

**APPENDIX A**  
**LIST OF PROPOSED CODE CHANGES**

Change No.	Section	Topic
<b>Building Code</b>		
B-1	503(a)	Minor Accessory Uses
B-2	503(d)6	Occupancy Separation
B-3	Table No. 5-B	Occupancy Separation
B-4	Table No. 5-C	Allowable Area for Group I, Division 1 and 2 Occupancies
B-5	Table No. 5-D	Allowable Height for Group I, Division 1 and 2 Occupancies
B-6	506(b)	Unlimited Area
B-7	506(c)	Area Increases for Automatic Sprinklers
B-8	507	Building Height
B-9	508	Fire Resistive Substitution
B-10	604, 704, 804, 904, 1004, and 1204	Smokeproof Enclosures
B-11	702(a)2	B1 Occupancy Separation in B2 and R1 Buildings
B-12	702(b)	Smoke and Heat Venting
B-13	709, Table No. 7-A	Open Parking Garages
B-14	711	Covered Mall Buildings
B-15	802(c)	Construction of Closets in Group E Occupancies
B-16	901, Table No. 9-A	Exempt Amount of Hazardous Liquids
B-17	901(b)	Vocation Shops, Laboratories, etc., in Educational Buildings
B-18	902(b)	Smoke and Heat Venting
B-19	1204	Emergency Egress for Group R Occupancies
B-20	1705(b)5	Nonrated Partitions Within a Single Tenant Space

Change No.	Section	Topic
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B-22	1706(d)	Elevator Shaft Venting
B-23	1715	Atriums
B-24	1717 (New)	Materials in Plenum Spaces
B-25	1806	Roof Construction of Type I Buildings
B-26	1807	High Rise Buildings
B-27	1907	Roof Construction in High Rise Type II-F.R. Buildings
B-28	2516(f)4	Subdivision of Combustible Concealed Spaces
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B-36	3305(g)	Corridor Wall Construction
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B-38	3310	Smokeproof Enclosure Requirements
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B-40	3802, Table 38-B	Automatic Sprinkler System Requirements
B-41	3803	Supervision of Automatic Sprinkler System
B-42	3805(g) (New)	Standpipe Water Supply Requirements

<b>Change No.</b>	<b>Section</b>	<b>Topic</b>
B-43	3805, Table 38-A	Standpipe Requirements
B-44	3805(c)	Standpipe Outlets
B-45	3806(b)	Standpipes in Buildings Under Construction
B-46	5103(d)	Elevator Door Operation
B-47	5206	Roof Panels
B-48	5207(a)	Skylights
B-49	Table No. 5-A	Exterior Wall Requirements at Property Line for R-1 Occupancies
B-50	503(d), Exception 3	Separation of Parking Garages in R-1 Occupancies
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B-53	1202(c) (New)	Material Substitution
B-54	Section 4205 and Table No. 42-B	Flame Spread of Exterior Exitways
<b>Fire Code</b>		
F-1	16-13.101(12)	Water Main Size
F-2	16-13.104(3)	Fire Hydrant Location
F-3	16-13.401A	Alarm System - When Required
F-4	16-13.502	Fire Department Connections for Standpipes
F-5	16-13.503	Standpipe Outlets
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<b>Water Works Ordinance</b>		
W-1	49-26	Sprinkler or Fire Service Requirements
W-2	49-26A	Charges for Fire Service Systems

PROPOSED CODE CHANGE

Building Code Change B-1  
Section 503(a)  
Topic: Minor Accessory Uses

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Disposition of Code Change: Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

Where minor accessory uses do not occupy more than 20 percent of the area of any floor of a building provided with an approved automatic sprinkler system throughout, or do not occupy more than 10 percent of the area of any floor of a nonsprinklered building, nor more than the basic area permitted in the occupancy by Table No. 5-C for such minor use, for the purpose of determining allowable area the major use of the building shall determine the occupancy classification provided the uses are separated as specified in Section 503(d). Except for buildings containing Group H, Division 1 through Division 4 Occupancies, the provisions of this paragraph are applicable to buildings constructed under the provisions of Section 506(b) for unlimited area.

An occupancy shall not be located above the story or height set forth in Table No. 5-D, except as provided in Section 507.

PROPOSED CODE CHANGE

Building Code Change B-2  
Section 503(d)  
Topic: Occupancy Separation

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Disposition of Code Change: No revisions. Proposal compatible with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

- (d) **Fire Ratings for Occupancy Separations.** Occupancy separations shall be provided between the various groups and divisions of occupancies as set forth in Table No. 5-B.

**EXCEPTIONS:** 1. ...

2. ...

3. ...

4. ...

5. ...

6. The fire resistive requirements for occupancy separations set forth in Table 5-B may be reduced as permitted by Section 508.

## PROPOSED CODE CHANGE

Building Code Change B-3

Table No. 5-B

Topic: Occupancy Separation

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Disposition of Code Change: No revisions. Proposal compatible with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

Modify note at bottom of table as follows:

Note: For detailed requirements and exceptions, see Section 503 and Section 508.

## PROPOSED CODE CHANGE

Building Code Change B-4

Table No. 5-C

Topic: Allowable Area for  
Group I, Division 1 and  
2 Occupancies

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

The following footnote is proposed to be added to Table No. 5-C. The number of the footnote, "7", should be added in the box corresponding to the intersection of rows "I-1", "I-2" and column "Type II-N."

7. One (1) story unlimited area permitted when provided throughout with an approved automatic sprinkler system.

## PROPOSED CODE CHANGE

Building Code Change B-5

Table No. 5-D

Topic: Allowable Height for  
Group I, Division 1 and  
2 Occupancies

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Disposition of Code Change: No revisions. Proposal compatible with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

The following footnote is proposed to be added to Table No. 5-D. The number of the footnote, "6", should be added in the boxes corresponding to the intersection of rows "I-1," "I-2" and column "Type II-N."

6. One (1) story unlimited area permitted when provided throughout with an approved automatic sprinkler system.



## PROPOSED CODE CHANGE

Building Code Change B-6

Section 506(b)

Topic: Unlimited Area

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**Disposition of Code Change:** No revisions. Proposal compatible with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

**(b) Unlimited Area.** The area of any Type II - Fire Resistive; Type II - one-hour; one-, two-, or three-story Type II -Noncombustible; and one-, two- or three-story Type IV building, except those housing Group H Division 1 or Division 2 occupancies, shall not be limited, if the building is provided with an approved automatic sprinkler system throughout.

When of Type III or Type V construction, the area of any one- or two-story building of Group B and Group H, Division 5 Occupancies shall not be limited, if the building is provided with an approved automatic sprinkler system throughout, as specified in Chapter 38, and entirely surrounded and adjoined by public space, streets or yards not less than 60 feet in width.

The area of a Group B, Division 4 Occupancy in a one-story Type II, Type III one-hour or Type IV building shall not be limited if the building is entirely surrounded and adjoined by public space, streets or yards not less than 60 feet in width.

## PROPOSED CODE CHANGE

**Building Code Change B-7**  
**Section 506(c)**

**Topic:** Area Increases for  
Automatic Sprinklers

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**Disposition of Code Change:** Text revised to correspond with '83 code with the exclusion of atrium buildings from area increase deleted from the '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

**(c) Automatic Sprinkler Systems.** The area specified in Table No. 5-C and Section 505(b) may be tripled in one-story buildings and doubled in buildings of more than one story if the building is provided with an approved automatic sprinkler system throughout. The area increases permitted in this subsection may be compounded with that specified in paragraphs 1, 2 or 3 of Subsection (a) of this section. The increases permitted in this subsection shall not apply when automatic sprinkler systems are installed under the following provisions: Section 3802(g) for Group H, Divisions 1 and 2 Occupancies.

1. ~~Section 507 for an increase in allowable number of stories.~~
2. ~~Section 3802(b)5 for Group H, Divisions 1 and 2 Occupancies.~~
3. ~~Substitution for one-hour fire-resistive construction pursuant to Section 508.~~
4. ~~Section 1715, Atriums.~~

## PROPOSED CODE CHANGE

Building Code Change B-8

Section 507

Topic: Building Height

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**Disposition of Code Change:** Text revised to correspond with '83 code with exclusion of atrium buildings from height increase deleted from '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

#### Section 507.

- (a) **General.** The maximum height and number of stories of every building shall be dependent upon the character of the occupancy and the type of construction and shall not exceed the limits set forth in Table No. 5-D, except as provided in this section and as specified in Section 503(a) for mixed occupancy buildings.
- (b) **Unlimited Height.** The height of any Type II fire resistive building, except those housing Group H occupancies, shall be unlimited if the building is provided with an approved automatic sprinkler system throughout.
- (c) **Automatic Sprinkler Systems.** The story limits set forth for other types of construction in Table No. 5-D may be increased by one story if the building is provided with an approved automatic sprinkler system throughout. The increase in the number of stories for automatic sprinkler systems shall not apply when the automatic sprinkler systems throughout are installed under the following provisions Section 3802(g) for Group H, Division 1 and 2 Occupancies.
1. ~~Section 3802(b)5 for Group H, Division 1 and 2 Occupancies.~~
  2. ~~Section 506, for an increase in allowable area.~~
  3. ~~Substitution for one-hour fire-resistive construction pursuant to Section 508.~~

**EXCEPTIONS:** 1. Towers, spires and steeples erected as a part of a building and not used for habitation or storage are limited as to height only by structural design if completely of noncombustible materials, or may extend not to exceed 20 feet above the height limit in Table No. 5-D if of combustible materials.

**Building Code Change B-8**

**Section 507**

**Topic: Building Height**

2. The height of one-story aircraft hangars shall not be limited if the building is provided with automatic sprinkler systems throughout as specified in Chapter 38 and is entirely surrounded by public space, streets or yards not less in width than one and one-half times the height of the building.

4. ~~Section 1715, Atriums.~~

See Chapters 6 to 12 inclusive for special occupancy provisions.

## PROPOSED CODE CHANGE

Building Code Change B-9  
Section 508  
Topic: Fire Resistive  
Substitution

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Disposition of Code Change: Text revised to correspond with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

**Section 508.** When one-hour fire-resistive construction throughout is required by this Code, an approved automatic fire extinguishing system, as specified in Chapter 38, may be substituted, provided such system is not otherwise required.

Exception: Such substitution shall not waive nor reduce required fire-resistive construction for:

1. ~~Occupancy separations (Section 503(c)).~~
2. ~~Exterior wall protection due to proximity of property lines (Section 504(b)).~~
3. ~~Area separations (Section 505(e)).~~
4. ~~Shaft enclosures (Section 1706).~~
5. ~~Reserved.~~
6. ~~Stair enclosures (Section 3309).~~
7. ~~Exit passageways (Section 3312(a)).~~
8. ~~Type of construction separation (Section 1701).~~
9. ~~Atriums constructed in accordance with Section 1715.~~

Building Code Change B-9

Section 508

Topic: Fire Resistive  
Substitution

**Fire Resistive Substitution:**

Section 508. In buildings provided throughout with an automatic sprinkler system as specified in Subchapter 38, the automatic sprinkler system may be substituted for fire resistive provisions of the code as specified below.

1. The fire resistive requirements for occupancy separations set forth in Table 5-B may be reduced by one-hour, except when separating a Group B, Division I occupancy or a Group H occupancy.
2. The fire resistance of exterior walls and opening protection, as required by Section 504(b) may be reduced as follows: Four-hour required exterior wall protection may be reduced to two-hour protection. Two-hour exterior wall protection may be reduced to one-hour wall protection. One-hour required wall protection shall not be reduced; however, openings permitted in such walls shall not require protection.
3. When separating other than a Group H occupancy four-hour fire resistive area separation walls specified in Section 505(e) may be reduced to two-hour fire-resistive construction and shall, at the minimum, be subject to the provisions for two-hour area separation walls. This reduction shall also apply for area separation walls as required by Section 1701.
4. The requirements for corridor construction and corridor openings may be reduced as specified in Sections 3305(g) and 3305(h).
5. Where one-hour fire-resistive construction throughout is required by this code, an approved automatic sprinkler system throughout may be substituted, provided the height and area do not exceed the maximum allowable unsprinklered height and area.

**EXCEPTION:** The provision of automatic sprinkler systems shall not waive nor reduce required fire-resistive construction for:

- a. Shaft enclosures (Section 1706).
- b. Stair enclosures (Section 3309).
- c. Exit passageways (Section 3312(a)).
- d. Structural member supporting shaft enclosures or exit passageways.
- e. Corridor separations of rooms in hospitals which are exempt from protection by an automatic sprinkler system by Section 3802(h), Exception.

## PROPOSED CODE CHANGE

**Building Code Change B-10**  
**Section** 604, 704, 804, 904,  
1004 and 1204  
**Topic:** Smokeproof  
Enclosures

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

Delete the references to smokeproof enclosures in the following sections.

**Sec. 604. (a) General.** Stairs and exits and ~~smokeproof enclosures~~ shall be provided as specified in Chapter 33. (See also Sections 3317 and 3318.)

**Sec. 704.** Stairs and exits and ~~smokeproof enclosures~~ shall be provided as specified in Chapter 33.

**Sec. 804.** Stairs and exits and ~~smokeproof enclosures~~ shall be provided as specified in Chapter 33. (See also Section 3319.)

**Sec. 904.** Stairs and exits and ~~smokeproof enclosures~~ shall be provided as specified in Chapter 33. (See also Section 3320.)

**Sec. 1004.** Stairs and exits and ~~smokeproof enclosures~~ customarily used by human beings shall be provided as specified in Chapter 33. (See also Section 3321.)

**Sec. 1204.** Stairs and exists and ~~smokeproof enclosures~~ shall be as specified in Chapter 33.

## PROPOSED CODE CHANGE

**Building Code Change B-11**

**Section 702(a)2**

**Topic:** B1 Occupancy Separation in B2 and R1 Buildings

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**Disposition of Code Change:** No revisions. Proposal compatible with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

Other provisions of this code notwithstanding, a Group B, Division 1 Occupancy located in the basement or first story of a building housing a Group B, Division 2 or a Group R, Division 1 Occupancy may be classed as a separate and distinct building for the purpose of area limitation, limitation of number of stories and type of construction, when all of the following conditions are met:

1. ...
2. There is a two-hour occupancy separation in buildings protected throughout by an approved automatic sprinkler system or a three-hour occupancy separation in unsprinklered buildings between the Group B, Division 1 Occupancy and all portions of the Group B, Division 2 or Group R, Division 1 Occupancy.
3. ...
4. ...



**PROPOSED CODE CHANGE**

**Building Code Change B-12**  
**Section 702(b)**  
**Topic: Smoke and Heat Venting**

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**Disposition of Code Change:** No revisions. Proposal compatible with '83 code.

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**Key:**

New material is indicated by underlined wording.

~~Dashes through wording~~ indicate existing material to be deleted.

**Proposed Change:**

~~For smoke and heat venting, see Section 3206.~~

## PROPOSED CODE CHANGE

Building Code Change B-13

Section 709, Table No. 7-A

Topic: Open Parking Garages

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**Disposition of Code Change:** Proposed change modified to be consistent with NFPA Standard 88A.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

- (c) **Construction.** Construction shall be of noncombustible materials. Open parking garages shall meet the design requirements of Chapter 23. Adequate curbs and railings shall be provided at every opening. All structural members within an open parking structure contributing to the support of an occupancy above it shall have a fire-resistance rating not less than that required for the occupancy above and its type of construction per Table 17-A.
- (d) ...
- (e) **Area and Height Increases.** The area and height of structures with cross ventilation throughout may be increased in accordance with provisions of this subsection. In structures with sides open (as defined in Subsection (b)) three fourths of the building perimeter may be increased 25 percent in area and one tier in height. Structures with sides open (as defined in Subsection (b)) around the entire building perimeter may be increased 50 percent in area and one tier in height.

Open parking garages constructed to heights less than the maximums established by Table No. 7-A may have individual tier areas exceeding those otherwise permitted, provided the gross tier area of the structure does not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches in clear height extending for at least 80 percent of the length of the sides, and no part of such larger tier shall be more than 200 feet horizontally from such an opening. In addition, each such opening shall face a street or yard accessible to a street with a width of at least 30 feet for the full length of the opening, and standpipes shall be provided in each such tier.

Building Code Change B-13  
 Section 709, Table No. 7-A  
 Topic: Open Parking Garages

Structures of Type II-F.R., Type II One-hour or Type II-N construction, with all sides open, may be unlimited in area when the height does not exceed 75 feet. For a side to be considered open, the total area of openings along the side shall be not less than 50 percent of the exterior of the side at each tier, and such openings shall be equally distributed along the length of the tier. All portions of tiers shall be within 200 feet horizontally from such openings.

TABLE NO. 7-A - OPEN PARKING GARAGES AREA AND HEIGHT

TYPE OF CONSTRUCTION	AREA PER TIER (Square Feet)	HEIGHT RAMP ACCESS	HEIGHT MECHANICAL ACCESS	
			Automatic Fire Extinguishing System	
			No	Yes
I	Unlimited	Unlimited	Unlimited	Unlimited
II - F.R.	125,000 <u>Unlimited</u>	12 Tiers <u>Unlimited</u>	12 Tiers	18 Tiers
II - 1-hour	50,000 <u>Unlimited</u>	10 Tiers <u>Unlimited</u>	10 Tiers	15 Tiers
II-N	30,000 <sup>1</sup>	8 Tiers	8 Tiers	12 Tiers

1. Unlimited area allowed when not more than 75 feet in height, and the horizontal distance on any parking level to an exterior wall opening on a street, alley, courtyard or other similar permanent open space does not exceed 200 feet.

## PROPOSED CODE CHANGE

Building Code Change B-14  
Section 711

Topic: Covered Mall  
Buildings

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**Disposition of Code Change:** Text revised to correspond with '83 code (Dallas Ordinance No. 17791), with technical modification.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

#### Covered Mall Buildings

**Sec. 711:** (a) **Purpose.** The purpose of this article is to establish minimum standards of safety for the construction and use of covered mall buildings having not more than three levels.

(b) **Scope.** The provisions of this article shall apply to buildings or structures defined herein as covered mall buildings.

This article does not apply to terminals for transportation facilities and lobbies of hotel, apartment and office buildings.

Covered mall buildings conforming with all other applicable provisions of this code are not required to comply with the provisions of this article.

(c) **Definitions.** For the purpose of this article, certain terms are defined as follows:

**ANCHOR STORE** is an exterior perimeter department store or major merchandising center having direct access to a mall but having all required exits independent of a mall.

**Building Code Change B-14**

**Section 711**

**Topic:** Covered Mall  
Buildings

**COVERED MALL BUILDING** is a single building enclosing a number of tenants and occupancies such as retail stores, drinking and dining establishments, entertainment and amusement facilities, offices and other similar uses wherein two or more tenants have a main entrance into one or more malls.

**GROSS LEASABLE AREA** is the total floor area designed for tenant occupancy and exclusive use. The area of tenant occupancy is measured from the center lines of joint partitions to the outside of the tenant walls. All tenant areas, including areas used for storage, shall be included in calculating gross leasable area.

**MALL** is a roofed or covered common pedestrian area within a covered mall building which serves as access for two or more tenants and may have up to three levels that are open to each other.

- (d) **Applicability of Other Provisions.** Except as specifically required by this article, covered mall buildings shall meet all applicable provisions of this code.

**Types of Construction and Required Yards for Unlimited Area**

**Sec. 712 (a) Type of Construction.** ~~One- and two-level malls may be of any type of construction permitted by this code. Three-level malls shall be at least Type II one-hour construction.~~ Covered mall buildings may be of Type I, Type II or Type IV construction. Anchor stores and Parking garages shall be limited in height and area in accordance with Sections 505, 506 and 507.

- (b) **Required Yards for Unlimited Area.** Covered mall building may be of unlimited area, provided the covered mall building, attached anchor stores, parking garages and other attached structures are adjoined by public space, streets or yards not less than 60 feet in width along all exterior walls.

**Special Provisions**

**Sec. 713 (a) Automatic Sprinkler Systems.** The covered mall building shall be provided with an automatic sprinkler system conforming to the provisions of the U.B.C. Standard No. 38-1. ~~In addition to these standards, the automatic sprinkler system shall comply with the following:~~

1. ~~All automatic sprinkler system control valves shall be electrically supervised by an approved central, proprietary or remote station or a local alarm service which will give an audible signal at a constantly attended location.~~

**Building Code Change B-14**

**Section 711**

**Topic:** Covered Mall  
Buildings

2. The automatic sprinkler system shall be complete and operative throughout all occupied space in the covered mall building prior to occupancy of any of the tenant spaces.
1. The level of protection provided for unoccupied tenant space shall be subject to the approval of the building official and fire department marshal.
2. 3. Sprinkler protection for the mall shall be independent from that provided for tenant spaces. However, tenant spaces may be supplied by the same system if they can be independently controlled.

The respective increases for area and height for covered mall buildings, including anchor stores, specified in Section 506 and 507 of this code, shall be permitted.

(b) **Standpipes.** There shall be a Class I standpipe outlet connected to a system sized to deliver 250 gallons per minute at each of the following locations for fire department use:

1. Within the mall at the entrance to an exit passage or exit corridor.
2. At each floor level landing within enclosed stairways opening directly onto the mall and adjacent to principal exterior entrances to the mall.

Standpipes shall be installed in accordance with the requirements of Chapter 38 of this code.

**EXCEPTIONS:** 1. Risers and laterals of Class I standpipe systems not located within an enclosed stairway need not be protected by a degree of fire resistance equal to that required for vertical enclosures in the covered mall building.

2. Piping may be hydraulically sized.
3. Standpipes are not required to be interconnected if piping is combined with sprinkler system piping.

Standpipes in covered mall buildings exceeding 50,000 square feet shall be charged with water. The source of water may be either by interconnection with the sprinkler system or may be connected with the domestic water supply by a minimum of 1-inch-diameter pipe. The domestic water supply connection shall be provided with an approved backflow device.

- (c) **Smoke-control. System.** 1. **Purpose.** The purpose of smoke control is to restrict movement of smoke to the general area of fire origin and to maintain means of egress in a usable condition.

1. 2. **General.** Activation of the sprinkler system or smoke detectors shall activate the smoke-control system. The smoke-control system shall also be capable of manual operation. A smoke detector shall be provided within the return-air portion of heating and cooling systems exceeding 10,000 cfm. The detector shall be installed ahead of any fresh-air intake. Activation of the sprinkler system or smoke detectors shall cause the air supply to the fire area to shut down. Controls allowing the manual restarting of air handling equipment during an alarm condition shall be provided. Smoke detectors shall also be provided on the tenant side at openings into the mall where open-type security grilles are used. The smoke-control system shall be as follows:

- A. The smoke-control equipment for the mall shall be separate from that serving tenant spaces.
- B. The covered mall building shall be compartmented into smoke-control zones. Except for openings between the mall and tenant spaces, smoke-control zones shall be separated from each other by construction having a fire-resistive time period of not less than one hour. Walls between tenant spaces used to separate smoke-control zones shall extend from the floor to the underside of the floor or roof above.
- C. A smoke control zone shall coincide with the area of coverage of a single sprinkler supply. Within that sprinkler zone there may be one or more air-moving systems but no single smoke-control zone shall be larger than the sprinkler area.
- D. When a fire occurs within a tenant sprinkler zone, that zone is to go to 100 percent exhaust and the supply air to that zone is to be shut down. All adjoining tenant areas are to go into normal operation. The mall itself shall go to 100 percent fresh air supply.
- E. When a fire occurs within the mall, the mall smoke-control equipment shall go to 100 percent exhaust and the adjoining tenant spaces shall go into normal operation.

**Building Code Change B-14**

**Section 711**

**Topic:** Covered Mall  
Buildings

- F. The mall smoke-control equipment shall be sized to provide a minimum of six air changes per hour for malls 600,000 cubic feet or less in volume and four air changes per hour for malls of greater size. The volume of the mall is measured from the entrance to tenant spaces and to a height of 12 feet above each pedestrian area.
- G. Mall exhaust inlets shall be not less than 6 feet above the walking surface for each pedestrian level.
- H. During those hours when the building air-conditioning systems are not operating, smoke detector or sprinkler systems shall be designed so the activation of either will transmit an alarm as required in Subsection (a), Item No. 1, of this section and shall activate the smoke-control system.

2. 3. **Acceptance testing.** Before the smoke-control system is accepted by the building official, it shall be tested in his presence to confirm that the system is operating in compliance with the requirements of this subsection.

- (d) **Fire Department Access to Equipment.** Rooms or areas containing controls for air-conditioning systems, automatic fire-extinguishing systems or other detection, suppression or control elements shall be identified for use by the fire department.
- (e) **Tenant Separation.** Each tenant space shall be separated from other tenant spaces by a wall having a fire-resistive rating of not less than one hour. The separation wall shall extend from the floor to the underside of the ceiling above. Except as required by other provisions of this code, the ceiling need not be a fire-resistive assembly. A separation is not required between any tenant space and a mall except for occupancy separations required by Section 715. ~~or for smoke-control purposes.~~
- (f) **Public Address System.** Covered mall buildings exceeding 50,000 square feet in total floor area shall be provided with a public address system accessible for use by the fire department. Covered mall buildings, of 50,000 square feet or less in total floor area, when provided with a public address system, shall have such system accessible for use by the fire department.
- (g) **Plastic Panels and Plastic Signs.** Within every story or level and from sidewall to sidewall of each tenant space or mall, approved plastic panels and signs shall be limited as follows:



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**Section 711**

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Buildings

1. They shall not exceed 20 percent of the wall area facing the mall;
  2. They shall not exceed a height of 36 inches except that if the sign is vertical then the height shall not exceed 96 inches and the width shall not exceed 36 inches;
  3. They shall be located a minimum distance of 18 inches from adjacent tenants;
  4. All edges and the back shall be fully encased in metal.
- (h) **Lease Plan.** Each covered mall building owner shall provide both the building and fire departments with a lease plan showing the location of each occupancy and its exits after the Certificate of Occupancy has been issued. Such plans shall be kept current. No modifications or changes in occupancy or use shall be made from that shown on the lease plan without prior approval of the building official.
- (i) **Mixed Type of Construction.** Openings between an adjoining sprinklered buildings, including anchor stores of Type I, ~~H-F-R~~ or ~~H~~ or Type II One-hour construction and the mall need not be protected.
- (j) **Standby Power.** Covered mall buildings exceeding 50,000 square feet shall be provided with standby power systems which are capable of operating the public address system, the exit signs, emergency lighting, the smoke control activation system and the smoke control equipment from four adjacent zones acting simultaneously.

**Exits**

**Sec. 714 (a) General.** Each tenant space and the covered mall building shall be provided with exits as required by this section and Chapter 33 of this code. Where there is a conflict between the requirements of Chapter 33 and the requirements of this section, the requirements of this section shall apply.

- (b) **Determination of Occupant Load.** The occupant load permitted in any individual tenant space in a covered mall building shall be determined as required by Section ~~3301(d)~~ 3302(a) of this code. Exit requirements for individual tenant spaces shall be based on the occupant load thus determined.

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The occupant load permitted for the covered mall building, assuming all portions, including individual tenant spaces and the mall to be occupied at the same time, shall be determined by dividing the gross leasable area by 30 for covered mall buildings containing up to 150,000 square feet of gross leasable area, by 40 for covered mall buildings containing between 150,001 and 350,000 square feet of gross leasable area, and by 50 for covered mall buildings containing more than 350,000 square feet of gross leasable area. Exit requirements for the covered mall building shall be based on the occupant load thus determined.

The occupant load of anchor stores opening into the mall shall not be included in determining exit requirements for the mall.

- (c) **Number of Exits.** Whenever the distance of travel to the mall from any location within a tenant space used by persons other than employees exceeds 75 feet or the tenant space exceeds 1,500 square feet, not less than two exits shall be provided.
- (d) **Arrangement of Exits.** Group A, Divisions 1, 2 and 2.1 Occupancies, other than drinking and dining establishments, shall be so located in the covered mall building that their entrance will be immediately adjacent to a principal entrance to the mall and shall have not less than one half of their required exits opening directly to the exterior of the covered mall building.

Required exits for anchor stores shall be provided independently from the mall exit system.

Malls shall not exit through anchor stores. Malls terminating at an anchor store where no other means of exit has been provided shall be considered as a dead-end mall.

- (e) **Distance to Exits.** Within each individual tenant space in a covered mall building the maximum distance of travel from any point to an exterior exit door, horizontal exit, exit passageway, enclosed stairway or entrance to the mall shall not exceed 200 feet.

The maximum distance of travel from any point within a mall to an exterior exit door, horizontal exit, exit passageway or an enclosed stairway shall not exceed 200 feet.

- (f) **Access to Exits.** Exits shall be so arranged that it is possible to go in either direction from any point in a mall to a separate exit, except for dead ends

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not exceeding a length equal to twice the width of the mall measured at the narrowest location within the dead-end portion of the mall.

The minimum width of exit from a mall shall be 66 inches.

When exit passageways are present to provide a secondary exit from a tenant space, doors to the exit passageway shall be automatic closing by smoke detector actuation.

Storage is prohibited in exit passageways which are also used for service to the tenants. Such exit passageways shall be posted with conspicuous signs so stating.

- (g) **Malls.** For the purpose of providing required egress, malls may be considered as corridors but need not comply with the requirements of Section 3305(g) and (h) of this code when the width of mall is as specified in this section.

The minimum width of the mall shall be 20 feet. There shall be a minimum of 10 feet clear width to a height of 8 feet between any projection from a tenant space bordering the mall and the nearest kiosk, vending machine, bench, display or other obstruction to egress. The mall shall be sufficient to accommodate the occupant load immediately tributary thereto.

Malls which do not conform to the requirements of this section shall comply with the requirements of Section 3305(g) and (h) of this code.

- (h) **Security Grilles and Doors.** Horizontal sliding or vertical security grilles or doors which are a part of a required means of egress shall conform to the following:

1. They must remain secured in the full open position during the period of occupancy by the general public.
2. Doors or grilles shall not be brought to the closed position when there are more than 10 persons occupying spaces served by a single exit or 50 persons occupying spaces served by more than one exit.
3. The doors or grilles shall be openable from within without the use of any special knowledge or effort when the space is occupied.

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4. When two or more exits are required, not more than one half of the exits may be equipped with horizontal sliding or vertical rolling grilles or doors.

**Occupancy**

**Sec. 715. (a) General.** Covered mall buildings shall be classified as Group B, Division 2 Occupancies and may contain accessory uses consisting of Groups A, E or R, Division 1 Occupancies. The area of individual accessory uses within a covered mall building shall not exceed three times the basic area permitted by Table No. 5-C of this code for the type of construction and the occupancy involved. The aggregate area of all accessory uses within a covered mall building shall not exceed 25 percent of the gross leasable area.

Buildings of other than Group H Occupancy may be attached to the covered mall building provided they are protected throughout by automatic sprinkler protection. Open parking garages meeting the requirements of Section 709 need not be sprinklered.

An attached garage for the storage of passenger vehicles having a capacity of not more than nine persons and open parking garages may be considered as separate buildings when they are separated from the covered mall building by an occupancy separation having a fire-endurance time period of at least two hours.

- (b) **Mixed Occupancy.** Individual tenant spaces within a covered mall building which comprise a distinct "Occupancy," as described in Chapters 5, 6, 7, 8, 11 and 12 of this code, shall be separated from any other occupancy as specified in Section 503(d) of this code.

**EXCEPTION:** A main entrance which opens onto a mall need have no separation.

## PROPOSED CODE CHANGE

Building Code Change B-15

Section 802(c)

Topic: Construction of  
Closets in Group E  
Occupancies

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

Storage and janitor closets shall be of one-hour fire-resistive construction, except in buildings provided with an approved automatic sprinkler system. Stages and enclosed platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see Section 2516(f).

PROPOSED CODE CHANGE

Building Code Change B-16  
Section 901, Table No. 9-A  
Topic: Exempt Amounts of  
Hazardous Liquids

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Disposition of Code Change: No revisions. Proposal compatible with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

Note to Table No. 9-A is changed as follows:

<sup>2</sup> Quantities may be increased by 100 percent in areas which are not accessible to the public.

In buildings where fully protected by approved automatic fire extinguishing systems are ~~installed~~, the tabular quantities may be increased 100 percent ~~in~~ areas accessible to the public and are permitted for every 24,000 square feet of floor area.

## PROPOSED CODE CHANGE

**Building Code Change B-17**  
**Section 901(b)**

**Topic:** Vocation Shops, Laboratories, etc., in Educational Buildings

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

**(b) Special Provisions.** In buildings used for educational purposes, vocational shops, laboratories and similar areas need not be classified as Group H Occupancies, provided:

1. Such areas are separated from classrooms other than the classroom directly related to the use by not less than a one-hour fire-resistive occupancy separation, or if the building is provided with an approved automatic sprinkler system throughout.
2. Such areas are separated from each other by not less than a one-hour fire-resistive occupancy separation unless the uses are determined to be compatible, or if the building is provided with an approved automatic sprinkler system throughout.
3. The requirements of Sections 908, 910 and the Fire Code shall be met when applicable.

For occupancy separations, see Table No. 5-B and Section 508.

**PROPOSED CODE CHANGE**

**Building Code Change B-18**  
**Section 902(b)**  
**Topic: Smoke and Heat Venting**

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**Disposition of Code Change:** No revisions. Proposal compatible with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

~~For smoke and heat venting, see Section 3206.~~



## PROPOSED CODE CHANGE

Building Code Change B-19

Section 1204

Topic: Emergency Egress for  
Group R Occupancies

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency escape or rescue. The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

**EXCEPTION:** Emergency escape windows or doors are not required in buildings provided throughout with an approved automatic sprinkler system.

**PROPOSED CODE CHANGE**

**Building Code Change B-20**

**Section 1705(b)5**

**Topic:** Nonrated Partitions  
Within a Single  
Tenant Space

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**Disposition of Code Change:** Text deleted to correspond with '83 code. Text of Section 1705(b)5 moved to Section 3305(g) of '83 code, where Proposed Code Change B-20 is combined with B-36.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

## PROPOSED CODE CHANGE

Building Code Change B-21

Section 1706(b)

Topic: Fire Dampers

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**Disposition of Code Change:** Text revised with technical modifications.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

(b) **Protection of Openings.** Every opening into a shaft enclosure shall be protected by a self-closing fire assembly conforming to Section 4306 and having a fire protection rating of one hour for openings through one-hour walls and one and one-half hours for openings through two-hour walls.

**EXCEPTIONS:** 1. Openings to the exterior may be unprotected when so permitted by Table No. 5-A.

2. Openings produced by air ducts piercing shaft enclosure walls may be protected by fire dampers conforming to U.B.C. Standard No. 43-7.

3. In a building protected throughout by an approved automatic sprinkler system, fire dampers may be omitted from the building at air duct openings of shaft enclosures when the duct openings on adjacent floors are separated vertically by at least three feet as measured from the lower edge of a duct opening to the upper edge of the adjacent duct opening below. Dampers may not be omitted in buildings of Group I Occupancy or when needed to protect floor-ceiling assemblies or to protect floor penetrations of unenclosed ducts.

PROPOSED CODE CHANGE

Building Code Change B-22

Section 1706(d)

Topic: Elevator Shaft Venting

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Disposition of Code Change: No revisions. Proposal compatible with '83 code.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

- (d) **Elevator Shafts.** Shafts housing elevators and extending through more than two stories shall be vented to the outside. The area of vents shall be not less than 3½ percent of the area of the elevator shaft, with a minimum of 3 square feet per elevator.

**EXCEPTION:** Buildings protected throughout with an approved automatic sprinkler system.

## PROPOSED CODE CHANGE

Building Code Change B-23

Section 1715

Topic: Atriums

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**Disposition of Code Change:** Text revised to correspond with '83 code, with technical modification.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

#### Atriums

**Sec. 1715. (a) General.** Buildings of other than Group H Occupancy with automatic sprinkler protection throughout may have atriums complying with the provisions of this section. Such atriums shall have a minimum opening area and dimension as set forth in Table No. 17-B, of 400 square feet. The dimensions of floor openings in three or four level atriums shall be such that a 20 foot diameter circle can be inscribed between the edges of the floor openings. The size of the floor openings of atriums greater than four levels in height shall be a minimum of 900 square feet. The dimensions of floor openings in atriums greater than four levels in height shall be such that a 30 foot diameter circle can be inscribed between the edges of the floor openings.

- (b) **Smoke-control System.** A mechanically operated air-handling system shall be installed that will exhaust smoke either entering or developed within the atrium. Exhaust openings shall be located in the ceiling or in a smoke trap area immediately adjacent to the ceiling of the atrium. The lowest level of the exhaust openings shall be located above the top of the highest portion of door openings into the atrium. Supply openings sized to provide a minimum of 50 percent of the exhaust volume shall be located at the lowest level of the atrium.

When the height of the atrium is 55 feet or less, supply air may be introduced by gravity, provided smoke control is accomplished. When the height of the atrium is more than 55 feet, supply air shall be introduced mechanically from the floor of the atrium and be directed vertically toward the exhaust outlets. In atriums over six stories in height or where tenant spaces above the second story are open to the atrium, supplemental supply air may be introduced at upper levels. The exhaust and supply system for

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Section 1715

Topic: Atriums

the atrium shall operate automatically upon the actuation of the automatic sprinkler system within the atrium or areas open to the atrium or by the actuation of two or more smoke detectors required by this section. The exhaust and supply equipment shall also be manually operable by controls designed for department use. The smoke-control system may be separate or integrated with other air-handling systems. When the smoke-control mode is actuated, air-handling systems which would interfere with the smoke-control system shall be automatically shut down.

Enclosed tenant spaces shall be provided with a smoke-control system complying with the requirements of a sprinklered building in Section 1807 (g), Item No. 2 or 3.

The atrium smoke-control system shall exhaust not less than the following quantities of air:

1. For atriums having a volume of not more than 600,000 cubic feet, including the volume of any levels not physically separated from the atrium, not less than six air changes per hour nor less than 40,000 cfm. A lesser cfm is acceptable if it can be shown by test that smoke will not migrate beyond the perimeter of the atrium.
2. For atriums having a volume of more than 600,000 cubic feet, including the volume of any levels not physically separated from the atrium, not less than four air changes per hour.

Any other approved design which will achieve the same level of smoke control as described in this section may be used in lieu of these requirements.

Smoke detectors which will automatically operate the atrium smoke-control system shall be installed at the perimeter and on the ceiling of the atrium and on the ceiling of each floor level that is open to the atrium. In floor levels open to the atrium, such detectors shall be within 15 feet of the atrium. Detectors shall be located in accordance with their listing.

- (c) **Enclosure of Atriums.** Atriums shall be separated from adjacent spaces by not less than one-hour fire-resistive construction.

**EXCEPTION:** Open exit balconies are permitted within the atrium.

Openings in the atrium enclosure other than fixed glazing shall be protected by tight-fitting doors which are maintained automatic closing, in accordance with Section 4306(b), by actuation of a smoke detector, or self-closing.

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Section 1715

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Fixed glazed openings in the atrium enclosure shall be equipped with fire windows having a fire-resistance rating of not less than three-fourths hour, and the total area of such openings shall not exceed 25 percent of the area of the common wall between the atrium and the room into which the opening is provided.

**EXCEPTIONS:** 1. In Group R, Division 1 Occupancies, openings may be unprotected when the floor area of each guest room or dwelling unit does not exceed 1,000 square feet and each room or unit has an approved exit not entering the atrium.

2. In occupancies other than Group R, Division 1, the tenant space may be separated from the atrium by a wired, tempered or laminated glass wall, subject to the following:

A. The glass shall be protected by a sprinkler system equipped with 135°F heads. The sprinkler system shall completely wet the entire surface of the glass wall when actuated. Where there are walking surfaces on both sides of the glass, both sides of the glass shall be so protected.

B. The glass shall be in a gasketed frame so installed that the glazing system may deflect without breaking (loading) the glass before the sprinkler system operates.

C. Obstructions such as curtain rods, drapery traverse rods, curtains, drapes or similar materials, shall not be installed between the sprinkler and the glass.

The separation between the tenant space and the atrium as specified within Exception 2 may be omitted on a maximum of any three floor levels, provided the remaining floor levels are separated as specified herein.

(d) **Travel Distance.** When a required exit enters the atrium space, the travel distance from the doorway of the tenant space to an enclosed stairway, horizontal exit, exterior door or exit passageway shall not exceed 100 feet.

(e) **Group I Occupancy Exits.** In Group I Occupancies, other than jails, prisons and reformatories, sleeping rooms shall not be permitted to have required exits through the atrium.

(f) **Occupancy Separation Exceptions.** The vertical portion of the occupancy separation which is adjacent to the atrium may be omitted between a Group B, Division 2 Occupancy office or sales area or Group A, Division 3 Occupancy and Group R, Division 1 apartment or guest room located on another level.

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- (g) **Standby Power.** The smoke-control system for the atrium and the smoke-control system for the tenant space are to be provided with standby power as required in Section 1807(i).
- (h) **Interior Finish.** The interior finish of walls and ceilings of the atrium and all unseparated tenant spaces allowed under the last paragraph of Subsection (e) above shall be Class I with no reduction in class for sprinkler protection.
- c. (i) **Acceptance of the Smoke-control System.** Before the Certificate of Occupancy is issued, the smoke-control systems equipment shall be functionally tested in an approved manner and shall show compliance with the requirements of this section.
- (j) **Inspection of the Smoke-control System.** All operating parts of the smoke-control system shall be tested by an approved inspection agency or by the owner or his representative when so approved. Such inspections shall be made every three months and a log of the tests be kept by the testing agency. The log shall be on the premises and available for examination by fire department personnel.
- (k) **Combustible Furnishings in Atriums.** The quantity of combustible furnishings in atriums shall not exceed that specified in the Fire Code.



**PROPOSED CODE CHANGE**

**Building Code Change B-24**  
**Section 1717 (New)**

**Topic:** Materials in  
Plenum Spaces

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**Disposition of Code Change:** Text deleted in lieu of '83 code, Section 4305(e).

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

## PROPOSED CODE CHANGE

**Building Code Change B-25**

**Section 1806**

**Topic:** Roof Construction  
of Type I Buildings

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**Disposition of Code Change:** Text modified to allow use of heavy timber construction for roof construction and immediate supporting members.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

**Sec. 1806.** Roofs and their members other than the structural frame more than 25 feet above any floor, balcony or gallery may be of unprotected noncombustible materials. Heavy timber members in accordance with Section 2106 may be used for such unprotected members in one-story buildings.

**EXCEPTION:** In buildings protected throughout by an approved automatic sprinkler system, roof construction and the structural frame supporting the roof only may be of unprotected noncombustible materials, or heavy timber construction complying with Section 2106.

## PROPOSED CODE CHANGE

Building Code Change B-26  
Section 1807  
Topic: High Rise Buildings

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**Disposition of Code Change:** Text revised to correspond with '83 code. Provisions expanded to include other building occupancies.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

#### **Special Provisions for High-Rise Group B, Division 2 Office Buildings and Group R, Division 1 Occupancies**

**Sec. 1807.** (a) **Scope.** This section shall apply to all Group B, Division 2 office buildings other than Group B-3, B-4 and M Occupancies and Group R, Division 1 Occupancies, each having floors used for human occupancy located more than 75 feet above the lowest level of fire department vehicle access. Such buildings shall be provided with either an approved automatic sprinkler system in accordance with Section 1807(c) or safe areas of refuge (compartmentation) in accordance with Section 1807(1).

(b) **Certificate of Occupancy.** All mechanical and electrical equipment and other required life safety systems shall be approved and installed in accordance with approved plans and specifications pursuant to this section and shall be tested and proved to be in proper working condition to the satisfaction of the building official before issuance of the Certificate of Occupancy.

(c) **Automatic Sprinkler System.** When provided as required in Section 1807(a), ~~The~~ An automatic sprinkler system shall be provided throughout the building. The sprinkler system shall be designed using the parameters set forth in U.B.C. Standard No. 38-1. and the following:

1. Shutoff valves and a water flow device shall be provided for each floor. The sprinkler riser may be combined with the standpipe riser.
2. In Seismic Zones No. 2, No. 3 and No. 4, in addition to the main water supply, a secondary on-site supply of water equal to the hydraulically calculated sprinkler design demand plus 100 gallons per minute additional for the total standpipe system shall be provided. This supply shall be automatically available if the principal supply fails and shall have a duration of 30 minutes.

(d) **Smoke Detection Systems.** At least one approved smoke detector suitable for the intended use shall be installed:

1. In every mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar room not provided with automatic sprinkler protection.
2. In the main return and exhaust air plenum of each air-conditioning system and located in a serviceable area downstream of the last duct inlet. The actuation of any such detector shall shut down the affected air handling unit(s) or operate dampers to prevent the recirculation of smoke. Controls allowing the manual restarting of air handling equipment during an alarm condition shall be provided.

EXCEPTION: Smoke detectors may be eliminated when the shutdown of air handling units and the operation of dampers needed to prevent the recirculation of smoke are controlled by automatic sprinkler waterflow.

3. At each connection to a vertical duct or riser serving two or more stories from a return-air duct or plenum of an air-conditioning system. In Group R, Division 1 Occupancies, an approved smoke detector may be used in each return-air riser carrying not more than 5,000 cfm and serving not more than 10 air inlet openings.

The actuation of any detector required by this section shall operate the voice alarm system and shall place into operation all equipment necessary to prevent the recirculation of smoke.

(e) **Alarm and Communication Systems.** An approved automatic fire alarm system shall be provided in all Group A, B-2, E, I and R-1 Occupancies. An approved voice communication system shall be provided in all Group A, B-2, E, I-2 and R-1 Occupancies. The automatic fire alarm system and the voice communication system may be a combined system.

1. Automatic fire alarm system. The operation of any required smoke detector or sprinkler waterflow device shall automatically sound an alarm at a constantly attended location on the premises or at an approved central or remote station alarm facility. Required duct mounted smoke detectors may be arranged to sound only a local alarm, in addition to performing the function required by Section 1807(d).
2. Voice communication system. A voice communication system designed to be clearly heard by all occupants of the building shall operate from the central control station. The central control station shall contain controls for the voice communication system so that a selective or general voice message may be manually initiated.

The system shall be supervised to cause the activation of an audible trouble signal in the central control station upon interruption or failure of the audiopath including amplifiers, speaker wiring, switches and electrical contacts and shall detect opens, shorts and grounds which might impair the function of the system.

The alarm and communication systems shall be designed and installed so that damage to any terminal unit or speaker will not render more than one zone of the system inoperative.

The voice alarm and public address system may be a combined system. When approved, the fire department communications system may be combined with the voice alarm system and the public address system.

Three communication systems which may be combined as set forth above shall be provided as follows:

1. **Voice alarm system.** The operation of any smoke detector, sprinkler, waterflow device or manual fire alarm station shall automatically sound an alert signal to the desired areas followed by voice instructions giving appropriate information and direction to the occupants.

The central control station shall contain controls for the voice alarm system so that a selective or general voice alarm may be manually initiated.

The system shall be supervised to cause the activation of an audible trouble signal in the central control station upon interruption or failure of the audiopath including amplifiers, speaker wiring, switches and electrical contacts and shall detect opens, shorts and grounds which might impair the function of the system.

The alarm shall be designed to be heard clearly by all occupants within the building or designated portions thereof as is required for the public address system.

2. **Public address system.** A public address communication system designed to be clearly heard by all occupants of the building shall operate from the central control station. It shall be established on a selective or general basis to the following terminal areas:

- A. Elevators.
- B. Elevator lobbies.
- C. Corridors.
- D. Exit stairways.
- E. Rooms and tenant spaces exceeding 1,000 square feet in area.

- F. Dwelling units in apartment houses.
  - G. Hotel guest rooms or suites.
3. **Fire department communication system.** A two-way fire department communication system shall be provided for fire department use. It shall operate between the central control station and every elevator, elevator lobby and entry to every enclosed exit stairway.
- (f) **Central Control Station.** A central control station for fire department operations shall be provided in a location approved by the fire department. It shall contain:
- 1. The voice alarm and/public address communication system panels.
  - 2. The fire department communications panel.
  - ~~2.~~ 3. Fire detection and alarm system annunciator panels.
  - ~~3.~~ 4. Annunciator visually indicating the location of the elevators and whether they are operational.
  - 5. Status indicators and controls for air-handling systems.
  - ~~4.~~ 6. Controls for unlocking all stairway doors simultaneously.
  - ~~5.~~ 7. Sprinkler valve and water-flow detector display panels.
  - 8. Standby power controls and status indicators.
  - ~~6.~~ 9. A telephone for fire department use with controlled access to the public telephone system.
- (g) **Smoke Control.** Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story and shall consist of one of the following:
- 1. Panels or windows in the exterior walls which can be opened remotely from an approved location other than the fire floor. Such venting facilities shall be provided at the rate of 20 square feet per 50 lineal feet of exterior wall in each story and shall be distributed around the perimeter at not more than 50-foot intervals. Such windows or panels and their controls shall be clearly identified.

**EXCEPTION:** When a complete automatic sprinkler system is installed, 1. Windows or panels manually openable from within the fire floor or approved fixed tempered glass may be used in lieu of the remotely operated openable panels and windows. Such windows shall be clearly identified and shall be of the size and spacing called for in Section 1807(g)1, sized to provide not less than 20 square feet per 50 lineal feet of building exterior.

In Group R, Division 1 occupancies, at least one operable window or panel shall be provided in each dwelling unit and hotel guest room.

2. When a complete and approved automatic sprinkler system is installed, The mechanical air-handling equipment may be designed to accomplish smoke removal control. The objective of mechanical smoke control is to restrict the movement of smoke to the general area of origin and to maintain the means of egress in a usable condition. Under fire conditions, the return and exhaust air shall be moved directly to the outside without recirculation to other sections of the building. Controls to allow the manual operation of air handling equipment shall be provided. A means to identify the status of the air handling equipment shall be provided. The air-handling system shall provide a minimum of one exhaust air change each 10 minutes for the area involved.
  3. Any other approved design which will produce equivalent results.
- (h) **Elevators.** Elevators and elevator lobbies shall comply with the provisions of Chapter 51 and the following:
1. **NOTE:** A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all these elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.
  1. Elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building, including corridors and other exits, by walls extending from the floor to the underside of the fire-resistive floor or roof above. Such walls shall be not less than one-hour fire-resistive construction. Openings through such walls shall conform to Section 3305(h).
- EXCEPTIONS:**
1. The main entrance level elevator lobby in office buildings.
  2. Elevator lobbies located within an atrium complying with the provisions of Section 1715.
2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling, a means for automatic recall to the main floor upon the detection of fire. This may be accomplished by means of smoke detectors located in the elevator lobbies or by an interlock with the building's automatic sprinkler system. When the detector is activated, in the fire mode, elevator doors shall not open

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Section 1807  
Topic: High Rise Buildings

and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. Elevator hoistways shall not be vented through an elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.
- (i) **Standby Power, Light and Emergency Sysms.** 1. **Standby power.** Standby power generating system conforming to U.B.C. Standard No. 18-1 shall be provided. The system shall be equipped with suitable means for automatically starting the generator set upon failure of the normal electrical supply systems and for automatic transfer of all functions required by this section at full power within 60 seconds of such normal service failure. System supervisions with manual start and transfer features shall be provided at the central control station.

An on-premise fuel supply sufficient for not less than two hours full demand operation of the system shall be provided.

The standby system shall have a capacity and rating that would supply all equipment required to be operational at the same time. The generating capacity need not be sized to operate all the connected electrical equipment simultaneously.

All power, lighting, signal and communication facilities specified in Section 1807 (d), (e), (f), (g), (h), (i) and (j) as applicable; fire pumps required to maintain pressure in buildings greater than 150 feet in height, standby lighting and normal circuits supplying exit signs and exit illumination shall be transferable to the standby source.

2. **Standby lighting.** Standby lighting shall be provided as follows:
  - A. Separate lighting circuits and fixtures sufficient to provide light with an intensity of not less than one footcandle measured at floor level in all exit corridors, stairways, smokeproof enclosures, elevator cars and lobbies and other areas which are clearly a part of the escape route.
  - B. All circuits supplying lighting for the central control station, and mechanical equipment rooms.



3. **Emergency systems.** The following are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply:
  - A. Exit sign and exit illumination as required by Sections 3313 and 3314.
  - B. Elevator car lighting.
- (j) **Exits.** Exits shall comply with other requirements of this code, and the following:
  1. All stairway doors which are to be locked from the stairway side shall have the capability of being unlocked simultaneously without unlatching upon a signal from the central control station.
  2. A telephone or other two-way communications system connected to an approved emergency service which operates continuously shall be provided at not less than every fifth floor in each required stairway where other provisions of this code permit the doors to be locked.
- (k) **Seismic Considerations.** In Seismic Zones No. 2, No. 3 and No. 4, the anchorage of mechanical and electrical equipment required for lift safety systems, including fire pumps and elevator drive and suspension systems, shall be designed in accordance with the requirements of Section 2312.
- (l) **Areas of Refuge (Compartmentation) Alternate.** Areas of refuge conforming to the following may be provided as an alternate to the automatic sprinkler system:
  1. Every story shall be divided into two or more areas of approximately the same size with no single area exceeding 15,000 square feet. The wall and door shall be constructed as required for a horizontal exit in Section 3307.
  2. Each area of refuge (compartment) shall contain one elevator to the main floor and a minimum of one enclosed exit stairway.
  3. Openings in exterior walls, where such openings are within 5 feet of each other horizontally or vertically adjacent floors, shall be protected by approved flame barriers either extending 30 inches beyond the exterior wall in the plane of the floor or by approved vertical panels not less than 3 feet in height above the floor.

4. Horizontal exit walls used for compartmenting a building shall have a fire-resistance rating of not less than two hours. Duct penetrations of this wall shall not be permitted. Ferrous or copper piping and conduit may penetrate or pass through the wall only if the openings are caulked with impervious noncombustible materials sufficiently tight to prevent the transfer of smoke or combustion gases from one side of the wall to the other and are so maintained. The fire door serving as the horizontal exit between compartments shall be so installed, fitted and gasketed that it will provide a substantial barrier to the passage of smoke.
  5. The fire-resistive floor or the floor-ceiling construction shall extend to and be tight against the exterior wall so that the fire-resistive integrity between stories is maintained. No penetrations or other installations which will impair the fire-resistive integrity of the floor-ceiling assembly shall be permitted.
  6. A manual fire alarm system (pull boxes) shall be installed in accordance with U.B.C. Standard No. 18-1.
- (m) **Automatic Sprinkler System Alternatives.** When a complete approved automatic sprinkler system complying with this section is installed in a building, the following modifications of code requirements are permitted:
1. The fire-resistive time periods set forth in Table No. 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.
  2. Except for corridors in Group R, Division 1 Occupancies and partitions separating dwelling units or guest rooms, all interior nonbearing partitions required to be one-hour fire-resistive construction by Table No. 17-A may be of noncombustible construction without a fire-resistive time period.
  3. Fixed tempered glass may be used in lieu of openable panels for smoke control purposes.
  4. Travel distance from the most remote point in the floor area to a horizontal exit or to an enclosed stairway may be 300 feet.
  5. The manually operated fire alarm system required in the compartmented building is not required.

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**Section 1807**

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6. Spandrel walls, eyebrows and compartmentation are not required; however, the fire resistance of the floors and juncture of exterior walls with each floor must be maintained.
7. Fire dampers, other than those needed to protect floor-ceiling assemblies to maintain the fire resistance of the assembly are not required except for those which may be necessary to bypass smoke to the outside, those provided to convert from recirculated air to 100 percent outside air, and those which may be required to protect the fresh air supply intake against smoke which may be outside the building.
8. Emergency windows required by Section 1204 are not required.
9. The separation of elevator lobbies from the remainder of the building required by Section 1807(h)1 is not required.

PROPOSED CODE CHANGE

**Building Code Change B-27**

**Section 1907**

**Topic:** Roof Construction in  
High Rise Type II-F.R.  
Buildings

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**Disposition of Code Change:** No revisions. The modification suggested by the BCAAB and the City staff will be effective with implementation of Proposed Code Change B-25.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

**Sec. 1907.** Type II-F.R. buildings shall comply with the special provisions on high-rise buildings in Section 1807.

**EXCEPTION:** The reduction provisions for roofs in Section 1807(m), Item No. 1, are not permitted.

## PROPOSED CODE CHANGE

Building Code Change B-28

Section 2516(f)4

Topic: Subdivision of  
Combustible Con-  
cealed Spaces

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**Disposition of Code Change:** Text revised to correspond with '83 code. Change relocated from Section 3205(b) in '80 code to Section 2516(f) in '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

4. **Draft stops, where required.** Draftstopping shall be provided in the following locations:
  - A. **Floor-ceiling assemblies.**
    - (i) **Single-family dwellings.** When there is usable space above and below the concealed space of a floor-ceiling assembly in a single-family dwelling, draft stops shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas.
    - (ii) **Two or more dwelling units and hotels.** Draft stops shall be installed in floor-ceiling assemblies of buildings having more than one dwelling unit and in hotels. Such draft stops shall be in line with walls separating tenants from each other and separating tenants from other areas.

**EXCEPTION:** When the entire building, including the concealed spaces, is protected by an approved automatic sprinkler system complying with U.B.C. Standard 38-1, the floor-ceiling assemblies are not required to be subdivided.

- (iii) **Other uses.** Draft stops shall be installed in floor-ceiling assemblies of buildings or portions of buildings used for other than dwelling or hotel occupancies so that the area of the concealed space does not exceed 1,000 square feet and so that the horizontal dimension between stops does not exceed 60 feet.

**Building Code Change B-28**

**Section 2516(f)4**

**Topic:** Subdivision of  
Combustible Con-  
cealed Spaces

**EXCEPTIONS:** 1. Where approved automatic sprinklers are installed within the concealed space, the area between draft stops may be 3,000 square feet and the horizontal dimension may be 100 feet.

2. When the entire building, including the concealed spaces, is protected by an approved automatic sprinkler system complying with U.B.C. Standard 38-1, the floor-ceiling assemblies are not required to be subdivided.

**B. Attics. (i) Single-family dwellings.** None required.

(ii) **Two or more dwelling units and hotels.** Draft stops shall be installed in the attics, mansards, overhangs, false fronts set out from walls and similar concealed spaces of buildings containing more than one dwelling unit and in hotels. Such draft stops shall be above and in line with the walls separating tenant spaces from each other and from other uses.

**EXCEPTIONS:** 1. Draft stops may be omitted along one of the corridor walls, provided draft stops at tenant separation walls extend to the remaining corridor draft stop.

2. Where approved sprinklers are installed, draftstopping may be as specified in the exceptions to Item (iii) below.

(iii) **Other uses.** Draft stops shall be installed in attics, mansards, overhangs, false fronts set out from walls and similar concealed spaces of buildings having uses other than dwellings or hotels so that the area between draft stops does not exceed 3,000 square feet and the greatest horizontal dimension does not exceed 60 feet.

**EXCEPTIONS:** 1. Where approved automatic sprinklers are installed the area between draft stops may be 9,000 square feet and the greatest horizontal dimension may be 100 feet.

2. When the entire building, including the concealed spaces, is protected by an approved automatic sprinkler system complying with U.B.C. Standard 38-1, the concealed spaces are not required to be subdivided.

## PROPOSED CODE CHANGE

Building Code Change B-29  
Section 3206

Topic: Smoke and Heat  
Venting

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**Disposition of Code Change:** No revisions. Text compatible with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

#### Smoke and Heat Venting

Section 3206. (a) ~~When Required.~~ Smoke and heat vents shall be installed in accordance with the provisions of this section as follows:

1. ~~In single-story Group B, Divisions 2 and 4 Occupancies having over 50,000 square feet in undivided area.~~

EXCEPTIONS: 1. ~~Office buildings and retail sales areas.~~ 2. ~~Group B, Division 4 Occupancies used for bulk frozen food storage when the building is protected by a complete automatic sprinkler system.~~

2. ~~In Group H, Divisions 1 and 2 Occupancies having over 5,000 square feet in single floor area.~~
3. ~~In Group H, Divisions 3, 4, and 5 Occupancies having over 15,000 square feet in single floor area.~~
4. ~~The following storage arrangements shall be considered as Group H Occupancies for purposes of determining smoke and heat venting requirements:~~
  - A. ~~Combustible storage more than 15 feet high.~~
  - B. ~~Palletized or rack storage more than 12 feet high.~~

**Building Code Change B-29**

**Section 3206**

**Topic:** Smoke and Heat  
Venting

- C. Rubber tire storage more than five feet high.
  - D. Plastic storage more than five feet high.
  - E. Flammable liquid storage more than one container high.
- (b) **Mixed Occupancies.** Venting facilities shall be installed in buildings of mixed occupancy on the basis of the individual occupancy involved.
- (c) **Types of Vents.** In buildings protected by a complete automatic sprinkler system, vents shall be operated manually and maintained in the closed position. In all other buildings, vents shall be fixed in the open position or open automatically in the event of fire. Vents may consist of skylights, exterior wall windows, or other openings leading directly to the exterior of the building and shall be at or near the highest elevation of the ceiling. No vents may be located lower than the upper one-third of the smoke curtain or closer than 20 feet to an adjoining property line. Where plain glass is used, provision shall be made to protect the occupants from glass breakage.
- (d) **Releasing Devices.** Releasing devices for automatically opening vents shall be activated by temperature. The temperature-releasing device shall be operated normally at a maximum temperature of 165°F. Special circumstances warranting higher releasing temperatures may be approved by the building official. Noncorrodible materials shall be used for hinges, latches and related details to prevent sticking and consequent failure to open.
- (e) **Size and Spacing of Vents.**
1. **Effective vent area.** The effective venting area is the minimum cross-sectional area through which the hot gases must pass enroute to atmosphere. The effective venting area shall be not less than 16 square feet with no dimension less than 2 feet.
  2. **Spacing.** The maximum center-to-center spacing between vents within the building shall be:
    - A. In Group B Occupancies: 120 feet.
    - B. In Group H Occupancies: 100 feet.
  3. **Venting ratios.** The following ratios of effective area of vent openings to floor areas shall be:
    - A. In Group B Occupancies: 1:400.



B. In Group H Occupancies: 1+100.

- (f) **Curtain Boards.** 1. **General.** Curtain boards shall be provided to subdivide a vented building in accordance with the provisions of this subsection.
2. **Construction.** Curtain boards shall be sheet metal, asbestos board, lath and plaster, gypsum wallboard or other approved materials which provide equivalent performance.
3. **Location and depth.** Curtain boards shall extend down from the ceiling for a minimum depth of 6 feet but need not extend closer than 8 feet to the floor. In Group H Occupancies, the minimum depth shall be 12 feet except that it need not be closer than 8 feet to the floor, provided the curtain is not less than 6 feet in depth.
4. **Spacing.** The distance between curtain boards shall not exceed 250 feet and the curtained area shall be limited to 50,000 square feet. In Group H Occupancies, the distance between curtain boards shall not exceed 100 feet and the curtained area shall be limited to 15,000 square feet.

## PROPOSED CODE CHANGE

Building Code Change B-30

Section 3303(a)

Topic: Number of Exits  
Calculation Procedure

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Disposition of Code Change: Text revised to correspond with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

The number of exits required from any story of a building shall be determined by using the occupant load of that story plus the percentages of the occupant loads of floors which exit through the level under consideration as follows:

1. Fifty percent of the occupant load in the first adjacent story above and the first adjacent story below, when a story below exits through the level under consideration.
2. Twenty-five percent of the occupant load in the story immediately beyond the first adjacent story.

**EXCEPTION:** In buildings protected throughout by an approved automatic sprinkler system, the occupant load of any story of a building, other than the story of exit discharge, may be determined by using the occupant load of only that story.

The maximum number of exits required for any story shall be maintained until egress is provided from the structure. (See Section 3311.)

## PROPOSED CODE CHANGE

Building Code Change B-31

Section 3303(b)

Topic: Exit Width Calculation  
Procedure

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**Disposition of Code Change:** Text revised to correspond with '83 code.

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### Key:

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

### Proposed Change:

(b) **Width.** The total width of exits in feet shall be not less than the total occupant load served divided by 50. Such width of exits shall be divided approximately equally among the separate exits. The total exit width required from any story of a building shall be determined by using the occupant load of that story plus the percentages of the occupant loads of floors which exit through the level under consideration as follows:

1. Fifty percent of the occupant load in the first adjacent story above and the first adjacent story below, when a story below exits through the level under consideration.
2. Twenty-five percent of the occupant load in the story immediately beyond the first adjacent story.

**EXCEPTION:** In buildings protected throughout by an approved automatic sprinkler system, the occupant load of any story of a building, other than a story into which occupants of other stories discharge, may be determined by using the occupant load of only that story.

The maximum exit width required from any story of a building shall be maintained.

PROPOSED CODE CHANGE

Building Code Change B-32

Section 3303(c)

Topic: Arrangement of Exits

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**Disposition of Code Change:** Text revised to correspond with '83 code using a 1/4 diagonal rule.

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**Key:**

New material is indicated by underlined wording.

Dashes through wording indicate existing material to be deleted.

**Proposed Change:**

- (c) **Arrangement of Exits.** If only two exits are required they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exits.

**EXCEPTIONS:** 1. In buildings protected throughout by an approved automatic sprinkler system, exits shall be placed a distance apart equal to not less than one fourth of the length of the maximum overall diagonal dimension of the building or of the area served measured in a straight line between exits.

2. When exit enclosures are provided as a portion of the required exit and are interconnected by a one-hour corridor conforming to the requirements of Section 3305(g), exit separations may be measured along a direct line of travel within the exit corridor. Enclosure walls shall be not less than 30 feet apart at any point in a direct line of measurement.

Where three or more exits are required they shall be arranged a reasonable distance apart so that if one becomes blocked others will be available.