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.

[F] 501.2 Address identification. New and existing buildings shall be provided with approved address numbers or letters. Each character shall be not less than 4 inches (102 mm) in height and not less than 0.5 inch (12.7 mm) in width. They shall be installed on a contrasting background and be plainly visible from the street or road fronting the property. When required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure.

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

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 and 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.

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-1, Condition 2 of Type IIB, III, IV or V construction or Group I-2 occupancies 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.
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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).

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS**

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

<table>
<thead>
<tr>
<th>GROUP</th>
<th>TYPE OF CONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE I</td>
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<tr>
<td></td>
<td>A</td>
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<tr>
<td>HEIGHT (feet)</td>
<td>UL</td>
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<tr>
<td>STORIES(S)</td>
<td></td>
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<tr>
<td>AREA (A)</td>
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</tbody>
</table>

(continued)
### GENERAL BUILDING HEIGHTS AND AREAS

#### TABLE 503—continued

<table>
<thead>
<tr>
<th>GROUP</th>
<th>TYPE OF CONSTRUCTION</th>
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<tr>
<td></td>
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<td>B (65)</td>
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<td>STORIES(S)</td>
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<tr>
<td>M</td>
<td>S (UL)</td>
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<td>A (UL)</td>
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<tr>
<td>R-1</td>
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<tr>
<td></td>
<td>A (UL)</td>
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<tr>
<td>R-2</td>
<td>S (UL)</td>
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<td>A (UL)</td>
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<td>R-3</td>
<td>S (UL)</td>
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<td>A (UL)</td>
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<tr>
<td></td>
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<tr>
<td>U</td>
<td>S (UL)</td>
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<tr>
<td></td>
<td>A (UL)</td>
</tr>
</tbody>
</table>

For SI: 1 foot = 0.3048 m, 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 505

#### MEZZANINES AND EQUIPMENT PLATFORMS

**505.1 General.** Mezzanines shall comply with Section 505.2. Equipment platforms shall comply with Section 505.3.

**505.2 Mezzanines.** A mezzanine or mezzanines in compliance with Section 505.2 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the mezzanine shall be included in determining the fire area. The clear height above and below the mezzanine floor construction shall not be less than 7 feet (2134 mm).

**505.2.1 Area limitation.** The aggregate area of a mezzanine or mezzanines within a room shall not be greater than one-third of the floor area of that room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the floor area of the room.

Where a room contains both a mezzanine and an equipment platform, the aggregate area of the two raised floor levels shall be not greater than two-thirds of the floor area of that room or space in which they are located.

**Exceptions:**

1. The aggregate area of mezzanines in buildings and structures of Type I or II construction for special industrial occupancies in accordance with Section 503.1.1 shall not be greater than two-thirds of the floor area of the room.
2. The aggregate area of mezzanines in buildings and structures of Type I or II construction shall not be greater than one-half of the floor area of the room in buildings and structures equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 and an approved emergency voicewalarm communication system in accordance with Section 907.5.2.2.

**505.2.2 Means of egress.** The means of egress for mezzanines shall comply with the applicable provisions of Chapter 10.

**505.2.3 Openness.** A mezzanine shall be open and unobstructed to the room in which such mezzanine is located.
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except for walls not more than 42 inches (1067 mm) in height, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate area of the enclosed space is not greater than 10.

2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located if at least one of the means of egress provides direct access to an exit from the mezzanine level.

3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the mezzanine area.

4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.

5. In occupancies other than Groups H and I, that are no more than two stories above grade plane and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.

505.3 Equipment platforms. Equipment platforms in buildings shall not be considered as a portion of the floor below. Such equipment platforms shall not contribute to either the building area or the number of stories as regulated by Section 503.1. The area of the equipment platform shall not be included in determining the fire area in accordance with Section 903. Equipment platforms shall not be a part of any mezzanine and such platforms and the walkways, stairs, alternating tread devices and ladders providing access to an equipment platform shall not serve as a part of the means of egress from the building.

505.3.1 Area limitation. The aggregate area of all equipment platforms within a room shall not be greater than two-thirds of the area of the room in which they are located. Where an equipment platform is located in the same room as a mezzanine, the area of the mezzanine shall be determined by Section 505.2.1 and the combined aggregate area of the equipment platforms and mezzanines shall not be greater than two-thirds of the room in which they are located.

505.3.2 Automatic sprinkler system. Where located in a building that is required to be protected by an automatic sprinkler system, equipment platforms shall be fully protected by sprinklers above and below the platform, where required by the standards referenced in Section 903.3.

505.3.3 Guards. Equipment platforms shall have guards where required by Section 1013.2.

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) and automatic sprinkler system protection (I,) in accordance with Equation 5-1:

\[ A_w = [A_i + (A_i \times I_1) + (A_i \times I_2) + \ldots] \]

(Equation 5-1)

where:

- \( A_w \) = Allowable building area per story (square feet).
- \( A_i \) = Tabular building area per story in accordance with Table 503 (square feet).
- \( I_1 \) = Area increase factor due to frontage as calculated in accordance with Section 506.2.
- \( I_2 \) = Area increase factor due to sprinkler protection as calculated in accordance with Section 506.3.

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:

\[ I_1 = \frac{F - 0.25W}{30} \]

(Equation 5-2)

where:

- \( I_1 \) = 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).
- \( W \) = Width of public way or open space (feet) in accordance with Section 506.2.1.

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 5-2 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.

Weighted average \( W = \frac{L_1 \times w_1 + L_2 \times w_2 + L_3 \times w_3 + \ldots}{F} \)

(Equation 5-3)

where:

- \( L_1 \) = Length of a portion of the exterior perimeter wall.
- \( w_1 \) = Width of open space associated with that portion of the exterior perimeter wall.

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\[ F = \text{Building perimeter that fronts on a public way or open space having a width of 20 feet (6096 mm) or more.} \]

**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.

**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.
4. The allowable area for Group I-3 occupancies may be doubled in buildings of any height.

**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.

**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.

**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 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.

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.

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.

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.

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 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 Fire Code and NFPA 30.

507.8.1.1.3 Spray paint booths. Spray paint booths that comply with the 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.

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.

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.
4. Uses within a winery as defined in Section 202 of this code are exempt from occupancy separation requirements where one of the following conditions exists:
   4.1. An automatic sprinkler system is provided throughout the fire area.
   4.2. Both an automatic fire alarm, with manual pull stations, and a smoke detection system are installed throughout the building.

Boiler rooms and areas over 750 square feet, where wine is stored in wood or cardboard cases, are not exempt from separation requirements.

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.

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.

508.4 Separated occupancies. Buildings or portions of buildings that comply with the provisions of this section shall be considered as 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.
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 510.8 are to be considered independent and separate from each other.

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 than 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 enclosed 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.

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 vehi-
cles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,080 square feet (93 m²), and mechanical equipment rooms incidental to the operation of the building.

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.

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).

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 1½ hours.

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.

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 406.5. 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.

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.