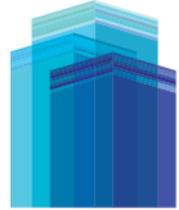# PLANNING & DEVELOPMENT SERVICES ADVISORY

Mezzanines (NBC 2020, Part 3)

Background

Mezzanines have some unique requirements in Part 3 of National Building Code of Canada (NBC) 2020 and are among the most complex to understand. These requirements can cause some confusion, especially concerning whether a *mezzanine* must be considered a *storey* for the purpose of calculating *building height*, and the subsequent requirements that must be met when this occurs. This advisory intends to clarify the City of Regina's interpretation, which has been established based on communication with the National Research Council, as well as with communication with other jurisdictions. Finally, illustrated examples will be provided showing how *mezzanines* are to be analyzed to determine if they must be considered as *storeys* for determining *building height.*

FAQ

Question

What is a *mezzanine?*

Answer

A *mezzanine* is a defined term in NBC 2020 that means "an intermediate floor assembly between the floor and ceiling of any room or *storey* and includes an interior balcony" (NBC 2020, Division A, Article 1.4.1.2).

Question

What portions of the NBC provide the requirements for when a *mezzanine* must be considered a *storey* for the purposes of calculating *building height?*

Answer

Article 3.2.1.1 provides some rules for determining *building height*. *Mezzanines* are specifically addressed in the following Sentences (summary of the Sentence also provided for reference):

- **Sentence 3.2.1.1.(3):** a *mezzanine* does not need to be considered a *storey* for the purpose of determining *building height* if*:*
  - the aggregate area of *mezzanines* that are not superimposed does not exceed 40% of the open area of the room in which they are located, **and**

- the space above the *mezzanine* is constructed as an open area (with only a small portion permitted to be enclosed. See Sentence (7) for more details).
- **Note regarding open area of the room:** the "open area of the room" in which the *mezzanine* is located is interpreted by the City of Regina to mean the area of the room the *mezzanine* is located in where there are no enclosed areas. If the area under the *mezzanine* is enclosed by walls or if the room below the *mezzanine* will have other areas enclosed by walls to create additional rooms, these areas cannot be considered in the calculation as part of the "open area". It is important for building owners and designers to know how the *mezzanine* was originally designed, because it may not be possible to build additional rooms in the area below, as enclosing even a small area may cause the *mezzanine* to be considered a *storey* for the purposes of *building height,* and may trigger a number of upgrades required by Code. However, if there are multiple rooms below a *mezzanine*, and if these rooms are mostly open to each other (the walls between the rooms are mostly removed to result in one larger room), it may be possible to propose that these rooms act as one larger room and use this area in the calculation. This can be provided as part of the design proposal for evaluation by the reviewers.
- **Note regarding visual obstructions:** Clause 3.2.1.1.(3)(b) and the intent statement for this Sentence limits the amount of visual obstructions permitted between the open *mezzanine* and the room below. The City of Regina is willing to consider proposals from designers who want to use Sentence 3.2.1.1.(3), but who also want to enclose the space above the 1070 mm high guards with glass. A proposal may be deemed acceptable if it can be shown that the glass will allow for visual communication between the *mezzanine* and the room below, in the same way that visual communication would be provided if there were only guards at a maximum of 1070 mm tall (with no additional glass above). No visual obstructions such as portions of walls, decals or curtains would be permitted in for any of the area required for visual communication.

- **Sentence 3.2.1.1.(4):** if all *mezzanines* were not able to pass Sentence (3), then the *mezzanines* can be re-evaluated using Sentence (4). This Sentence states that a *mezzanine* does not need to be considered a *storey* for the purpose of determining *building height* if*:*
  - the aggregate area of *mezzanines* that are not superimposed does not exceed 10% of the *floor area* in which they are located, **and**
  - the area of a *mezzanine* in a *suite* does not exceed 10% of the *suite* area.
- **Sentence 3.2.1.1.(5):** *mezzanines* that are superimposed above the first level of *mezzanine* must be considered a *storey* in calculating *building height.*

- **Sentence 3.2.1.1.(6):** platforms for periodic inspection or maintenance catwalks do not need to be considered *mezzanines* for the purpose of determining *building height*, as long as they are of the proper type of construction, and are not used for storage.
- **Sentence 3.2.1.1.(7):** this Sentence clarifies that *mezzanines* conforming to Sentence (3) are permitted to have a small enclosed space, as long as it does not obstruct visual communication between the open area of the *mezzanine* and the room it is within.
  - **Note:** the City of Regina interprets this to include stand-alone, fully enclosed mezzanines as long as they do not exceed 10% of the open area of the room they are within (see the examples in the Appendix).

Question

Why is it important to determine if a *mezzanine* must be considered a *storey* for the purposes of calculating *building height?*

Answer

Determining if a *mezzanine* must be considered a *storey* for determining *building height* is needed for the following four (4) major reasons:

1. **Properly classifying a *building* under Subsection 3.2.2**: The proper classification provides the starting point for *building* design, as it details:
   a. the permitted occupancy,
   b. the type of construction required,
   c. requirements for sprinklers,
   d. number of *streets* serving the *building,*
   e. maximum *building* height,
   f. maximum *building* area, and
   g. *fire-resistance ratings* for floor assemblies, *mezzanines*, and loadbearing structures

   Therefore, determining whether a *mezzanine* is considered a *storey* for determining *building height* is a vital piece for identifying the correct *building* classification.

2. **Determining the construction requirements for the *mezzanine* floor**: Article 3.2.1.6 states that if a *mezzanine* is required to be considered as a *storey* in calculating the *building height,* then its floor assembly shall be constructed in conformance with the *fire separation* requirements for floor assemblies from the building classification in Subsection 3.2.2. This often results in a higher *fire-resistance rating* being needed.

3. **Determining if a vertical fire separation is required to separate the mezzanine from the remainder of the building (or if interconnected floor requirements must be met)**: Article 3.2.8.1 states that the portions of a *mezzanine* that do not terminate at an exterior wall, *firewall*, or rated shaft shall either terminate at a vertical *fire separation*

that has a *fire-resistance rating* equivalent to the *mezzanine's* floor assembly, or be protected as per Articles 3.2.8.3 to 3.2.8.8 (requirements for interconnected floors). However, these requirements are waived if Sentence 3.2.8.2.(1) is met. To be met, the *mezzanine* must serve a:

a. Group A, Division 1 *major occupancy,*
b. Group A, Division 3 *major occupancy* in a *building* not more than 2 *storeys* in *building height* **(therefore, it is important to know if *mezzanines* must be considered a storey for *building height*),** or
c. A2, A4, C, D, E or F *major occupancy*, and be
    a. 500 m² or less in *mezzanine* area, and
    b. conform to Sentence 3.2.1.1.(3) or (4) **(the analysis which shows that the *mezzanine* does not have to be considered as a *storey* for the purposes of determining *building height.*)**

4. **Determining proper *means of egress* from a *mezzanine*:** Article 3.4.2.2 provides the requirements concerning *means of egress* from a *mezzanine*. Sentence (1) starts by stating that *exits* must be provided at the *mezzanine* level, just as they would be required for any other *floor area,* unless the relaxations in Sentence (2) or (3) can be met. In summary these Sentences provide the following relaxations:

a. Sentence (2) does not require any rated *exits* to serve the *mezzanine* level as long as **all the Clauses are met**. Notably, Clause (a) requires that the *mezzanine* must be exempt from needing to terminate at a vertical *fire separation* based on Sentence 3.2.8.2.(1). **As discussed above, this analysis usually requires an analysis of whether the *mezzanines* must be considered as a *storey* for determining *building height.***
b. If Sentence (2) cannot be met, then Sentence (3) may be used. Sentence (3) only requires half of the required *means of egress* from a mezzanine to lead to a rated *exit* at the *mezzanine* level, as long as the *mezzanine* is exempt from needing to terminate at a vertical *fire separation* based on Sentence 3.2.8.2.(1). **As discussed above, this analysis usually requires an analysis of whether the *mezzanines* must be considered as a *storey* for determining *building height.***

Other Code items may also be triggered if a *mezzanine* must be considered a *storey* for the purposes of determining *building height,* and will be checked during a plan review (eg. roof access, fire department access routes, standpipe systems, *exit* signs, etc.).

Question

If a *mezzanine* must be considered a *storey* for the purposes of calculating *building height,* do the other requirements for *storeys/floor areas* also get applied to the mezzanine (such as needing all *exits* to be properly fire separated from the remainder of the *building*)?

Answer

Not necessarily. It must be noted that the rules in Article 3.2.1.1 are simply for determining when a *mezzanine* must be considered as a *storey* **for the purpose of determining *building height*.** Even when a *mezzanine* is required to be considered a *storey* for *building height*, not all requirements that apply to *storeys/floor areas* would necessarily apply to that *mezzanine*. The *mezzanine* is still a *mezzanine* by definition, and therefore the specific requirements for *mezzanines* must be found elsewhere in Code, such as egress/exiting requirements (see Article 3.4.2.2). However, it must be noted that many requirements in Code are triggered based on *building height,* and so these must be considered when a *mezzanine* is required to be considered a *storey* for the purposes of *building height* (eg. *building* classification, *mezzanine* floor construction, requirements for vertical *fire separation,* roof access, fire department access routes, standpipe systems, *exit* signs, etc.).

Question

How are the exceptions to *building height* in Article 3.2.1.1 to be applied? In other words, what is the process for performing this analysis?

Answer

How one applies these Sentences and how these Sentences relate to each other is a source of confusion. After consultation with NRC and other authorities, the City of Regina interprets these Sentences in the following way (illustrated examples are provided in Appendix A as well):

1. **All *mezzanines* in the *building* must be evaluated under Sentence 3.2.1.1.(3), or all *mezzanines* in the *building* must be evaluated under Sentence 3.2.1.1.(4).**
    o   it is not acceptable to evaluate and exempt some mezzanines under Sentence (3), while others in the *building* are evaluated and exempted under Sentence (4). In other words, these Sentences cannot be used simultaneously in evaluating a *building*.

2. **If some *mezzanines* meet the requirements for an exemption, while some *mezzanines* fail, then those that fail the exemption must be treated as a *storey* for determining *building height,* while those that pass the exemption do not have to be considered a *storey* for determining *building height.***
    o   Again, it is not possible to evaluate some mezzanines under Sentence (3), while others are evaluated under Sentence (4). But, when utilizing one of those Sentences, a designer may find that some *mezzanines* pass, while others fail. In this case, it is permissible for those that pass to not be considered a *storey* for the purposes of *building height,* while those that fail must be considered a *storey* for the purposes of *building height.*

3. **If Sentence 3.2.1.1.(4) is used to show that *mezzanines* are not required to be considered *storeys* for determining *building height*, then future projects in the**

building generally cannot use Sentence 3.2.1.1.(3) to show that a *mezzanine* is exempt from being considered a *storey* for *building height*.

- o Designers utilize Sentence (4) when all *mezzanines* in the building are unable to meet Sentence (3). If Sentence (4) is being used, it is because Sentence (3) could not be met.
- o Sentence (3) requires that each room in a *building* containing *mezzanine(s)* be evaluated with respect to the room the *mezzanine(s)* are in, as well as requiring the *mezzanine(s)* to be mainly open above. When all *mezzanines* in a building are shown to meet Sentence (3), this means that projects in the future can easily continue to demonstrate compliance as only the room or *mezzanine* being impacted by the work must be analyzed to show continued compliance to Sentence (3). For example, projects involving alterations to an existing room containing a *mezzanine,* or alterations to a *mezzanine*, or building a new *mezzanine* can use Sentence (3) to show continued compliance without the need to re-analyze all *mezzanines* throughout the *building*.
- o However, Sentence (4) requires an analysis of the aggregate area of all *mezzanines* in the whole *building* compared to the *building's floor area* (cannot exceed 10%), as well as an analysis of the *mezzanine(s)* area in a specific *suite* versus the area of that specific *suite* (again, it cannot exceed 10%). If a building used Sentence (4) to show that the *mezzanines* do not need to be considered a *storey* for the purposes of *building height*, then future projects may require additional analysis for projects such as:
  - ▪ **Building a new *mezzanine*:** when a new *mezzanine* is built anywhere in the *building*, a complete analysis of all *mezzanines* in the building will be required again to show that the aggregate area of all *mezzanines* in the *building* does not exceed 10% of the floor area of the *building*. The analysis will also need to show that the new *mezzanine(s)* does not exceed 10% of the *suite* area.
  - ▪ **Altering an existing *mezzanine*:** when an existing *mezzanine* is altered in size, a complete analysis of all *mezzanines* in the building will be required again to show that the aggregate area of all *mezzanines* in the *building* does not exceed 10% of the floor area of the *building*. The analysis will also need to show that the *mezzanine* does not exceed 10% of the *suite* area.
  - ▪ **Demolishing a portion of a *building*:** if a portion of the *building* is demolished (decreasing the *building area* and potential the area of a *suite)*, a complete analysis of all *mezzanines* in the building will be required again to show that the aggregate area of all *mezzanines* in the *building* does not exceed 10% of the floor area of the *building*. If the area

of a *suite* is reduced by the demolition, the analysis will also need to show that the *mezzanine* does not exceed 10% of the *suite* area.

- **Reducing the size of a *suite* or splitting an area into multiple *suites*:** If the size of a *suite* is reduced (without impacting the size of the *mezzanine* in the *suite*), then only analysis to show continued compliance with the Sentence (4) regarding the *mezzanine* area versus the *suite* area is required (since the overall *building* area and aggregate *mezzanine* area has not changed).
- **Splitting a *building* by constructing a *firewall*:** If a new firewall is constructed to break an existing *building* into several smaller *buildings,* a complete analysis of all *mezzanines* in the *buildings* will be required again to show compliance (note: it may be possible to use Sentence (3) for compliance in this case since a single *building* has now become multiple *buildings*, so completely new analysis can be performed).

4. **If changes are made to a *building* that cause *mezzanines* to now be considered a *storey* for the purposes of determining *building height*, then the building must be shown to meet the Code requirements that are needed by the additional *building height***
   o If the building was originally designed and constructed with the *mezzanines* not being considered as *storeys* for the purposes of determining *building height,* then this could cause issues if the new design requires the *mezzanines* to be considered as *storeys* for the purposes of *building height*. Notably:
     - The *building* classification from Subsection 3.2.2 would need to be met,
     - The construction requirements for the mezzanine floor would need to meet Article 3.2.1.6 (along with the *fire-resistance rating* of loadbearing supports),
     - Vertical *fire separation* around the *mezzanine*, or special protection based on interconnected floors would be required in most cases (Article 3.2.8.1),
     - Proper *means of egress* must be provided as per Article 3.4.2.2, and
     - Other Code requirements would be evaluated during plan review as needed as well (eg. roof access, fire department access routes, standpipe systems, *exit* signs, etc.).

For more information on Building Permits, Building Safety or Zoning Information, please visit Regina.ca or contact Service Regina.

Appendix A – Illustrated Mezzanine Examples

This Appendix has been provided to illustrate how the City of Regina interprets how *mezzanines* are to be analyzed based on **Article 3.2.1.1.** to determine if they are exempt from being considered a *storey* for determining *building height.*

Note regarding open area of the room: Sentence 3.2.1.1.(3) talks about the "open area of the room" in which the *mezzanine* is located. This is interpreted by the City of Regina to mean the area of the room the *mezzanine* is located in where there are no enclosed areas. If the area under the *mezzanine* is enclosed by walls or if the room below the *mezzanine* will have other areas enclosed by walls to create additional rooms, these areas cannot be considered in the calculation as part of the "open area". It is important for building owners and designers to know how the *mezzanine* was originally designed, because it may not be possible to build additional rooms in the area below, as enclosing even a small area may cause the *mezzanine* to be considered a *storey* for the purposes of *building height,* and may trigger a number of upgrades required by Code. However, if there are multiple rooms below a *mezzanine*, and if these rooms are mostly open to each other (the walls between the rooms are mostly removed to result in one larger room), it may be possible to propose that these rooms act as one larger room and use this area in the calculation. This can be provided as part of the design proposal for evaluation by the reviewers.
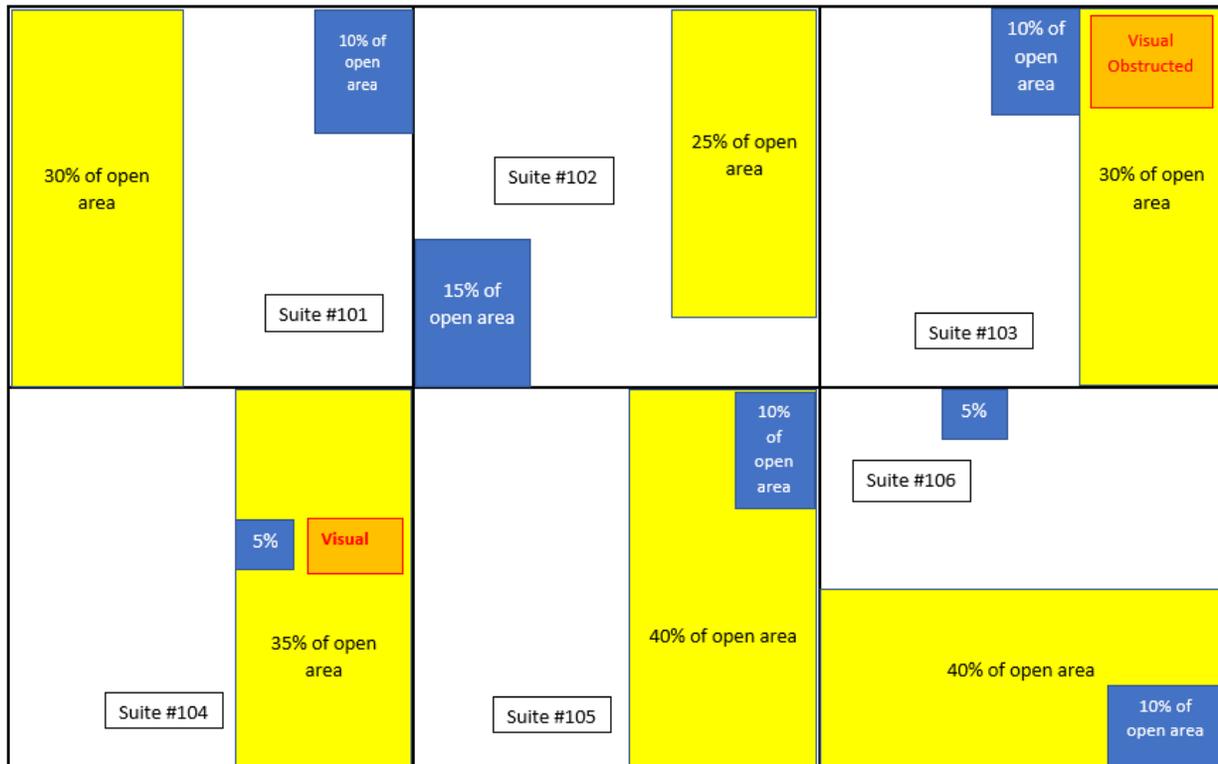
Note regarding visual obstructions: Clause 3.2.1.1.(3)(b) and the intent statement for this Sentence limits the amount of visual obstructions permitted between the open *mezzanine* and the room below. The City of Regina is willing to consider proposals from designers who want to use Sentence 3.2.1.1.(3), but who also want to enclose the space above the 1070 mm high guards with glass. A proposal may be deemed acceptable if it can be shown that the glass will allow for visual communication between the *mezzanine* and the room below, in the same way that visual communication would be provided if there were only guards at a maximum of 1070 mm tall (with no additional glass above). No visual obstructions such as portions of walls, decals or curtains would be permitted in for any of the area required for visual communication.

Note regarding enclosed space above a *mezzanine*: the City of Regina interprets Sentence 3.2.1.1.(7) to include stand-alone, fully enclosed *mezzanines* as long as they do not exceed 10% of the open area of the room they are within.

Legend

OPENED MEZZANINE

ENCLOSED MEZZANINE

Visual Communication Obstructed
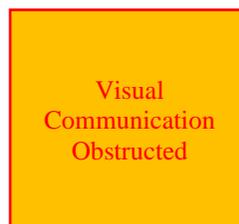
Example #1: A building contains six (6) suites, with a variety of *mezzanine* arrangements in each *suite.*

Diagram labels:
- Suite #101: 30% of open area; 10% of open area; 15% of open area
- Suite #102: 25% of open area
- Suite #103: 10% of open area; Visual Obstructed; 30% of open area
- Suite #104: 5%; Visual; 35% of open area
- Suite #105: 10% of open area; 40% of open area
- Suite #106: 5%; 40% of open area; 10% of open area

- **Step #1**: Check for compliance with Sentence 3.2.1.1.(3), meaning the aggregate area of *mezzanines* shall not exceed 40% of the open area of the room that are located in, and *mezzanines* are to be constructed as mainly open (only a small portion permitted in Sentence 3.2.1.1.(7) to be enclosed as long as it does not obstruct visual communication between the open area of the *mezzanine* and the room it is located within):
  - Suite #101:
    - Total aggregate area not more than 40% of the open area of the room ✓
    - Constructed as open mezzanines, except the enclosed *mezzanine* which does not exceed 10% of open area of the room and does not obstruct visual communication ✓
    - Conclusion: **Passed Sentences (3)**
  - Suite #102:
    - Total aggregate area not more than 40% of the open area of the room ✓
    - However, the enclosed *mezzanine* exceeds 10% of the open area of the room ✗
    - Conclusion: **Failed Sentence (3)**
  - Suite #103:
    - Total aggregate area not more than 40% of the open area of the room ✓
    - Enclosed *mezzanine* does not exceed 10% of open area of the room BUT does obstruct visual communication ✗
    - Conclusion: **Failed Sentence (3)**

- Suite #104:
  - Total aggregate area not more than 40% of the open area of the room ✓
  - Enclosed *mezzanine* does not exceed 10% of open area of the room BUT does obstruct visual communication ✗
  - Conclusion: **Failed Sentence (3)**
- Suite #105:
  - Total aggregate area not more than 40% of the open area of the room ✓
  - Enclosed *mezzanine* does not exceed 10% of open area of the room and does not obstruct visual communication ✓
  - Conclusion: **Passed Sentence (3)**
- Suite #106:
  - Total aggregate area exceeds 40% of the open area of the room ✗
  - Conclusion: **Failed Sentence (3)**

- **Step #2:** since one or more of the *mezzanines* failed Sentence 3.2.1.1.(3), they are all to be re-evaluated under Sentence (4) (a combination of Sentences (3) and (4) cannot be used simultaneously). This analysis involves determining if the aggregate area of *mezzanines* does not exceed 10% of the *floor area*, and that the *mezzanine* area in a *suite* does not exceed 10% of the *suite area*
  - The aggregate area of *mezzanines* exceeds 10% of the *floor area*. Furthermore, many of the *mezzanines* exceed 10% of the *suite* they are in. ✗
  - Conclusion: **Failed Sentence (4)**

- **Step #3**: Conclusion: Sentence (3) was not met by all the *mezzanines*, and Sentence (4) was also not met. Therefore, Sentence (3) allows for some of the *mezzanines* to be exempt from being considered a *storey* for building height, while others must be considered a *storey* for *building height.*
  - Suite #101: **Passed.** The *mezzanines* are **not a *storey*** for *building height*
  - Suite #102: **Failed.** The *mezzanines* **are a *storey*** for *building height*
  - Suite #103: **Failed.** The *mezzanine* **is a *storey*** for *building height*
  - Suite #104: **Failed.** The *mezzanine* **is a *storey*** for *building height*
  - Suite #105: **Passed.** The *mezzanine* **is not a *storey*** for *building height*
 - Suite #106: **Failed.** The *mezzanines* **are a *storey*** for *building height*

Since the *mezzanines in s*uites #102, #103, #104, and #106 had to be considered as *storeys* for the purposes of *building height* the designer will need to ensure:
  - The classification for the entire *building* from Subsection 3.2.2 accounts for this *building height,*
  - The construction requirements for these mezzanine floors would need to meet Article 3.2.1.6 (along with the *fire-resistance rating* of loadbearing supports),
  - Vertical *fire separation* around the *mezzanine*, or special protection based on interconnected floors would be required in most cases (Article 3.2.8.1),
  - Proper *means of egress* must be provided as per Article 3.4.2.2 for those *mezzanines*, and

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o Other Code requirements would be evaluated during plan review as needed as well (eg. roof access, fire department access routes, standpipe systems, *exit* signs, etc.).

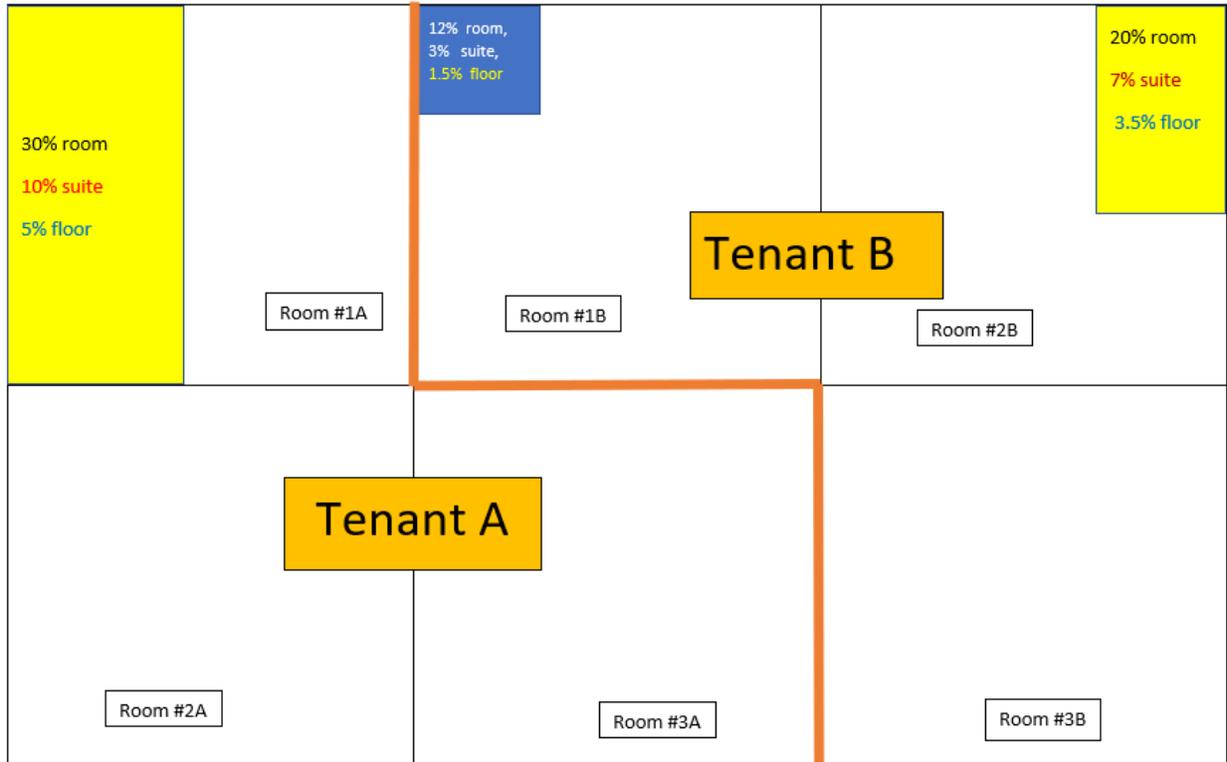The *mezzanines* that passed are permitted to be designed as *mezzanines*.

Example #2: A building has a single tenant. The building has six (6) rooms with a variety of *mezzanine* arrangements.
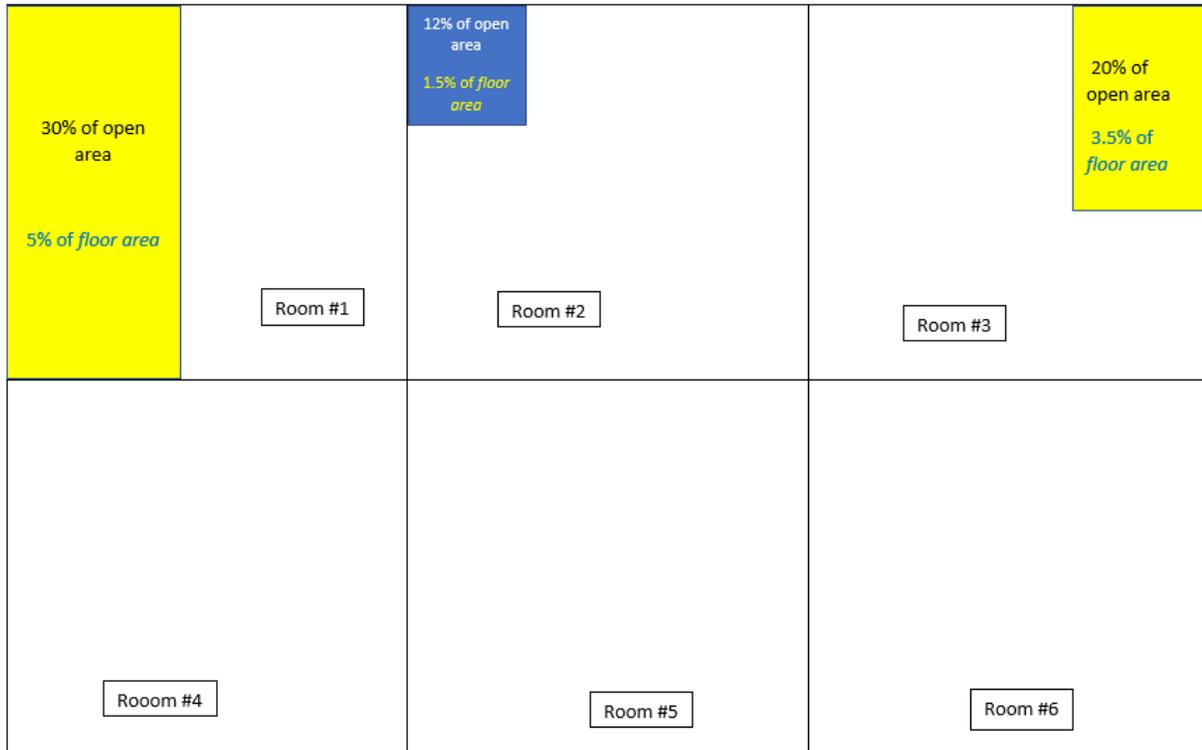
- **Step #1**: Check for compliance with Sentence 3.2.1.1.(3), meaning the aggregate area of *mezzanines* shall not exceed 40% of the open area of the room that are located in, and *mezzanines* are to be constructed as mainly open (only a small portion permitted to be enclosed as long as it does not obstruct visual communication between the open area of the *mezzanine* and the room it is located within):
  o Room #1:
    ▪ Not more than 40% of the open area of the room ✓
    ▪ No enclosed portions ✓
    ▪ Conclusion: **Passed Sentence (3)**
  o Room #2:
    ▪ Not more than 40% of the open area of the room ✓
    ▪ However, the enclosed portion is greater than 10% of the open area of the room ✗
    ▪ Conclusion: **Failed Sentence (3)**

- Room #3:
    - Not more than 40% of the open area of the room ✓
    - No enclosed portions ✓
    - Conclusion: **Passed Sentence (3)**
- **Step #2:** since one or more of the *mezzanines* failed Sentence 3.2.1.1.(3), they are all to be re-evaluated under Sentence (4) (a combination of Sentences (3) and (4) cannot be used simultaneously). This analysis involves determining if the aggregate area of *mezzanines* does not exceed 10% of the *floor area*, and that the *mezzanine* area in a *suite* does not exceed 10% of the *suite area*
    - Aggregate area of *mezzanines* compared to *floor area* of *building* does not exceed 10% ✓
    - There are no *suites* to analyze ✓
    - Conclusion: **Passed Sentence (4)**
- **Step #3:** Sentence (4) allows for the *mezzanines* to be exempt from being considered a *storey* for the purposes of *building height.* As a result, the designer can take advantage of relaxations available for:
    - Building classification,
    - *Mezzanine* floor assembly construction,
    - Potential to not require vertical *fire separation* or special protection for interconnected floors,
    - Potential relaxed requirements for egress from *mezzanines,*
    - Etc.
    - **Note:** Future mezzanines in other rooms can only be reviewed under Sentence (4) since the previous mezzanines were passed under Sentence (4).

**Example #3:** A building has two (2) *suites*, with a variety of *mezzanine* arrangements in the various rooms

- **Step #1**: Check for compliance with Sentence 3.2.1.1.(3), meaning the aggregate area of *mezzanines* shall not exceed 40% of the open area of the room that are located in, and *mezzanines* are to be constructed as mainly open (only a small portion permitted to be enclosed as long as it does not obstruct visual communication between the open area of the *mezzanine* and the room it is located within):
    o Room #1A:
        ▪ Not more than 40% of the open area of the room ✓
        ▪ No enclosed portions ✓
        ▪ Conclusion: **Passed Sentence (3)**
    o Room #1B:
        ▪ not more than 40% of the open area of the room ✓
        ▪ Enclosed *mezzanine* exceeds 10% of open area of the room ✗
        ▪ Conclusion: **Failed Sentence (3)**
    o Room #2B:
        ▪ Not more than 40% of the open area of the room ✓
        ▪ No enclosed portions ✓
        ▪ Conclusion: **Passed Sentence (3)**
- **Step #2:** since one or more of the *mezzanines* failed Sentence 3.2.1.1.(3), they are all to be re-evaluated under Sentence (4) (a combination of Sentences (3) and (4) cannot be used simultaneously). This analysis involves determining if the aggregate area of

mezzanines does not exceed 10% of the *floor area*, and that the *mezzanine* area in a *suite* does not exceed 10% of the *suite area*

- o Aggregate area of *mezzanines* compared to *floor area* of *building* does not exceed 10% ✓
- o Aggregate area of *mezzanines* compared to *suites:*
  - ▪ Tenant A: *mezzanine* is 10% of *suite* area ✓
  - ▪ Tenant B: aggregate area of *mezzanines* is 10% of *suite area* ✓
- o Conclusion: **Passed Sentence (4)**
- **Step #3**: Sentence (4) allows for the *mezzanines* to be exempt from being considered a *storey* for the purposes of *building height.* As a result, the designer can take advantage of relaxations available for:
  - o Building classification,
  - o *Mezzanine* floor assembly construction,
  - o Potential to not require vertical *fire separation* or special protection for interconnected floors,
  - o Potential relaxed requirements for egress from *mezzanines,*
  - o Etc.
  - o **Note:** Future mezzanines in other rooms can only be reviewed under Sentence (4) since the previous mezzanines were passed under Sentence (4).

Example #4: A building has two (2) *suites*, with a variety of *mezzanine* arrangements in the various rooms (similar to Example #3, but with another enclosed *mezzanine* in Tenant A's *suite*).
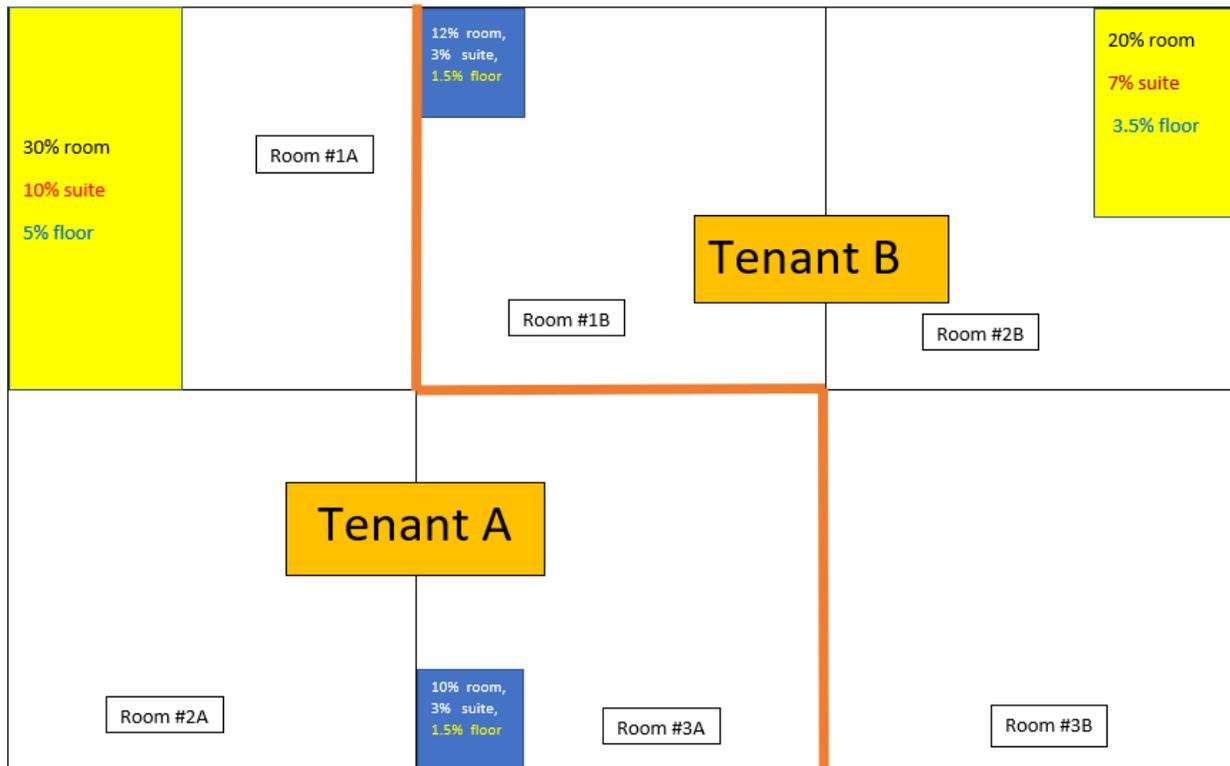
- **Step #1**: Check for compliance with Sentence 3.2.1.1.(3), meaning the aggregate area of *mezzanines* shall not exceed 40% of the open area of the room that are located in, and *mezzanines* are to be constructed as mainly open (only a small portion permitted to be enclosed as long as it does not obstruct visual communication between the open area of the *mezzanine* and the room it is located within):
  - Room #1A:
    - Not more than 40% of the open area of the room ✓
    - No enclosed portions ✓
    - Conclusion: **Passed Sentence (3)**
  - Room #3A:
    - Not more than 40% of the open area of the room ✓
    - Enclosed *mezzanine* not more than 10% of the open area of the room ✓
    - Conclusion: **Passed Sentence (3)**
  - Room #1B:
    - Not more than 40% of the open area of the room ✓
    - Enclosed *mezzanine* exceeds 10% of open area of the room ✗
    - Conclusion: **Failed Sentence (3)**
  - Room #2B:
    - Not more than 40% of the open area of the room ✓
    - No enclosed portions ✓
    - Conclusion: **Passed Sentence (3)**

Step #2: since one or more of the *mezzanines* failed Sentence 3.2.1.1.(3), they are all to be re-evaluated under Sentence (4) (a combination of Sentences (3) and (4) cannot be used simultaneously). This analysis involves determining if the aggregate area of *mezzanines* does not exceed 10% of the *floor area*, and that the *mezzanine* area in a *suite* does not exceed 10% of the *suite area*

- o Aggregate area of *mezzanines* compared to *floor area* of *building* exceeds 10% ✗
- o Aggregate area of *mezzanines* compared to *suites:*
    - ▪ Tenant A: aggregate area of *mezzanine* is 13% of *suite* area ✗
    - ▪ Tenant B: aggregate area of *mezzanines* is 10% of *suite area* ✓

- **Step #3**: Sentence (3) was not met by all the *mezzanines*, and Sentence (4) was also not met. Therefore, Sentence (3) allows for some of the *mezzanines* to be exempt from being considered a *storey* for building height, while others must be considered a *storey* for *building height.*
    - o Room #1A: **Passed.** The *mezzanines* are **not a *storey*** for *building height*
    - o Room #3A: **Passed.** The *mezzanines* are **not a *storey*** for *building height*
    - o Room #1B: **Failed.** The *mezzanines* are **a *storey*** for *building height*
    - o Room #2B: **Passed.** The *mezzanines* are **not a *storey*** for *building height*

Since the *mezzanine* in Room#1B **Failed,** it has to be considered as a *storey* for the purposes of *building height* the designer will need to ensure:

- o The classification for the entire *building* from Subsection 3.2.2 accounts for this *building height,*
- o The construction requirements for this *mezzanine* floor will need to meet Article 3.2.1.6 (along with the *fire-resistance rating* of loadbearing supports),
- o Vertical *fire separation* around the *mezzanine*, or special protection based on interconnected floors would be required in most cases (Article 3.2.8.1),
- o Proper *means of egress* must be provided as per Article 3.4.2.2 for this *mezzanine*, and
- o Other Code requirements would be evaluated during plan review as needed as well (eg. roof access, fire department access routes, standpipe systems, *exit* signs, etc.).

The *mezzanines* that **Passed** Sentence (3) do not have to be considered a *storey* for the purposes of *building height,* and the designer can utilize some of the relaxations for:

- ▪ *Mezzanine* floor assembly construction,
- ▪ Potential to not require vertical *fire separation* or special protection for interconnected floors,
- ▪ Potential relaxed requirements for egress from *mezzanines,*
- ▪ Etc.