

## Appendix 1

Comments on the Response to my Code Appeal by David Miles Ziskind of STV Architects

STV's response was submitted to the New York State Board of Review on November 3, 2020 and forwarded to me via email by Thomas DiTullio of the DBSC on November 17, 2020.

Prepared by Jonathan Ochshorn  
Date: November 23, 2020

The following comments are not intended to replace the detailed enumeration of Code violations contained in my Application for Appeal (in particular, Exhibit 2), dated September 17, 2020. Rather, they are intended to rebut the arguments contained in STV's response. To provide context for my responses, I have inserted my comments (*shown in black font*) directly into STV's response (*shown in red font*). The STV response was signed by Senior Vice President and Chief Architect David Miles Ziskind—henceforth identified as "the architect" or "the architects."

### **1. Item Identified in Appeal as Violation #1: Unenclosed egress stair in the atrium**

**a. The east stair is not an unenclosed exit stair within the atrium and an "egress stair" is not a code defined term. It is an unenclosed exit access stair within the atrium.**

In my appeal (Exhibit 2, p.5), I have used the term "egress stair" to encompass two types of stairs that may be used as components of means of egress—i.e., interior exit stairs and exit access stairways. I wrote:

Such a means of egress component needs to be enclosed. However, the architects have alternatively used two lines of argument to challenge this requirement—one based on requirements for an unenclosed *interior exit stairway*, and the other based on requirements for an unenclosed *exit access stairway*. Both arguments are flawed, as was confirmed by code opinions from both the International Code Council and the New York State Division of Building Standards and Codes (see Exhibit 3).

If the architects are now claiming that this stair is "an unenclosed exit access stair within the atrium," my arguments pertaining to the stair as an "interior exit stair" are no longer pertinent, and only my arguments pertaining to the stair as an "exit access stairway" need be examined. I have already explained, in Exhibit 2, why this particular exit access stairway is noncompliant.

**b. Section 1006.3 does not address the number of stories through which an unenclosed exit access stair may pass. It requires at a minimum, an (one) exit on every other story along the path of egress travel so that the path of egress travel does not pass through more than one adjacent story. Rand Hall has an exit on every story.**

First, the architect's contention that "Section 1006.3 does not address the number of stories through which an unenclosed exit access stair may pass" is simply false: Section 1006.3 clearly states that "the path of egress travel to an exit shall not pass through more than one adjacent story." An "exit access stairway" is, by definition, "within the exit access portion of the means of egress system." The exit

access stairway is therefore regulated under Section 1006.3 and, as such, "shall not pass through more than one adjacent story." Since the unenclosed exit access stairway in the Mui Ho Fine Arts Library passes through more than one adjacent story, it does not comply with this criterion and is therefore noncompliant.

Second, the fact that Rand Hall has "an exit on every story" is not relevant in this context. As I reiterate in my comments on the architect's "Exhibit 3 Response," the path of egress travel in Rand Hall with "an exit on every story" is part of a *completely different* means of egress system than the one encompassing the exit access stairway being discussed. Table 1006.3.1 in the 2015 NYS Building Code requires two exits, or access to exits, per story, and Table 1006.2.1 limits the common path of egress travel to 75 feet. In other words, after traveling no more than 75 feet from any point, an occupant must have "separate and distinct access to two exits or exit access doorways" (Chapter 2 definition of Common Path of Egress Travel). In Rand Hall, one of those exits is an interior exit stair labeled "Exit Stair A" and the other one, at the floor of the atrium, is labeled "Exit Stair B." It should be self-evident that in a building required to have two discrete means of egress systems—after the common path of egress travel distance is exceeded—*both* must be compliant, not just one. And the enclosed interior exit stair ("Exit Stair A") cannot be used for *both* means of egress systems, as the architect is suggesting in his response. The architect's reasoning here is both sloppy and dangerous.

c. Section 1019.3 regulates when exit access stair enclosures are required. Enclosure is required when access stairs do not meet any one (not all) of the conditions listed. Rand Hall complies with 1019.3 Condition #5 for unenclosed exit access stairs in an atrium that complies with Section 404.

Yes, the exit access stair complies with Section 1019.3, as I indicated in my appeal. The problem is that the stair does not comply with Section 1006.3. Means of egress components must comply with *all* relevant Code sections, not just those that support a particular argument. My reasoning here is supported by code interpretations from both the ICC and the DBCS.

d. Section 404.9.3 stipulates exit access travel distance within an atrium is limited to 200 feet. The exit access travel distance in the Rand Hall atrium is less than 200 feet.

Because the "path of egress travel to an exit" passes through more than one adjacent story, in violation of Section 1006.3, the requirements in Section 404.9.3 are not relevant in determining whether the exit access stair is, or is not, compliant. To be compliant, *all* requirements of the Code must be satisfied.

e. The Rand Hall east exit stair (Stair B) provides a continuous exit from the second floor to the exterior to meet Section 1023.3.

Because the "path of egress travel to an exit" passes through more than one adjacent story, in violation of Section 1006.3, the requirements in Section 1023.3 are not relevant in determining whether the exit access stair is, or is not, compliant. To be compliant, *all* requirements of the Code must be satisfied.

As I indicated in my appeal (see Exhibit 2), the idea that an exit access stairway in an atrium can pass through more than one adjacent story was rejected by James Harding of the New York State Division of Building Standards and Codes, and the logic underlying Mr. Harding's Code interpretation was later supported by Kevin Clark, Assistant Director for Technical Support and Manager Building Standards and Codes, DBSC in an email to me dated Feb. 27, 2019 and included in Exhibit 3. Mr. Clark wrote:

Upon further review of the questions and answers provided, I believe the responses initially rendered by Jim Harding to be correct. Question No. 1 is clearly addressed in Section 1006.3 of the 2015 IBC where it is indicated that 'The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.' Per this section, if using the atrium as part of the path of egress travel as the question stated, it can only pass through one adjacent story or once the traveler as reached an *exit*. Per the definition in the 2015 IBC, an exit is 'That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways* and *ramps*, *exit passageways*, *exterior exit stairways* and *ramps* and *horizontal exits*.' Whether or not this portion of the specific building discussed in subsequent emails is the path to an exit, part of the exit, etc. and therefore potentially allowed to pass through more than one story, was not a part of the answered provided and will need to be evaluated by the local building department for compliance.

But this final question posed by Kevin Clark—whether or not this portion of the specific building is the path to an exit, part of the exit, etc.—has now been answered by the architect: the unenclosed stair in question has been defined as an "exit access stairway," which places it squarely under the purview of Section 1006.3.

## 2. Item Identified in Appeal as Violation #2: Inadequate number of plumbing fixtures in the roof-top bathrooms

a. There are sufficient fixtures for the occupant load at the roof terrace.

This statement by the architect is not supported by any argument. I have demonstrated in my appeal that it is false.

b. Section 1004.1.2 (Areas Without Fixed Seating) allows the building official to reduce the maximum number of occupants permitted is [sic] an occupied space. The code official determined that the maximum number of occupants for the exhibition roof terrace is 131. For this number of people one toilet and one lavatory men and two toilets and one lavatory for women are required.

The "exception" to the requirements in Section 1004.1.2 states that the building official may approve a number of occupants that is "less than those determined by calculation." This exception does not apply to the roof-top art gallery in question because the number of occupants assigned to the space (i.e., 131) is not "less than those determined by calculation." In fact, this number was determined by the architect's explicit calculation—and was not *reduced* by the building official from a higher calculated number. Drawing LSP-103, provided as a pdf attachment in Mr. DiTullio's email to me dated November 17, 2020, and reproduced in my appeal as Exhibit 4, shows exactly how the calculation was made by the architects: first, by incorrectly computing the floor area of the art gallery as 911 square feet; and second, by incorrectly assigning to that space an occupant load factor of 7 square feet per occupant based on the inappropriate category of "Assembly without fixed seats, concentrated (chairs only-not fixed)." Dividing the area of 911 square feet by the occupant load factor of 7 results in a calculated occupant load of 131. The calculation of occupants was flawed in two respects (i.e., floor area and occupant load factor), but it was still a calculation, and did not invoke the "exception" provision of Section 1004.1.2.

To contend at this point—after the two errors in the architect's calculation have been exposed—that it was the building official who somehow approved a *reduced* occupancy load of 131, is both cynical and dangerous. It is cynical because it acknowledges that the architect's calculation of floor area and choice

of occupancy load factor were deliberately falsified in order to reach a smaller occupant load than what is required by the Code. It is dangerous because the *actual* occupancy of such a space will not be constrained by either the fake calculations provided by the architect or by any reduction approved by the building official. This code violation is not necessarily an acute life-safety issue in regard to the number of plumbing fixtures available. The true danger is that this same reduced occupant load is being used in the Atrium Smoke Control Report to grossly *underestimate* the potential danger of egressing from the roof-top art gallery during a fire event (see my discussion of Violation #5 below).

Michael Niechwadowicz, the City of Ithaca building code official who approved this fraudulent calculation, used the same cynical strategy in approving a dangerously low occupancy for a major assembly space in the basement of adjacent Milstein Hall, claiming at first that the 4,978 square foot "crit room" space was only 3,600 square feet and replacing the assembly occupancy load factor of 5 square feet per occupant with a "business" occupancy load factor of 100 square feet per occupant. These fraudulent and dangerous calculations were then used to compute an occupancy load of less than 49 occupants, so that *only one legal exit was provided*, when the real occupant load was closer to 995! Photographs of the space taken soon after occupancy (see Appendix Figure 1.1) show literally hundreds of alumni, students, and faculty crowded together there, making a mockery of the building department's assumptions. The same level of crowding is to be expected in the high-profile "art gallery" on the roof of



Appendix Figure 1.1. Based on the same fraudulent strategy used to reduce the calculated occupant load for the roof-top art gallery in the Mui Ho Fine Arts Library and approved by the same code enforcement official directing the City of Ithaca Building Division, Milstein Hall's "crit room" design allowed hundreds of occupants to gather in an assembly space with only one legal exit. Image from "AAP buzzes as hundreds of alumni, students, and faculty gather during Celebrate Milstein Hall," March 15, 2012, AAP News & Events, <http://aap.cornell.edu/news-events/aap-buzzes-hundreds-alumni-students-and-faculty-gather-during-celebrate-milstein-hall>

the Fine Arts Library building and, for the same reasons, playing games with its occupancy numbers is both dangerous and an abuse of the building official's discretion. After I successfully appealed Mr. Niechwiadowicz 's determination regarding Milstein Hall to the Capital Region-Syracuse Review Board, Cornell was forced to demolish a reinforced concrete and glass enclosure in order to provide a second exit for the space. I mention the example of Milstein Hall because, taken together with the occupant load calculation for the Mui Ho Fine Arts library, it points to a consistent pattern of bad behavior by Cornell, their architects, and the Ithaca Building Division.

### **3. Item Identified in Appeal as Violation #3: The fifth floor is incorrectly labeled as a mezzanine within the atrium.**

a. Rand Hall complies with Section 502.2, 502.2.1 and 502.2.3 and therefore the enclosed roof area of Rand Hall is a mezzanine within the atrium space below. In addition, the Syracuse Board of Review accepted the enclosed roof level as a mezzanine. See Variance Petition 2016-0269 Nature of Grievance and Relief Sought dated 10/11/2016.

First, the 2015 NYS Building Code sections referred to are not correct: Mezzanines are discussed in Section 505.2, not 502.2.

Second, claiming that the roof-top enclosed space is a mezzanine simply by referring to the sections in the Code that discuss mezzanines, but without actually citing any specific Code provisions, or attempting to refute the detailed arguments in my appeal, does not constitute a useful response.

Third, the Syracuse Board of Review never "accepted the enclosed roof level as a mezzanine," because the various schemes that were brought to their attention for appeal or for variances *did not include the roof-top enclosures* that are shown in the current plans. In particular, the Variance Petition 2016-0269 cited above, which is included in my appeal as Exhibit 9, does not once even mention the idea of a roof-top mezzanine. The 2016 variance validated the library space outside the bookstack floors as an atrium connecting stories two through four (with a single mezzanine *within* the fourth story), so the building—including the first-floor F-1 shop occupancy—was now considered to be four stories high.

In other words, the mezzanine in the 2016 proposal was neither in the atrium nor was it a "roof-top" enclosed space, but it was within a fourth-floor room or space and met all Code requirements for a mezzanine (i.e., it was actually *within* the double-height fourth-floor space and also complied with mezzanine area limits). The current scheme, with its roof-top enclosure *above* (not *within*) any fourth-floor room or space has nothing in common with the prior design development scheme considered under the 2016 Variance (see Appendix Figure 1.2 below).

b. Section 505.2 (Mezzanines) states a mezzanine does not contribute to the number of stories in a building.

The statement itself is certainly true, but it is not relevant to the arguments in my appeal because the building in question, as designed and built, has no mezzanine.

c. Section 505.2.1 (Area Limitation) states 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 space that contains the mezzanine is the atrium; it is not the floor below which is open within the atrium. The mezzanine (enclosed area at the roof level) is less than one-third of the area of the atrium.

To claim that this roof-top enclosed space is a mezzanine within an atrium requires that one violate the definitions of both "atrium" and "mezzanine." As I state in my appeal, "a mezzanine *cannot be in an atrium*, since a mezzanine is 'an intermediate level or levels *between the floor and ceiling of any story*,' and an atrium is not a 'story'; rather, an atrium is an '*opening* connecting two or more stories.'" To claim that this roof-top space is "in" the atrium—even if it were possible for an atrium to be considered a "story" within which a legal mezzanine must, by definition, be situated—would mean that *any* portion of *any* story adjacent to an atrium could just as arbitrarily be classified as a mezzanine in the atrium, as long as it were not more than 1/3 or 1/2 (for a sprinklered building) the area of the atrium. The architect's "explanation" goes against the entire logic that allows both atriums and mezzanines to be exempted from ordinary fire safety stipulations.

Let me be clear: (1) A mezzanine, by definition, must be between the floor and ceiling of a double-height story. If the story isn't at least double height, the mezzanine cannot be inserted within its floor and ceiling and therefore would not comply with the definition. (2) The roof-top enclosed space being characterized as a mezzanine is not situated within a double-height story, but, rather, is a story itself, located on top of (not within) the fourth story. (3) The atrium is not a "story" within which one can situate a mezzanine. Instead, an atrium is an *opening* that connects two or more stories. Because it is an opening, and not a story, an atrium cannot include a mezzanine, which must be within the floor and ceiling of *a story*. Of course, a mezzanine can be situated in a story adjacent to an atrium, but such a condition does not apply to the present case.

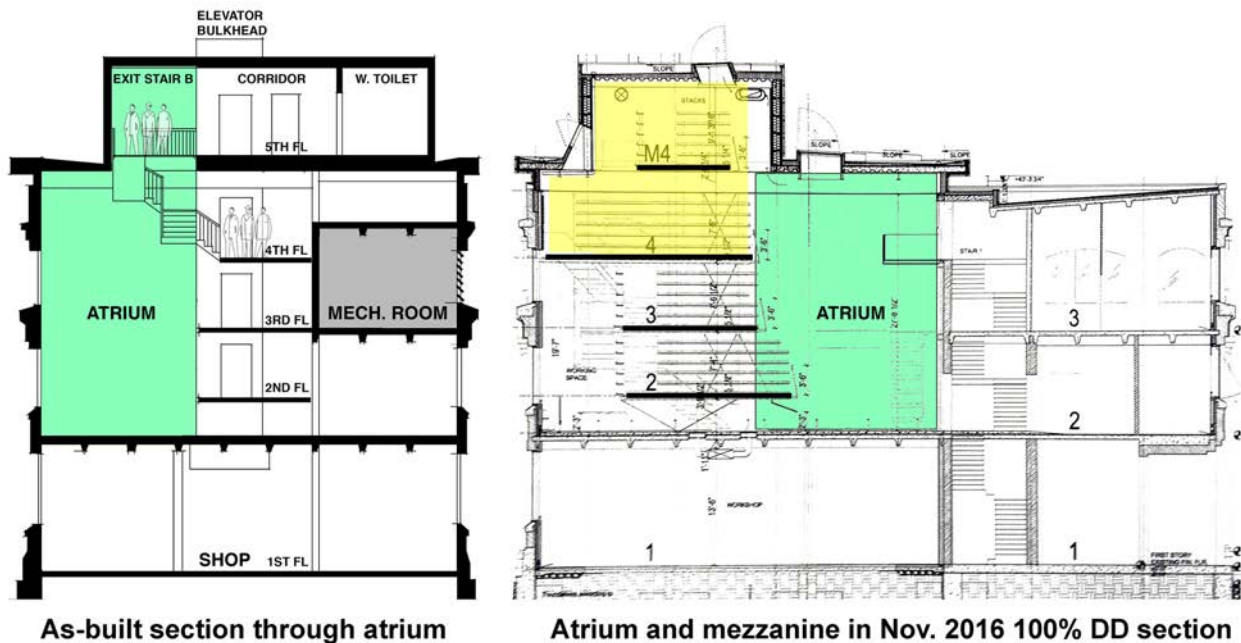
d. Section 505.2.3 (Openness) states a mezzanine shall be open and unobstructed to the room in which such mezzanine is located except: (1) when the occupant load is not greater than 10 persons, or (2) when mezzanines have two or more exits or access to exits. Although only one exception needs to be met the enclosed area at the roof level meets both exceptions.

The roof-top story in question is not a mezzanine, and so meeting the two criteria listed in Section 505.2.3 is not relevant. Only a *mezzanine* that meets either of the two criteria in Section 505.2.3 can forgo being open and unobstructed to the room in which it is located. Of course, it is possible for numerous rooms or spaces in a story to either have an occupant load not greater than 10, or to have two or more exits: meeting either criterion does not magically turn such rooms or spaces into mezzanines. If that were the case, then every bathroom with low occupancy and every assembly room with two exits would be a mezzanine—a proposition that is obviously absurd. To invoke this section, the architects would first have to demonstrate that the space in question would meet the definition of a mezzanine if it were open to the room in which it is located. But this roof-top enclosed space is not even located "in a room" at all. It is clearly built directly on top the roof structure defining the ceiling of the fourth floor; in other words, it constitutes a fifth story.

e. Section 1019.3 Condition #5 allows the exit access stair to be open within this mezzanine as previously identified.

The noncompliance of the unenclosed "exit access stair" was discussed in Violation #1. Having a noncompliant exit access stair leading to a fifth story does not somehow turn that fifth story into a mezzanine, nor does it make the stair compliant.

It is possible for a mezzanine to adjoin an atrium, for example, if it is within the floor and ceiling of a double-height room or space adjoining the atrium. Such a hypothetical arrangement is shown in Exhibit 2, page 9 (right image) and also occurs in the Rand Hall 100% design development drawings from November 2016 that show a building configured with four-stories and a mezzanine within the fourth floor. In Appendix Figure 1.2 shown below, the current scheme (left), with an atrium but no mezzanine, is compared with this unbuilt scheme from 2016 (right). The unbuilt scheme from 2016 has a legal mezzanine; the current scheme does not.



Appendix Figure 1.2. Comparison of current scheme (left) and 100% DD scheme (right). The double-height fourth-floor space containing a mezzanine is highlighted in yellow in the 2016 scheme. There are no double-height rooms or spaces in the current scheme that could contain a mezzanine. Instead, what the architects incorrectly call a mezzanine is here called what it really is: the fifth story.

#### **4. Item Identified in Appeal as Violation #4: There is a lack of 1-hour fire-rated construction between the atrium and roof-top spaces.**

a. We assume the phrase "1-hour fire-rated construction" was intended to mean "1-hour fire barrier" between the atrium and the roof deck.

No, I did not intend for "1-hour fire-rated construction" to mean a "1-hour fire-barrier," since a fire barrier is a vertical wall assembly and therefore cannot separate the ceiling of an atrium from an occupied roof deck directly above it. Rather, the requirement for 1-hour fire-rated construction refers to either a "1-hour fire barrier constructed in accordance with Section 707 or a horizontal assembly

constructed in accordance with Section 711" (2105 NYS Building Code, Section 404.6 Enclosure of atriums). In this case, the applicable type of required fire-rated construction is primarily a 1-hour horizontal assembly.

b. The Code does not define the term "space" and typically the code does not require a fire separation between interior enclosed occupied spaces and exterior occupied areas. The only Code required ratings for exterior walls are all related to exits and to exterior fire separation distances.

First, the Code states in Section 201.4: "Where terms are not defined through the methods authorized by this section, such terms shall have the ordinarily accepted meanings such as the context implies." The ordinarily accepted meaning of the word "spaces" that appears twice in Code Section 404.6 ("Atrium spaces shall be separated from adjacent spaces") is clear and unambiguous.

Second, and contrary to the erroneous and misleading statement made by the architect, the Code absolutely and unambiguously *does* require, in specified cases, a fire separation between interior enclosed occupied space and exterior occupied areas. As I stated in my appeal, Section 404.6 (Enclosure of atriums) requires that: "Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 711, or both." I would add that such a requirement to separate interior from exterior occupied space occurs in other contexts and has already been acknowledged by the various architects hired by Cornell to design Rand and Milstein Halls. For example, occupied interior spaces in Rand Hall are separated from the adjacent *exterior* space under Milstein Hall at the ground floor level with a 2-hour fire barrier, and the exterior space under Milstein Hall is separated from occupied interior spaces in Sibley Hall with a 1-hour fire barrier.

Third, neither the New York State DBSC nor the ICC's technical Code Advisory experts had any trouble reaching the conclusion that a 1-hour horizontal assembly was required in this case: see Exhibit 3 in my appeal for documentation.

c. Rand Hall meets the requirements for an occupied roof per Section 903.2.1.6 (Assembly Occupancies On Roofs) where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies and all floors between the occupied roof and the level of exit discharge are equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

This is not relevant to the requirement that the occupied space be separated from the atrium with 1-hr fire-rated construction.

d. Although not a Code requirement the Rand Hall roof exhibition area was constructed with the following additional safety features:

1. Sprinklers are designed to wet all roof supporting beams to maintain temperatures less than 1,000 degrees during a fire event.
2. There is a 2" thick precast concrete deck under the entire roof exhibition area located above the atrium.



3. Fire alarm and sprinkler services are located within a roof mounted junction box and are designed to be extended to provide coverage of any enclosed, temporary roof structure built as part of the roof exhibition program of the College of Architecture, Art and Planning.

First, none of this is relevant to my appeal. If Cornell wishes to construct a building that violates Code provisions, the appropriate course of action is to acknowledge that they are violating these Code provisions and to provide explanatory documentation as part of a formal Code Variance application, as they have done several times already for this project. It is not appropriate to introduce such allegedly mitigating factors in a Code Appeal hearing, where the only relevant issue is whether provisions of the 2015 New York State Building Code have been violated.

Second, it is disingenuous to claim that these are "additional safety features," as if they were not otherwise required.

Regarding item 1: In fact, sprinklers for the roof-supporting beams were proposed as part of Cornell's 2016 Code Variance in order to substitute Type II-B (non-fireproofed) construction for Type II-A, the construction type required for an A-3 occupancy in a sprinklered 4-story buildings. It is therefore not an "additional safety feature" since it was stipulated as being necessary to compensate for the lack of fire-resistance-rated construction on the structural frame. And the use of sprinklers to justify non-fireproofed construction had nothing to do with the requirement for a 1-hour horizontal assembly separating the atrium from occupied space above, since there was no occupied roof deck in the 2016 scheme. The requirement for a 1-hour fire rating on the *entire* horizontal roof assembly is not mitigated by having special sprinklers for the non-fireproofed roof beams and providing no fire-resistance rating for the spanning elements between those beams.

Regarding item 2: What is characterized as a *2-in. thick precast concrete deck* is nothing more than a grid of roof pavers having no continuity, no fire-resistance rating in this context, little ability to block the passage of smoke, and no relevance to the safety of occupants either on the roof-top art gallery or below in the atrium.

Regarding item 3: Providing alarm and sprinkler service to any "enclosed, temporary roof structure built as part of the roof exhibition program" has no relevance to the requirement that the occupied roof-top art-gallery be separated from the atrium with a fire-rated horizontal assembly. Moreover, the fact that sprinklers are necessary for enclosed rooms above the fourth story (i.e., on a *fifth* story) is hardly an "additional safety feature" as claimed, but rather a bedrock requirement of the 2015 NYS Building Code, Table 504.4, which does not permit any non-sprinklered A-3 assembly occupancies in Type II-B construction above the 2nd story and does not permit any non-sprinklered college classroom occupancies in Type II-B construction above the 3rd story.

## **5. Item Identified in Appeal as Violation #5: The smoke control system does not protect occupants**

- a. The Atrium Smoke Control Report has been reviewed again and updated since August 7, 2017 to include the fourth-floor mezzanine and egress of the occupied roof. The smoke control system model successfully demonstrates that all occupants can egress the space before conditions become untenable.

My appeal is a request to review a determination made by the City of Ithaca Building Division (and validated by the New York State DBSC Oversight Unit) to issue a building permit for the construction of the Mui Ho Fine Arts Library at Cornell University. This determination—to issue a building permit—was based in part on an Atrium Smoke Control Report prepared by GHD and dated August 7, 2017. It is not possible to fairly review this determination without examining the *actual* documents submitted for that permit. Any documents revised *after a permit was issued* and after my appeal was filed—including a revised and "updated" Atrium Smoke Control Report—are not relevant to this appeal. In other words, it's admirable that the architects and their consultants have finally submitted an Atrium Smoke Control Report that purports to accurately model the building's geometry and occupant load, but any such ex post facto revisions cannot be used to defend a Building Division determination that was made on the basis of inaccurate and, therefore, noncompliant documents. It is important for the Review Board to hold code enforcement officials accountable for improper conduct, when it occurs. Allowing code enforcement officials to circumvent this type of evaluation by removing offending documents and replacing them, after the fact, with revised documents undermines the credibility of the review process.

I haven't seen the revised Atrium Smoke Control Report; its content, as I stated, is not relevant to my appeal. Nevertheless, I will comment on the following points:

1. The building model that was imported into the fire modeling software is that provided in the form of a Revit Architectural Model from STV. The fire model entails all accurate geometry shown by the architectural model.

It is still unclear from this description whether the building model used in the Atrium Smoke Control Report is actually modeling the open metal gratings that comprise the floor-ceiling assemblies of all the bookstack floors or the non-fireproofed roof girders. Stating that the model was created with Revit does not answer that fundamental question.

2. Fire Dynamics Simulator 6.7.0.0 (FDS) is a computational fluid dynamics (CFD) model for fire-driven fluid flow. FDS solves numerically a form of the Navier-Stokes equations appropriate for low-speed, thermally-driven flow with an emphasis on smoke and heat transport from fires.

This is interesting, but not relevant to the issues I have raised.

b. The smoke being exhausted from the smoke exhaust vents does not pose a threat to the rooftop occupants. Smoke passing by the occupants in an exterior space does not threaten to accumulate as there are no obstructions on the roof to maintain a smoke layer that would compromise tenability. Also, the smoke being exhausted from these vents is being pushed upward with a force and speed from the fire and the makeup air being provided in the atrium space.

It is disingenuous to claim that smoke released immediately adjacent to an occupied roof deck, and precisely at the level of the roof deck, would not present a hazard to art-gallery occupants during a fire event. Unpredictable and variable wind directions and wind pressures, especially prevailing winds from the north and northwest, can blow toxic smoke exhausted from the roof hatches directly south onto the open art-gallery space. These exhaust hatches were designed for the roof *before* an art gallery was envisioned for the roof-top space, and the architects and their consultants never bothered to substantially revise the smoke exhaust design geometry when an add-alternate for the art-gallery was ultimately included in the project. The art gallery assembly space is literally bounded by these smoke hatches on its northern edge, as can be seen in Appendix Figure 1.3 below.



Appendix Figure 1.3. Smoke hatches form the northern boundary of the roof-top art gallery assembly space.

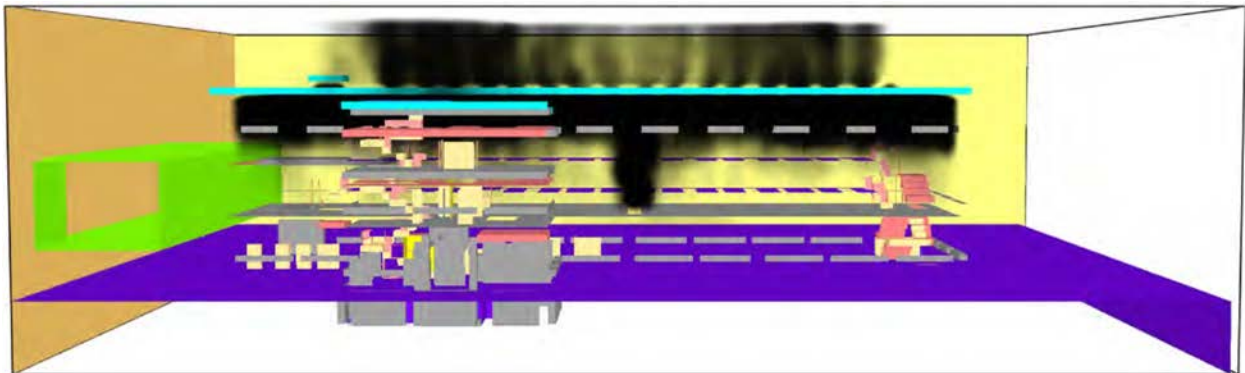
c. Due to the early detection (VESDA) system that is in place, the smoke exhaust vents will be opened prior to the rooftop terrace occupants beginning to egress, and thus opening the exit access door. The smoke exhaust vents will allow smoke to be pushed upwards out of the building and when the exit access door does open the size of that door alone will not be enough to alter the fire smoke plume to the degree shown in Figure 7. The numerous smoke exhaust vents and the makeup air will continue to push the smoke upwards and out of the building and will dictate the direction of the flow of smoke.

First, the 2017 Atrium Smoke Report describes fire scenarios in which smoke vents *would remain closed* until the temperatures at the vents reached a specified threshold. Therefore, it is quite possible that smoke could migrate into the highest point in the atrium, i.e., where the unenclosed exit access stairway connects with the roof-top art gallery, *before* the smoke exhaust vents open.

Second, it is mere speculation to claim that the opening of egress doors has any fixed relationship to the opening of smoke exhaust vents. The smoke exhaust vents open according to some hard-wired program triggered by various fire scenarios, whereas the egress door opens whenever an occupant chooses to open it, either coming up from the lower levels or going down from the roof deck. And if the exhaust vents open before the egress door is opened, that just puts the roof-deck occupants at risk from smoke emanating from the roof vents, as I have described above. Either way, occupants of the art gallery are placed in a precarious situation, with smoke potentially entering the roof-top space through either the vents, through the open exit door, or through both sets of orifices.

d. There is limited combustable loading directly beneath the roof stair opening. All book stacks, desks, and furniture are located in adjacent spaces to the floor area directly below the opening. The stair opening for the roof is surrounded by solid structural members that act as a smoke curtain preventing any smoke from adjacent area from flowing directly into the stair area.

A smoke plume rises to the top of the main atrium ceiling and then begins descending at an average rate of 0.02–0.06 meters per second (2017 Atrium Smoke Report, p.10), depending on whether the smoke vents activate. That means that the smoke layer drops below the "smoke curtain" surrounding the opening containing the unenclosed exit access stair to the roof-top art gallery in approximately 6 seconds (if smoke vents do not activate) or 18 seconds (if the smoke vents activate) and then begins rising into the stair opening itself. The beams that create this smoke curtain are no different from any of the other non-fireproofed steel beams that support the rest of the roof. These beams and girders at the roof of the atrium are not even discussed in the Atrium Smoke Control Report, nor are they shown on the imported Revit model diagrams. Claiming that these beams are "preventing any smoke from adjacent area from flowing directly into the stair area" seems specious, if not deliberately deceptive, since if such beams actually prevented smoke from entering the stair area, they would also prevent smoke from entering the array of smoke exhaust vents! Appendix Image 1.4 shows that, even with the smoke exhaust vents open, the smoke layer has descended far below the roof beams that are allegedly acting as "smoke curtains" to prevent smoke from entering the high point of the atrium.



Appendix Image 1.4. "Smoke Image 2-5" from the 2017 Atrium Smoke report Appendix shows a smoke layer that has descended well below the position of any and all roof beams, which are not even shown on this Revit-imported model.

e. In the updated smoke control design, half of the 131 occupants on the roof are modeled through the exit access stair and the other half are assumed to utilize the enclosed exit stair which can be accessed from the roof terrace. Due to the slow speed of fire growth of the "worst-case" reception desk fire and the early detection (VESDA) system that is in place that activates the opening of the roof smoke exhaust vents, the results of the fire/smoke and egress models indicate that the occupants will be able to egress below the fourth floor or into an approved enclosed exit stair prior to the space becoming untenable, with a safety factor of over 40 seconds.

First, the assumption of 131 occupants is based on a fraudulent series of calculations, as I have argued in my discussion of Violation #2 above. The actual number of occupants that should be assigned to the roof gallery, based on the actual art gallery floor area of 1315 square feet and the actual "standing space" occupant load factor of 5, is 263 occupants, not 131.

Second, it is unreasonable to assume that only half the occupants will attempt to exit from the primary stair enclosure from which they entered the space. It is well known that the overwhelming majority of occupants choose to exit from the door they are most familiar with—in most cases, the door from which they entered the space. The Fifth Edition of the *SFPE Handbook of Fire Protection Engineering* puts it this

way: "A key feature in any building is the main exit/entrance of the building, as it is well-established that people tend to move towards familiar exits in emergencies." (p. 2050–51)

Third, the idea that even 131 occupants can exit the roof-top gallery in a worst-case scenario "with a safety factor of over 40 seconds" is simply implausible. In a worst-case scenario, the smoke vents will not open; in fact, the 2017 Atrium Smoke Report describes a fire scenario where, "If any initial single or multiple smoke detectors within the floor plan area of the book stacks activate, or the book stacks fire sprinkler water flow zone is activated, *the smoke vents shall not open*, and the windows for makeup air shall not open until the electronic heat sensor at each individual smoke vent reaches 200 degrees F." Thus, the smoke vents remain closed for an unspecified period of time and may not open at all if any number of system components fail to operate as specified.

Fourth, the 2017 Atrium Smoke Control Report doesn't appear to consider the fact that plumes of hot and toxic smoke will not only enter the atrium space and rise to the atrium ceiling before beginning their descent but will also literally pass through the open steel gratings that comprise all of the exit access paths and occupied spaces on the bookstack floors. This particular hazard will be further examined in my discussion of Violation #9 below, but should also be noted in this context, since it adversely affects the ability of occupants to safely exit the building during a fire event. It must be emphasized that the fourth floor is not merely a space for 40 bookstack floor occupants, but is also acting as an unenclosed exit access pathway for what the architects call "Exit Stair B." In other words, egress from the roof-top art gallery via "Exit Stair B" involves first descending to the fourth floor through an unenclosed exit access stairway, then travelling more than 135 feet along an unenclosed exit access pathway that is directly under the atrium roof along the north wall of the building—precisely where the smoke layer could be moving downward at a rate of 0.02–0.06 meters per second—and then descending down a noncompliant unenclosed exit access stairway that passes through the fourth and third stories before it terminates on the atrium floor. At this point, occupants along this egress path must find the continuation of "Exit Stair B" tucked away in the north-east corner of the building in order to finally reach an exit discharge.

Fifth, the evacuation times assumed in the 2017 Atrium Smoke Control Report are, in part, "based upon the ability of occupants to see/smell/hear what is happening within the open atrium space." (p.8) Clearly, this ability to see/smell/hear an atrium fire is not possible for the hundreds of occupants attending a reception *above the atrium* in the roof-top art gallery.

**f. The occupied roof is no different than any other occupied space in a building requiring two exits. If one exit becomes compromised occupants are expected to use the other exit. In Rand Hall, the occupied roof has one exit access through the atrium and one directly to an enclosed exit stair. Should the exit access through the atrium be compromised occupants on the roof can exit directly to the enclosed stair.**

I'm happy that the architects have provided the roof-top art gallery with two exits, as required by the 2015 NYS Building Code. Of course, as I demonstrate in Violation #1, one of these two means of egress is noncompliant because it incorporates an exit access stairway that passes through more than one adjacent story. In any case, having two exits, as required, has nothing to do with the inadequacy of the Atrium Smoke Control Report, so it is not clear why it is brought up as an argument in support of that report.

A smoke report is meant to demonstrate that egress through the atrium remains tenable during a worst-case fire event. It is both irrelevant and inappropriate for the architects to suggest that it's perfectly

alright for a descending smoke layer in the atrium to make egress untenable, since "occupants on the roof can exit directly to the enclosed stair." On a crowded roof deck, with smoke potentially obscuring the location of a second unfamiliar (and unconventional) exit that leads to an enclosed stair, and with occupants jostling each other in order to get into the exit access stair they are familiar with, this suggestion by the architects appears ungrounded in the behavior of real occupants experiencing real fire events, and certainly doesn't adequately model a worst-case scenario.

g. The space located on the north side of the atrium does not have a fire load large enough to be a concern. On the north side of the atrium there are metal framed chairs with minor upholstery. Based on the Society of Fire Protection Engineers (SFPE) Handbook, the heat release rate (HRR) of one of these chairs would conservatively be 1/6 of the HRR currently modeled for the reception desk on the south side of the atrium with a slow growth. It is GHD's professional opinion that the "worst-case" fire scenario for occupant tenability continues to be the south reception desk.

A "worst-case" fire scenario should be tested by evaluating all plausible "worst-case" events using available modeling software and accurate models, not by speculation unsupported by rigorous fire science. For example, carts of flammable books or journals are constantly being moved around the library space and could plausibly end up pretty much anywhere, posing a risk in the event of a fire. All sorts of furnishings could be brought into the space over time: this has already been the case in this library and is typical for all buildings. A "worst-case" scenario cannot be determined by *excluding* precisely such worst-case situations. In any case, my argument that the 2017 Atrium Smoke Control Report is noncompliant has nothing to do with any particular fire scenario modeled in the report itself: the report itself is noncompliant—irrespective of any specific flaws in its model or the choice of fire scenarios—because it neglected to consider the addition of a roof-top art gallery for the scheme, a gallery space that virtually doubled the building's occupancy load. The 2017 Report also neglected to provide "Smokeview" diagrams for Fire Locations #2 and #3; and it shows a *maximum* temperature, in all of its numerous "Temperature Slice" diagrams, of only 45 degrees C (or about 113 degrees F) during a fire event. To reiterate the crux of my argument: the 2017 report, which was included as a required part of the building permit application, concluded that the low-occupancy fourth floor bookstack story could be evacuated 28 seconds before a descending smoke layer made egress untenable. If we now add an additional 263 occupants to the roof-top art gallery (or even the fraudulently determined number of 131 occupants), *most of whom* will attempt to use the means of egress associated with the main entrance to the art gallery consisting, in part, of an unenclosed exit access through this same fourth story, it is simply implausible that they will be able to evacuate through the fourth floor before passage becomes untenable due to the descending smoke layer modeled in the report.

**6–8. These responses will be discussed together, since they all rely on the same argument.**

## **6. Item Identified in Appeal as Violation #6: The elevator is too small for an ambulance stretcher**

a. Granted per Variance Petition 2016-2069, dated 10/11/2016.

## **7. Item Identified in Appeal as Violation #7: The allowable story height is exceeded for library occupancy without Type 1 Construction.**

a. Granted per Variance Petition 2016-2069, dated 10/11/2016.

## **8. Item Identified in Appeal as Violation #8: The allowable floor area is exceeded at the second story**

a. Granted per Variance Petition 2016-2069, dated 10/11/2016.

b. The appellant questioned whether the Variance Petition 2016-2069 remains in effect with the changes made to the building design

c. Cornell returned to the Syracuse Board of Review on June 15, 2017 asking for a determination whether the previously granted Variance Petition 2016-2069 remains in effect. Per the decision letter dated August 7, 2017 the Board of Review determined that it “remains in full force and effect”.

The responses to Violations 6–8 all presuppose the continued applicability of the Variance Petition 2016-0269 granted by the Capital Region–Syracuse Board of Review to Cornell's Fine Arts Library proposal. It is true that the Board of Review declined to reopen that variance petition and refused to hear additional testimony at their June 15, 2017 hearing, thereby establishing that the variance remained in effect for the Fine Arts Library proposal *as it existed in June 2017*. However, as I stated in my appeal (Exhibit 2, page 3):

New York State Code variances only apply to the specific building proposal for which the variances were granted—and cannot be interpreted to give implied approval to a different proposal. All three Rand Hall variances (Petition Nos. 2013-0456, 2015-0432, and 2016-0269) contain the following written disclaimer: “Furthermore, it should be noted that the decision of the Board is limited to the specific building and application before it, as contained within the petition, and should not be interpreted to give implied approval of any general plans or specifications presented in support of this application.” Since the library as built is substantially different from all prior schemes, the code variances that supported those prior schemes cannot be applied to the current building.

This conclusion remains unchanged: All of the variance decisions granted for the Fine Arts Library are no longer valid because they are “limited to the specific building and application ... contained within the petition” and none of those specific building proposals for which the variances were granted correspond to the design of the current building. The difference between the *current* building, which is the subject of this appeal, and the various proposals for which variances were granted, are substantial. In particular, the occupancy load of the current building is approximately double that of any of the prior proposals, due to the addition of a roof-top art gallery. Furthermore, the current building contains five stories, whereas the building proposal for which the final variance was granted in 2016 (and reaffirmed in 2017) contained four stories. Both the increased occupancy load and the increased number of stories are critical factors in evaluating the compliance of this building with the 2015 NYS Building Code, an evaluation that should not be prejudiced by variances conditioned upon a “specific building and

application” based on provisional design development drawings from 2016 that were ultimately discarded and substantially revised.

A library (A-3) occupancy in a sprinklered building with Type V-B construction—the *actual* occupancy and *actual* construction type corresponding to the project without recourse to Code variances—is limited to two stories. A library (A-3) occupancy in a sprinklered building with Type II-B (non-fireproofed) construction is limited to three stories; the same occupancy with Type II-A (fireproofed) construction is limited to four stories. Since the current building has *five* stories and non-fireproofed construction, notwithstanding the architect’s characterization of the fifth story as a “mezzanine,” not even the 2016 variance—which allowed a four-story building to be constructed without the required Type II-A fireproofed construction—would permit a library (A-3) occupancy *in a five-story building*: Table 504.4 of the 2015 NYS Building Code *requires Type I-B construction*. And the architects, in their response to Violation #4 (see above), have admitted that the roof-top art gallery space provides fire alarm and fire sprinkler coverage for “any enclosed, temporary roof structure built as part of the roof exhibition program of the College of Architecture, Art and Planning” above the fourth floor: in other words, these future enclosed pavilions would be constructed on a fifth floor. As implausible as is the contention that the fifth-story bathrooms and elevators constitute a mezzanine, it is literally impossible to imagine that these future fifth-floor enclosed pavilions—with absolutely no connection to any spaces below them—could be construed as “mezzanines” of either the atrium or of the fourth floor.

A timeline (included at the end of this Appendix) makes it clear that the Hearing Board's 2017 ruling on the 2016 Variance made no mention of the increases in occupant load and number of stories that were eventually included in the application for a building permit. The key dates are August 7, 2017, when the architects claim that the Syracuse Hearing Board issued a “decision letter” reaffirming the validity of the 2016 variance petition; and December 15, 2017, when the architects issued a so-called “conformed set” of drawings that—for the first time—included a roof-top art gallery as an add-alternate, that is, as a *possible* option that might be considered if the cost could be reconciled with a donor's potential gift. In other words, when the Hearing Board validated the 2016 variance petition, they had only seen a preliminary set of design development drawings for a 4-story building without an occupied roof deck, and they did *not* validate (and could not even have known about) subsequent increases in occupant load and number of stories.

By the architect's own admission, the Syracuse Hearing Board merely reaffirmed the validity of the 2016 variance, thereby validating only the design development drawings from 2016 *that were never built*. Moreover, this same petition stated clearly that the Board's ruling was “limited to the specific building and application before it.” For that reason, the 2016 variance petition, and all the other variances granted to Cornell before that, cannot be applied to the substantially modified Fine Arts Library proposal for which a building permit was granted on February 16, 2018.

## **9. Item Identified in Appeal as Violation #9: Vertical openings in bookstack floors**

a. The atrium is open to and connects all three book stack levels. The openings in the bookstack floors are irrelevant since they are all open to the atrium and to each other.



This explanation conflates Exception 3 in Section 404.6, which permits any three floors adjoining an atrium to be open *to the atrium*, with Section 712, which forbids vertical openings *in floor-ceiling assemblies* unless they are in accordance with one of the various protection methods listed in the section. In other words, the floors themselves *cannot have any vertical openings* since they do not conform to any of the available options listed in Section 712. The option listed in Section 712.1.7 for "atriums" applies only to the atrium itself—the atrium being defined as the "opening connecting two or more stories"—and not to the floors adjoining the atrium. It is precisely the purpose of these floor-ceiling assemblies—at least the three floors permitted to be open to the atrium—to direct smoke *into the atrium* so that it can be safely exhausted; having openings within the floors themselves completely sabotages the entire premise underlying atrium theory and design, since smoke originating in an adjoining floor open to the atrium, instead of being directed safely into the atrium space, will simply rise up through the occupied floors, placing all occupants of those floors at great risk.

The idea that atriums are vertical openings that are specifically designed and intended to exhaust smoke *from* occupied floors (and *not* to allow smoke to freely rise up through openings *within* occupied floors) is made clear in the 2015 ICC *Code and Commentary* discussion of Section 404.6 (Enclosure of atriums):

It is also recognized that some form of a boundary is required to assist the smoke control system in *containing smoke to just the atrium area*. The basic requirement, therefore, is that the atrium space be separated from adjacent areas by fire barriers and horizontal assemblies having a fire-resistance rating of at least 1 hour. ... Exception 3 recognizes the desire to have at least some floors open to the atrium, and permits a maximum of three. ... Essentially these spaces have simply increased the possible design fires *that may send smoke into the atrium*, thus threatening to send smoke throughout the building and other adjoining spaces. [Italics added]

In all cases, the fundamental idea underlying atrium design is to send smoke "into the atrium" or to contain smoke "to just the atrium area."

**b. Section 712.1.7 allows for vertical openings within an atrium. The bookstack levels are contained in the atrium. There are no requirements for solid floors (without openings) within the atrium.**

This is simply false. Section 712.1.7, as one of several options to create vertical openings, states only that: "In other than Group H occupancies, atriums complying with Section 404 shall be permitted." There can be no vertical openings "within an atrium" because the atrium, by definition, is itself "an *opening* connecting two or more stories..." (Section 202). The floors adjoining the atrium cannot be "in" the atrium, since they define the boundaries of the atrium by virtue of *adjoining* it, not by being *in* it. *Atriums are openings within floors*; atriums are not big rooms containing floors. Rather, floors define a boundary outside of and adjoining the atrium. In the specific case of Rand Hall's Mui Ho Fine Arts Library, the atrium is a vertical opening adjoining the bookstack stories: the bookstack stories, along with the building's exterior walls, *define the boundary* of the atrium and cannot, therefore, be *in* the atrium.

**c. The 6" openings between book stack bays are provided to comply with sprinkler requirements for a book storage facility. This 'warehouse' sprinkler design is provided in addition to the standard sprinkler system designed based on area of head coverage.**

Contrary to the assertions made by the architects, the "flue" openings in the floor-ceiling assembly between book stack bays are *not* a requirement of any building code and are, in fact, strictly prohibited

by the 2015 NYS Building Code. Such openings cannot be made in floor-ceiling assemblies separating stories unless they comply with the provisions in Section 712 of the 2015 NYS Building Code. Rather, such 6-in-wide flue spaces are intended for various types of multi-tier rack storage systems placed within high-ceilinged warehouse-type spaces, as described in NFPA Chapter 12. They are not permitted for "library stack areas" in A-3 library occupancies. The fact that these sprinklers are "in addition to the standard sprinkler system" does not allow them to violate Section 711.3.2 of the Code, which states unambiguously that floor and roof assemblies "shall be continuous without vertical openings, except as permitted by this section and Section 712." Section 712, in turn, provides numerous instances where vertical openings can be used, none of which apply to the open floor grates and 6"-wide flue openings in the Mui Ho Fine Arts Library bookstack stories.

*Historical digression:* Such openings can be found in older multi-tier stack systems but are not used in multi-story libraries anymore because they increase the hazards caused by fires, as argued by Frazer G. Poole in a 1965 article titled "The Selection and Evaluation of Library Bookstacks":

Multi-tier installations consist of two or more levels of stacks in which each level supports the weight of those above. In an earlier era, the spaces between vertical units were left open to allow the circulation of air around the books. *These openings, however, promoted vertical drafts and considerably increased the hazards caused by fires.* Today, air-conditioning largely obviates the need for this circulation of air around the books and, as a result, the *great majority of libraries are constructed with continuous, solid floors*, each of which is capable of supporting, independently, the full load imposed by the stacks and the book collection. [<http://hdl.handle.net/2142/6212>; italics added]

Such multi-tier stacks are also described in the more recent NFPA 13 ("Standard for the Installation of Sprinkler Systems," 2007 Edition, p.179), but they refer, not to library stack areas placed on separate stories as is the case in the Mui Ho Fine Arts Library, but rather to very specific multi-tier self-supporting systems within a single room or space that can accommodate the combined height of the multi-tier storage units. There is nothing in the 2015 NYS Building Code that permits a sprinkler design that violates the floor-ceiling assembly continuity required by Section 711 and 712; the claim that the openings are provided "to comply with sprinkler requirements" is simply false.

The idea that these book stacks constitute "warehouse" storage contradicts the architect's own assignment of an A-3 occupancy class to the library rather than an S-1 occupancy class; and contradicts the architect's own use of the "library stack area" functional category in Table 1004.1.2, rather than the "warehouse" category, to assign occupant load factors to the stacks. Moreover, the actual and intended use of the bookstack floors is not merely for book storage, as in a warehouse or annex facility, but rather as an active and occupied research and browsing space for students, faculty, and visitors. Yes, the occupancy load is low (100 gross square foot per occupant), but the mean fire load density for a library is extremely high—substantially higher than for any other common educational space (see Table 35.3, *SFPE Handbook of Fire Protection Engineering*, Fifth edition, p. 1138).

It is telling that when Chairman Richard T. Lafferty of the Syracuse Board of Review asked, during the hearing for Variance Petition No. 2015-0432, whether Cornell has "any other precedent for that kind of operation vertically," the only project that Cornell's Hugh Bahar could think of was the A.D. White Library, a high-ceilinged room in Uris Library built in 1891 that contains three levels of multi-tier bookstacks. This is typical of 19th-century book stack design, but wholly inappropriate as a model for modern Code-compliant libraries.

## Exhibit 3 Response:

Mr. Ochshorn attached as Exhibit 3 email correspondence from the ICC and DSBC [sic] that provided advisory opinions in response to questions he posed. Mr. Ochshorn's appeal alleges that these advisory opinions support his belief that Rand Hall does not comply with the Building Code. The core problem with this argument is that Mr. Ochshorn did not provide the ICC or DSBC [sic] with information specific to Rand Hall; instead, he asked general questions that resulted in advisory opinions that do not address the conditions at Rand Hall and are not relevant to this appeal.

Requests for code interpretations directed to the NYS Division of Building Standards and Codes "must be written so that they can be answered 'yes' or 'no.' " and will not be considered if they involve "the acceptability of a design, installation, or product' or 'the review of construction documents' " ([https://www.dos.ny.gov/dcea/code\\_interpretation\\_request.html](https://www.dos.ny.gov/dcea/code_interpretation_request.html)). My requests for code interpretations complied with these NYS requirements. Contrary to the assertion of the architects, these requests for code interpretations correspond precisely to the conditions at Rand Hall and are therefore relevant to this appeal.

His first question did not mention that the exit access stair was in an atrium with an egress path to an exit at every level.

The first code interpretation question asked if the path of egress travel to an exit can pass through more than one adjacent story in an atrium. The answer from both the ICC and the NYS DBSC was "no." The assertion by the architects that one can find "an egress path to an exit at every level" is not relevant, since such exits at each floor level are associated with a *second* (different) means of egress system. Table 1006.3.1 in the 2015 NYS Building Code requires two exits, or access to exits, per story, and Table 1006.2.1 limits the common path of egress travel to 75 feet. In other words, after traveling no more than 75 feet from any point in a sprinklered Assembly occupancy, an occupant must have "separate and distinct access to two exits or exit access doorways" (Chapter 2 definition of Common Path of Egress Travel). In Rand Hall, one of those exits is an interior exit stair labeled "Exit Stair A" and the other one, at the floor of the atrium, is labelled "Exit Stair B." It should be self-evident that where a building occupant is required to have access to two discrete exits—after the common path of egress travel distance is exceeded—*both* egress travel pathways must be compliant, not just one.

In my code interpretation request, I didn't mention the fact that there is a second means of egress in compliance with the 2015 NYS Building Code—providing "an egress path to an exit at every level"—because having one legal means of egress is not germane to the question of whether the *other* means of egress contains an exit access passageway that passes through more than one adjacent story. In other words, *both* means of egress systems must be Code-compliant, and it is entirely proper to focus on each system separately in this context. There was no exculpatory information withheld from the ICC or DBSC; the compliance of one means of egress system has no bearing on the *noncompliance* of the other means of egress system. The architects are improperly suggesting that the enclosed interior exit stair ("Exit Stair A") can be used for *both* means of egress!

His second question failed to mention that the egress path along the exit access stair continued for an additional story through a 1-hour fire rated exit enclosure that terminated directly at the exterior of the building.

The second question is no longer relevant to this appeal, since it asks whether the unenclosed atrium stair in question can be considered an "interior exit stair." The architects, in their response to my appeal, have clarified that they do not consider the stair in question to be an "interior exit stairway" but instead classify it as part of an *exit access pathway*. I asked the question because, at the time, both code interpretations were being put forward by the architects and by the City of Ithaca Code enforcement officials. Therefore, I wanted to confirm that *both* interpretations were flawed—and, in fact, both interpretations are flawed, per the ICC and DBSC. Even so, the architect's argument should be refuted. First, I was not asking about an "exit access stair" in my second question, as the architects claim, but rather about an "interior exit stairway." Second, the fact that there is an enclosed interior exit stair leading from the second floor (the floor of the atrium) to an exit discharge at the exterior of the building is not relevant to my question, since this enclosed interior exit stair is neither connected to, nor continuous with, the unenclosed interior exit stairway that I was asking about. This unenclosed interior exit stairway does, in fact, "terminate in the middle of an atrium floor that is above the level of discharge." As such, it is noncompliant and, as before, there was no exculpatory information withheld from the ICC or DBSC.

His third question failed to mention that the occupied roof was not enclosed.

An occupied roof is, by definition, *unenclosed*. Otherwise, it would not be a roof. The 2016 NYS Building Code discusses "occupied roofs" in, for example, Section 1006.3 (Egress from stories or occupied roofs). To be clear: there is no need to stipulate that an occupied roof is not enclosed, since the Code itself presumes that occupied roofs are not enclosed; otherwise, they would count as stories.

His failure to include all material information specific to Rand Hall undermines the application of those opinions on this appeal. This is further supported by an investigation done by the Department of State, Division of Building Standards and Code. The Division of Building Standards and Code investigated the same allegations raised on this appeal in a separate complaint that Mr. Ochshorn made against the City of Ithaca Building Commissioner, alleging that he did not do a proper review of the Rand Hall project and should not have issued the building permit. In a letter dated October 22, 2019 Gary Traver, Assistant Director, Division of Building Standards and Codes Oversight Unit stated "Based on the review of the information provided by Mr. Ochshorn, documentation submitted to the City of Ithaca Building Department, review of plans and correspondence provided by the City of Ithaca Building Department, interviews and correspondence with you (Building Commissioner Niechwiadowicz), the Designers of Record, as well as site visits by the Division of Building Standards and Codes Staff, it is evident that the allegations of 'not upholding your code enforcement duties' are not supported". After a comprehensive review and looking at the specific conditions at Rand Hall, DSBC reached a different conclusion than what was stated in the advisory opinions based on Mr. Ochshorn's general questions. DSBC [sic] concluded that the building design does meet the requirements of NYS building code and that the building permit was issued appropriately.

The architect's summary of the City of Ithaca and DBSC Oversight Unit determinations is correct. This is precisely why I have filed an appeal. The responses from the City of Ithaca and the DBSC presented conclusions without providing a single argument refuting any of the evidence I submitted. The same pattern is apparent in the *architect's* current response to my third question. His only argument—that I neglected to stipulate that an occupied roof is not enclosed—is both trivial and ill-informed. Certainly, it cannot be considered a serious refutation of the Code-based argument I made, an argument that was validated through a rigorous code interpretation process implemented by both the ICC and DBSC.

## Timeline:

- July 18, 2013: The Capital Region-Syracuse Hearing Board sustained my appeal—which contended that a temporary move of the Fine Arts Library to the third floor of Rand Hall (which had recently been combined with Milstein and Sibley Halls) was noncompliant—and reversed the determination of the City of Ithaca code enforcement official, Michael Niechwiadowicz. Niechwiadowicz’s flawed determination was supported at the hearing by Thomas Hoard, Code Analyst for HOLT Architects and former Building Commissioner for the City of Ithaca.
- November 21, 2013: Variance Petition No. 2013-0456 determined that the library in Rand Hall was permitted to exceed floor area and height limits for A-3 occupancies in Type V-B construction but continued to classify Rand-Milstein-Sibley Hall as a single building with Type V-B construction.
- July 31, 2015: 50% Design Development drawings issued for Mui Ho Fine Arts Library.
- August 12, 2015: Variance Petition No. 2015-0432 determined that 2-hour fire barriers, instead of a 3-hour fire wall, would be allowed, effectively creating a separate “Rand Hall” building with Type II-B (non-fireproofed steel) construction for what—at the time—applied only to a library proposal with a total building height, including the ground-level F-1 shop, of three stories. After granting Cornell’s request to use a 2-hour fire barrier instead of the required 3-hour fire wall, the Hearing Board Chairman Richard T. Lafferty remarked: "So back to this, basically *as long as you don't come back to us ever*, we will be happy to fix this wall." (Hearing transcript, p. 36–7) Of course, this condition was not enforced: Cornell returned to the Hearing Board with another variance request one year later.
- Early 2016: HOLT Architects—whose Code Analyst, Thomas Hoard, defended HOLT’s noncompliant design for Cornell’s temporary Fine Arts Library in Rand Hall at the 2013 Appeal Hearing—was selected to plan and design Cornell’s Gannett addition.
- September 15, 2016: Variance Petition No. 2016-0269 determined that a proposed four-story A-3 occupancy in Type II-B construction (otherwise limited to *two* stories without the variance; and limited to *three*-stories if only the earlier variance permitting Type II-B construction were in effect) would be permitted.
- November 16, 2016: 100% Design Development drawings were issued for a four-story library.
- June 15, 2016: The Syracuse Hearing Board validated its 2016 Variance Petition No. 2016-0269 (and validated it again, according to the architects, in a "decision letter" on August 7, 2017).
- March 24, 2017: I alerted Cornell’s Project Manager for the Mui Ho Fine Arts Library, Hugh Bahar, and Cornell’s Dean of Architecture, Art, and Planning, Kent Kleinman, that Code Section 1006.3—which appeared for the first time in the 2015 NYS Building Code—rendered the unenclosed exit access stairway in the atrium noncompliant.
- December 15, 2017: A "conformed set" of bid documents was issued for Mui Ho Fine Arts Library that included, for the first time, an "add-alternate" for a roof-top art gallery.

- February 14, 2018: A building permit application was filed for Mui Ho Fine Arts Library in Rand Hall. On the same day, Cornell's architects of record for the Mui Ho Fine Arts Library, STV, issued a 4-sheet set of Life Safety Drawings (LSP-100 through LSP-103). The LSP set was revised several times after that, the latest revision date on the drawings provided by the architects being June 27, 2018.
- February 16, 2018: A building permit was issued for the Mui Ho Fine Arts Library in Rand Hall. Yes, the permit was issued two days after the application was filed!
- April 1, 2019: I filed a Code complaint with the City of Ithaca Building Division under Title 19, which was resolved on May 3, 2019 with a statement from the City of Ithaca Director of Code Enforcement, Michael Niechwiadowicz, stating that the "proposed work is in compliance with applicable codes." Not one of my detailed Code-based objections was discussed or refuted.
- June 10, 2019: I filed a Code appeal (Complaint #4660) with the NYS Division of Building Standards and Codes Oversight Unit, which was "closed with prejudice" on September 26, 2019. Not one of my detailed Code-based objections was discussed or refuted. However, on November 5, 2019, Brian Tollisen of DBSC told me that the DBSC was "finishing up a 'response letter'" to me and that *he* would wait for receipt of the letter before filing an appeal. On December 3, 2019, Brian Tollisen told me that the case had been "re-opened" and that they were not "leaving any stone unturned." I never received a "response letter" from the DBSC.
- December 4, 2019: A certificate of occupancy was issued for Mui Ho Fine Arts Library in Rand Hall.
- February 11, 2020: In spite of "closing" the case on September 26, 2019, Gary Traver of DBSC emailed me to say that my complaint was still being reviewed: "Brian and the other staff members that were reviewing the technical aspects of your complaint have been deployed to Puerto Rico to assist with damage assessments since February 2, 2020. I know that there has been a request by DBSC for additional information from the consultants that provided the smoke control modeling for the project."
- April 24, 2020: Michael Niechwiadowicz—several of whose determinations for the Milstein Hall addition to Rand and Sibley Halls were overturned by the Syracuse Hearing Board, and whose determinations for the Mui Ho Fine Arts Library are the subject of this appeal—retired from his position as City of Ithaca Building Commissioner after 31 years with the Division and accepted a new job. Mr. Niechwiadowicz is now working for Cornell University as "Engineer Architect II" in Facilities and Campus Services. In this new position, he is asked to "serve as technical mentor for other staff" and "develop, review, and analyze proposed designs and/or construction plans." (<https://apps.hr.cornell.edu/compensation/titles/SRVFAC/facilDesign.pdf>)
- August 19, 2020: Gary Traver of the DBSC sent me, via email, a summary and status report in which he reiterated that my complaint was discontinued with prejudice on September 26, 2019. However, he also disclosed that the DBSC continued to hold discussions with the City of Ithaca Building Division on this matter: "On August 17, 2020, DBSC staff followed up with the City of Ithaca's Building Department. DBSC was advised that the City now has a new Director of Code

Enforcement. The City's new Director of Code Enforcement advised DBSC staff that the City has not received the additional information from Cornell University and/or from the project's Designers of Record relating to the Rand Hall project, but indicated that the City will be following up regarding the same."

- August 19, 2020: Two hours after I heard from Gary Traver, I received an email from Brian Tollisen of DBSC stating that my complaint "was not reopened," that the DBSC was continuing to study the complaint, but that I should proceed with my appeal: "The complaint investigation regarding NYCRR 1208 was not reopened. The Division was looking closely at all of the code related sections associated with your complaint to make sure we fully understood the technical matters and the methodology employed by the City of Ithaca. I asked you to wait on your appeal in the event that we found a technical matter that would need to be addressed and, possibly, same [sic] you some effort. We have not discovered any technical matters that should be addressed and you should proceed with your appeal if you intend to do so."
- September 21, 2020: I sent the formal appeal application (dated September 17, 2020), to which this document is an Appendix, to Thomas DiTullio, Division of Code Enforcement, Syracuse, NY.
- November 17, 2020: Thomas DiTullio, Senior Architect with the DBSC, sent me an email stating: "The Dept. of State DBSC has received additional information from Cornell University and with their permission we forward the documents to you. The DBSC is still in the reviewing and investigating your appeal items and the available board schedules for the soonest hearing date. Should you have any questions please feel free to contact me." Attached to the email were three files: (1) a response to my Code Appeal by David Miles Ziskind of STV Architects which I have reproduced, in red font, in this Appendix; (2) a 4-sheet set of Life Safety Drawings prepared by STV (LSP-100 through LSP-103) whose last revision date is June 27, 2018. I had included the same drawing set as Exhibit 4 of my appeal filed with the DBSC on September 21, 2020 (although my version was made by cobbling together photographs taken of the drawing set); and (3) a copy of my Title 19 complaint to the City of Ithaca, dated April 1, 2019.