

Rebuttal to Findings of Fact from Partial Plan Review

Application: PC 22 17 DR O7

Public Hearing Date: October 11, 2022

Date of Findings of Fact Report: October 4, 2022

Applicant: Matt Holman of P&B Holman, LLC

Prepared by: Studio.e Architecture, PC on behalf of P&B Holman, LLC



Proposal: An application submitted by Matt Holman of P&B Holman, LLC, requesting a partial design review and code interpretation for a proposed mixed use building related to building height, use of a mezzanine/loft in relation to the number of stories allowed. The property is shown on Lane County Assessor's Map # 18-12-34-11, TL 07500; and is located on Nopal Street, 101' southwest of the corner of 1st Street and Nopal Street, in the Old Town District/Area A, District regulated by Florence City Code Title 10, Chapter 17.

Finding of Fact in Question: The interpretation of Building Official and Building Inspector Dave Mortier regarding exception 3.1 and 3.2 of OSSC 505.2.1. Per the Florence Planning Department's Findings of Fact, "These exceptions are interpreted by Dave Mortier, the City's Building Official and Building Inspector, to mean that all mezzanines are required to be open to the floor below, but that a mezzanine can be up to half the square footage of the floor below if the building has automatic sprinklers. Mortier does not interpret this to mean that a mezzanine 1/3 or less of the floor space below is allowed to be enclosed."

Code Context: The International Building Code (IBC) is the basis for code on which all State Codes are derived, including the Oregon Structural Specialty Code. Some aspects of the IBC are altered or become more detailed due to a certain state's geology and environmental conditions. However, the 2018 IBC, 2021 IBC, and the 2019 OSSC section 505 titled Mezzanines and Equipment Platforms are identical in all three versions of building code.

Rebuttal: The published *2021 IBC Complete Code and Commentary, Volume 1*, provided by the International Code Council provides commentary that clarifies that Mezzanines have different requirements of openness corresponding to different conditions of occupancy load, fire sprinklers, available egress, and floor area.

The commentary from the International Code Council does not concur with the interpretation of Building Official Dave Mortier that all mezzanines within a dwelling unit must be open to the floor area below. The Findings of Fact references openness requirements of 505.2.1 Exception 3 and subsection 3.1, which are specific area exception requirements for mezzanines *greater than 1/3 but less than 1/2 of the area of the floor they serve*. This is not applicable to mezzanines not greater than 1/3 of the served floor area, such as those in Mr. Holman's application.

Since we are not seeking area limitation exceptions via section 505.2.1, then we are not restricted by 505.2.1, Exception (3)3.1 against applying the exceptions of 505.2.3 *Openness*. Section 505.2.3 Exception 1 allows mezzanines not be open to the room served *provided that the occupant load of the aggregate area of the enclosed space is not great than 10*. We are not proposing a mezzanine in a dwelling unit that is more than 1/3 of the area it serves nor that has an occupant load greater than 10 and therefore does not fall under the limitations of 505.2.1, Exception 3.1. This is consistent with the IBC commentary regarding Exception 3.1. Due to our mezzanines being 1/3 of the floor area served and having an occupant load less than 10 there is no requirement that it be enclosed. We qualify for Exceptions 1 under 505.2.3 *Openness*.

Below are inserted pages from the *2021 IBC Complete Code and Commentary, Volume 1*. For convenience we have highlighted sections of the code and corresponding commentary related to enclosed and open mezzanines. Our intent is to provide the full picture of this section of code and

commentary so that the Florence Planning Commission can make an objective determination based on neutral and official interpretation of the building code from the International Code Council.

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sprinkler system. What is the maximum height, in stories, above grade plane to which this building can be constructed?

Answer: The building can be constructed to a maximum height of two stories above grade plane. The building is Occupancy Classification B. To find this number, one would go to the row with Occupancy Classification "B" and find the row aligned with "NS." Following to the right on that row, the number 2 can be found under the column Type V and B. If a taller building is desired, the options to increase the allowable building height would be to either sprinkler the building or choose a higher type of construction.

TABLE 504.4. See page 5-10.

- ❖ The use of Table 504.4 is explained in the example in Section 504.4. See the commentary provided for Table 504.3 regarding the nomenclature and notes.

Types IV-A, IV-B and IV-C have been added as of the 2021 edition (Section 602.4). Since this is new to the codes, the commentary includes some additional comparisons for Type IV construction. For a full discussion of all construction types, see Chapter 6.

The primary method of proposing number of stories for Types IV-A, IV-B and IV-C is comparing the performance of these new construction types to that of existing construction types, and with appropriate factors, creating story allowances based on existing allowances for other types of construction.

While there were comparisons made between Type IV-A and Type I-A construction, there was hesitancy to greatly increase the heights of tall wood buildings due to the short history of tall mass timber construction and the combustibility of the building material. As such, rather than base Type IV-A construction heights on correlations to Type I-A construction, the proposals were to use the new heights for Type I-B construction and provide a reasonable increase in height over Type IV-B. Notable exceptions are made for Group H occupancies due to the greater hazards associated in those occupancies.

A strong correlation was determined to exist between Type I-B construction and the new Type IV-B construction. As such, the new heights for Type IV-B construction are based on those that exist for Type I-B construction with some exceptions for occupancies such as F-1, some H, I-1 and S-1, where the proposed height for Type IV-B construction is less than that allowed for Type I-B construction. Also, due to the emphasis on fire sprinkler protection for these new construction types, the height of nonsprinklered occupancies is unchanged from that which exists for Type IV-HT construction.

For IV-C construction, while the height in feet is the same as for Type IV-HT construction, the 2-hour fire-resistance rating requirement for Type IV-C construction, compared to no rating requirement for Type IV-HT, allows for more stories of Type IV-C than permitted in Type IV-HT for several occupancies. The determination is that the increased level of compartmentation provided by Type IV-C fire-resis-

tance rating requirements is sufficient to permit the increased building fuel load expected from the additional stories.

SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

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

- ❖ Special provisions are established for two types of elevated floor areas: mezzanines and equipment platforms. Each of the elements has its own unique characteristics, requirements and allowances. Section 505.2 addresses mezzanines. Special provisions for equipment platforms are located in Section 505.3. Where both are present in the same space, Section 505.2.1.1 clarifies the limits to aggregate area.

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 be not less than 7 feet (2134 mm).

- ❖ Although mezzanines provide an additional or intermediate useable floor level in a building, they are not considered an additional story where they comply with the requirements of Section 505.2. Building height and area limitations are intended to offset the inherent fire hazard associated with specific occupancies and with materials and features of a specific construction type. Because of a mezzanine's restricted size and its required openness to the room or space in which it is located, a mezzanine is not considered to contribute significantly to a building's inherent fire hazard. Therefore, the area of a mezzanine is not considered when applying the provisions of Section 506.2 for building area limitations, and mezzanines are not considered in determining the height in stories of a building as regulated by Table 504.4. The occupant and fuel loads of the mezzanine should be taken into consideration, however, when determining the necessity for fire protection systems. As such, the area of the mezzanine is to be included in the calculation of the size of the fire area for sprinkler thresholds (see commentary to definition of "Fire area," Section 202).

This section does not include any special requirements for the construction of a mezzanine or for fire-resistance ratings; therefore, the mezzanine is to be constructed of materials consistent with the construction type of the building. Required fire-resistance ratings are determined on the basis of Table 601 for the appropriate construction type.

Mezzanines are required to have a ceiling height of not less than 7 feet (2134 mm), and the ceiling height below the mezzanine must also be not less than 7 feet (2134 mm). Even habitable rooms located in mezzanines may have a ceiling height of 7 feet (2134 mm), in accordance with Exception 3 to Section 1207.2.

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TABLE 504.4
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE^{a, b}

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS ^{c, d}							NP	NP	NP			
	S	1	1	1	1	1	1	1	1	1	1	1	NP
H-2	NS ^{c, d}							1	1	1			
	S	UL	3	2	1	2	1	2	2	2	2	1	1
H-3	NS ^{c, d}							3	3	3			
	S	UL	6	4	2	4	2	4	4	4	4	2	1
H-4	NS ^{c, d}	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS ^{c, d}							2	2	2			
	S	4	4	3	3	3	3	3	3	3	3	3	2
I-1 Condition 1	NS ^e	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS ^e	UL	9	4		4	3	3	3	3			
	S	UL	10	5	3			10	6	4	4	3	2
I-2	NS ^{f, g}	UL	4	2		1	1	NP	NP	NP			
	S	UL	5	3				7	5	1	1	1	NP
I-3	NS ^h	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS ^h	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

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TABLE 504.4—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE^{a, b}

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1 ^b	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2 ^b	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3 ^b	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	3
	S13D	4	4									3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4 ^b	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13D	4	4									3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing *building height* in accordance with the *International Existing Building Code*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and 1103.5 of the *International Fire Code*.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

505.2.1 Area limitation. The aggregate area of a *mezzanine* or *mezzanines* within a room shall be not 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.

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 be not 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 be not 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 voice/alarm communication system* in accordance with Section 907.5.2.2.

3. The aggregate area of a *mezzanine* within a *dwelling unit* that is located in a building equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 shall not be greater than one-half of the floor area of the room, provided that:
 - 3.1. Except for enclosed closets and bathrooms, the *mezzanine* shall be open to the room in which such *mezzanine* is located;
 - 3.2. The opening to the room shall be unobstructed except for walls not more than 42 inches (1067 mm) in height, columns and posts; and

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3.3. Exceptions to Section 505.2.3 shall not be permitted.

❖ So as not to contribute significantly to a building's inherent fire hazard, a mezzanine is restricted to a maximum of one-third of the area of the room with which it shares a common atmosphere. The area may consist of multiple mezzanines open to the same room at the same or different levels, provided that the aggregate area does not exceed the one-third limitation (this determination is based on the gross floor area of the mezzanines). If the area limitation is exceeded, the provisions of this section do not apply, the mezzanine level is considered an additional story and the area of the mezzanine would be included in building area.

In determining the allowable area of the mezzanine, any enclosed spaces in the room in which the mezzanine is contained are not to be included in calculating the room size. Although the mezzanine area is included in the calculation of fire area size, it is not included in the area of the room when computing the allowable mezzanine area. For example, a room contains 5,000 square feet (465 m²), 500 square feet (46 m²) of which are enclosed and not part of the common atmosphere with the mezzanine. A mezzanine may be provided in the room such that the area of the mezzanine is not more than 1,500 square feet (139 m²) [5,000 square feet – 500 square feet = 4,500 square feet × $\frac{1}{3}$ = 1,500 square feet (139 m²)]. The mezzanine level must be open unless one of the exceptions is applicable. Even if the mezzanine is enclosed, the allowable area of the mezzanine is always determined by assuming the space of the mezzanine is open to the room in which it is located.

Exception 1 applies to special industrial occupancies (see commentary, Section 503.1.1). Special industrial occupancies, based on provisions of Section 503.1.1, inherently have a very low fire hazard. Therefore, mezzanines in such occupancies located in buildings of Type I or II construction are permitted to constitute up to two-thirds of the area of the room in which they are located. The limitation on construction types further reduces the fire hazard associated with such occupancies.

Exception 2 provides additional allowable area for mezzanines in Type I or II construction in any occupancy, provided sprinklers and an approved emergency voice/alarm communication system are installed. The tradeoff for additional area for installation of a sprinkler system recognizes the additional time that sprinklers provide for occupant evacuation. The emergency voice/alarm communication system is also seen as a necessary feature of this tradeoff as it enables occupants of a building to become aware of a fire that could start in a remote part of the mezzanine, prompting evacuation before smoke spread could cause a problem for occupants. Experience has shown that occupants react more readily when given voice instructions than when given a general alarm.

Exception 3 provides an exception to the one-third area limit for mezzanines located within dwelling units. Where such dwelling units are located within a building that is protected by either a NFPA 13 or 13R automatic

sprinkler system, the mezzanine area can be as much as 50 percent of the area of the room in which it is located. Enclosed spaces of such mezzanines are limited to bathrooms and closets. The opening to the room below must truly be open. Enclosure is essentially limited to that needed to provide guards complying with Section 1015. Use of this exception in a dwelling unit means that any of the exceptions found in Section 505.2.3 cannot be used. Most of the Section 505.2.3 exceptions address how open the mezzanine is to the room below. This exception spells out very specific limits for the openness.

505.2.1.1 Aggregate area of mezzanines and equipment platforms. 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. The area of the *mezzanine* shall not exceed the area determined in accordance with Section 505.2.1.

❖ Equipment platforms, as defined in Section 202, are not considered mezzanines (see Section 505.3 for provisions addressing equipment platforms). Where one or more mezzanines and one or more equipment platforms are located within the same room, the aggregate area of such elevated spaces cannot exceed more than two-thirds of the floor area of the room in which they are located. In addition, the maximum floor area for any portion determined to be a mezzanine is limited based on the provisions of this section.

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

❖ A mezzanine can be likened to a room or space when considering means of egress (see Section 1006.2). As with rooms, if the occupant load of the mezzanine exceeds the limitation of Table 1006.2.1 for the specific use of the space, at least two independent means of egress must be provided for the mezzanine. For example, if a mezzanine containing office areas (Group B) has an occupant load exceeding 49, a second means of egress from the mezzanine is required. Additionally, if a mezzanine has one means of egress and it is by means of an exit access stairway to the floor below, the common path of egress travel distance from the most remote point on the mezzanine to the bottom of the stairway may not exceed 75 feet (22 860 mm) in accordance with Section 1006.2.1 [where the occupant load is 30 or less, a common path of egress travel is allowed to increase to 100 feet (30 480 mm)]. If the travel distance to the bottom of the exit access stairway exceeds the limits of Table 1006.2.1, then a second means of egress must be provided from the mezzanine. This assumes that at the bottom of the stairway there are at least two separate travel paths available that lead to at least two exits. If the room below has only one exit, the travel distance from the most remote point on the mezzanine is measured to the exit access door of the room or other point where two separate paths become available.

Because mezzanines that comply with Section 505.2 are considered a portion of the story in which they are located, the exit access stairway leading from

it is not required to be enclosed. Per Section 1019.2, stairways that are contained within a single story are not required to be enclosed.

Where two exit access stairways are required, they are to be located remote from each other in accordance with Section 1007.1.1. The measurement for separation is to the top of the closest riser of the two open exit access stairways (see Section 1007.1.1.1, Item 2), and the separation must be maintained for the entire length of the open exit access stairways as they move down to the room below (see Section 1007.1.3).

The occupant load of the mezzanine is added to the room or space below, and the required means of egress width for that room is determined accordingly (see Section 1004.2.2). For example, if a room (Group B) has an occupant load of 45 and a mezzanine (also Group B) has an occupant load of 15, the total occupant load for the space served is 60. Therefore, the room must have two exit access doors or exits in accordance with Table 1006.2.1. The mezzanine itself, however, needs only one means of egress, provided that the common path of egress travel provisions of Table 1006.2.1 are met.

Alternatively, if exit access travel distance cannot be met, an exit providing direct access to the outside, an exterior exit stairway or an enclosed interior exit stairway can be utilized to provide the required means of egress from the mezzanine.

The requirements for accessible means of egress are specifically addressed in Section 1009.1, Exception 1. If two means of egress are required from the mezzanine and an accessible route is required to the mezzanine, then at least one accessible means of egress must be provided from the mezzanine (see Section 1009.1). While exit access stairways within the same story cannot serve as part of an accessible means of egress, exit access stairways from the mezzanine can serve as part of an accessible means of egress (see Section 1009.3.1). If an accessible route is not required to the mezzanine (see Sections 1104.3 and 1104.4) or the mezzanine is not required to be accessible (see Section 1103.2), then accessible means of egress are not required.

505.2.3 Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located 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 occupant load of the aggregate area of the enclosed space is not greater than 10.
2. A mezzanine having two or more exits or access to exits is not required to be open to the room in which the mezzanine is located.
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.

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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, which 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 exits or access to exits shall not be required to be open to the room in which the mezzanine is located.

❖ A mezzanine presents a unique fire threat to the occupant. If a mezzanine is closed off from the larger room, an undetected fire could develop such that it would jeopardize or eliminate the opportunity for occupant escape. The initial requirement is for the mezzanine to be open to the room below so that the mezzanine will be in the same atmosphere as the room below. This should make fire recognition quicker. The 42-inch (1067 mm) height for the perimeter walls is to allow walls that meet the height requirements for guards (see Section 1015.3). The columns and posts should be limited to those that support the roof or floor above the mezzanine.

The exceptions address situations where the hazard is reduced. Exception 1 would allow for a small mezzanine, or a small portion of a larger mezzanine, to be enclosed where the occupant load for that enclosed area is 10 or less. Occupant load is calculated in accordance with Section 1004.1 for the use or function of the mezzanine space. Similarly, Exception 3 permits the enclosure of a limited portion of a mezzanine.

Exception 2 permits enclosure of the mezzanine based on at least two means of egress being provided. Since mezzanines are elevated, means of egress is typically by either open exit access stairways or enclosed interior exit stairways.

Exception 4 addresses industrial facilities, where enclosure may be necessary for noise reduction or atmospheric control.

Exception 5 permits enclosure of a mezzanine in a building that is fully protected by a sprinkler system and limited to two stories. While Exception 5 has more restrictions than Exception 2, the allowances for enclosure of the mezzanine are essentially the same where there are two means of egress provided.

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, stairways, 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.

❖ "Equipment platform" is defined in Section 202 as an unoccupied, elevated platform used exclusively for supporting mechanical systems or industrial process equipment and providing access to that equipment. If an elevated platform does not meet all the conditions of this definition, then it must be considered either a mezzanine or another story.

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Equipment platforms are treated as part of the equipment they support (within the limitations of the subsections to this section) and do not contribute in any way to the area of the building, the number of stories, the area of any mezzanine or any fire area. However, if equipment platforms are located in the same room as a mezzanine, the aggregate area of the platforms and mezzanines is limited by Sections 505.2.1.1 and 505.3.1.

The definition of "Equipment platform" includes the associated elevated walkways, stairs, alternating tread devices and ladders necessary to access the platform. Any egress elements that serve an equipment platform are not permitted to serve as a means of egress for occupants from other areas of the building. Because they are not used for general means of egress, the elements used to access these platforms could be something other than a stairway or ramp. For example, a permanent ladder could be used to access an equipment platform.

505.3.1 Area limitation. The aggregate area of all *equipment platforms* within a room shall be not 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 be not greater than two-thirds of the room in which they are located. The area of the *mezzanine* shall not exceed the area determined in accordance with Section 505.2.1.

❖ In determining the allowable area of an equipment platform, neither the enclosed spaces of the room in which the equipment platform is located nor the area of the equipment platform itself is to be included in calculating the room size. Whereas mezzanines are limited to one-third of the area of the room in which they are located, equipment platforms are permitted to be two-thirds of the area of the room. Whereas the area of mezzanines is included in the calculation of the fire area (see Section 505.1), the area of equipment platforms is not included as part of the fire area. The area of mezzanines and equipment platforms, however, is summed when they are in the same room, and the aggregate area is limited to two-thirds of the area of the room.

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.

❖ In buildings or spaces that are required to be protected with an automatic fire sprinkler system, sprinkler protection above and below the equipment platform is needed so the equipment platform will not obstruct sprinkler coverage or delay sprinkler activation if a fire develops below the platform. This section should not be construed to require sprinkler protection for equipment platforms where such a system is not otherwise required.

505.3.3 Guards. *Equipment platforms* shall have *guards* where required by Section 1015.2.

❖ Guards are required for equipment platforms in the same manner that they are required at open walking surfaces in other parts of the building, and are subject to the same requirements for height, design load and configuration. In areas where electrical, mechanical and plumbing systems or equipment are accessed and used, Exception 3 to Section 1015.4 allows guard designs that would let spheres up to 21 inches (533 mm) to pass through openings.

SECTION 506 BUILDING AREA

506.1 General. The floor area of a building shall be determined based on the type of construction, occupancy classification, whether there is an *automatic sprinkler system* installed throughout the building and the amount of building frontage on *public way* or open space.

❖ This section is fairly straightforward regarding which attributes of a building impact the allowable area of a building. These attributes are the type of construction, as described in Chapter 6; the occupancy classification of the building, as described in Chapter 3; the presence, or lack thereof, of an automatic sprinkler system for the entire building; and the amount of the building that has frontage on an open space or public way. This section is simply a charging statement for what is to come. The limitations on numbers of stories and feet are found in Sections 504.3 and 504.4.

506.1.1 Unlimited area buildings. Unlimited area buildings shall be designed in accordance with Section 507.

❖ Section 507 allows certain buildings to be unlimited in area due to lack of exposure, low hazard level, construction type, the presence of fire safety systems or a combination of these characteristics. Under these specific provisions, Section 506.2 does not apply unless referenced. See also Section 503.1.3 for additional options for unlimited area buildings.

506.1.2 Special provisions. The special provisions of Section 510 permit the use of special conditions that are exempt from, or modify, the specific requirements of this chapter regarding the allowable areas of buildings based on the occupancy classification and type of construction, provided the special condition complies with the provisions specified in Section 510.

❖ Section 510 allows certain buildings with additional safeguards to adjust the heights and areas allowed by Section 506.2. Many of the provisions allow a mixture of construction types, and most involve a distinct portion of the structure being used for parking.

506.1.3 Basements. *Basements* need not be included in the total allowable floor area of a building provided the total area of such *basements* does not exceed the area permitted for a one-story above grade plane building.

❖ Assuming the basement is the same footprint as the building, the area of a single basement is not required