
2012 IBC Building Code Basics

Presented by:

Bruce J. Spiewak, AIA

Bruce J. Spiewak, AIA Consulting Architect, LLC

www.conncode.com



Building Code Basics

- This presentation will summarize the importance and interrelationships of the code sections presented for **Use and Occupancy, Construction Types, Height and Area, and Means of Egress,** without going into detail for each section. In many, but not all cases, full code section text is provided for reference. Please reference the entire code for the full picture!
- Code Sections are from 2012 Codes.
- Questions and discussion are encouraged along the way, so do not be shy.

Use & Occupancy

SECTION 302 CLASSIFICATION

302.1 General.

Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. A room or space that is intended to be occupied at different times for different purposes shall comply with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Structures with multiple occupancies or uses shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B
3. Educational (see Section 305): Group E
4. Factory and Industrial (see Section 306): Groups F-1 and F-2
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4
7. Mercantile (see Section 309): Group M
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4
9. Storage (see Section 311): Groups S-1 and S-2
10. Utility and Miscellaneous (see Section 312): Group U

FROM 2012 International Existing Building Code

1012.4 Means of egress, general.

Hazard categories in regard to life safety and means of egress shall be in accordance with Table 1012.4.

TABLE 1012.4 MEANS OF EGRESS HAZARD CATEGORIES

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

FROM 2012 International Existing Building Code

1012.5 Heights and areas.

Hazard categories in regard to height and area shall be in accordance with Table 1012.5.

TABLE 1012.5 HEIGHTS AND AREAS HAZARD CATEGORIES

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

SECTION 303 ASSEMBLY GROUP A

303.1 Assembly Group A.

Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation.

303.1.1 Small buildings and tenant spaces.

A building or tenant space used for assembly purposes with an *occupant load* of less than 50 **persons shall be classified as a Group B occupancy.**

303.1.2 Small assembly spaces.

The following rooms and spaces **shall not** be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an *occupant load* of less than 50 persons and accessory to another occupancy **shall be classified as a Group B occupancy or as part of that occupancy.**
2. A room or space used for assembly purposes that is less than 750 square feet (70 m²) in area and accessory to another occupancy **shall be classified as a Group B occupancy or as part of that occupancy.**

303.1.3 Associated with Group E occupancies.

A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.

303.1.4 Accessory to places of religious worship.

Accessory religious educational rooms and religious auditoriums with *occupant loads* of less than 100 are not considered separate occupancies.

SECTION 303 ASSEMBLY GROUP A

303.2 Assembly Group A-1.

Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

- Motion picture theaters
- Symphony and concert halls
- Television and radio studios admitting an audience
- Theaters

SECTION 303 ASSEMBLY GROUP A

303.3 Assembly Group A-2.

Assembly uses intended for food and/or drink consumption including, but not limited to:

- Banquet halls
- Casinos (gaming areas)
- Nightclubs
- Restaurants, cafeterias and similar dining facilities (including associated commercial kitchens)
- Taverns and bars

SECTION 303 ASSEMBLY GROUP A

303.4 Assembly Group A-3.

Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades
 Art galleries
 Bowling alleys
 Community halls
 Courtrooms
 Dance halls (not including food or drink consumption)
 Exhibition halls

Funeral parlors
 Gymnasiums (without spectator seating)
 Indoor *swimming pools* (without spectator seating)
 Indoor tennis courts (without spectator seating)
 Lecture halls
 Libraries
 Museums
Places of religious worship
 Pool and billiard parlors
 Waiting areas in transportation terminals

SECTION 303 ASSEMBLY GROUP A

303.5 Assembly Group A-4.

Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

Arenas
Skating rinks
Swimming pools
 Tennis courts

SECTION 303 ASSEMBLY GROUP A

303.6 Assembly Group A-5.

Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

Amusement park structures

Bleachers

Grandstands

Stadiums

SECTION 304 BUSINESS GROUP B

304.1 Business Group B.

Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers

Ambulatory care facilities

Animal hospitals, kennels and pounds

Banks

Barber and beauty shops

Car wash

Civic administration

Clinic, outpatient

Dry cleaning and laundries: pick-up and delivery stations and self-

service

Educational occupancies for students above the 12th grade

Electronic data processing

Laboratories: testing and research

Motor vehicle showrooms

Post offices

Print shops

Professional services (architects, attorneys, dentists, physicians, engineers, etc.)

Radio and television stations

Telephone exchanges

Training and skill development not within a school or academic program

SECTION 304 BUSINESS GROUP B

- **304.2 Definitions.**

The following terms are defined in Chapter 2:

AMBULATORY CARE FACILITY. From Section 202:

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* by the services provided.

CLINIC, OUTPATIENT. From Section 202:

Buildings or portions thereof used to provide *medical care* on **less than** a 24-hour basis to persons who are **not** rendered *incapable of self-preservation* by the services provided.

SECTION 305 EDUCATIONAL GROUP E

305.1 Educational Group E.

Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, **by six or more persons** at any one time for educational purposes **through the 12th grade**.

305.1.1 Accessory to places of religious worship.

Religious educational rooms and religious auditoriums, which are accessory to *places of religious worship* in accordance with Section 303.1.4 and have *occupant loads* of **less than 100**, shall be classified as Group A-3 occupancies.

305.2 Group E, day care facilities.

This group includes buildings and structures or portions thereof occupied by more than five children older than 2½ years of age who receive educational, supervision or *personal care services* for fewer than 24 hours per day. **[CT will have to say more than 6, older than 3 based on Public Health Regulations.]**

305.2.1 Within places of religious worship.

Rooms and spaces within *places of religious worship* providing such day care during religious functions shall be classified as part of the primary occupancy.

305.2.2 Five or fewer children.

A facility having five or fewer children receiving such day care shall be classified as part of the primary occupancy. **[CT will have to say 6 or fewer.]**

305.2.3 Five or fewer children in a dwelling unit.

A facility such as the above within a *dwelling unit* and having five or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*. **[CT will have to say 6 or fewer.]**

SECTION 306 FACTORY GROUP F

306.1 Factory Industrial Group F.

Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified as a Group H hazardous or Group S storage occupancy.

SECTION 306 FACTORY GROUP F

- **306.2 Moderate-hazard factory industrial, Group F-1.**

Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft (manufacturing, not to include repair)
 Appliances
 Athletic equipment
 Automobiles and other motor vehicles
 Bakeries
 Beverages: over 16-percent alcohol content
 Bicycles
 Boats
 Brooms or brushes
 Business machines
 Cameras and photo equipment
 Canvas or similar fabric
 Carpets and rugs (includes cleaning)
 Clothing
 Construction and agricultural machinery
 Disinfectants
 Dry cleaning and dyeing
 Electric generation plants
 Electronics
 Engines (including rebuilding)
 Food processing and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities
 Furniture

Hemp products
 Jute products
 Laundries
 Leather products
 Machinery
 Metals
 Millwork (sash and door)
 Motion pictures and television filming (without spectators)
 Musical instruments
 Optical goods
 Paper mills or products
 Photographic film
 Plastic products
 Printing or publishing
 Recreational vehicles
 Refuse incineration
 Shoes
 Soaps and detergents
 Textiles
 Tobacco
 Trailers
 Upholstering
 Wood; distillation
 Woodworking (cabinet)

SECTION 306 FACTORY GROUP F

306.3 Low-hazard factory industrial, Group F-2.

Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

Beverages: up to and including 16-percent alcohol content
 Brick and masonry
 Ceramic products
 Foundries
 Glass products
 Gypsum
 Ice
 Metal products (fabrication and assembly)

SECTION 307 HIGH-HAZARD GROUP H

[F] 307.1 High-hazard Group H.

High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in *control areas* complying with Section 414, based on the maximum allowable quantity limits for *control areas* set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*. Hazardous materials stored, or used on top of roofs or canopies shall be classified as outdoor storage or use and shall comply with the *International Fire Code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
7. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterruptable power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *International Mechanical Code*.
10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
11. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
12. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.
13. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.

SECTION 307 HIGH-HAZARD GROUP H

[F] TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, j, m, n, p}

[F] TABLE 307.1(2) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD^{a, b, c, i}

SECTION 307.3 HIGH-HAZARD GROUP H-1

[F] 307.2 Definitions.

The following terms are defined in Chapter 2: **[See Building Code]**

[F] 307.3 High-hazard Group H-1.

Buildings and structures containing materials that pose a detonation hazard shall be classified as Group H-1. Such materials shall include, but not be limited to, the following:

Detonable pyrophoric materials

Explosives:

- Division 1.1
- Division 1.2
- Division 1.3
- Division 1.4
- Division 1.5
- Division 1.6

Organic peroxides, unclassified detonable

Oxidizers, Class 4

Unstable (reactive) materials, Class 3 detonable and Class 4

[F] 307.3.1 Occupancies containing explosives not classified as H-1.

The following occupancies containing explosive materials shall be classified as follows: 1. Division 1.3 explosive materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass explosion hazard shall be allowed in H-2 occupancies. 2. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4 explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

SECTION 307.4 HIGH-HAZARD GROUP H-2

[F] 307.4 High-hazard Group H-2.

Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids which are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103.4 kPa) gage
- Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3
- Cryogenic fluids, flammable
- Flammable gases
- Organic peroxides, Class I
- Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103 kPa) gage
- Pyrophoric liquids, solids and gases, nondetonable
- Unstable (reactive) materials, Class 3, nondetonable
- Water-reactive materials, Class 3

SECTION 307.5 HIGH-HAZARD GROUP H-3

• [F] 307.5 High-hazard Group H-3.

Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less
- Combustible fibers, other than densely packed baled cotton
- Consumer fireworks, 1.4G (Class C, Common)
- Cryogenic fluids, oxidizing
- Flammable solids
- Organic peroxides, Class II and III
- Oxidizers, Class 2
- Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less
- Oxidizing gases
- Unstable (reactive) materials, Class 2
- Water-reactive materials, Class 2

SECTION 307.6 HIGH-HAZARD GROUP H-4

- **[F] 307.6 High-hazard Group H-4.**
Buildings and structures which contain materials that are health hazards shall be classified as Group H-4. Such materials shall include, but not be limited to, the following:

Corrosives
Highly toxic materials
Toxic materials

SECTION 307.7/.8 HIGH-HAZARD GROUP H-5/Multiple

- **[F] 307.7 High-hazard Group H-5.**
Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 307.1(1) and 307.1(2) shall be classified as Group H-5. Such facilities and areas shall be designed and constructed in accordance with Section 415.10.
- **[F] 307.8 Multiple hazards.**
Buildings and structures containing a material or materials representing hazards that are classified in one or more of Groups H-1, H-2, H-3 and H-4 shall conform to the code requirements for each of the occupancies so classified.

SECTION 308 INSTITUTIONAL GROUP I

308.1 Institutional Group I.

Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.2 Definitions.

The following terms are defined in Chapter 2: **[See Code]**

SECTION 308.3 INSTITUTIONAL GROUP I-1

- **308.3 Institutional Group I-1.**
This occupancy shall include buildings, structures or portions thereof for more than 16 persons who reside on a 24 hour basis in a supervised environment and receive *custodial care*. The persons receiving care are capable of self preservation. This group shall include, but not be limited to, the following:

Alcohol and drug centers
Assisted living facilities
Congregate care facilities
Convalescent facilities
Group homes
Halfway houses
Residential board and *custodial care* facilities
Social rehabilitation facilities

308.3.1 Five or fewer persons receiving care.
A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*. **[CT may have to revise to 3 or fewer.]**
- **308.3.2 Six to sixteen persons receiving care.**
A facility such as above, housing not fewer than six and not more than 16 persons receiving such care, shall be classified as Group R-4. **[CT may have to revise to not fewer than 4...]**

SECTION 308.4 INSTITUTIONAL GROUP I-2

- **308.4 Institutional Group I-2.**

This occupancy shall include buildings and structures used for *medical care* on a 24-hour basis for more than five persons who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
Hospitals
Nursing homes
Psychiatric hospitals

- **308.4.1 Five or fewer persons receiving care.**

A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*. **[CT may have to revise to 3 or fewer.]**

SECTION 308.5 INSTITUTIONAL GROUP I-3

- **308.5 Institutional Group I-3.**

This occupancy shall include buildings and structures that are inhabited by more than five persons **[CT may have to revise to 4 or more.]** who are under restraint or security. An I-3 facility is occupied by persons who are generally *incapable of self-preservation* due to security measures not under the occupants' control. This group shall include, but not be limited to, the following:

Correctional centers
Detention centers
Jails
Prerelease centers
Prisons
Reformatories

SECTION 308.5 INSTITUTIONAL GROUP I-3

- Buildings of Group I-3 shall be classified as one of the occupancy conditions indicated in Sections 308.5.1 through 308.5.5 (see Section 408.1).
 - 308.5.1 Condition 1.**
This occupancy condition shall include buildings in which free movement is allowed from sleeping areas, and other spaces where access or occupancy is permitted, to the exterior via *means of egress* without restraint. A Condition 1 facility is permitted to be constructed as Group
 - **R.308.5.2 Condition 2.**
This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied *smoke compartment* to one or more other *smoke compartments*. Egress to the exterior is impeded by locked *exits*.
 - **308.5.3 Condition 3.**
This occupancy condition shall include buildings in which free movement is allowed within individual *smoke compartments*, such as within a residential unit comprised of individual *sleeping units* and group activity spaces, where egress is impeded by remote-controlled release of *means of egress* from such a *smoke compartment* to another *smoke compartment*.
 - **308.5.4 Condition 4.**
This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from *sleeping units*, activity spaces and other occupied areas within the *smoke compartment* to other *smoke compartments*.
 - **308.5.5 Condition 5.**
This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from *sleeping units*, activity spaces and other occupied areas within the *smoke compartment* to other *smoke compartments*.

SECTION 308.6 INSTITUTIONAL GROUP I-4

- **308.6 Institutional Group I-4, day care facilities.**
This group shall include buildings and structures occupied by more than five persons **[CT may have to revise to more than 6.]** of any age who receive *custodial care* for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:
 - Adult day care
 - Child day care
 - 308.6.1 Classification as Group E.**
A child day care facility that provides care for more than five but no more than 100 children 2¹/₂ years or less of age, where the rooms in which the children are cared for are located on a *level of exit discharge* serving such rooms and each of these child care rooms has an *exit* door directly to the exterior, shall be classified as Group E. **[CT may have to revise to more than 6, 3 years of age or less.]**
 - **308.6.2 Within a place of religious worship.**
Rooms and spaces within *places of religious worship* providing such care during religious functions shall be classified as part of the primary occupancy.
 - **308.6.3 Five or fewer persons receiving care. [CT may have to revise to 6 or fewer.]**
A facility having five or fewer persons receiving *custodial care* shall be classified as part of the primary occupancy.
 - **308.6.4 Five or fewer persons receiving care in a dwelling unit. [CT may have to revise to 6 or fewer.]**
A facility such as the above within a *dwelling unit* and having five or fewer persons receiving *custodial care* shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.

SECTION 309 MERCANTILE GROUP M

- **309.1 Mercantile Group M.**

Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof, for the display and sale of merchandise and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following:

- Department stores
- Drug stores
- Markets
- Motor fuel-dispensing facilities
- Retail or wholesale stores
- Sales rooms

- **309.2 Quantity of hazardous materials.**

The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials stored or displayed in a single *control area* of a Group M occupancy shall not exceed the quantities in Table 414.2.5(1).

SECTION 310 RESIDENTIAL GROUP R

- **310.1 Residential Group R.**

Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code*.

- **310.2 Definitions.**

The following terms are defined in Chapter 2:

BOARDING HOUSE.

CONGREGATE LIVING FACILITIES.

DORMITORY.

GROUP HOME.

PERSONAL CARE SERVICE.

TRANSIENT.

310.3 Residential Group R-1.

- Residential occupancies containing *sleeping units* where the occupants are primarily *transient* in nature, including:

Boarding houses (transient) with more than 10 occupants

Congregate living facilities (transient) with more than 10 occupants

Hotels (*transient*)

Motels (*transient*)

310.4 Residential Group R-2.

- Residential occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

Apartment houses

Boarding houses (nontransient) with more than 16 occupants

Congregate living facilities (nontransient) with more than 16 occupants

Convents

Dormitories

Fraternities and sororities

Hotels (nontransient)

Live/work units

Monasteries

Motels (nontransient)

Vacation timeshare properties

310.5 Residential Group R-3.

- Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (transient) with 10 or fewer occupants
 Care facilities that provide accommodations for five or fewer persons receiving care **[CT may have to revise to 6 or fewer.]**
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (transient) with 10 or fewer occupants

310.5.1 Care facilities within a dwelling.

Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.

310.6 Residential Group R-4.

- This occupancy shall include buildings, structures or portions thereof for more than five **[CT may have to revise to more than 3]** but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive *custodial care*. The persons receiving care are capable of self-preservation. This group shall include, but not be limited to, the following:

Alcohol and drug centers
 Assisted living facilities
 Congregate care facilities
 Convalescent facilities
Group homes
 Halfway houses
 Residential board and *custodial care* facilities
 Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

SECTION 311 STORAGE GROUP S

311.1 Storage Group S.

Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

SECTION 311 STORAGE GROUP S

- **311.2 Moderate-hazard storage, Group S-1.** Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

<ul style="list-style-type: none"> Aerosols, Levels 2 and 3 Aircraft hangar (storage and repair) Bags: cloth, burlap and paper Bamboos and rattan Baskets Belting: canvas and leather Books and paper in rolls or packs Boots and shoes Buttons, including cloth covered, pearl or bone Cardboard and cardboard boxes Clothing, woolen wearing apparel Cordage Dry boat storage (indoor) Furniture Furs Glues, mucilage, pastes and size Grains Horns and combs, other than celluloid Leather 	<ul style="list-style-type: none"> Linoleum Lumber Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8) Photo engravings Resilient flooring Silks Soaps Sugar Tires, bulk storage of Tobacco, cigars, cigarettes and snuff Upholstery and mattresses Wax candles
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SECTION 311 STORAGE GROUP S

- **311.3 Low-hazard storage, Group S-2.**
Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:
 - Asbestos
 - Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
 - Cement in bags
 - Chalk and crayons
 - Dairy products in nonwaxed coated paper containers
 - Dry cell batteries
 - Electrical coils
 - Electrical motors
 - Empty cans
 - Food products
 - Foods in noncombustible containers
 - Fresh fruits and vegetables in nonplastic trays or containers
 - Frozen foods
 - Glass
 - Glass bottles, empty or filled with noncombustible liquids
 - Gypsum board
 - Inert pigments
 - Ivory
 - Meats
 - Metal cabinets
 - Metal desks with plastic tops and *trim*
 - Metal parts
 - Metals
 - Mirrors
 - Oil-filled and other types of distribution transformers
 - Parking garages, open or enclosed
 - Porcelain and pottery
 - Stoves
 - Talc and soapstones
 - Washers and dryers

SECTION 312 UTILITY AND MISCELLANEOUS GROUP U

- **312.1 General.**
Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:
 - Agricultural buildings
 - Aircraft hangars, accessory to a one- or two-family residence (see Section 412.5)
 - Barns
 - Carports
 - Fences more than 6 feet (1829 mm) in height
 - Grain silos, accessory to a residential occupancy
 - Greenhouses
 - Livestock shelters
 - Private garages
 - Retaining walls
 - Sheds
 - Stables
 - Tanks
 - Towers

Chapter 4 - Special Detailed Requirements Based on Use and Occupancy

401.1 Detailed use and occupancy requirements.

In addition to the occupancy and construction requirements in this code, the provisions of this chapter apply to the special uses and occupancies described herein.

SECTION 402 COVERED MALL AND OPEN MALL BUILDINGS

SECTION 403 HIGH-RISE BUILDINGS

SECTION 404 ATRIUMS

SECTION 405 UNDERGROUND BUILDINGS

SECTION 406 MOTOR-VEHICLE-RELATED OCCUPANCIES

SECTION 407 GROUP I-2

SECTION 408 GROUP I-3

SECTION 409 MOTION PICTURE PROJECTION ROOMS

SECTION 410 STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

SECTION 411 SPECIAL AMUSEMENT BUILDINGS

SECTION 412 AIRCRAFT-RELATED OCCUPANCIES

SECTION 413 COMBUSTIBLE STORAGE

SECTION 414 HAZARDOUS MATERIALS

SECTION 415 GROUPS H-1, H-2, H-3, H-4 AND H-5

SECTION 416 APPLICATION OF FLAMMABLE FINISHES

SECTION 417 DRYING ROOMS

SECTION 418 ORGANIC COATINGS

SECTION 419 LIVE/WORK UNITS

SECTION 420 GROUPS I-1, R-1, R-2, R-3

SECTION 421 HYDROGEN CUTOFF ROOMS

SECTION 422 AMBULATORY CARE FACILITIES

SECTION 423 STORM SHELTERS

SECTION 424 CHILDREN'S PLAY STRUCTURES

Chapter 5 - General Building Heights and Areas

- SECTION 501 GENERAL

501.1 Scope.

The provisions of this chapter control the height and area of structures hereafter erected and *additions* to existing structures.

- SECTION 502 DEFINITIONS

502.1 Definitions.

The following terms are defined in Chapter 2:

AREA, BUILDING.

BASEMENT.

EQUIPMENT PLATFORM.

GRADE PLANE.

HEIGHT, BUILDING.

MEZZANINE.

SECTION 503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

- **TABLE 503 ALLOWABLE BUILDING HEIGHTS AND AREAS** ^{a, b} **Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane. Building area limitations shown in square feet, as determined by the definition of "Area, building," per story**
- a. See the following sections for general exceptions to Table 503:
 - 1. Section 504.2, Allowable building height and story increase due to automatic sprinkler system installation.
 - 2. Section 506.2, Allowable building area increase due to street frontage.
 - 3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
 - 4. Section 507, Unlimited area buildings.
- b. See Chapter 4 for specific exceptions to the allowable height and areas in Chapter 5.

SECTION 503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

- **503.1 General.**
The *building height and area* shall not exceed the limits specified in Table 503 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Each portion of a building separated by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.
- **503.1.1 Special industrial occupancies.**
Buildings and structures designed to house special industrial processes that require large areas and unusual *building heights* to accommodate cranes or special machinery and equipment, including, among others, rolling mills; structural metal fabrication shops and foundries; or the production and distribution of electric, gas or steam power, shall be exempt from the *building height and area* limitations of Table 503.
- **503.1.2 Buildings on same lot.**
Two or more buildings on the same *lot* shall be regulated as separate buildings or shall be considered as portions of one building if the *building height* of each building and the aggregate *building area* of the buildings are within the limitations of Table 503 as modified by Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.
- **503.1.3 Type I construction.**
Buildings of Type I construction permitted to be of unlimited tabular *building heights and areas* are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited *building height* in Sections 503.1.1 and 504.3 or increased *building heights and areas* for other types of construction.

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS^a
Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
Building area limitations shown in square feet, as determined by the definition of "Area, building," per story

GROUP	TYPE OF CONSTRUCTION										
			TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	HT	A	B
	HEIGHT (feet)		160	65	55	65	55	65	65	50	40
	STORIES(S)										
	AREA (A)										
A-1	S	UL	5	3	2	3	2	3	2	2	1
	A	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500		
A-2	S	UL	11	3	2	3	2	3	2	1	
	A	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000		
A-3	S	UL	11	3	2	3	2	3	2	1	
	A	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000		
A-4	S	UL	11	3	2	3	2	3	2	1	
	A	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000		
A-5	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL	
B	S	UL	11	5	3	5	3	5	3	2	
	A	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000		
E	S	UL	5	3	2	3	2	3	1	1	
	A	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500		
F-1	S	UL	11	4	2	3	2	4	2	1	
	A	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500		
F-2	S	UL	11	5	3	4	3	5	3	2	
	A	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000		
H-1	S	1	1	1	1	1	1	1	1	NP	
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	NP	
H-2	S	UL	3	2	1	2	1	2	1	1	
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	3,000	
H-3	S	UL	6	4	2	4	2	4	2	1	
	A	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000	
H-4	S	UL	7	5	3	5	3	5	3	2	
	A	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500		
H-5	S	4	4	3	3	3	3	3	3	2	
	A	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000		

GENERAL BUILDING HEIGHTS AND AREAS

TABLE 503—continued
ALLOWABLE BUILDING HEIGHTS AND AREAS^a

GROUP	TYPE OF CONSTRUCTION										
			TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	A	B	A	B	
	HEIGHT (feet)		160	65	55	65	55	65	65	50	40
	STORIES(S)										
	AREA (A)										
I-1	S	UL	9	4	3	4	3	4	3	2	
	A	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500	
I-2	S	UL	4	2	1	1	NP	1	1	NP	
	A	UL	15,000	11,000	12,000	NP	12,000	9,500	NP		
I-3	S	UL	4	2	1	2	1	2	1		
	A	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000		
I-4	S	UL	5	3	2	3	2	3	1	1	
	A	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000	
M	S	UL	11	4	2	4	2	4	3	1	
	A	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000		
R-1	S	UL	11	4	4	4	4	4	3	2	
	A	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000		
R-2	S	UL	11	4	4	4	4	4	3	2	
	A	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000		
R-3	S	UL	11	4	4	4	4	4	3	3	
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL	
R-4	S	UL	11	4	4	4	4	4	3	2	
	A	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000		
S-1	S	UL	11	4	2	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	S	UL	11	5	3	4	3	5	4	2	
	A	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500	
U	S	UL	5	4	2	3	2	4	2	1	
	A	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500	

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².
A = building area per story, S = stories above grade plane, UL = Unlimited, NP = Not permitted.
a. See the following sections for general exceptions to Table 503:
1. Section 504.2, Allowable building height and story increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable building area increase due to street frontage.
3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area buildings.
b. See Chapter 4 for specific exceptions to the allowable height and areas in Chapter 5.

SECTION 504 BUILDING HEIGHT

504.1 General.

The *building height* permitted by Table 503 shall be increased in accordance with Sections 504.2 and 504.3.

Exception: The *building height* of one-story aircraft hangars, aircraft paint hangars and buildings used for the manufacturing of aircraft shall not be limited if the building is provided with an *automatic sprinkler system* or *automatic fire-extinguishing system* in accordance with Chapter 9 and is entirely surrounded by *public ways* or *yards* not less in width than one and one-half times the *building height*.

504.2 Automatic sprinkler system increase.

Where a building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one. These increases are permitted in addition to the *building area* increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one, but shall not exceed 60 feet (18 288 mm) or four *stories*, respectively.

Exception: The use of an *automatic sprinkler system* to increase *building heights* **shall not be permitted** for the following conditions:

1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Buildings where an *automatic sprinkler system* is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

504.3 Roof structures.

Towers, spires, steeples and other roof structures shall be constructed of materials consistent with the required type of construction of the building except where other construction is permitted by Section 1509.2.5. Such structures shall not be used for habitation or storage. The structures shall be unlimited in height if of noncombustible materials and shall not extend more than 20 feet (6096 mm) above the allowable *building height* if of combustible materials (see Chapter 15 for additional requirements).

SECTION 506 BUILDING AREA MODIFICATIONS

506.1 General.

The *building areas* limited by Table 503 shall be permitted to be increased due to frontage (I_f) and *automatic sprinkler system* protection (I_s) in accordance with Equation 5-1:

$$A_a = \{ A_t + [A_t \times I_f] + [A_t \times I_s] \} \text{(Equation 5-1)}$$

where:

A_a = Allowable *building area per story* (square feet).

A_t = Tabular *building area per story* in accordance with Table 503 (square feet).

I_f = Area increase factor due to frontage as calculated in accordance with Section 506.2.

I_s = Area increase factor due to sprinkler protection as calculated in accordance with Section 506.3.

SECTION 506 BUILDING AREA MODIFICATIONS

- **506.2 Frontage increase.**

Every building shall adjoin or have access to a *public way* to receive a *building area* increase for frontage. Where a building has more than 25 percent of its perimeter on a *public way* or open space having a width of not less than 20 feet (6096 mm), the frontage increase shall be determined in accordance with Equation 5-2:

$$I_f = [F / P - 0.25]W / 30 \text{ (Equation 5-2)}$$

where:

I_f = Area increase due to frontage.

- F = Building perimeter that fronts on a *public way* or open space having 20 feet (6096 mm) open minimum width (feet).
- P = Perimeter of entire building (feet).
- W = Width of *public way* or open space (feet) in accordance with Section 506.2.1.

SECTION 506 BUILDING AREA MODIFICATIONS

506.2.1 Width limits.

To apply this section the value of W shall be not less than 20 feet (6096 mm). Where the value of W varies along the perimeter of the building, the calculation performed in accordance with Equation 5-3 shall be based on the weighted average calculated in accordance with Equation 5-3 for portions of the exterior perimeter walls where the value of W is greater than or equal to 20 feet (6096 mm). **Where the value of W is greater than 30 feet (9144 mm), a value of 30 feet (9144 mm) shall be used in calculating the weighted average, regardless of the actual width of the open space.** W shall be measured perpendicular from the face of the building to the closest interior *lot line*. Where the building fronts on a *public way*, the entire width of the *public way* shall be used. Where two or more buildings are on the same *lot*, W shall be measured from the exterior face of each building to the opposing exterior face of each adjacent building, as applicable.

$$\text{Weighted average } W = (L_1 \times w_1 + L_2 \times w_2 + L_3 \times w_3 \dots) / F. \text{ (Equation 5-3)}$$

where:

L_n = Length of a portion of the exterior perimeter wall.

w_n = Width of open space associated with that portion of the exterior perimeter wall.

F = Building perimeter that fronts on a *public way* or open space having a width of 20 feet (6096 mm) or more.

Exception: Where the building meets the requirements of Section 507, as applicable, except for compliance with the 60-foot (18 288 mm) *public way* or *yard* requirement, and the value of W is greater than 30 feet (9144 mm), the value of W divided by 30 shall be limited to a maximum of 2.

506.2.2 Open space limits.

Such open space shall be either on the same *lot* or dedicated for public use and shall be accessed from a street or *approved fire lane*.

SECTION 506 BUILDING AREA MODIFICATIONS

506.3 Automatic sprinkler system increase.

Where a building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section **903.3.1.1**, the *building area* limitation in Table 503 is permitted to be increased by an additional 200 percent ($I_s = 2$) for buildings with more than one *story above grade plane* and an additional 300 percent ($I_s = 3$) for buildings with no more than one *story above grade plane*. These increases are permitted in addition to the height and *story* increases in accordance with Section 504.2.

Exception: The use of an *automatic sprinkler system* to increase the building area limitation shall not be permitted for the following conditions:

1. Buildings classified as a Group H-1 occupancy.
2. Buildings, or portions of buildings, classified as either a Group H-2 or H-3 occupancy. For buildings containing such occupancies, the allowable area shall be determined in accordance with Section 508.4.2, with the sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3.
3. Buildings where an *automatic sprinkler system* is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

SECTION 506 BUILDING AREA MODIFICATIONS

506.4 Single occupancy buildings with more than one story.

The total allowable *building area* of a single occupancy building with more than one *story above grade plane* shall be determined in accordance with this section. The actual aggregate *building area* at all *stories* in the building shall not exceed the total allowable *building area*.

Exception: A single *basement* need not be included in the total allowable *building area*, provided such *basement* does not exceed the area permitted for a building with no more than one *story above grade plane*.

506.4.1 Area determination.

The total allowable *building area* of a single occupancy building with more than one *story above grade plane* shall be determined by multiplying the allowable *building area per story* (A_s), as determined in Section 506.1, by the number of *stories above grade plane* as listed below: 1. For buildings with two *stories above grade plane*, multiply by 2; 2. For buildings with three or more *stories above grade plane*, multiply by 3; and 3. No *story* shall exceed the allowable *building area per story* (A_s), as determined in Section 506.1, for the occupancies on that *story*.

Exceptions:

1. Unlimited area buildings in accordance with Section 507.
2. The maximum area of a building equipped throughout with an *automatic sprinkler system* in accordance with Section **903.3.1.2** shall be determined by multiplying the allowable area per *story* (A_s), as determined in Section 506.1, by the number of *stories above grade plane*.

SECTION 506 BUILDING AREA MODIFICATIONS

– **506.5 Mixed occupancy area determination.**

The total allowable *building area* for buildings containing mixed occupancies shall be determined in accordance with the applicable provisions of this section. A single *basement* need not be included in the total allowable *building area*, provided such *basement* does not exceed the area permitted for a building with no more than one *story above grade plane*.

506.5.1 No more than one story above grade plane.

For buildings with no more than one *story above grade plane* and containing mixed occupancies, the total *building area* shall be determined in accordance with the applicable provisions of Section 508.1.

506.5.2 More than one story above grade plane.

For buildings with more than one *story above grade plane* and containing mixed occupancies, each *story* shall individually comply with the applicable requirements of Section 508.1. For buildings with more than three *stories above grade plane*, the total *building area* shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such *stories* based on the applicable provisions of Section 508.1 shall not exceed 3.

SECTION 507 UNLIMITED AREA BUILDINGS

507.1 General.

The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited.

Exception: Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.

Where Sections 507.2 through 507.12 require buildings to be surrounded and adjoined by *public ways* and *yards*, those open spaces shall be determined as follows:

1. *Yards* shall be measured from the building perimeter in all directions to the closest interior *lot lines* or **to the exterior face** of an opposing building located on the same *lot*, as applicable.
2. Where the building fronts on a *public way*, **the entire width of the public way shall be used.**

SECTION 507 UNLIMITED AREA BUILDINGS

507.2 Nonsprinklered, one story.

The area of a Group F-2 or S-2 building no more than one *story* in height shall not be limited where the building is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

507.3 Sprinklered, one story.

The area of a Group B, F, M or S building no more than one *story above grade plane* of any construction type, or the area of a Group A-4 building no more than one *story above grade plane* of other than Type V construction, shall not be limited where the building is provided with an *automatic sprinkler system* throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Types I and II construction **for rack storage facilities that do not have access by the public** shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.3 and 903.3.1.1 and Chapter 32 of the *International Fire Code*.
2. The *automatic sprinkler system* shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. *Exit* doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a *fire alarm system* with *manual fire alarm boxes* installed in accordance with Section 907.

507.3.1 Mixed occupancy buildings with Groups A-1 and A-2.

Group A-1 and A-2 occupancies of other than Type V construction shall be permitted within mixed occupancy buildings of unlimited area complying with Section 507.3, provided:

1. Group A-1 and A-2 occupancies are separated from other occupancies as required for separated occupancies in Section 508.4.4 with no reduction allowed in the *fire-resistance rating* of the separation based upon the installation of an *automatic sprinkler system*;
2. Each area of the portions of the building used for Group A-1 or A-2 occupancies shall not exceed the maximum allowable area permitted for such occupancies in Section 503.1; and
3. *Exit* doors from Group A-1 and A-2 occupancies shall discharge directly to the exterior of the building.

SECTION 507 UNLIMITED AREA BUILDINGS

507.4 Two story.

The area of a Group B, F, M or S building no more than two *stories above grade plane* shall not be limited where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

507.5 Reduced open space.

The *public ways* or *yards* of 60 feet (18 288 mm) in width required in Sections 507.2, 507.3, 507.4, 507.6 and 507.11 shall be permitted to be reduced to not less than 40 feet (12 192 mm) in width provided all of the following requirements are met:

1. The reduced width shall not be allowed for more than 75 percent of the perimeter of the building.
2. The *exterior walls* facing the reduced width shall have a *fire-resistance rating* of not less than 3 hours.
3. Openings in the *exterior walls* facing the reduced width shall have opening protectives with a *fire protection rating* of not less than 3 hours.

SECTION 507 UNLIMITED AREA BUILDINGS

507.6 Group A-3 buildings of Type II construction.

The area of a Group A-3 building no more than one *story above grade plane*, used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court of Type II construction, shall not be limited provided all of the following criteria are met:

1. The building shall not have a *stage* other than a *platform*.
2. The building shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The building shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

SECTION 507 UNLIMITED AREA BUILDINGS

507.7 Group A-3 buildings of Types III and IV construction.

The area of a Group A-3 building of Type III or IV construction, with no more than one *story above grade plane*, and used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor *swimming pool* or tennis court, shall not be limited provided all of the following criteria are met:

1. The building shall not have a *stage* other than a *platform*.
2. The building shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The assembly floor shall be located at or within 21 inches (533 mm) of street or grade level and all *exits* are provided with ramps complying with Section 1010.1 to the street or grade level.
4. The building shall be surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

SECTION 507 UNLIMITED AREA BUILDINGS

507.8 Group H occupancies.

Group H-2, H-3 and H-4 occupancies shall be permitted in unlimited area buildings containing Group F and S occupancies in accordance with Sections 507.3 and 507.4 and the provisions of Sections 507.8.1 through 507.8.4.

507.8.1 Allowable area.

The aggregate floor area of Group H occupancies located in an unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations for the Group H occupancies as specified in Table 503 as modified by Section 506.2 based upon the perimeter of each Group H floor area that fronts on a *public way* or open space.

507.8.1.1 Located within the building.

The aggregate floor area of Group H occupancies not located at the perimeter of the building shall not exceed 25 percent of the area limitations for the Group H occupancies as specified in Table 503.

507.8.1.1.1 Liquid use, dispensing and mixing rooms.

Liquid use, dispensing and mixing rooms having a floor area of not more than 500 square feet (46.5 m²) need not be located on the outer perimeter of the building where they are in accordance with the *International Fire Code* and NFPA 30.

507.8.1.1.2 Liquid storage rooms.

Liquid storage rooms having a floor area of not more than 1,000 square feet (93 m²) need not be located on the outer perimeter where they are in accordance with the *International Fire Code* and NFPA 30.

507.8.1.1.3 Spray paint booths.

Spray paint booths that comply with the *International Fire Code* need not be located on the outer perimeter.

507.8.2 Located on building perimeter.

Except as provided for in Section 507.8.1.1, Group H occupancies shall be located on the perimeter of the building. In Group H-2 and H-3 occupancies, not less than 25 percent of the perimeter of such occupancies shall be an *exterior wall*.

507.8.3 Occupancy separations.

Group H occupancies shall be separated from the remainder of the unlimited area building and from each other in accordance with Table 508.4.

507.8.4 Height limitations.

For two-story unlimited area buildings, Group H occupancies shall not be located more than one *story above grade plane* unless permitted based on the allowable height in *stories* and feet as set forth in Table 503 for the type of construction of the unlimited area building.

SECTION 507 UNLIMITED AREA BUILDINGS

507.9 Aircraft paint hangar.

The area of a Group H-2 aircraft paint hangar no more than one *story above grade plane* shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.6 and is surrounded and adjoined by *public ways* or *yards* not less in width than one and one-half times the *building height*.

507.10 Group E buildings.

The area of a Group E building no more than one *story above grade plane*, of Type II, IIIA or IV construction, shall not be limited provided all of the following criteria are met:

1. Each classroom shall have not less than two *means of egress*, with one of the *means of egress* being a direct *exit* to the outside of the building complying with Section 1020.
2. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

SECTION 507 UNLIMITED AREA BUILDINGS

507.11 Motion picture theaters.

In buildings of Type II construction, the area of a motion picture theater located on the first *story above grade plane* shall not be limited provided the building is provided with an *automatic sprinkler system* throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width.

507.12 Covered and open mall buildings and anchor buildings.

The area of *covered and open mall buildings* and *anchor buildings* not exceeding three *stories* in height that comply with Section 402 shall not be limited.

SECTION 508 MIXED USE AND OCCUPANCY

508.1 General.

Each portion of a building shall be individually classified in accordance with Section 302.1. Where a building contains more than one occupancy group, the building or portion thereof shall comply with the applicable provisions of Section 508.2, 508.3 or 508.4, or a combination of these sections.

Exceptions:

1. Occupancies separated in accordance with Section 510.
2. Where required by Table 415.5.2, areas of Group H-1, H-2 and H-3 occupancies shall be located in a *detached building* or structure.
3. Uses within *live/work units*, complying with Section 419, are not considered separate occupancies.

SECTION 508 MIXED USE AND OCCUPANCY

508.2 Accessory occupancies.

Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portion thereof. Accessory occupancies shall comply with the provisions of Sections 508.2.1 through 508.2.4.

508.2.1 Area limitations.

Aggregate accessory occupancies shall not occupy more than 10 percent of the *building area* of the *story* in which they are located and shall not exceed the tabular values in Table 503, without *building area* increases in accordance with Section 506 for such accessory occupancies.

508.2.2 Occupancy classification.

Accessory occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the building based on the occupancy classification of that space.

508.2.3 Allowable building area and height.

The allowable *building area and height* of the building shall be based on the allowable *building area and height* for the main occupancy in accordance with Section 503.1. The height of each accessory occupancy shall not exceed the tabular values in Table 503, without increases in accordance with Section 504 for such accessory occupancies. The *building area* of the accessory occupancies shall be in accordance with Section 508.2.1.

508.2.4 Separation of occupancies.

No separation is required between accessory occupancies and the main occupancy.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2. Group I-1, R-1, R-2 and R-3 *dwelling units* and *sleeping units* shall be separated from other *dwelling or sleeping units* and from accessory occupancies contiguous to them in accordance with the requirements of Section 420.

SECTION 508 MIXED USE AND OCCUPANCY

508.3 Nonseparated occupancies.

Buildings or portions of buildings that comply with the provisions of this section shall be considered as nonseparated occupancies.

508.3.1 Occupancy Classification.

Nonseparated occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the building based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 which apply to the nonseparated occupancies shall apply to the total nonseparated occupancy area. Where nonseparated occupancies occur in a *high-rise building*, the most restrictive requirements of Section 403 which apply to the nonseparated occupancies shall apply throughout the *high-rise building*.

508.3.2 Allowable building area and height.

The allowable *building area and height* of the building or portion thereof shall be based on the most restrictive allowances for the occupancy groups under consideration for the type of construction of the building in accordance with Section 503.1.

508.3.3 Separation.

No separation is required between nonseparated occupancies.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2. Group I-1, R-1, R-2 and R-3 *dwelling units* and *sleeping units* shall be separated from other *dwelling or sleeping units* and from other occupancies contiguous to them in accordance with the requirements of Section 420.

SECTION 508 MIXED USE AND OCCUPANCY

508.4 Separated occupancies.

Buildings or portions of buildings that comply with the provisions of this section shall be considered as separated occupancies.

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

508.4 Separated occupancies

**TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)**

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

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. See Section 420.
 b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
 c. See Section 406.3.4.
 d. Separation is not required between occupancies of the same classification.

508.4 Separated occupancies

508.4.1 Occupancy classification.

Separated occupancies shall be individually classified in accordance with Section 302.1. Each separated space shall comply with this code based on the occupancy classification of that portion of the building.

508.4.2 Allowable building area.

In each *story*, the *building area* shall be such that the sum of the ratios of the actual *building area* of each separated occupancy divided by the allowable *building area* of each separated occupancy shall not exceed 1.

508.4.3 Allowable height.

Each separated occupancy shall comply with the *building height* limitations based on the type of construction of the building in accordance with Section 503.1.

Exception: Special provisions permitted by Section 510 shall permit occupancies at *building heights* other than provided in Section 503.1.

508.4.4 Separation.

Individual occupancies shall be separated from adjacent occupancies in accordance with Table 508.4.

508.4.4.1 Construction.

Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies.

SECTION 509 INCIDENTAL USES

509.1 General

Incidental uses located within single occupancy or mixed occupancy buildings shall comply with the provisions of this section. Incidental uses are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy and are limited to those uses listed in Table 509.

Exception: Incidental uses within and serving a *dwelling unit* are not required to comply with this section.

SECTION 509 INCIDENTAL USES

TABLE 509
INCIDENTAL USES

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 sprinkler system
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler 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 sprinkler system
Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
Group I-3 cells equipped with padded surfaces	1 hour
Waste and linen collection rooms located in either Group I-2 occupancies or ambulatory care facilities	1 hour
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptible power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

For SI: 1 square foot = 0.0929 m², 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L.

SECTION 509 INCIDENTAL USES

509.2 Occupancy classification.

Incidental uses shall not be individually classified in accordance with Section 302.1. Incidental uses shall be included in the building occupancies within which they are located.

509.3 Area limitations.

Incidental uses shall not occupy more than 10 percent of the *building area* of the *story* in which they are located.

SECTION 509 INCIDENTAL USES

509.4 Separation and protection.

The incidental uses listed in Table 509 shall be separated from the remainder of the building or equipped with an *automatic sprinkler system*, or both, in accordance with the provisions of that table.

509.4.1 Separation.

Where Table 509 specifies a fire-resistance-rated separation, the incidental uses shall be separated from the remainder of the *building* by a *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both. Construction supporting 1-hour *fire barriers* or *horizontal assemblies* used for incidental use separations in buildings of Type IIB, IIIB and VB construction is not required to be fire-resistance rated unless required by other sections of this code.

509.4.2 Protection.

Where Table 509 permits an *automatic sprinkler system* without a *fire barrier*, the incidental uses shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. The walls shall extend from the top of the foundation or floor assembly below to the underside of the ceiling that is a component of a fire-resistance-rated floor assembly or roof assembly above or to the underside of the floor or roof sheathing, deck or slab above. Doors shall be self- or automatic-closing upon detection of smoke in accordance with Section 716.5.9.3. Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80. Walls surrounding the incidental use shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.7.

509.4.2.1 Protection limitation.

Except as specified in Table 509 for certain incidental uses, where an *automatic sprinkler system* is provided in accordance with Table 509, only the space occupied by the incidental use need be equipped with such a system.

SECTION 510 SPECIAL PROVISIONS

510.1 General.

The provisions in Sections 510.2 through 510.9 shall permit the use of special conditions that are exempt from, or modify, the specific requirements of this chapter regarding the allowable *building heights and areas* of buildings based on the occupancy classification and type of construction, provided the special condition complies with the provisions specified in this section for such condition and other applicable requirements of this code. The provisions of Sections 510.2 through 510.8 are to be considered independent and separate from each other.

SECTION 510 SPECIAL PROVISIONS

510.2 Horizontal building separation allowance.

A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours.
2. The building below the *horizontal assembly* is not greater than one *story above grade plane*.
3. The building below the *horizontal assembly* is of Type IA construction.
4. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5.

Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided:

1. The building above the *horizontal assembly* is not required to be of Type I construction;
2. The enclosure connects fewer than four *stories*; and
3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.
5. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any of the following occupancies:
 - 6.1. Group S-2 parking garage used for the parking and storage of private motor vehicles;
 - 6.2. Multiple Group A, each with an *occupant load* of less than 300;
 - 6.3. Group B;
 - 6.4. Group M;
 - 6.5. Group R; and
 - 6.6. Uses incidental to the operation of the building (including entry lobbies, mechanical rooms, storage areas and similar uses).
7. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 503 for the building having the smaller allowable height as measured from the *grade plane*.

SECTION 510 SPECIAL PROVISIONS

510.3 Group S-2 enclosed parking garage with Group S-2 open parking garage above.

A Group S-2 enclosed parking garage with not more than one *story above grade plane* and located below a Group S-2 *open parking garage* shall be classified as a separate and distinct building for the purpose of determining the type of construction where all of the following conditions are met:

1. The allowable area of the building shall be such that the sum of the ratios of the actual area divided by the allowable area for each separate occupancy shall not exceed 1.
2. The Group S-2 enclosed parking garage is of Type I or II construction and is at least equal to the *fire-resistance* requirements of the Group S-2 *open parking garage*.
3. The height and the number of tiers of the Group S-2 *open parking garage* shall be limited as specified in Table 406.5.4.
4. The floor assembly separating the Group S-2 enclosed parking garage and Group S-2 *open parking garage* shall be protected as required for the floor assembly of the Group S-2 enclosed parking garage. Openings between the Group S-2 enclosed parking garage and Group S-2 *open parking garage*, except *exit* openings, shall not be required to be protected.
5. The Group S-2 enclosed parking garage is used exclusively for the parking or storage of private motor vehicles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,000 square feet (93 m²), and mechanical equipment rooms incidental to the operation of the building.

SECTION 510 SPECIAL PROVISIONS**510.4 Parking beneath Group R.**

Where a maximum one *story above grade plane* Group S-2 parking garage, enclosed or open, or combination thereof, of Type I construction or open of Type IV construction, with grade entrance, is provided under a building of Group R, the number of *stories* to be used in determining the minimum type of construction shall be measured from the floor above such a parking area. The floor assembly between the parking garage and the Group R above shall comply with the type of construction required for the parking garage and shall also provide a *fire-resistance rating* not less than the mixed occupancy separation required in Section 508.4.

SECTION 510 SPECIAL PROVISIONS**510.5 Group R-1 and R-2 buildings of Type IIIA construction.**

The height limitation for buildings of Type IIIA construction in Groups R-1 and R-2 shall be increased to six *stories* and 75 feet (22 860 mm) where the first floor assembly above the *basement* has a *fire-resistance rating* of not less than 3 hours and the floor area is subdivided by 2-hour fire-resistance-rated *fire walls* into areas of not more than 3,000 square feet (279 m²).

SECTION 510 SPECIAL PROVISIONS

510.6 Group R-1 and R-2 buildings of Type IIA construction.

The height limitation for buildings of Type IIA construction in Groups R-1 and R-2 shall be increased to nine *stories* and 100 feet (30 480 mm) where the building is separated by not less than 50 feet (15 240 mm) from any other building on the *lot* and from *lot lines*, the *exits* are segregated in an area enclosed by a 2-hour fire-resistance-rated *fire wall* and the first floor assembly has a *fire-resistance rating* of not less than 1¹/₂ hours.

SECTION 510 SPECIAL PROVISIONS

510.7 Open parking garage beneath Groups A, I, B, M and R.

Open parking garages constructed under Groups A, I, B, M and R shall not exceed the height and area limitations permitted under Section 406.5. The height and area of the portion of the building above the *open parking garage* shall not exceed the limitations in Section 503 for the upper occupancy. The height, in both feet and *stories*, of the portion of the building above the *open parking garage* shall be measured from *grade plane* and shall include both the *open parking garage* and the portion of the building above the parking garage.

510.7.1 Fire separation.

Fire barriers constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711 between the parking occupancy and the upper occupancy shall correspond to the required *fire-resistance rating* prescribed in Table 508.4 for the uses involved. The type of construction shall apply to each occupancy individually, except that structural members, including main bracing within the open parking structure, which is necessary to support the upper occupancy, shall be protected with the more restrictive fire-resistance-rated assemblies of the groups involved as shown in Table 601. *Means of egress* for the upper occupancy shall conform to Chapter 10 and shall be separated from the parking occupancy by *fire barriers* having not less than a 2-hour *fire-resistance rating* as required by Section 706 with *self-closing* doors complying with Section 716 or *horizontal assemblies* having not less than a 2-hour *fire-resistance rating* as required by Section 711, with *self-closing* doors complying with Section 716. *Means of egress* from the *open parking garage* shall comply with Section 406.5.

SECTION 510 SPECIAL PROVISIONS

510.8 Group B or M with Group S-2 open parking garage.

Group B or M occupancies located not higher than the first *story above grade plane* shall be considered as a separate and distinct building for the purpose of determining the type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours.
2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M.
3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*.
4. The building below the *horizontal assembly* is of Type I or II construction but not less than the type of construction required for the Group S-2 *open parking garage* above.
5. The height and area of the building below the *horizontal assembly* does not exceed the limits set forth in Section 503.
6. The height and area of the Group S-2 *open parking garage* does not exceed the limits set forth in Section 405.5. The height, in both feet and *stories*, of the Group S-2 *open parking garage* shall be measured from *grade plane* and shall include the building below the *horizontal assembly*.
7. *Exits* serving the Group S-2 *open parking garage* discharge directly to a street or *public way* and are separated from the building below the *horizontal assembly* by 2-hour *fire barriers* constructed in accordance with Section 707 or 2-hour *horizontal assemblies* constructed in accordance with Section 711, or both.

SECTION 510 SPECIAL PROVISIONS

510.9 Multiple buildings above a horizontal assembly.

Where two or more buildings are provided above the *horizontal assembly* separating a Group S-2 parking garage or building below from the buildings above in accordance with the special provisions in Sections 510.2, 510.3 or 510.8, the buildings above the *horizontal assembly* shall be regarded as separate and distinct buildings from each other and shall comply with all other provisions of this code as applicable to each separate and distinct building.

Chapter 6 - Types of Construction

SECTION 601 GENERAL

601.1 Scope.

The provisions of this chapter shall control the classification of buildings as to type of construction.

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

Chapter 6 - Types of Construction

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

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A ^c	B	A ^c	B	HT	A ^c	B
Primary structural frame ^e (see Section 202)	3 ^a	2 ^a	1	0	1	0	HT	1	0
Bearing walls									
Exterior ^{d, e}	3	2	1	0	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	1/HT	1	0
Nonbearing walls and partitions	See Table 602								
Exterior	See Table 602								
Nonbearing walls and partitions							See Section 602.4.6		
Interior ^f	0	0	0	0	0	0		0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2 ^b	1 ^{bc}	1 ^{bc}	0 ^e	1 ^{bc}	0	HT	1 ^{bc}	0

For SI: 1 foot = 304.8 mm.

- a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
- b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
- c. In all occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
- d. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be allowed to be substituted for 1-hour fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1-hour substitution for the fire resistance of exterior walls shall not be permitted.
- e. Not less than the fire-resistance rating required by other sections of this code.
- f. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
- g. Not less than the fire-resistance rating as referenced in Section 704.10

Chapter 6 - Types of Construction

602.2 Types I and II.

Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in this code.

602.3 Type III.

Type III construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code. *Fire-retardant-treated wood* framing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies of a 2-hour rating or less.

Chapter 6 - Types of Construction

602.4 Type IV.

Type IV construction (Heavy Timber, HT) is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces. The details of Type IV construction shall comply with the provisions of this section. *Fire-retardant-treated wood* framing complying with Section 2303.2 shall be permitted within exterior wall assemblies with a 2-hour rating or less. Minimum solid sawn nominal dimensions are required for structures built using Type IV construction (HT). For glued-laminated members the equivalent net finished width and depths corresponding to the minimum nominal width and depths of solid sawn lumber are required as specified in Table 602.4.

602.4 Type IV.

**TABLE 602.4
WOOD MEMBER SIZE EQUIVALENCIES**

MINIMUM NOMINAL SOLID SAWN SIZE		MINIMUM GLUED-LAMINATED NET SIZE	
Width, inch	Depth, inch	Width, inch	Depth, inch
8	8	6 ³ / ₄	8 ¹ / ₄
6	10	5	10 ¹ / ₂
6	8	5	8 ¹ / ₄
6	6	5	6
4	6	3	6 ⁷ / ₈

For SI: 1 inch = 25.4 mm.

602.4 Type IV.

602.4.1 Columns.

Wood columns shall be sawn or glued laminated and shall be not less than 8 inches (203 mm), nominal, in any dimension where supporting floor loads and not less than 6 inches (152 mm) nominal in width and not less than 8 inches (203 mm) nominal in depth where supporting roof and ceiling loads only. Columns shall be continuous or superimposed and connected in an *approved* manner.

602.4.2 Floor framing.

Wood beams and girders shall be of sawn or glued-laminated timber and shall be not less than 6 inches (152 mm) nominal in width and not less than 10 inches (254 mm) nominal in depth. Framed sawn or glued-laminated timber arches, which spring from the floor line and support floor loads, shall be not less than 8 inches (203 mm) nominal in any dimension. Framed timber trusses supporting floor loads shall have members of not less than 8 inches (203 mm) nominal in any dimension.

602.4.3 Roof framing.

Wood-frame or glued-laminated arches for roof construction, which spring from the floor line or from grade and do not support floor loads, shall have members not less than 6 inches (152 mm) nominal in width and have not less than 8 inches (203 mm) nominal in depth for the lower half of the height and not less than 6 inches (152 mm) nominal in depth for the upper half. Framed or glued-laminated arches for roof construction that spring from the top of walls or wall abutments, framed timber trusses and other roof framing, which do not support floor loads, shall have members not less than 4 inches (102 mm) nominal in width and not less than 6 inches (152 mm) nominal in depth. Spaced members shall be permitted to be composed of two or more pieces not less than 3 inches (76 mm) nominal in thickness where blocked solidly throughout their intervening spaces or where spaces are tightly closed by a continuous wood cover plate of not less than 2 inches (51 mm) nominal in thickness secured to the underside of the members. Splice plates shall be not less than 3 inches (76 mm) nominal in thickness. Where protected by *approved* automatic sprinklers under the roof deck, framing members shall be not less than 3 inches (76 mm) nominal in width.

602.4 Type IV.

602.4.4 Floors.

Floors shall be without concealed spaces. Wood floors shall be of sawn or glued-laminated planks, splined or tongue-and-groove, of not less than 3 inches (76 mm) nominal in thickness covered with 1-inch (25 mm) nominal dimension tongue-and-groove flooring, laid crosswise or diagonally, or 0.5-inch (12.7 mm) particleboard or planks not less than 4 inches (102 mm) nominal in width set on edge close together and well spiked and covered with 1-inch (25 mm) nominal dimension flooring or $1\frac{1}{32}$ -inch (12 mm) wood structural panel or 0.5-inch (12.7 mm) particleboard. The lumber shall be laid so that no continuous line of joints will occur except at points of support. Floors shall not extend closer than 0.5 inch (12.7 mm) to walls. Such 0.5-inch (12.7 mm) space shall be covered by a molding fastened to the wall and so arranged that it will not obstruct the swelling or shrinkage movements of the floor. Corbeling of masonry walls under the floor shall be permitted to be used in place of molding.

602.4.5 Roofs.

Roofs shall be without concealed spaces and wood roof decks shall be sawn or glued laminated, splined or tongue-and-groove plank, not less than 2 inches (51 mm) nominal in thickness, $1\frac{1}{8}$ -inch-thick (32 mm) wood structural panel (exterior glue), or of planks not less than 3 inches (76 mm) nominal in width, set on edge close together and laid as required for floors. Other types of decking shall be permitted to be used if providing equivalent *fire resistance* and structural properties.

602.4.6 Partitions.

Partitions shall be of solid wood construction formed by not less than two layers of 1-inch (25 mm) matched boards or laminated construction 4 inches (102 mm) thick, or of 1-hour fire-resistance-rated construction.

602.4.7 Exterior structural members.

Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes shall be permitted to be used externally.

Chapter 6 - Types of Construction

602.5 Type V.

Type V construction is that type of construction in which the structural elements, *exterior walls* and interior walls are of any materials permitted by this code.

603.1 Allowable materials.

603.1 Allowable materials.

Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:

1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less.

1.2. Nonbearing *exterior walls* where fire-resistance rated construction is not required.

1.3. Roof construction, including girders, trusses, framing and decking.

Exception: In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).

603.1 Allowable materials

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

Exceptions:

1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. Roof coverings that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Sections 801 and 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated wood*, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. Stages and platforms constructed in accordance with Sections 410.3 and 410.4, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.

603.1 Allowable materials

15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic veneer installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.4.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.7 and 1406.3.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.2.
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire-resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.13 and 1705.14, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect joints in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the *International Mechanical Code*.

603.1.1 Ducts.

The use of nonmetallic ducts shall be permitted where installed in accordance with the limitations of the *International Mechanical Code*.

603.1.2 Piping.

The use of combustible piping materials shall be permitted where installed in accordance with the limitations of the *International Mechanical Code* and the *International Plumbing Code*.

603.1.3 Electrical.

The use of electrical wiring methods with combustible insulation, tubing, raceways and related components shall be permitted where installed in accordance with the limitations of this code.

Chapter 10 - Means of Egress

1002.1 Definitions.

The following terms are defined in Chapter 2:
[See Chapter 2 definitions. Examples below.]

EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways*, *interior exit ramps*, *exit passageways*, *exterior exit stairways* and *exterior exit ramps* and *horizontal exits*.

EXIT ACCESS. That portion of a *means of egress* system that leads from any occupied portion of a *building* or *structure* to an *exit*.

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, *corridor*, *exit access stair* or *exit access ramp*.

EXIT ACCESS RAMP. An interior *ramp* that is not a required *interior exit ramp*.

EXIT ACCESS STAIRWAY. An interior *stairway* that is not a required *interior exit stairway*.

EXIT DISCHARGE. That portion of a *means of egress* system between the termination of an *exit* and a *public way*.

EXIT DISCHARGE, LEVEL OF. The *story* at the point at which an *exit* terminates and an *exit discharge* begins.

EXIT HARDWARE, FIRE. See "Fire exit hardware."

EXIT, HORIZONTAL. A path of egress travel from one building to an area in another building on approximately the same level, or a path of egress travel through or around a wall or partition to an area on approximately the same level in the same building, which affords safety from fire and smoke from the area of incidence and areas communicating therewith.

EXIT PASSAGEWAY. An *exit* component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to an *exit* or to the *exit discharge*.

MEANS OF EGRESS. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a *public way*. A means of egress consists of three separate and distinct parts: the *exit access*, the *exit* and the *exit discharge*.

PUBLIC WAY. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm). [A]

SECTION 1004 OCCUPANT LOAD

1004.1 Design occupant load.

In determining *means of egress* requirements, the number of occupants for whom *means of egress* facilities shall be provided shall be determined in accordance with this section.

1004.1.1 Cumulative occupant loads.

Where the path of egress travel includes intervening rooms, areas or spaces, cumulative *occupant loads* shall be determined in accordance with this section.

1004.1.1.1 Intervening spaces.

Where occupants egress from one room, area or space through another, the design *occupant load* shall be based on the cumulative *occupant loads* of all rooms, areas or spaces to that point along the path of egress travel.

1004.1.1.2 Adjacent levels.

The *occupant load* of a *mezzanine* or story with egress through a room, area or space on an adjacent level shall be added to the *occupant load* of that room, area or space.

1004.1.2 Areas without fixed seating.

The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.2. For areas without *fixed seating*, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the *occupant load* factor assigned to the function of the space as set forth in Table 1004.1.2. Where an intended function is not listed in Table 1004.1.2, the *building official* shall establish a function based on a listed function that most nearly resembles the intended function.

Exception: Where *approved* by the *building official*, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design *occupant load*.

SECTION 1004 OCCUPANT LOAD

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR*
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit Gallery and Museum	30 net
Assembly with fixed seats	See Section 1004.4
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net

SECTION 1004 OCCUPANT LOAD

Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross

SECTION 1004 OCCUPANT LOAD

Library	
Reading rooms	50 net
Stack area	100 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

a. Floor area in square feet per occupant.

SECTION 1004 OCCUPANT LOAD

1004.2 Increased occupant load.

The *occupant load* permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.2, provided that all other requirements of the code are also met based on such modified number and the *occupant load* does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the *building official*, an *approved aisle*, seating or fixed equipment diagram substantiating any increase in *occupant load* shall be submitted. Where required by the *building official*, such diagram shall be posted.

1004.3 Posting of occupant load.

Every room or space that is an assembly occupancy shall have the *occupant load* of the room or space posted in a conspicuous place, near the main *exit* or *exit access doorway* from the room or space. Posted signs shall be of an *approved* legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Fixed seating.

For areas having fixed seats and *aisles*, the *occupant load* shall be determined by the number of *fixed seats* installed therein. The *occupant load* for areas in which *fixed seating* is not installed, such as waiting spaces, shall be determined in accordance with Section 1004.1.2 and added to the number of *fixed seats*.

The *occupant load* of *wheelchair spaces* and the associated companion seat shall be based on one occupant for each *wheelchair space* and one occupant for the associated companion seat provided in accordance with Section 1108.2.3.

For areas having *fixed seating* without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating both.

SECTION 1004 OCCUPANT LOAD

1004.5 Outdoor areas.

Yards, patios, *courts* and similar outdoor areas accessible to and usable by the building occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, *means of egress* requirements for the building shall be based on the sum of the *occupant loads* of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1004.6 Multiple occupancies.

Where a building contains two or more occupancies, the *means of egress* requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same *means of egress* system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005 MEANS OF EGRESS SIZING

1005.1 General.

All portions of the *means of egress* system shall be sized in accordance with this section.

Exception: *Means of egress* complying with Section 1028.

1005.2 Minimum width based on component.

The minimum width, in inches (mm), of any *means of egress* components shall not be less than that specified for such component, elsewhere in this code.

1005.3 Required capacity based on occupant load.

The required capacity, in inches (mm), of the *means of egress* for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.3.1 and 1005.3.2:

1005.3.1 Stairways.

The capacity, in inches (mm), of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairway* by a *means of egress* capacity factor of 0.3 inch (7.6 mm) per occupant. Where *stairways* serve more than one story, only the *occupant load* of each story considered individually shall be used in calculating the required capacity of the *stairways* serving that story.

Exception: For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairway* by a *means of egress* capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an *emergency voice/alarm communication system* in accordance with Section 907.5.2.2.

1005.3.2 Other egress components.

The capacity, in inches (mm), of *means of egress* components other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress* capacity factor of 0.2 inch (5.1 mm) per occupant.

Exception: For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress* components other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress* capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an *emergency voice/alarm communication system* in accordance with Section 907.5.2.2.

SECTION 1005 MEANS OF EGRESS SIZING

1005.4 Continuity.

The capacity of the *means of egress* required from any story of a building shall not be reduced along the path of egress travel until arrival at the *public way*.

1005.5. Distribution of egress capacity.

Where more than one *exit*, or access to more than one *exit*, is required, the *means of egress* shall be configured such that the loss of any one *exit*, or access to one *exit*, shall not reduce the available capacity to less than 50 percent of the required capacity.

1005.6 Egress convergence.

Where the *means of egress* from stories above and below converge at an intermediate level, the capacity of the *means of egress* from the point of convergence shall not be less than the sum of the required capacities for the two adjacent stories.

1005.7 Encroachment.

Encroachments into the required *means of egress* width shall be in accordance with the provisions of this section. [Details in Section.]

SECTION 1006 MEANS OF EGRESS ILLUMINATION

1006.1 Illumination required.

The *means of egress*, including the *exit discharge*, shall be illuminated at all times the building space served by the *means of egress* is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

1006.2 Illumination level.

The *means of egress* illumination level shall not be less than 1 footcandle (11 lux) at the walking surface.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances to not less than 0.2 footcandle (2.15 lux), provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

SECTION 1013 GUARDS

1013.8 Window sills. In Occupancy Groups R-2 and R-3, one- and two-family and multiple-family dwellings, where the opening of the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the clear opening of the window shall be at a height not less than 36 inches (915 mm) above the finished floor surface of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 36 inches (915 mm) of the finished floor.

Exceptions:

1. Operable windows where the sill portion of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.
3. Openings that are provided with window fall prevention devices that comply with ASTM F 2090.
4. Windows that are provided with window opening control devices that comply with Section 1013.8.1.

1013.8.1 Window opening control devices. Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.

SECTION 1014 EXIT ACCESS TABLE 1014.3

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)		WITH SPRINKLER SYSTEM (feet)
	Occupant Load ≤ 30	> 30	
B, S d	100	75	125
U	100	75	75 a
F	75	75	100 a
H-1, H-2, H-3	Not Permitted	Not Permitted	25 a
R-2	75	75	125 b
R-3 e	75	75	125 b
I-3	100	100	100 a
All others c, f	75	75	75 a, b

SECTION 1014 EXIT ACCESS TABLE 1014.3

For SI: 1 foot = 304.8 mm.

- a. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
- b. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where *automatic sprinkler systems* are permitted in accordance with Section 903.3.1.2.
- c. For a room or space used for assembly purposes having *fixed seating*, see Section 1028.8.
- d. The length of a *common path of egress travel* in a Group S-2 *open parking garage* shall not be more than 100 feet (30 480 mm).
- e. The length of a *common path of egress travel* in a Group R-3 occupancy located in a mixed occupancy building.
- f. For the distance limitations in Group I-2, see Section 407.4.

THANKS FOR COMING!!

