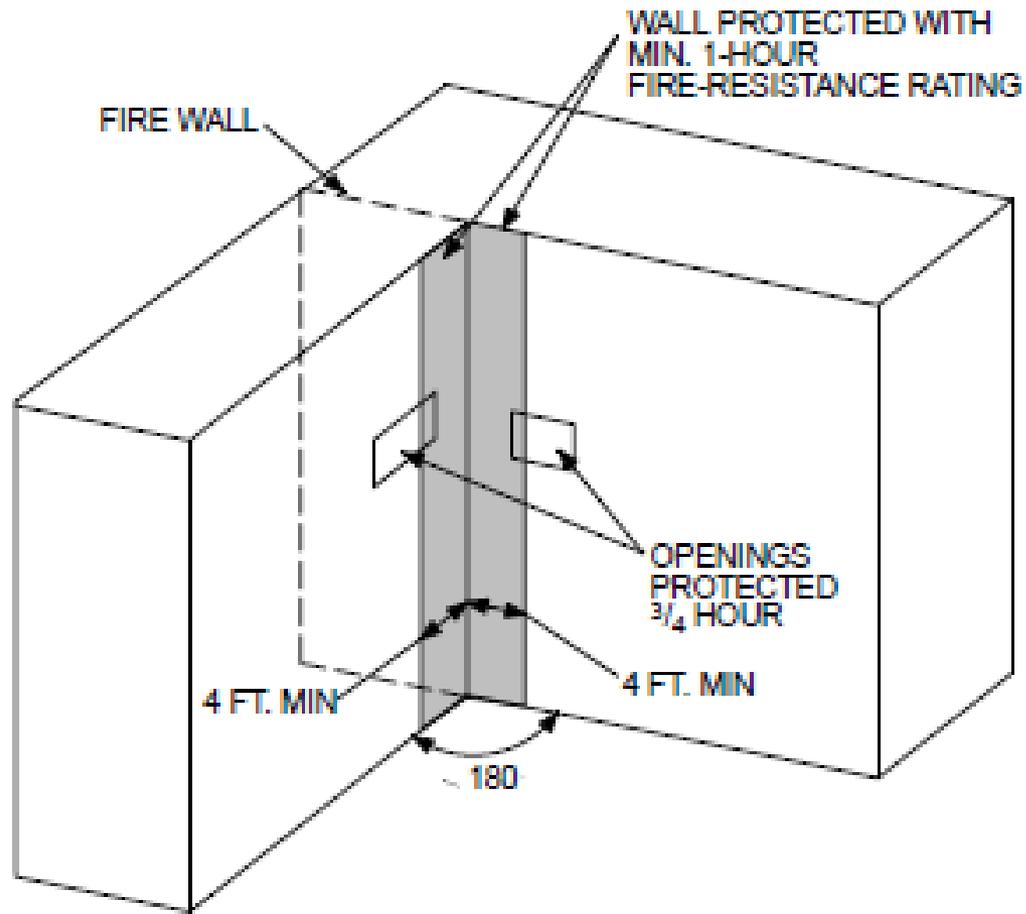
Clarified 2009 IBC Table 705.8 – Max Exterior Wall Openings – IBC p. 99

TABLE 705.8
MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA ^a
0 to less than 3 ^{b, c}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S) ⁱ	Not Permitted
	Protected (P)	Not Permitted
3 to less than 5 ^{d, e}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S) ⁱ	15%
	Protected (P)	15%

- Tabulates the previous code provision that allowed sprinklered buildings to have unprotected openings to the extent that the table otherwise allowed for protected openings.
- Remember to test for unity if both protected and unprotected openings: $\text{Actual/Allowed} + \text{Actual/Allowed} \leq 1$

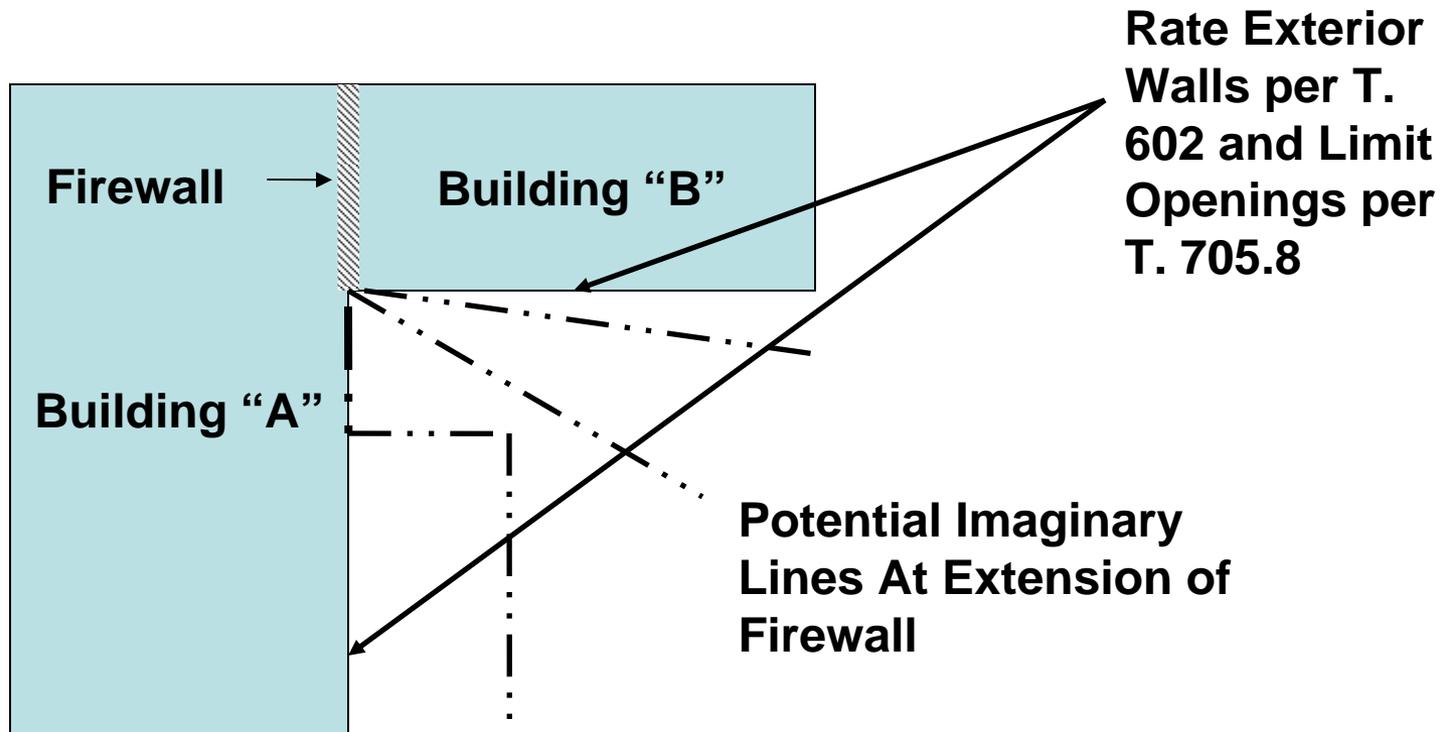
Current IBC 705.5.1



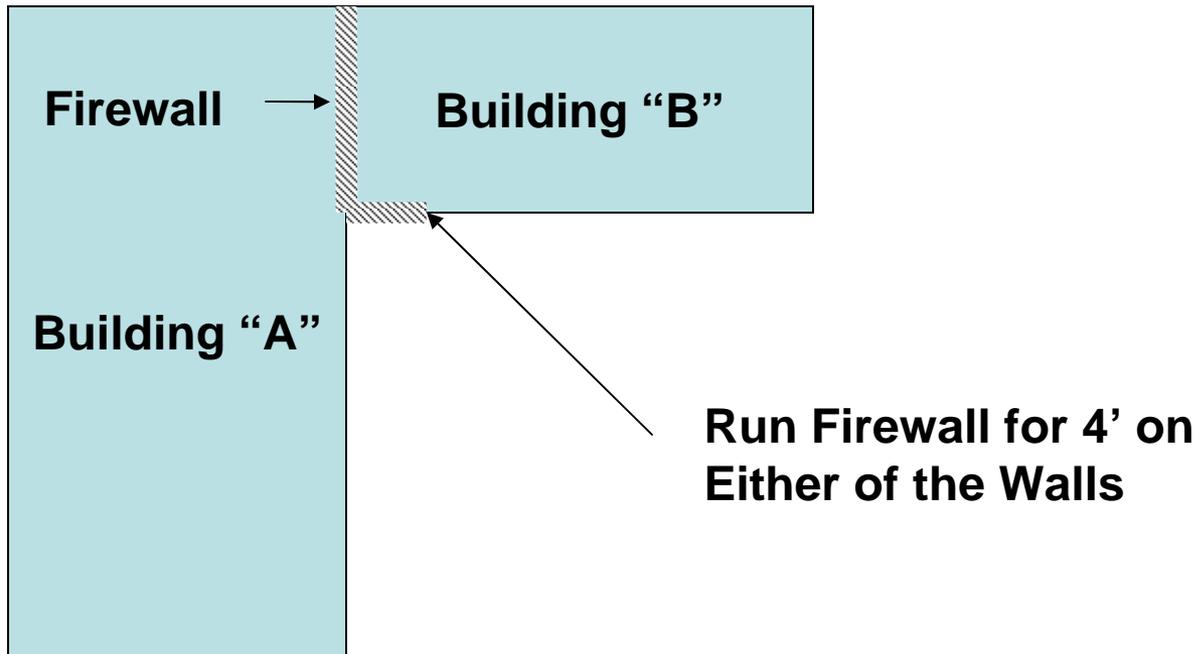
EXTERIOR WALLS

FIGURE 705-2

**Revised 2009 IBC 706.5.1.2 –
Option for Fire Wall Intersection at
Exterior Walls – IBC p. 102**



Alternative Compliance Per IBC 703.3



Clarified 2009 IBC 707.3.9 – Fire Barrier Separations Between Fire Areas of Different Occupancies – IBC p. 103

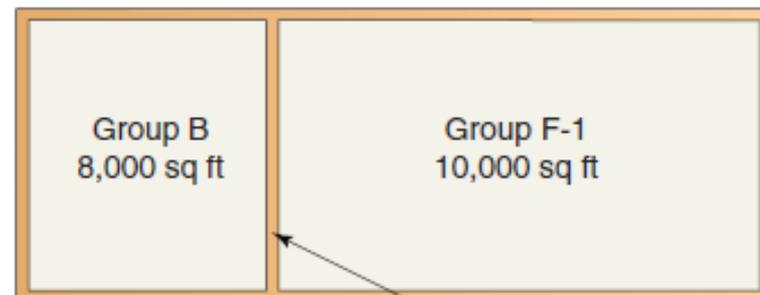
- Used to eliminate sprinklers
- If different occupancies, apply most restrictive rating
- In addition to any occupancy separations per IBC 508 for separated mixed-use design option

TABLE 707.3.9
FIRE-RESISTANCE RATING REQUIREMENTS FOR FIRE BARRIER ASSEMBLIES OR HORIZONTAL ASSEMBLIES BETWEEN FIRE AREAS

OCCUPANCY GROUP	FIRE-RESISTANCE RATING (hours)
H-1, H-2	4
F-1, H-3, 5-1	3
A, B, E, F-2, H-4, H-5, I, M, R, 5-2	2
U	1

No sprinkler system

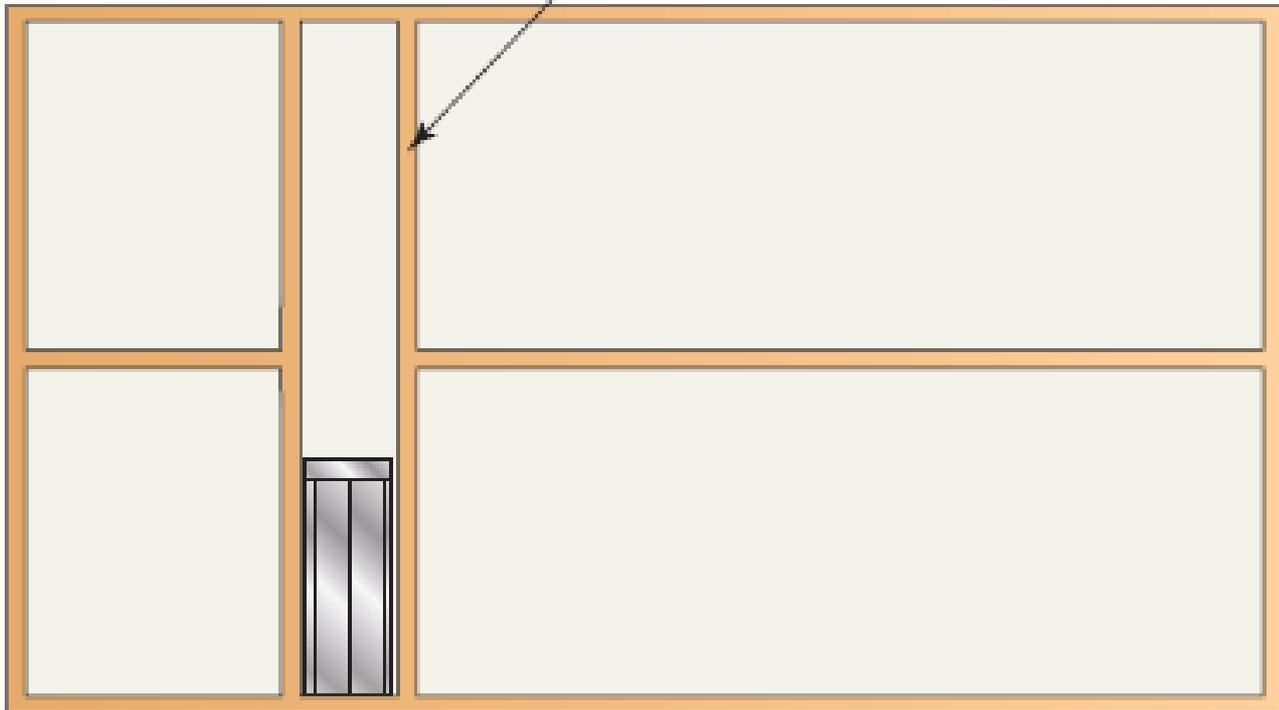
Per Table
707.3.9:
B: 2 hours
F-1: 3 hours



Minimum 3-hour fire barrier required

Clarified 2009 IBC 708.2 Ex. 7 – “Concealed Openings” Between Floors Are Those Within Assemblies – IBC p. 105

Shaft enclosure protection not required for elevator shaft connecting only 2 stories (Exc.7)



Exception to shaft enclosure

Revised 2009 IBC 708.14.1 – Elevator Lobby Changes – IBC p. 106

- Elevators can act as chimneys to spread smoke and heat through building.
- Required if elevator connects four or more stories, unless sprinklered, except that they are required in all *I-2s*, I-3s and high-rises (>75').
- *Lobby required independently of whether or not there is a corridor, rated or otherwise.*
- In unsprinklered buildings, requires a fire partition *with smoke & draft control lobby doors and ducts entering lobbies protected as for corridors.* Current code requires them if corridor connects with lobby. If corridor passes through the lobby, then they are required on the elevator openings.
- In sprinklered buildings, allows smoke partitions *but will require smoke and draft control doors with closers*, which are now required if the lobby connects with a corridor.
- Can still use shaft pressurization or smoke & draft control doors in elevator openings to satisfy lobby requirements – must allow egress (no rolling fire shutters).



Revised 2009 IBC ch. 8 – Interior Finishes – IBC p. 175

- Reformatted the chapter
- *IBC 803.11.4 - Only non-combustible thin (<1/4") finishes may be set-out or suspended from fire-resistance rated assemblies, unless tested as part of the assembly.* Currently, Class A finishes were permitted to be set out.

s. Comm 62.0902.1 – Definition of Fire Area - IBC p. 182

- Continues current 2006 IBC definition of fire area that only includes enclosed areas rather than the 2009 IBC that includes any covered areas.
- “Enclosed” - Will the structure trap smoke and heat?



s. Comm 62.0903(6) – Sprinkler Code Changes eff. January 1, 2011

- Elimination of general R-2 sprinkler exception for ≤ 8 dwelling units
- Now all R occupancies require sprinklering with the exceptions of:
 - Up to 20 townhouses with 2-hour separations between units
 - Townhouses constructed of 2-hour construction throughout
 - Effective July 1, 2014 these two exceptions will be deleted
- Also may use NFPA 13D, including combined potable & fire protection Multi-Purpose Piping (MPP) systems, in:
 - Max 2 story 3 & 4 dwelling units served by limited water supply
 - Townhouse with 2-hour separations, which will be reduced to 1 hour separations effective July 1, 2014
 - *Eff. 9/1/2011: Single-room, 1-story bunkhouses, with $\leq 1500sf$ & ≤ 10 persons, served by limited water supply*

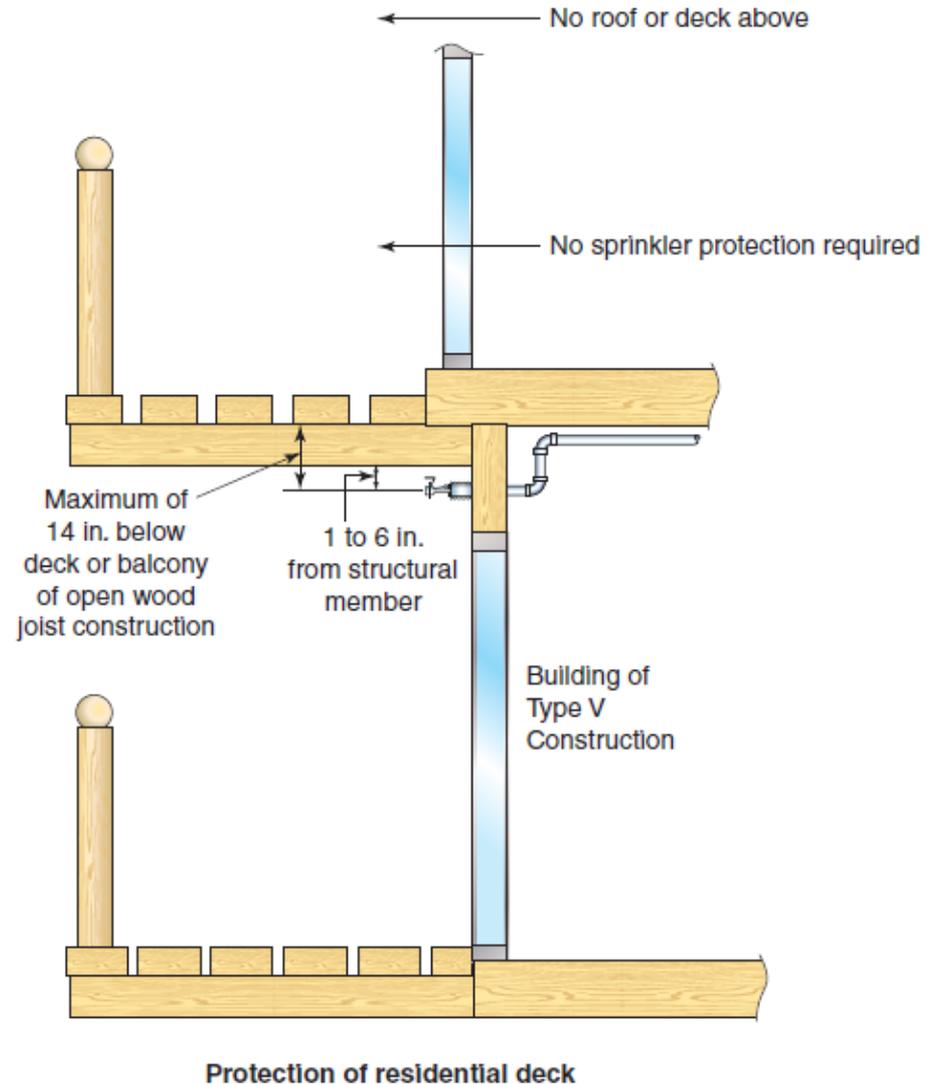
Revised 2009 IBC 903 – Sprinkler *Threshold Changes – IBC p. 185*

- Group E occupancies of ~~$\geq 20,000$~~ **12,000** s.f. fire areas
- *Upholstered furniture stores of any size – does not include bedding stores*
- *Enclosed storage garages of $>12,000$ s.f. fire area*



Revised 2009 IBC 903.3.1.2.1 – Omission of Sprinklers for Uncovered Decks – IBC p. 187

- Decks on Type V NFPA 13R sprinklered buildings need to be sprinklered. (Not required by NFPA 13 for decks $\leq 4'$ deep.)
- *Can omit the sprinklers for any decks without a roof or deck above*



Revised 2009 IBC 907.2 – Single Manual Fire Alarm Box for Automatic Alarm Systems – IBC p. 195

- *Mostly intended as a means for fire watch personnel to notify occupants of a fire when automatic system is not available*
- *Exception for R-2 occupancies*



Repeat of IFC Requirements for IBC 910 Fire Extinguishers, IBC 913 Fire Pumps and IBC 914 Emergency Responder Safety Features – IBC Ch. 9

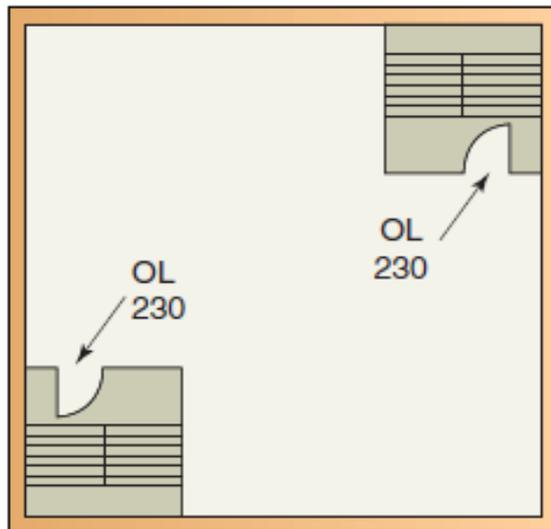


Revised 2009 IBC 1005.1 – Elimination of Reduced Egress Widths for Sprinklered Buildings – IBC p. 221

Example:

Given: A fully sprinklered two-story office building having an occupant load of 460 on each story.

Determine: The minimum required egress width for the means of egress doors and stairways serving the second story.



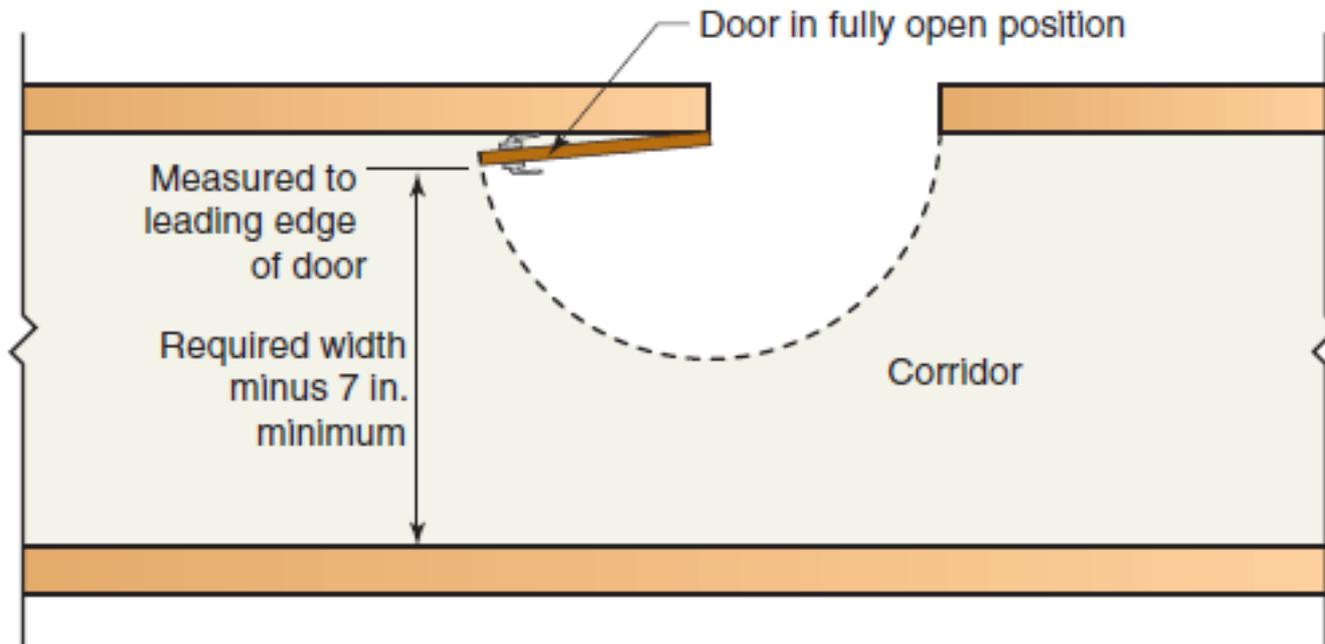
	2009 IBC	2006 IBC
Door	$230 \times 0.2 = 46''$	$230 \times 0.15 = 34.5''$
Stairway	$230 \times 0.3 = 69''$	$230 \times 0.2 = 46''$

Calculation of minimum required egress width

After about 300 occupants, the width ratios will control over the minimum egress component widths of 32" for doors and 44" for stairs for minimum two egress paths

Revised 2009 IBC 1005.2 &.3 – Egress *Width Encroachments – IBC p. 221*

- Doors have been allowed to encroach 7”
- *Now handrails too, in corridors*
- *Hardware on doors is exempt*
- *Trim on walls may infringe 1-1/2”*
- Max 50% infringement in required width during doorswing
- More specific limits for stairs and ramps elsewhere may supersede



Measurement of minimum required corridor width

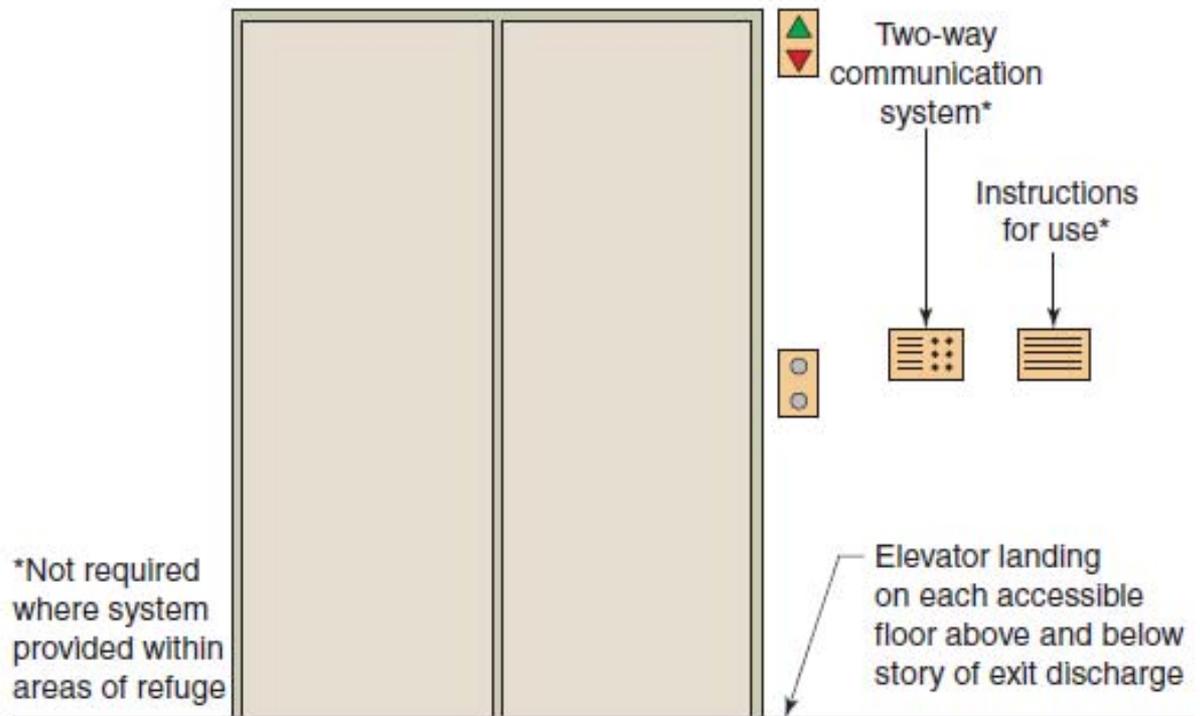
Current Comm 62.1007 – Accessible Means of Egress – IBC p. 222

- Areas of refuge or extra-width stairs not required for sprinklered buildings in WI – 2009 IBC will re-institute this 2000 IBC Exception
- *2009 IBC will also exempt “rescue elevators” in sprinklered buildings from need for area of refuge or horizontal exit*
- Note that exterior areas for assisted rescue for inaccessible exit discharges will continue to be required in sprinklered or non-sprinklered buildings
- Accessible means of egress not required for areas not required to be accessible
- Accessible means of egress not required for alterations



Revised 2009 IBC 1007.8 – Two-Way Communication at Elevator Landings – IBC p.223

- Required at other than first floor if areas of refuge with two-way communication are not present (as in sprinklered buildings)



*Not required where system provided within areas of refuge

Two-way communication system at elevator landing

Revised 2009 IBC 1008.1.2 – *Manual Sliding Doors Allowed in More Occupancies – IBC p. 224*

- Currently allowed in B, S and F occupancies of ≤ 10 persons
- *Will be allowed in all occupancies of ≤ 10 persons except H*
- Note opening force limits



Revised 2009 IBC 1008.1.9.4 – Manual Bolts on Inactive Door Leafs – IBC p. 228

- Currently allows surface or flush edge mounted bolts on inactive leafs for storage & equipment room doors
- *Expands to include B, F, S and I-2 occupancies serving <50 persons or if sprinklered*



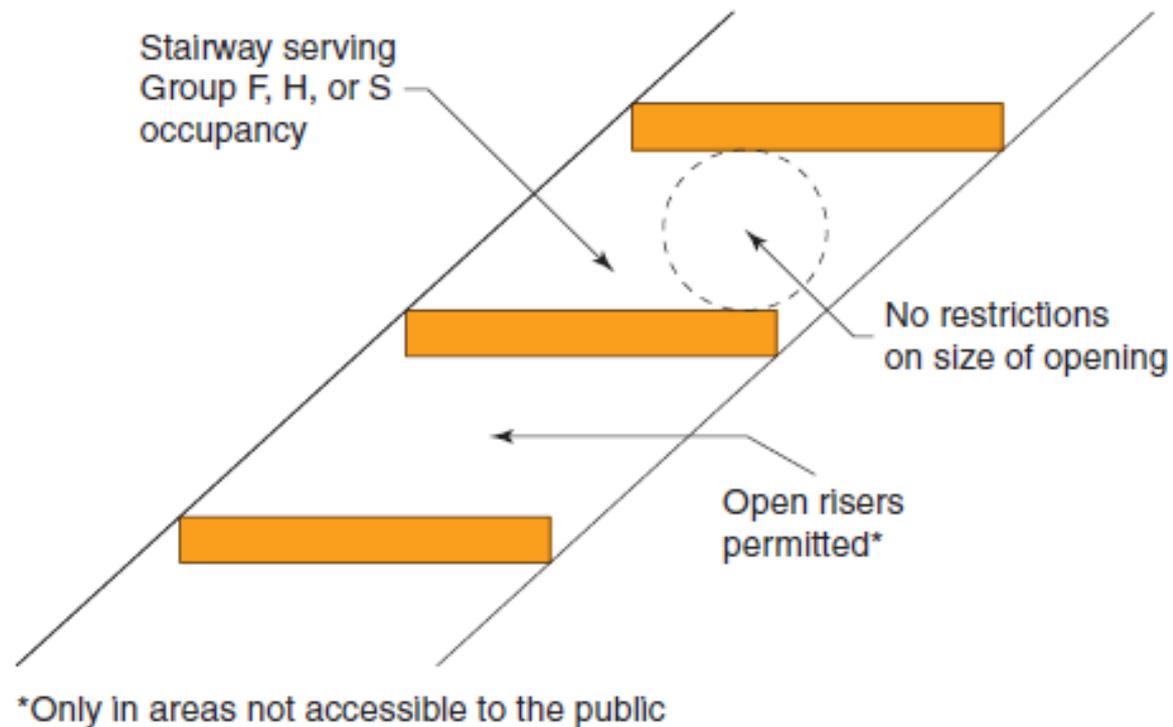
Revised IBC 1008.1.9.6 – *Delayed Egress in I-2 Occupancies* – IBC p. 228

- Currently allowed in all occupancies except A, E & H subject to conditions
- *Will allow omission of automatic unlocking in case of fire alarm, or loss of power or by remote control in mental hospitals*



Revised 2009 IBC 1009.4.5 – Open Riser Stairs – IBC p. 231

- WI allows open risers in I-3, F, H and S occupancies – *2009 IBC will too*
- *Also will be allowed on spiral stairs and alternating tread devices*



Open risers in Group F, H, and S occupancies

Revised 2009 IBC 1009.12 –
*Handrails on R-2 & R-3 – IBC p.
233*

- No handrail required on stairs of 3 or less risers



Revised 2009 IBC 1009.14 – Stair to Elevator Penthouses – IBC p. 233

- *Access to rooftop elevator penthouses by stair, not ladder or alternating tread device*
- Note that If an area is not routinely occupied except for infrequent maintenance by qualified staff, then access may be by means other than those methods recognized by IBC Ch. 10, unless special access is required to mechanical spaces, such as by this section



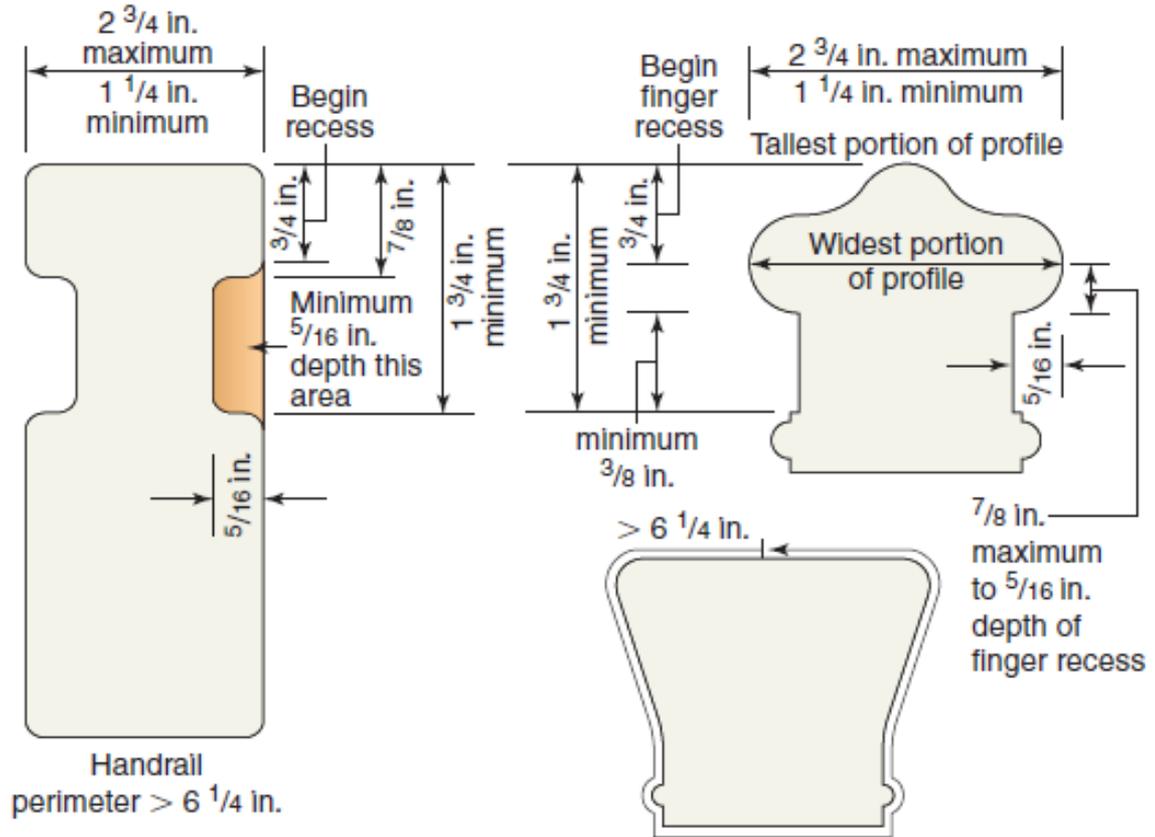
IBC 1011.4 - Photoluminescent Exit Signs Are Permitted – IBC p. 235

- But they need a constant source of light to charge so that they will always be lit, including when the building is unoccupied

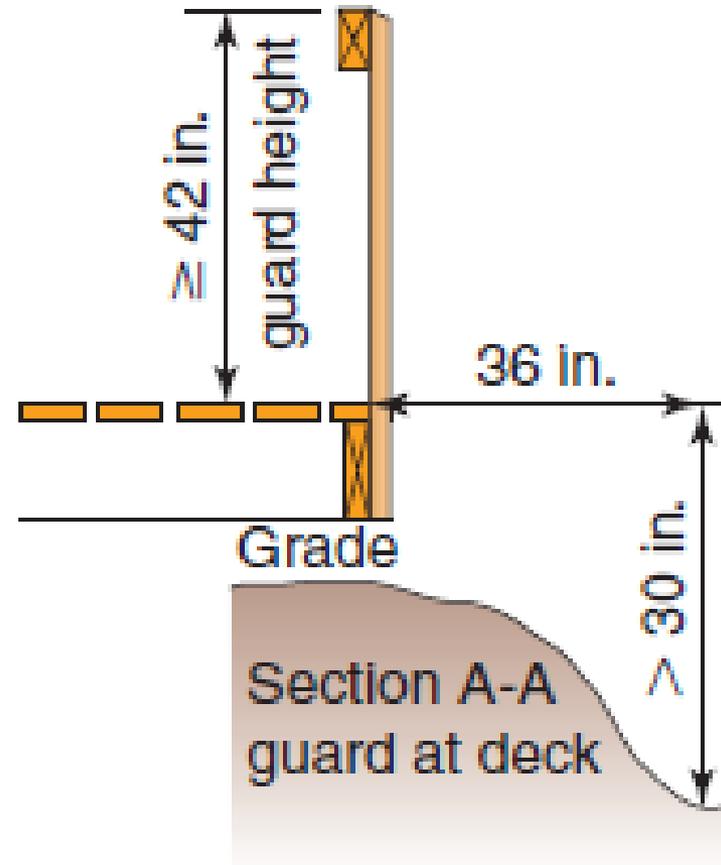


Clarified 2009 IBC 1012.3 – Graspable Handrails – IBC p.1012

- Handrails shall be either Type I *or II*
- Currently *Type I* shall have a diameter between 1-1/4" to 2" or if non-circular, then a perimeter between 4" to 6-1/4" and max cross-section of 2-1/4", or equivalent.
- *Type II* – see *diagrams*. These would be considered equivalent to current requirements

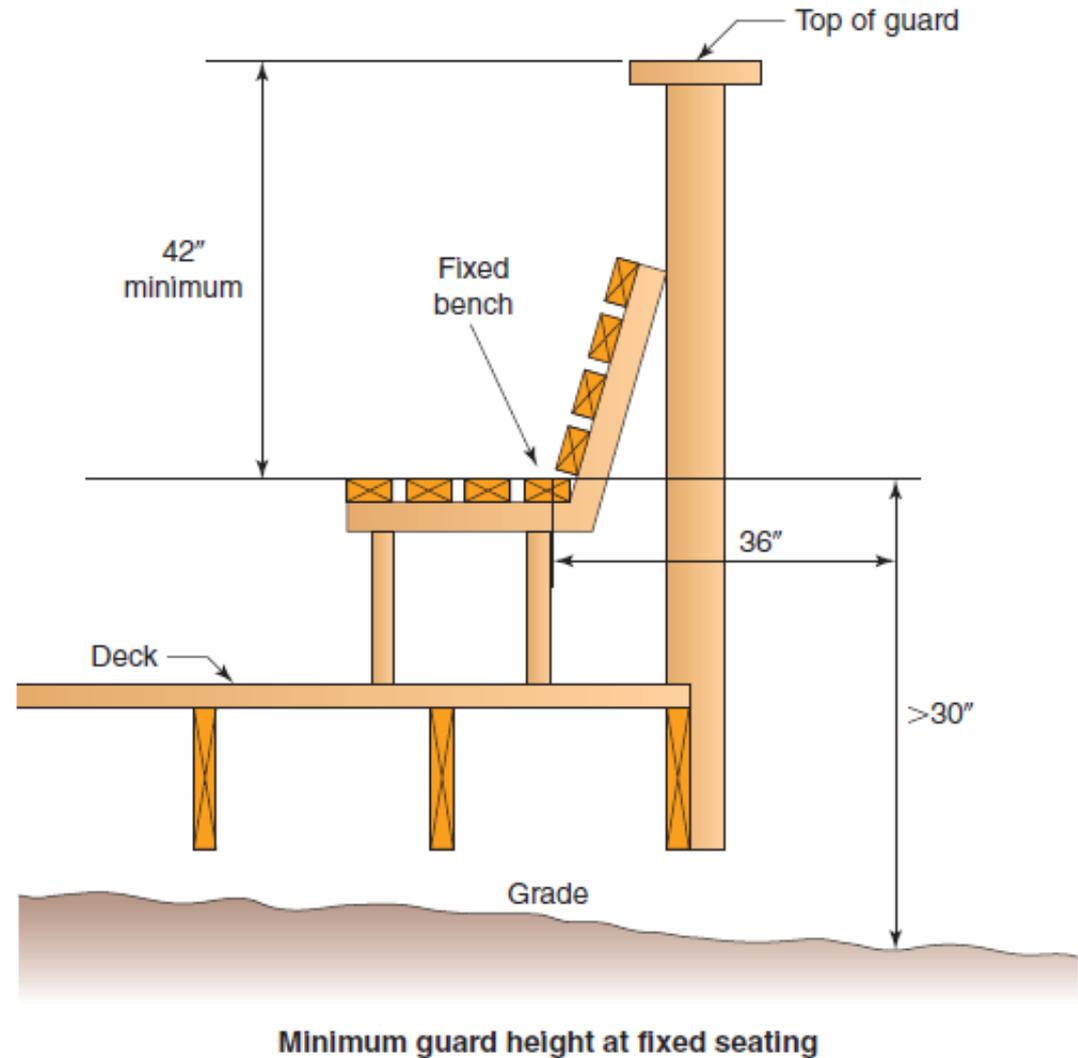


Revised 2009 IBC 1013.1 – Guards
at Drop-offs – IBC p. 236



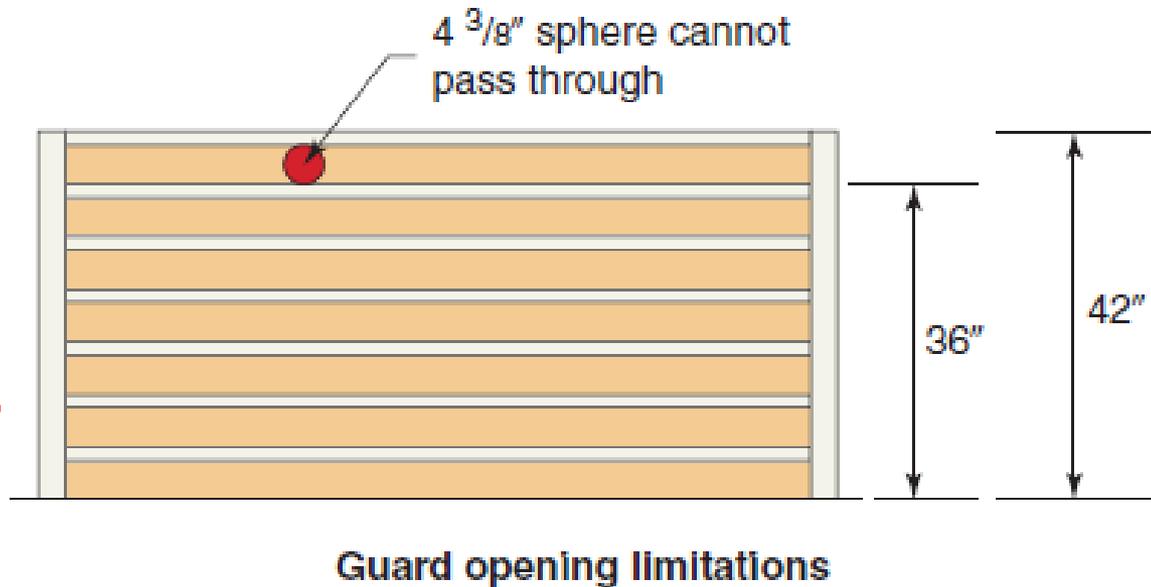
Revised 2009 IBC 1013.2 – Guard Height – *IBC p. 236*

- *At fixed seating, the allowable drop-off and the minimum guard height is measured from the seat surface*
- Clarified that only required guards are subject to code requirements



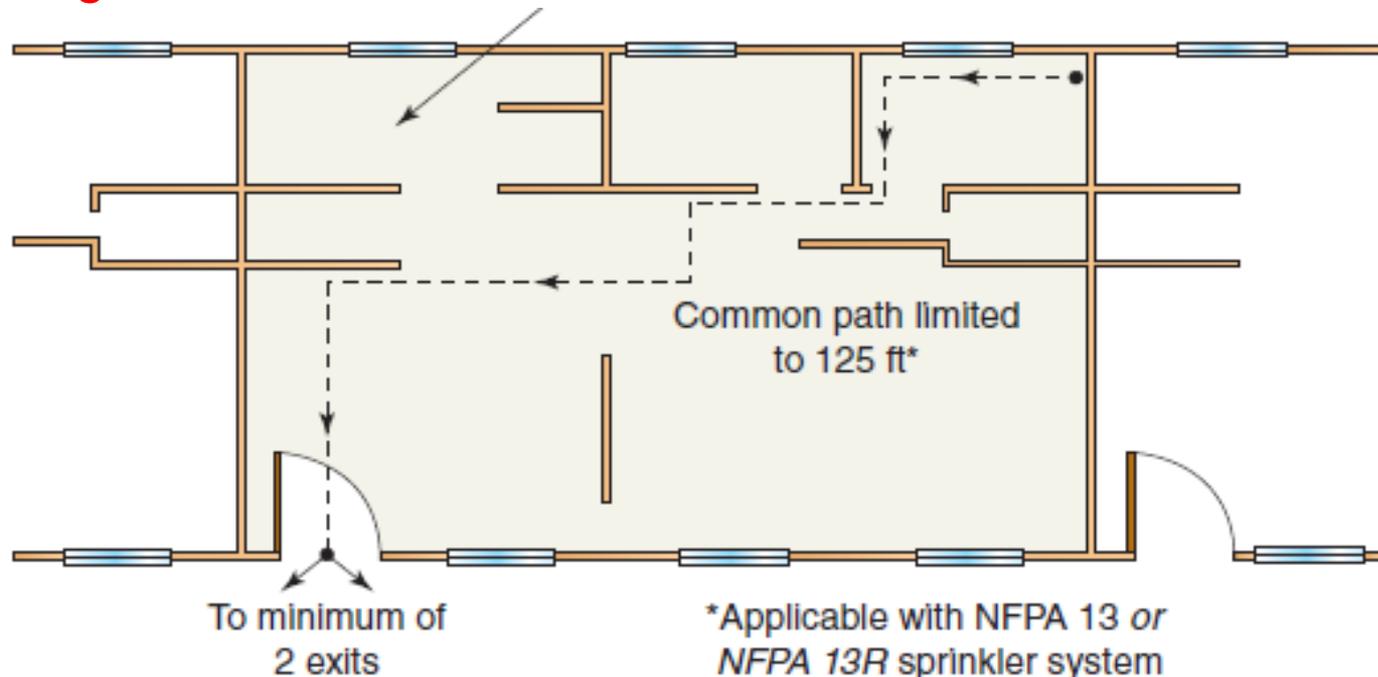
Revised 2009 IBC 1013.3 – Max Sized Openings at Top of Guards – IBC p. 237

- Currently allowed 8" diameter openings above 34" AFF
- *Revised to allow 4-3/8" diameter openings above 36" AFF*



Revised 2009 IBC 1014.3 – Increase in Common Path of Travel – IBC p. 238

- Current code generally limits common path of travel to 75' in most unsprinklered buildings except that NFPA 13 sprinklered buildings are allowed 100 if B, F or S occupancies or 125' if R-2
- Revised to allow increase to 125' in NFPA 13R sprinklered R-2 buildings too



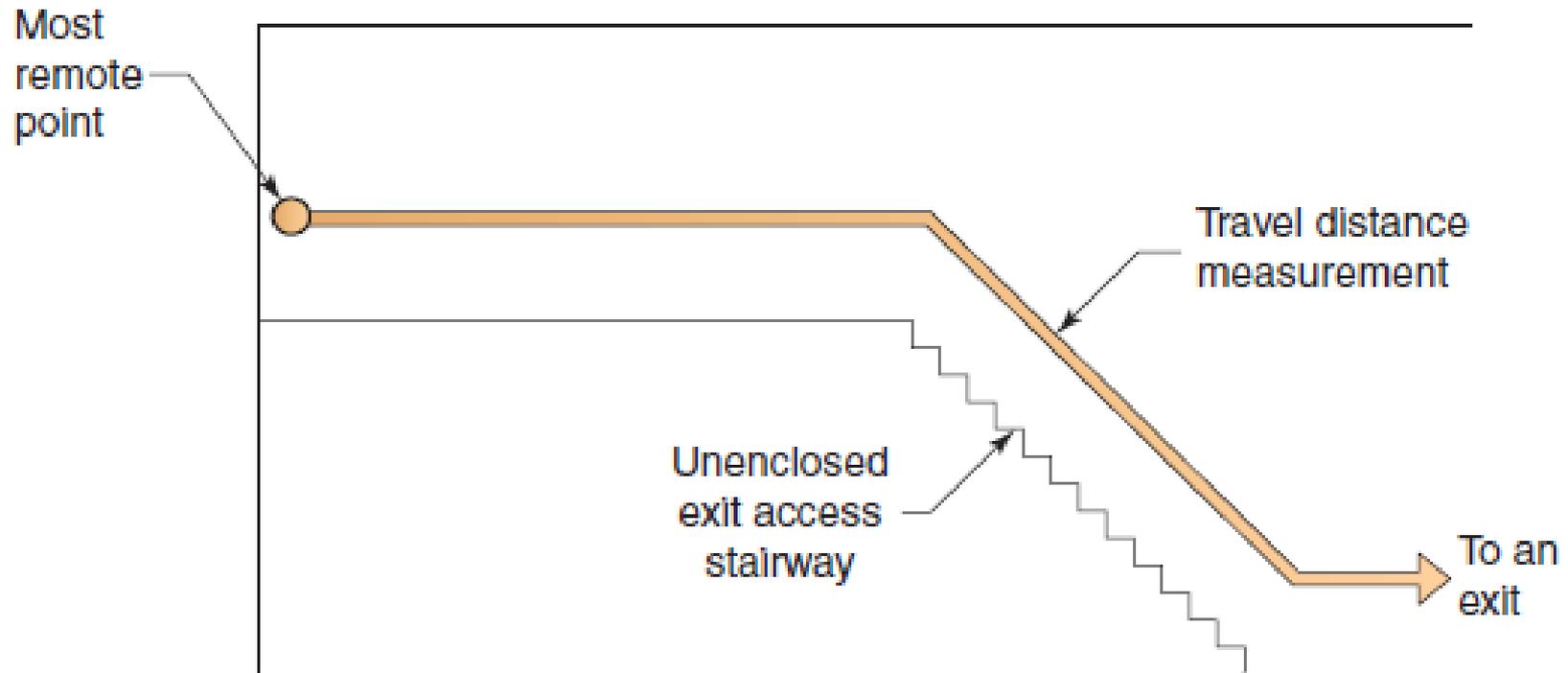
Common path of egress travel in Group R-2

Revised 2009 IBC 1015.1 – Single Means of Egress for Dwelling Units – IBC p. 239

- Increased from 10 *to 20* occupants
- Must also meet maximum common path of travel limits



Clarified 2009 IBC 1016.1 – Measure Exit Access Travel on Open Stairs – IBC p. 240



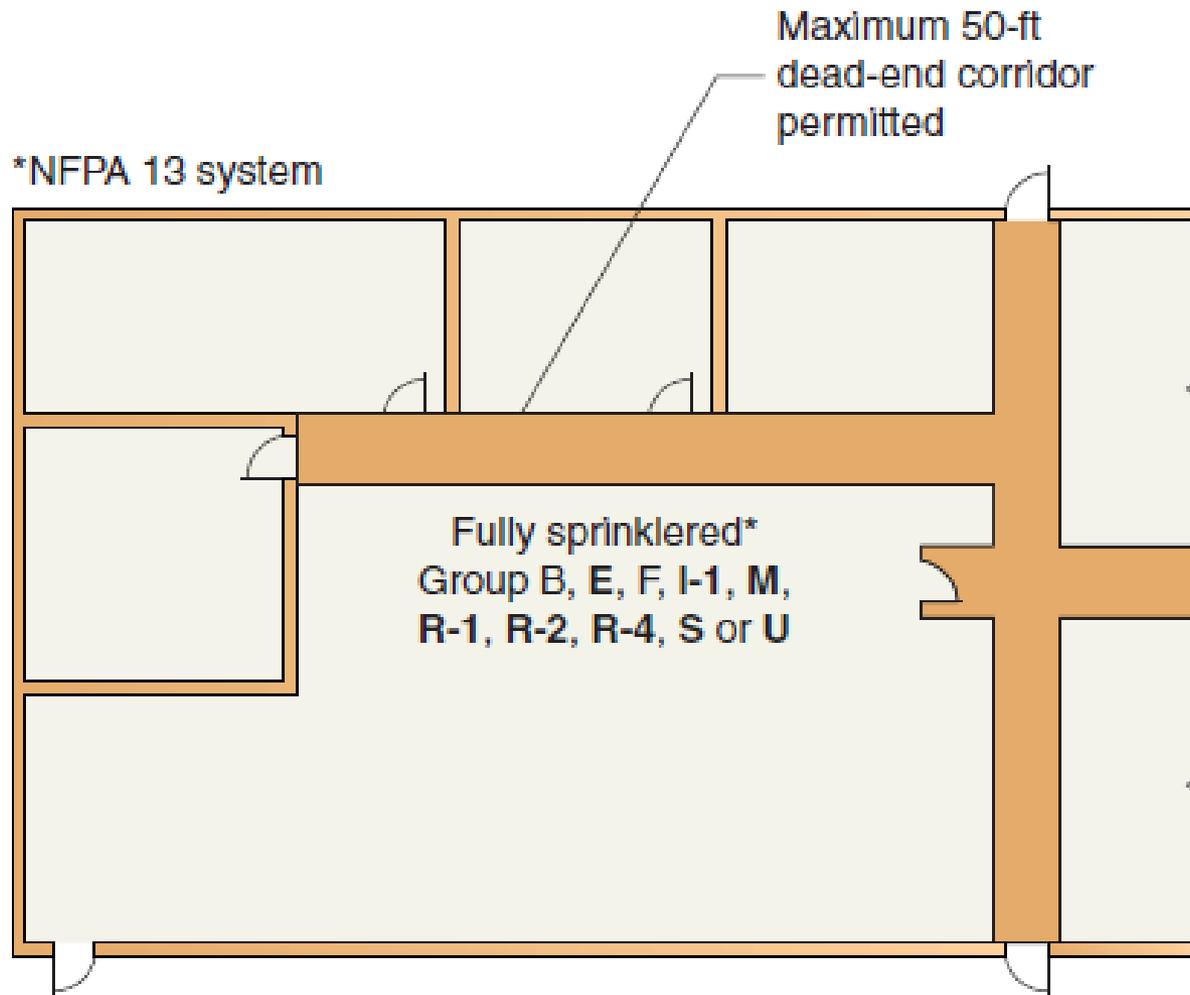
Travel distance on unenclosed stairway

For 7/11 stairs, the sloped travel distance = 1.13x the plan view or horizontal distance

2009 IBC Moved Open Stair Exceptions from IBC 1022 to 1016 – IBC p. 240

- These exceptions were previously moved by s. Comm 62.1016 in 2008
- 50% of stairs serving two stories may be left open, except in H and I occupancies
- 100% of stairs serving two stories in a sprinklered building may be left open, except in H and I occupancies

Revised 2009 IBC 1018.4 – 50' Dead End Corridor Length for More Occupancies – IBC p. 242



Dead-end corridor limitations

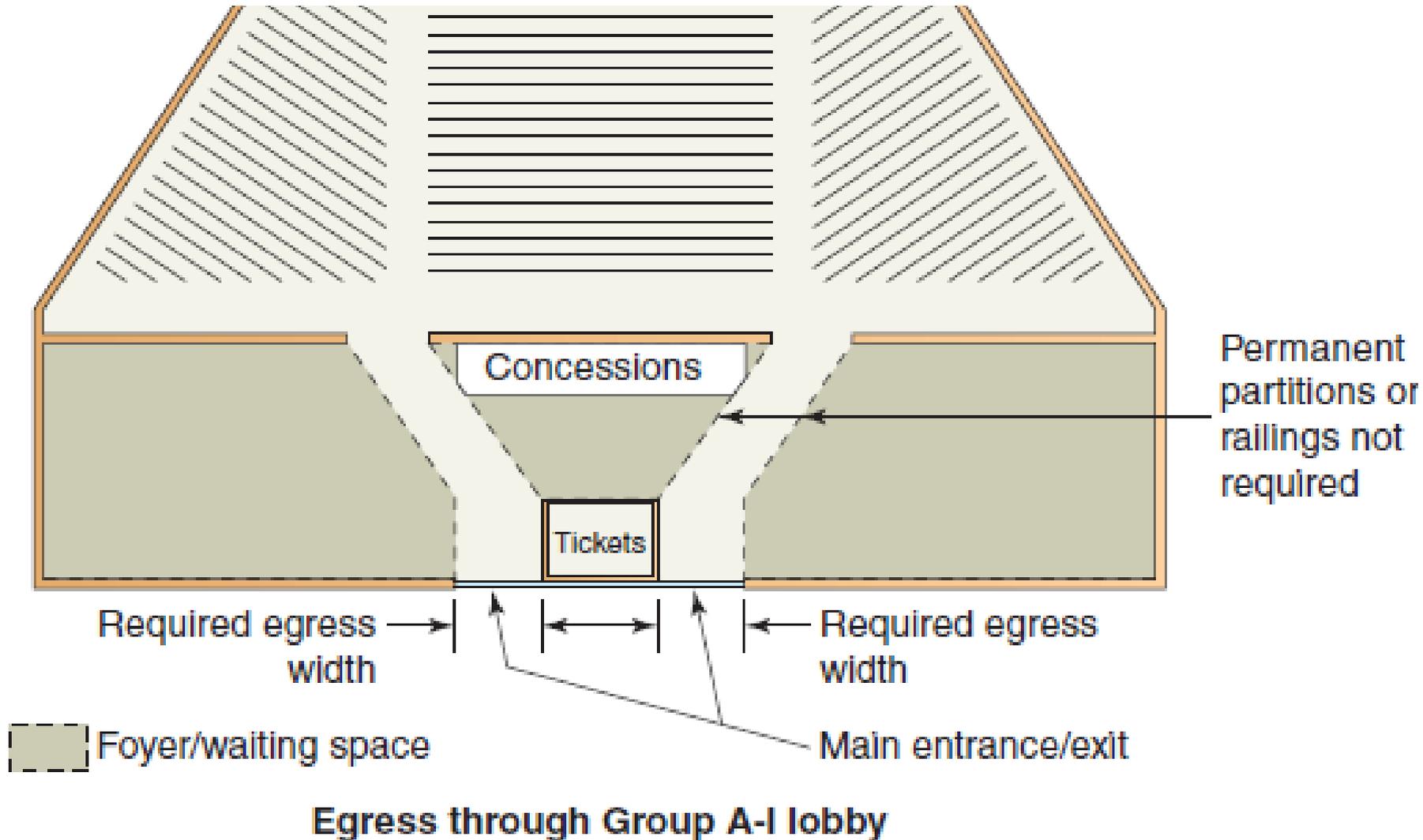
**Revised 2009 IBC 1024 – Luminous
Egress Path Markings in Certain
High-Rise Buildings >75'– IBC p.
246**



Revised 2009 IBC 1028.1 – Assembly Egress Provisions Applicable to E Assembly Uses – IBC p. 250

- *Assembly area in E occupancies currently subject to E code requirements*
- *Will be subject to assembly egress provisions of IBC 1028*
- *Includes gyms, auditoriums, commons & libraries for more than 50 persons*
- *Applicable requirements:*
 - *IBC 1010.2 – ramp slope*
 - *IBC 1014.3 – common path of egress travel*
 - *IBC 1028.2 – assembly main exit*
 - *IBC 1028.3 - assembly other areas*
 - *IBC 1028.9 – assembly aisles*

*Revised 2009 IBC 1028.4 – Deletion of Separated Egress Paths in Theater Lobbies
– IBC p. 250*



IBC Ch 11 - Accessibility

- Technical Standards per ANSI A117.1 – 2003 – No change in edition for 2009 IBC



Revised 2009 IBC 1103.2.3 (2nd sentence)– *Totally Exempt Work Areas Increased to 300 s.f. – IBC*

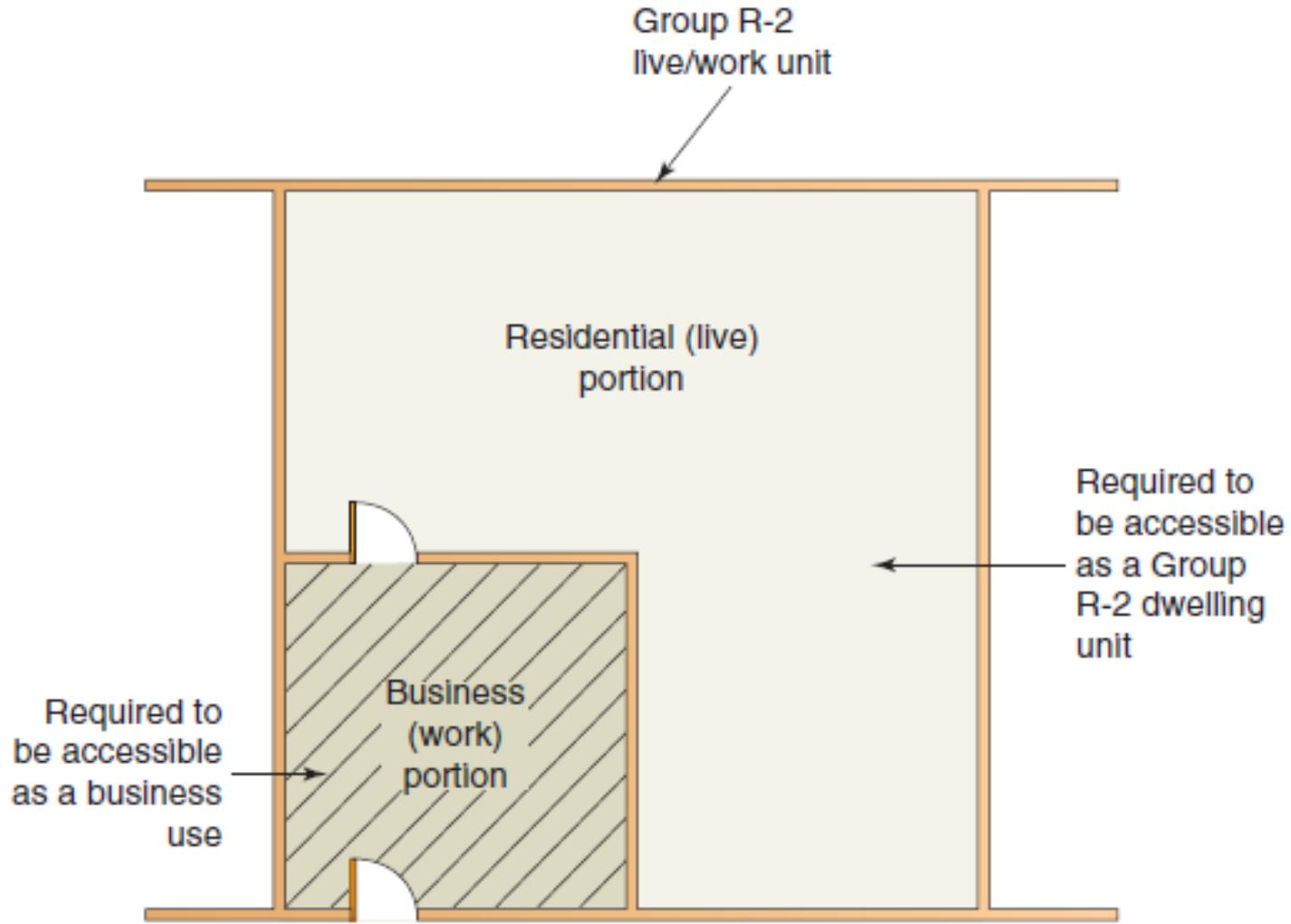
- Workstations that are elevated ≥ 7 " for essential work functions are exempt from accessibility requirements if < 150 s.f. *or* < 300 s.f. *under the 2009 IBC*
- *See IBC 1108.4.1.4 re: courtrooms*



Current IBC 1103 & 1104 – Other Work Area Accessibility Exceptions

- IBC 1103.2.3 (1st sentence) – In general just be able to enter & exit the work area, not necessarily fully use the space & furnishings (common use areas shall be accessible)
- IBC 1104.3.1 – Common use areas in work areas which may be inaccessible
 - ≤ 300 s.f.,
 - Integral to the equipment
 - Exterior work areas

Clarified 2009 IBC 1103.2.13 – Accessibility of Live/Work Units – IBC p. 258

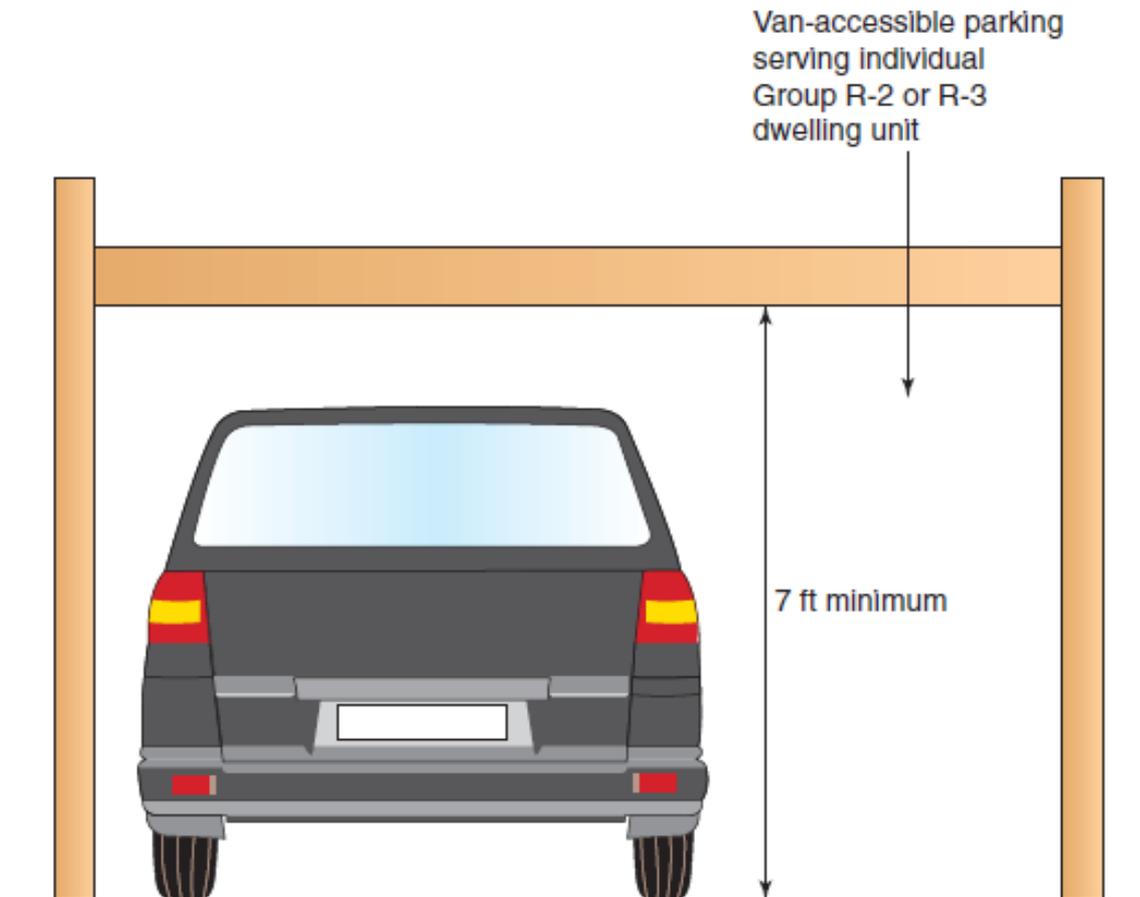


Accessibility for live/work unit

Revised 2009 IBC 1106.5 – Reduced Van-Accessible Parking Space Height in R-2 & R-3 Private Garages – IBC p. 260

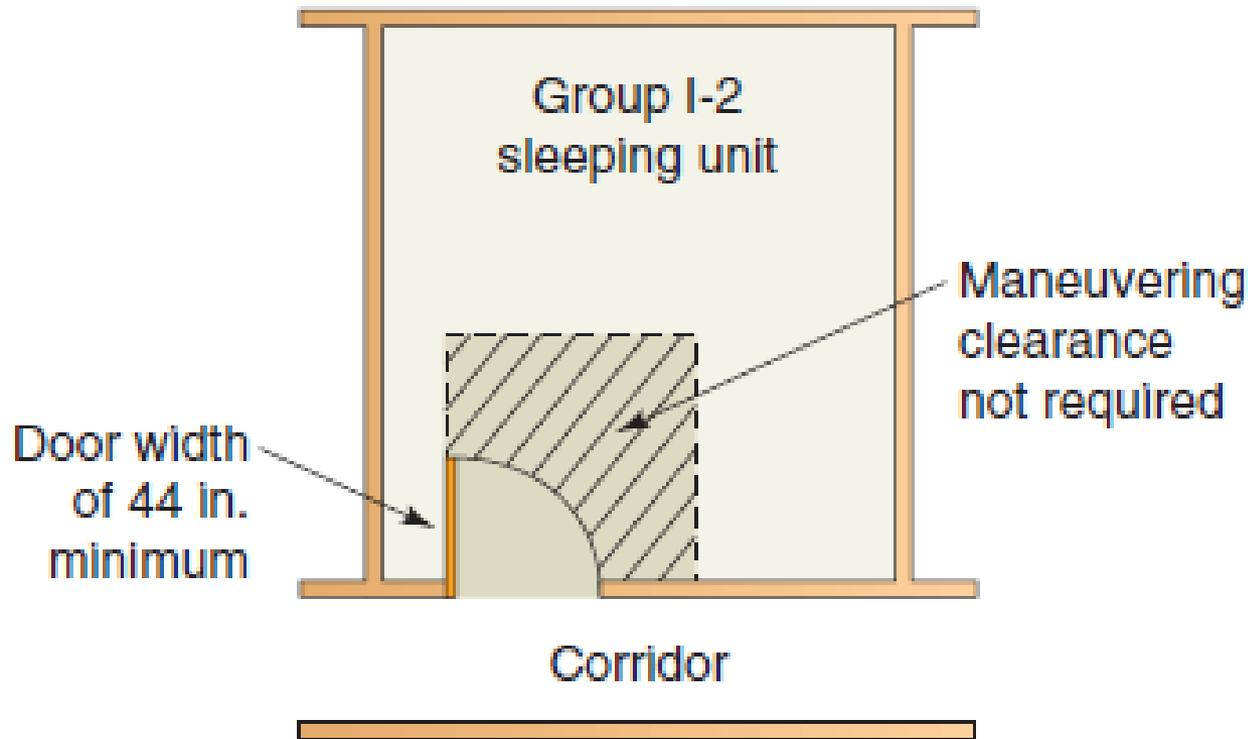
7' instead of 9'

7' min ht in lieu of 98" in other occupancies



Vertical clearance of accessible van space

Revised 2009 IBC 1107.3 –
*Maneuvering Clearance Option at Inside
of I-2 Sleeping Unit Doors – IBC p. 261*



**Clearance at Group I-2
sleeping unit door**

Revised 2009 IBC 1107.6.1 – *Bathing Options in Accessible R-1 Units – IBC p. 261*

TABLE 1107.6.1.1
ACCESSIBLE DWELLING AND SLEEPING UNITS

TOTAL NUMBER OF UNITS PROVIDED	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS WITHOUT ROLL-IN SHOWERS	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS WITH ROLL-IN SHOWERS	TOTAL NUMBER OF REQUIRED ACCESSIBLE UNITS
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7

Revised 2009 IBC 1108.4.1 – More
Courtroom Accessibility Specifics –
IBC p. 265



IBC 1109.2.1 – Revised Family or Assisted-Use Toilet & Bathing Rooms

- *Family Toilet room required in A or M occupancies with ≥ 6 water closets*
- *Family Bathing room required in recreational facilities with separate sex, multi-fixture bathing rooms (bathing includes tub or showers)*
- Not to be confused with unisex toilet rooms



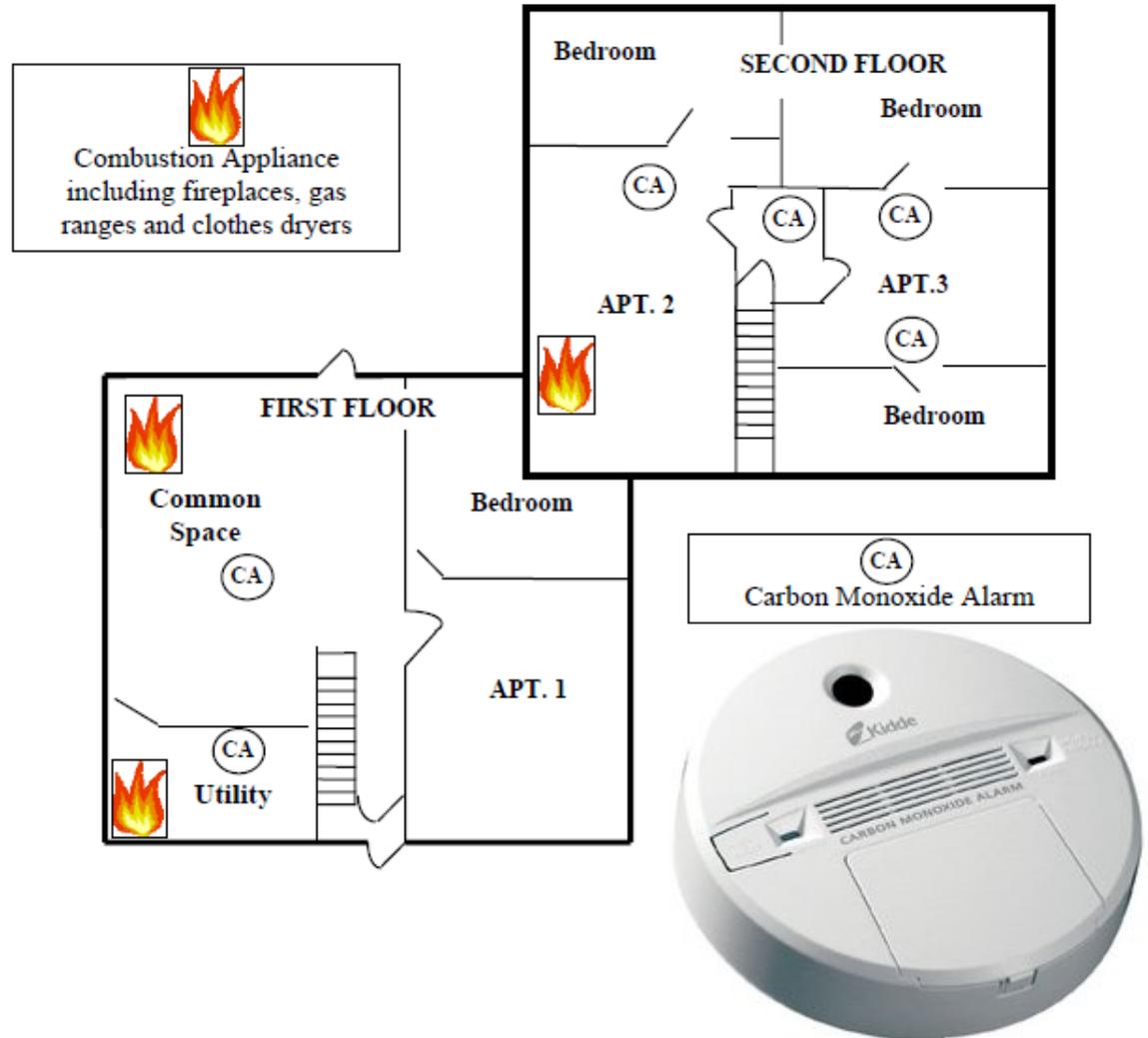
Revised 2009 IBC 1109.2.3 – Enhanced Reach Range Lavatories – IBC p. 267

- *Required for toilet rooms with ≥ 6 lavatories*
- *Installed per ANSI A117.1 s. 606.7 – max reach depth of 11”*



Current Comm 62.1200 – Carbon Monoxide Alarms

- All residential occupancies
- Rules differ for commercial residential from UDC



Revised 2009 IBC 1405.13.2 – Window Guards

- *Max 4" opening for 24" above floor in openable windows with sills >72" above grade in R-2 and R-3 Occupancies*



Revised 2009 IBC 1210.1 – Revised Toilet Room Base Cove Requirements – IBC p. 274

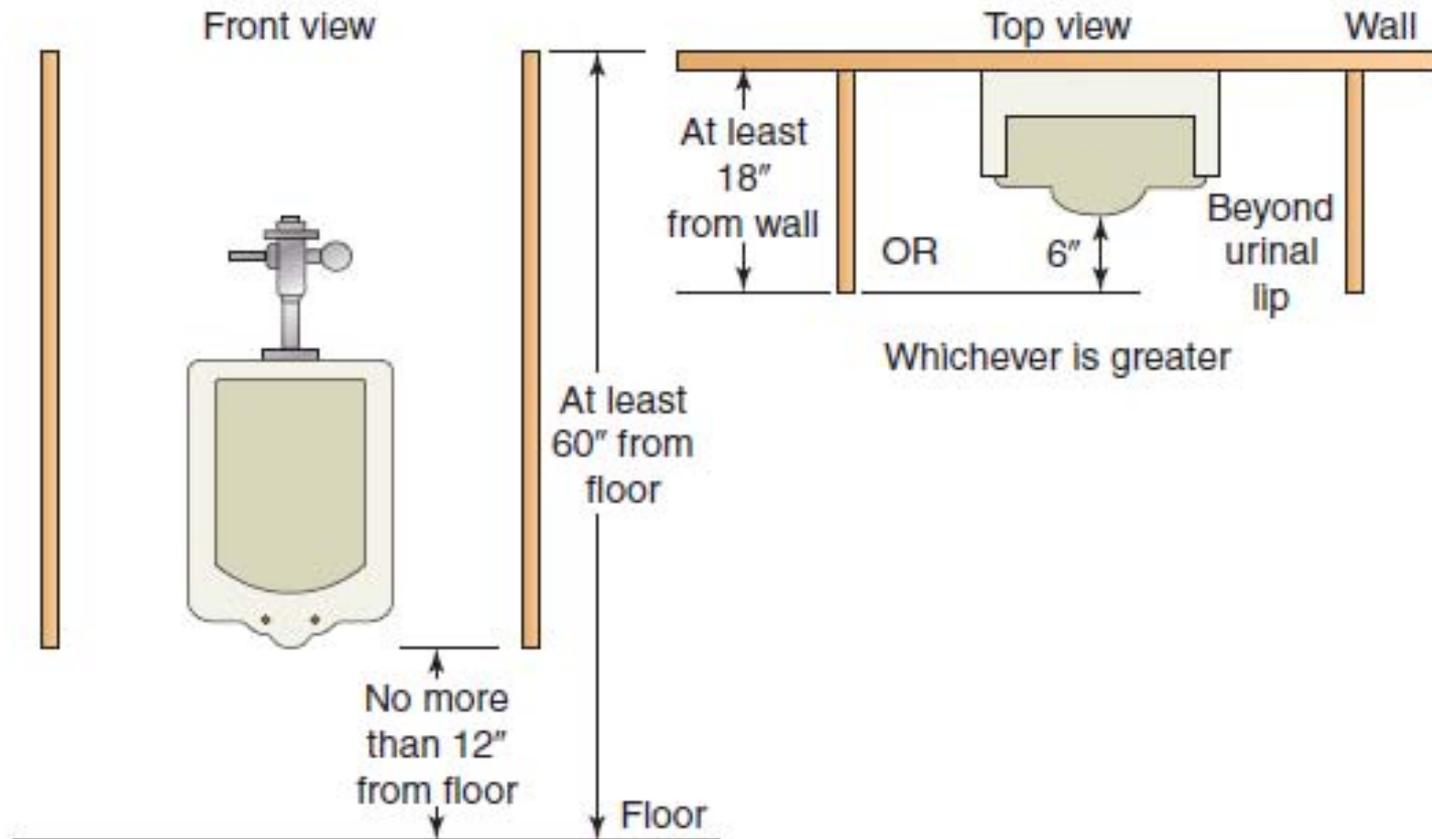
- Currently requires integral base cove of at least 6” height
- *Will allow separate base cove of at least 4” height*



Clarified 2009 IBC 2902.1.1 – Fixture Calculations

- For mixed occupancy toilet room calculations, round up the fractions of fixtures at the end of the calculation
- Also, use IBC 1004 occupant densities unless a rational justification for a lower density is provided by the owner

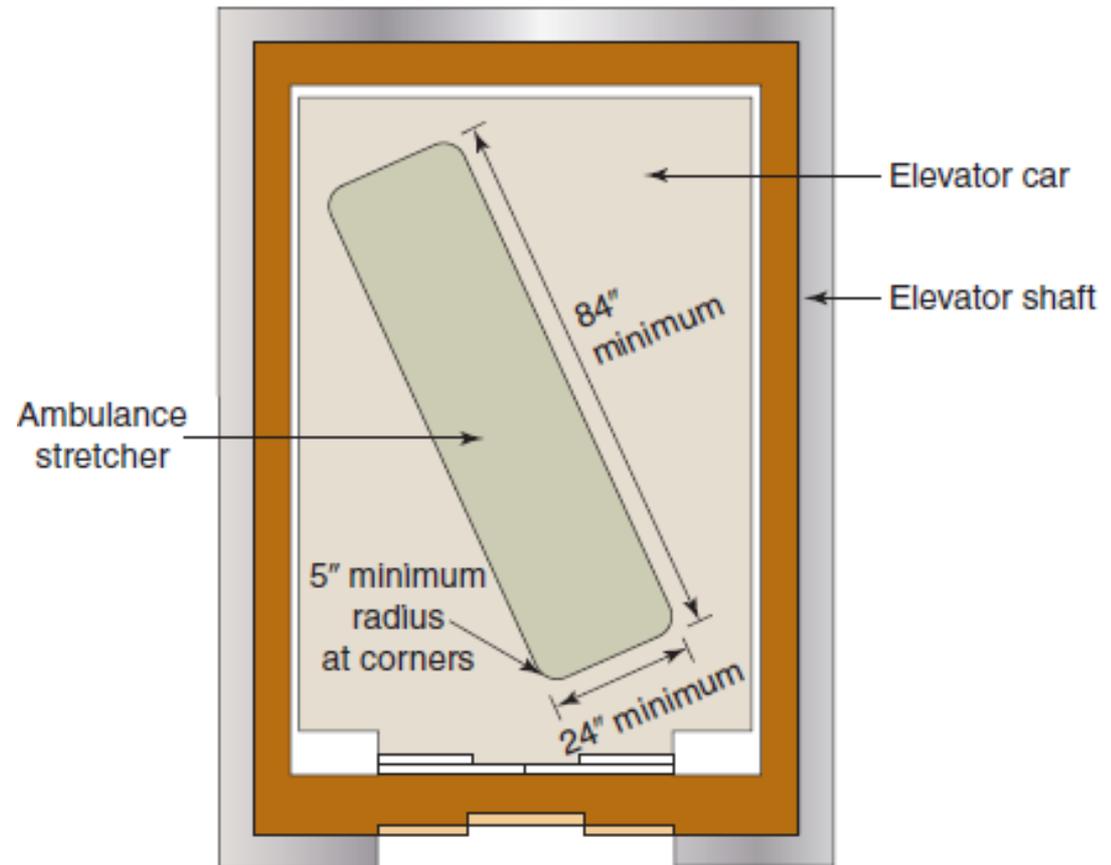
Revised 2009 IBC 2903.2 – Urinal Partitions – IBC p. 552



Urinal privacy partitions

Revised s. Comm 62.3002 – Stretcher-Sized Elevator in Additional Occupancies – IBC p. 553

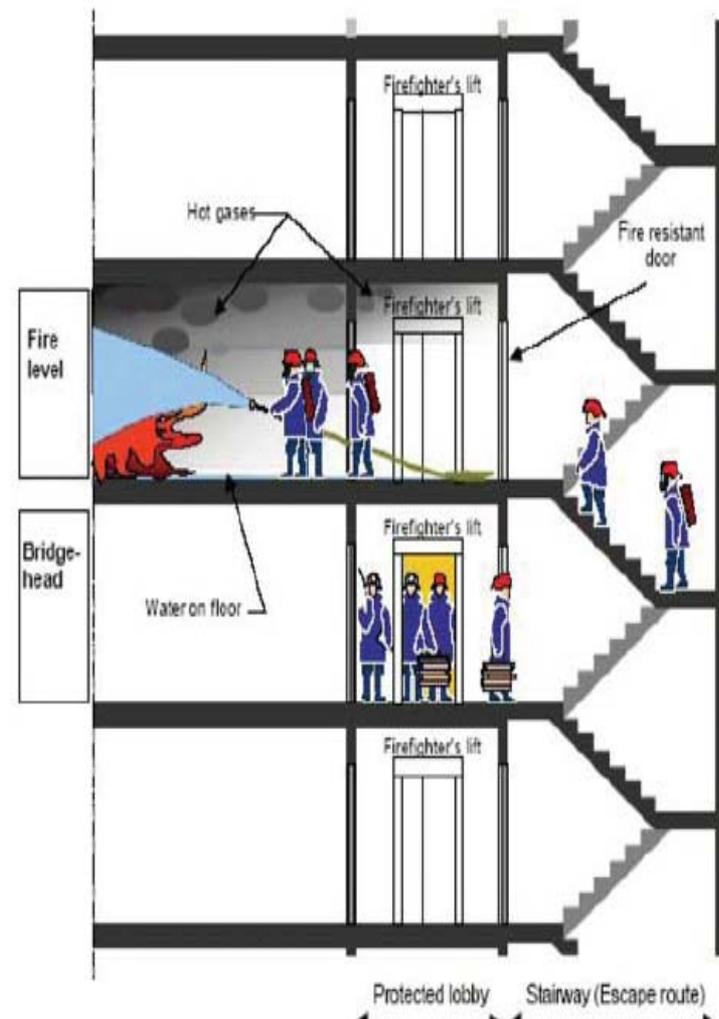
- *All R-2, Group I, Outpatient Clinics, Ambulatory Health Care Facilities*
- In addition to current IBC requirements for buildings of 4 or more stories



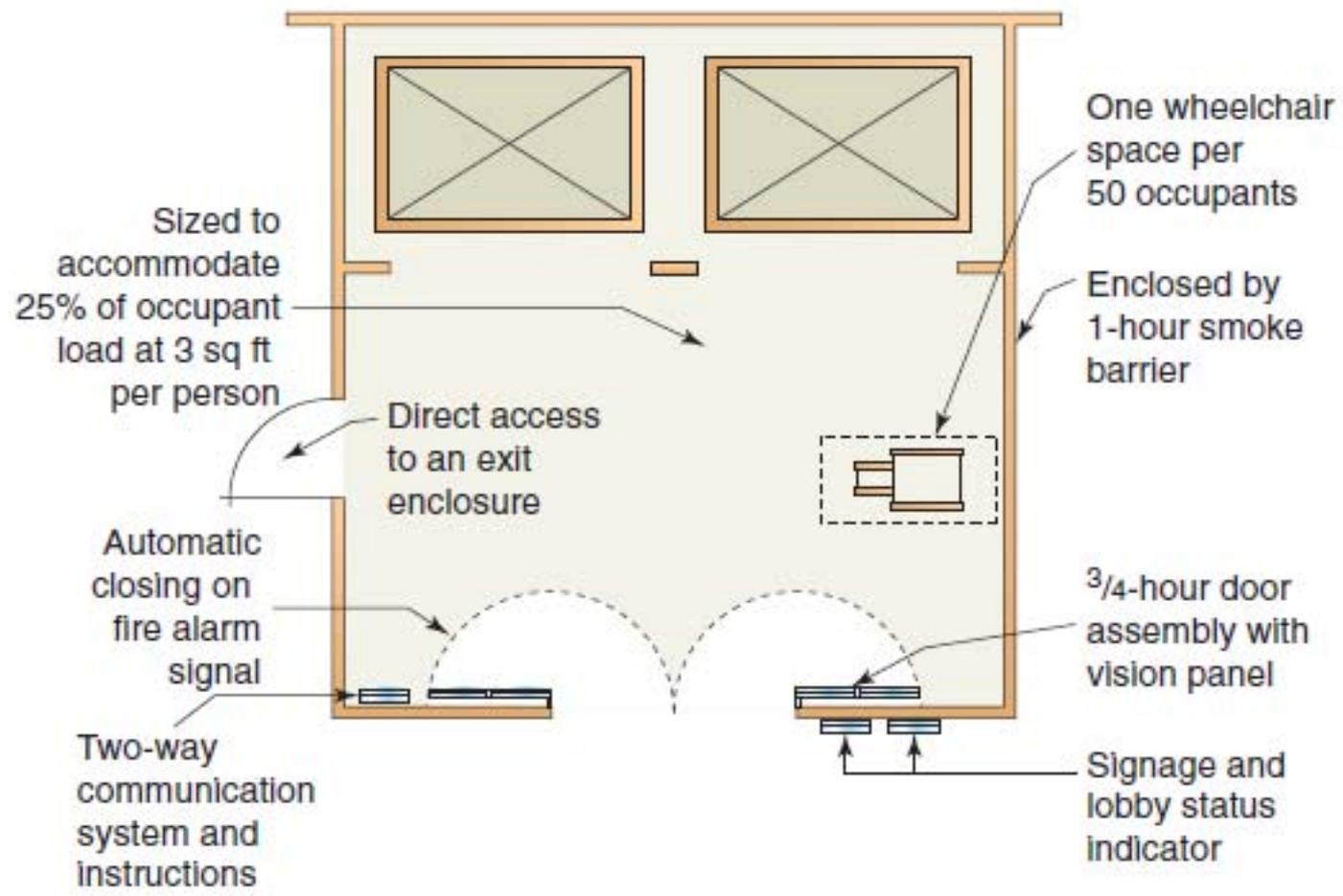
Elevator used for fire department emergency access

Revised 2009 IBC 3007 – Fire Service Access Elevator – IBC p. 555

- *Required in buildings >120' above lowest fire department access level*
- *1 hour lobby at each floor.*
- *Direct access of lobby to stair enclosure*
- *Monitored by building's fire command center*
- *See additional requirements*



Revised 2009 IBC 3008 – Occupant Evacuation Elevator Option – IBC p. 556



Occupant evacuation elevator lobby