

APPLICATION FOR VARIANCE OR APPEAL

Jonathan Ochshorn

May 28, 2013

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NEW YORK STATE DEPARTMENT OF STATE  
DIVISION OF CODE ENFORCEMENT AND ADMINISTRATION

**APPLICATION FOR VARIANCE OR APPEAL**

**UNIFORM FIRE PREVENTION AND BUILDING CODE**

This is an application for a variance or appeal of a local determination regarding applicable provisions of the New York State Uniform Fire Prevention and Building Code. To be deemed complete, the application must be signed by the petitioner or authorized agent, must contain all necessary documentation, be accompanied by the appropriate fee and been reviewed and accepted by a Regional Office.

3/3/2009

The completed application including at least one (1) copy of all required documents must be submitted to the appropriate Regional Office. For Board of Review petitions, seven (7) additional copies of all documents shall be delivered to our Central Office in Albany at the address below, after Regional Office review. A hearing will be scheduled when all required documents are received.

Department of State  
Division of Code Enforcement and Administration  
One Commerce Plaza  
99 Washington Avenue  
Albany, NY 12231-0001  
(518) 474-4073

PETITION NO:  
**2013-0250**

ROUTINE VARIANCE   
BOARD VARIANCE   
BOARD APPEAL

(FOR OFFICE USE ONLY)

**Mailing an application directly to our Central Office without first involving a Regional Office will result in a delay.**

Certain variance requests may be treated as routine cases as determined by the Department in cooperation with the local code enforcement office. Provide two (2) copies of all required documents to the appropriate Regional Office.

**PART 1 - GENERAL INFORMATION**

**PETITIONER**

(Check one)  Owner  Agent  Architect or Engineer  Attorney

Name: Jonathan Ochshorn

Title/Company: \_\_\_\_\_

Mailing Address: 207 Water Street  
Ithaca, NY 14850

Telephone: ( 607 ) 255-1194 Fax: ( 607 ) 255-0291

e-mail: jo24@cornell.edu

REGIONAL OFFICE PHONES:

BUFFALO (north)	(716) 847-7611
BUFFALO (south)	(716) 847-7612
CAPITAL	(518) 477-7497
FINGER LAKES	(315) 587-4563
KINGSTON	(845) 334-9768
LONG ISLAND	(631) 952-4909
NORTHERN NY	(518) 474-4073
PEEKSKILL	(914) 734-1347
ROCHESTER	(585) 533-1058
SOUTHERN TIER	(585) 437-5534
SYRACUSE	(315) 428-4434
UTICA	(315) 793-2526

**PROPERTY**  City  Town  Village of Ithaca County of Tompkins  
Address 943 University Avenue, Ithaca, NY 14853

<b>Owner if other than petitioner</b> <u>Cornell University</u> Name <u>Gary Wilhelm, Project Manager, PDC</u> Street Address <u>102 Humphries Service Bldg.</u> Post Office <u>Ithaca</u> Zip <u>14850</u> Telephone: ( <u>607</u> ) <u>254-0822</u> Fax: ( <u>607</u> ) <u>255-1968</u> e-mail: <u>GNW1@cornell.edu</u>	<b>Code Enforcement Official</b> Name <u>Mike Niechwiadowicz</u> Street Address <u>108 E. Green Street</u> Post Office <u>Ithaca</u> Zip <u>14850</u> Telephone: ( <u>607</u> ) <u>274-6508</u> Fax: ( <u>607</u> ) <u>274-6521</u> e-mail: <u>MIKEN@cityofithaca.org</u>
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Addresses for Department of State Regional Offices and tentative hearing dates can be found on our web site at [www.dos.state.ny.us](http://www.dos.state.ny.us) or by calling (518) 474-4073 during normal business hours.

**PART 2 - MINIMUM BUILDING INFORMATION**

Height in Stories 2 - 3 Gross Area (all floors) 99,800 Sq. Ft. Construction type V-B or II-B

Occupancy:  One-family Dwelling  Two-family Dwelling  Townhouse  Accessory structure  
 Other B (education above 12th grade) and A-3 (library and other assembly)

**PART 3 - APPLICABLE BUILDING CODE AND RELIEF REQUESTED** (Check all that apply)

- Title 9 - Uniform Fire Prevention and Building Code - Applicable 1/1/1984 to 12/31/2002  
 Title 19 - Uniform Fire Prevention and Building Code - Applicable 1/1/2003 to present  
 Part 1220 Residential  Part 1221 Building  Part 1222 Plumbing  Part 1223 Mechanical  
 Part 1224 Fuel Gas  Part 1225 Fire  Part 1226 Property Maintenance  
 Part 1227 Existing Building  
 Multiple Residence Law (MRL)

On the chart below, list the specific code sections which are the subject of your variance request. (Use separate sheet if necessary).

- Variance  Appeal  Appeal / variance

CODE SECTION(S)	TOPIC	RELIEF SOUGHT
	See attached	

**PART 4 - FILING**

**NON-REFUNDABLE FILING FEES** (Please review fee schedule with Regional Office)

- Routine (administrative) variance review process . . . . . \$ 50  
 Board of Review Petitions  
     Construction, alteration, or renovation of residential or agricultural occupancies  
         no more than one structure; no more than 2 dwelling units. . . . . \$ 50  
     Construction, alteration or renovation of other buildings or structures having a gross area of:  
         • not more than 8,000 square feet . . . . . \$ 100  
         • more than 8,000 square feet but not more than 25,000 square feet. . . . . \$ 300  
         • more than 25,000 square feet but not more than 50,000 square feet . . . . . \$ 500  
         • more than 50,000 square feet . . . . . \$ 1,000  
     Maintenance or use of buildings or materials and not otherwise provided for above . \$ 100

Checks must be made payable to New York State Department of State. Enter amount of check: \$waived  
 I make this application pursuant to 19NYCRR Part 1205 and I assert under penalty of perjury that the information furnished by me in support of this application is true and correct to the best of my knowledge.

**Previous Action**

Has any previous action related to the subject property been taken by the Department of State or another administrative agency or a court? (Include any formal interpretations, decisions or informal advisories issued by the Department of State or the New York State Division of Housing and Community renewal.)

- No  Yes (Describe below and provide relevant documents.)  
 I request that a hearing before the Board of Review be scheduled on this application for variance or appeal.

SIGNATURE  DATE: May 28, 2013

**For routine variances, STOP HERE, do not proceed to page 3  
 For Board of Review variances, or appeals proceed to Part 5 on page 3**

**PART 5 - ADDITIONAL CONTACT INFORMATION**

For Board of Review Variances provide the following names and addresses, if applicable.

<p><b>Architect or Engineer (if any):</b>                  Name <u>          KHA Architects, LLC          </u>                  Street Address <u>3050 Post Oak Blvd Suite 1000</u>                  Post Office <u>          Houston          </u> Zip <u>TX</u>                  Telephone: ( <u>713</u> ) <u>877</u> - <u>1192</u>                  Fax: ( <u>713</u> ) <u>877</u> - <u>1360</u>                  e-mail: <u>LBURNS@kendall-heaton.com</u></p>	<p><b>Fire Marshal or Inspector</b>                  Name <u>          Ron Flynn          </u>                  Street Address <u>201 Palm Road</u>                  Post Office <u>          Ithaca          </u> Zip <u>14850</u>                  Telephone: ( <u>607</u> ) <u>254</u> - <u>1627</u>                  Fax: ( <u>607</u> ) <u>254</u> - <u>1642</u>                  e-mail: <u>rmf9@cornell.edu</u></p>
<p><b>Fire Department Contact Person</b>                  Name _____                  Street Address _____                  Post Office _____ Zip _____                  Telephone: ( _____ ) _____ - _____                  Fax: ( _____ ) _____ - _____                  e-mail: _____</p>	<p><b>Other interested person or organization</b>                  Name <u>          Thomas D. Hoard, HOLT Architects          </u>                  Street Address <u>217 North Aurora Street</u>                  Post Office <u>          Ithaca          </u> Zip <u>14850</u>                  Telephone: ( <u>607</u> ) <u>273</u> - <u>7600</u>                  Fax: ( <u>607</u> ) <u>273</u> - <u>0475</u>                  e-mail: <u>TDH@HOLT.com</u></p>

(Attach additional pages, if necessary)

**PART 6 - BUILDING STATUS AND PROJECT INFORMATION**

**A. OCCUPANCY CLASSIFICATION (check all that apply for mixed use buildings)**

**1. Residential Code of New York State [effective 1/1/2003] (See Section 101.2)**

- One- family Dwelling                       Two-family Dwelling                       Townhouse

**2. Building, Fire, Plumbing, Mechanical, Fuel Gas or Property Maintenance Code of New York State [effective 1/1/2003] (See Section 303 of the Building Code of New York State)**

- Assembly             A-1     A-2     A-3     A-4     A-5  
 Business             B  
 Educational         E  
 Factory             F-1 Moderate Hazard                       F-2 Low Hazard  
 Hazardous         H-1     H-2     H-3     H-4     H-5  
 Institutional       I-1     I-2     I-3     I-4  
 Mercantile         M  
 Residential         R-1     R-2     R-3     R-4     One- or Two-Family Dwelling             Townhouse  
 Storage             S-1 Moderate Hazard     S-2 Low Hazard  
 Utility              U

**Uniform Fire Prevention and Building Code - Title 9B [effective 1/1/1984 - 12/31/2002]**

**Residential**

- A1 One-family Dwelling             A2 Two-family Dwelling  
 Multiple Dwelling                       B1             B2             B3             B4

**Commercial**

- C1 Business             C2 Mercantile  
 C3 Industrial             C3.1 Low hazard             C3.2 Moderate Hazard             C3.3 High Hazard  
 C3 Storage             C4.1 Low Hazard             C4.2 Moderate Hazard             C4.3 High Hazard  
 C5 Assembly             C5.1     C5.2     C5.3     C5.4 (religious)             C5.5 Educational  
 C6 Miscellaneous (Describe) \_\_\_\_\_

**3. Multiple Residence Law** No. of Stories \_\_\_\_\_ No. of Dwelling units \_\_\_\_\_ Approximate Age \_\_\_\_\_ Yrs.

**B. BUILDING DESCRIPTION AND PROJECT INFORMATION**

**Construction type:** If more than one is applicable, specify where each occurs in the building. Consult the building code or your building official for assistance.

- Residential Code of New York State -  Wood Frame  Other \_\_\_\_\_  
 Building Code of New York State [section 602] V-B\* \* **Governing construction type for Milstein-Sibley-Rand Halls**  
 Uniform Fire Prevention and Building Code [section 704] \_\_\_\_\_

**Statistics:** Number of stories above a basement: 2-3 (Do not count unfinished attic)  
 Total floor area of largest story (square feet) 41,600 \*\* \*\* **Combined Milstein-Sibley-Rand Halls**  
 Gross floor area of entire building (square feet) 99,800 \*\*

**Date of last Certificate of Occupancy** (if available) ?

**Project type / status**

- New building  
 Addition to existing building **(exhibits 1-6)**  
 Repair  
 Alteration level 1  
 Alteration level 2 **(exhibits 7-8)**  
 Alteration level 3  
 Change of Occupancy **(exhibits 7-8)**  
 Other \_\_\_\_\_  
 In planning  
 No official allegation of non-compliance  
 Work in progress started \_\_\_/\_\_\_/\_\_\_  
 Work completed

**Permit/Compliance Status**

- Building Permit Application ? / \_\_\_ / \_\_\_ (Date)  
 Building Permit ? / \_\_\_ / \_\_\_ (Date)  
 Certificate of Occupancy ? / \_\_\_ / \_\_\_ (Date)  
 Orders or Denials  
 Inspection Report

**Note: Attach all pertinent documents**

**PART 7 - SUBJECT OF THE PETITION** (appeal and/or variance, both may be requested)

**APPEAL** (Check if appealing a code official's determination)

An appeal is a request for a Board of Review to review any order or determination, or the failure within a reasonable time to make any such order or determination by a Code Enforcement Official. Describe the order or determination and explain specifically why you believe the order or determination, or failure to act is incorrect, improper or otherwise unwarranted. This should include specific explanations relative to code sections cited.

**Specific code and section(s) in question :** See attached pages.

A. An order or determination, or the failure to make said order or determination in a timely fashion, or the failure to issue a permit or other document in a timely fashion is appealed. A copy of the order or determination is attached as **Exhibit** \_\_\_\_.

Briefly describe the order or determination (additional sheets may be used to do so) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

B. Attached as **Exhibit** \_\_\_\_ are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

**VARIANCE** (Check if requesting a variance)

**REQUIRED ARGUMENTS FOR A VARIANCE**

The Board of Review may only grant a variance or modification on the basis of one or more of the following six reasons. To be eligible for a variance, you must document that at least one applies to the requested variance or modification.

Strict compliance with the sections described above would entail practical difficulties, unnecessary hardship, or would otherwise be unwarranted because such (check the statements that apply and provide appropriate documentation):

- 1. would create an excessive and unreasonable economic burden.  
**Reasons are attached in Exhibit** \_\_\_\_
- 2. would not achieve its intended objective.  
**Reasons are attached in Exhibit** \_\_\_\_
- 3. would inhibit achievement of some other important public policy.  
**Reasons are attached in Exhibit** \_\_\_\_
- 4. would be physically or legally impracticable.  
**Reasons are attached in Exhibit** \_\_\_\_
- 5. would be unnecessary in light of alternatives which, without a loss in the level of safety, achieve the intended objective of the code.  
**List alternatives and describe in Exhibit** \_\_\_\_
- 6. would entail a change so slight as to produce a negligible additional benefit consonant with the purpose of the code.  
**Reasons are attached in Exhibit** \_\_\_\_

**PART 8 – DOCUMENTS** (For Board cases, provide at least 8 copies)

**Required Documents** (Supplemental to the petition form)

**Summary:** Describe the project, the present conditions, the proposed work, the details of the appeal and/or variance requests, and support of the grounds for relief you checked above.

**Site Plan:** Indicate size and location of all structures on the premises, if applicable.

**Building Plans:** Drawings in sufficient quantity and quality to clearly describe the requested variance or modification. Such drawings may include dimensioned floor plans, elevations, sections and construction details. Any drawings submitted should be identical to those submitted to the code enforcement official or be noted otherwise.

**Supplementary Documents** Submit such materials as photographs, charts, reports, detailed descriptions or any other information that can be used to more fully describe the nature of the request. List any such supplementary materials by Exhibit number.

EXHIBIT NUMBER	DESCRIPTION
1	Reasons for reversing determination that the Milstein crit room can have only 1 exit.
2	Reasons for reversing determination that 2nd floor can have protruding objects.
3	Reasons for reversing determination that fire barrier is adequate.
4	Reasons for reversing determination that lobby is a mezzanine.
5	Reasons for reversing determination that Table 503 limits can be exceeded.
6	Reasons for reversing determination that multiple occupancy classes can be used.
7	Reasons for reversing determination that Room 261 ES needs only 1 exit.
8	Reasons for reversing determination allowing a Type V-B library in Rand Hall, floor 3.

**A hearing will not be scheduled until all required materials are received by the Division of Code Enforcement and Administration and the appropriate Regional Office has confirmed that the application is complete. All materials must be received at least three (3) weeks prior to a hearing date.**

**PART 3 – APPLICABLE BUILDING CODE AND RELIEF REQUESTED**

	<b>CODE SECTION(S)</b>	<b>TOPIC</b>	<b>RELIEF SOUGHT</b>
I	[2002 BCNYS] 303.1, 1002, 1003.2.2, 1004.2, 1005.2.1	Inadequate exits from “crit room” assembly space	Provide additional exits from assembly space.
II	[2002 BCNYS] 1002, 1003.2.5	Noncompliant protruding objects in egress path	Provide barriers.
III	[2002 BCNYS] 706.6	Inadequate fire barrier between Milstein and E. Sibley Hall	Provide adequate fire barrier.
IV	[2002 BCNYS] 502, 505, 707, 2902.4.1	Improper mezzanine designation	Redesign building as 3-story structure, rather than as 2-story structure with mezzanine.
V	[2002 BCNYS] 3401.1, K902.2, 503.1, Tables 601 and 602, 704.10, 705.6.1, 706.3.5, 302.3.3	Milstein-Sibley-Rand Halls exceed Table 503 floor area limits, based on Appendix K.	Provide fire wall, or reconstruct Sibley Hall as Type III-A construction.
VI	[2002 BCNYS] 302	Improper occupancy class designation	Classify spaces according to their actual use, and not according to hypothetical future uses.
VII	[2010 FCNYS] 1029.3, Code Interpretation 2008-01 [2010 EBCNYS] 805.1, 705.4.1.1, 912.1, 912.4.2	Inadequate exits from 261 E. Sibley Hall	Provide additional exits or reduce posted occupancy limit to 49.
VIII	[2010 EBCNYS] 912.5.1; [2010 BCNYS] 503.1	Noncompliant A-3 library occupancy of Rand Hall, third floor	Provide a fire wall, or reconstruct Sibley Hall as Type III-A construction, or move the library to the 2nd-floor while providing a 2-hr fire barrier.

## **PART 7 – SUBJECT OF THE PETITION**

**I. Specific code and section(s) in question:** 2002 Building Code of New York State, Sections 303.1, 1002, 1003.2.2, 1004.2, 1005.2.1.

**A. Briefly describe the order or determination.** The "crit room" space in Milstein Hall is allowed to have only 1 compliant exit.

**B. Attached as Exhibit 1** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**II. Specific code and section(s) in question:** 2002 Building Code of New York State, Sections 1002, 1003.2.5.

**A. Briefly describe the order or determination.** Noncompliant protruding objects in egress path are permitted on the 2nd floor.

**B. Attached as Exhibit 2** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**III. Specific code and section(s) in question:** 2002 Building Code of New York State, Section 706.6

**A. Briefly describe the order or determination.** A noncompliant fire barrier between Milstein and E. Sibley Halls is acceptable.

**B. Attached as Exhibit 3** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**IV. Specific code and section(s) in question:** 2002 Building Code of New York State, Section 502, 505, 707, 2902.4.1.

**A. Briefly describe the order or determination.** The Milstein Hall lobby can be considered a mezzanine.

**B. Attached as Exhibit 4** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**V. Specific code and section(s) in question:** 2002 Building Code of New York State, Sections 3401.1, K902.2, 503.1, Tables 601 and 602, 704.10, 705.6.1, 706.3.5, 302.3.3.

**A. Briefly describe the order or determination.** Milstein-Sibley-Rand Halls can exceed Table 503 floor area limits, based on Appendix K.

**B. Attached as Exhibit 5** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**VI. Specific code and section(s) in question:** 2002 Building Code of New York State, Section 302.

**A. Briefly describe the order or determination.** The upper-level floor plate of Milstein Hall can be classified as both a Group B and A-3 occupancy.

**B. Attached as Exhibit 6** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**VII. Specific code and section(s) in question:** 2010 Fire Code of New York State, Section 1029.3; Code Interpretation 2008-01; 2010 Existing Building Code of New York State, Sections 805.1, 705.4.1.1, 912.1, 912.4.2.

**A. Briefly describe the order or determination.** Room 261 E. Sibley Hall only needs one exit.

**B. Attached as Exhibit 7** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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**VIII. Specific code and section(s) in question:** 2010 Existing Building Code of New York State, Section 912.5.1; 2010 Building Code of New York State, Section 503.1.

**A. Briefly describe the order or determination.** A change of occupancy to a higher-hazard (A-3 from B) is permitted for the third floor of a building with Type V-B construction.

**B. Attached as Exhibit 8** are the reasons why the order or determination should be reversed or modified or why other relief should be fashioned so as to do justice among the parties.

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## PART 8 – DOCUMENTS

### Summary and Site Plan

Milstein Hall is an addition to two existing buildings on the Cornell campus in Ithaca, NY, completed in 2011, as shown in the site plan and photo below.



Site Plan showing Milstein-Sibley-Rand Hall (plan by Jonathan Ochshorn based on schematic site plan available on Cornell's Milstein Hall web site superimposed on a Google Map showing the Cornell campus).



Milstein Hall, center, is an addition to Sibley Hall, left, and Rand Hall, right (photo by Jonathan Ochshorn).

As a registered architect and user of Milstein-Sibley-Rand Halls, I noticed a series of Building Code irregularities and brought them to the attention of Cornell's project director as well as Code Enforcement Officials in the City of Ithaca Building Department. Some of these issues were addressed, but many remained unresolved. Therefore, I filed a formal complaint with the Ithaca Building Department, dated December 13, 2011, under Title 19 of the Official Compilation of Codes, Rules and Regulations of the State of New York (1203.3 Minimum features of a program for administration and enforcement of the Uniform Code).

The response I received from the City of Ithaca Building Department, dated March 16, 2012, did not address any of the specific code irregularities that I itemized in my complaint. Rather, Ithaca Building Commissioner Phyllis Radke expressed confidence that the architects of record, Cornell University, and the Ithaca Building Department were “truly interested in making sure that all life-safety and health imperatives are met...” and that my “concerns had already been responded to by the project Architect Kendall Heaton and Holt Architects.” However, because my concerns remained unaddressed and because life-safety issues remained unresolved, I submitted a “Local Code Enforcement Complaint Form” to the New York State Division of Code Enforcement and Administration (DCEA) on April 10, 2012.

After more than a year without receiving a formal response from DCEA, I was told by Brian Tollisen of the DCEA on April 24, 2013, that "in lieu of the complaint, you could apply for an appeal to our Regional Board of Review." This was confirmed by Charles Bliss of DCEA in an email to me dated May 10, 2013 in which he attached an application and offered to waive the required fee.

I have identified six primary Code irregularities or violations concerning Milstein Hall as an addition to Rand and Sibley Halls; Milstein Hall was permitted under the 2002 [sometimes referred to as 2003] Building Code of New York State. These six irregularities are described in the attached Exhibits 1-6. In addition, I have identified two primary Code irregularities or violations concerning renovations in Rand and Sibley Halls that were permitted under the 2010 Existing Building Code of New York State shortly after Milstein Hall received its Certificate of Occupancy. These two irregularities are described in the attached Exhibits 7 and 8.

The eight irregularities or violations are summarized here:

*I. Inadequate exits from "crit room" assembly space.* The crit room in Milstein Hall is noncompliant because its floor area supports assembly occupancy of more than 500 people, and yet it only has one exit (a second open stair is not “remote” from the first exit, so it doesn’t count as a second means of egress). In addition, common path of travel limits of 75 feet are exceeded. These problems are compounded and replicated when permanent, movable partitions in the space are used to create smaller, but equally noncompliant spaces within the larger space.

*II. Noncompliant protruding objects in egress path.* There are numerous instances in Milstein Hall where sloping structural elements and sloping guards create protruding objects within the path of egress—the entire second floor counts as part of the path of egress since there are no defined corridors or hallways in the space, and egress takes place on all available surfaces (aisles) not occupied by desks.

*III. Inadequate fire barrier between Milstein and E. Sibley Hall.* The fire barrier between Milstein Hall (the addition) and Sibley Hall was never built per Code specifications, and so is noncompliant. The Tyco 5.6 K-Factor Model WS Specific Application Window Sprinklers added later appear to be noncompliant for this application as well.

*IV. Improper mezzanine designation.* Milstein Hall has three interconnected levels, in apparent violation of the 2002 Building Code. The middle level is being called a mezzanine, even though it is not “within” a larger space as required (rather, it is adjacent to, or connected to, that larger space, but clearly outside the larger space’s structural and spatial boundaries). Additionally, the larger space it is claimed to be “in” has been subsequently subdivided with permanent partitions, so that its area is no longer three times the area of the so-called mezzanine.

*V. Milstein-Sibley-Rand Halls exceed Table 503 floor area limits, based on Appendix K.* Milstein-Sibley-Rand Hall is a single building with construction type V-B (based on combustible wood-frame construction of Sibley Hall’s third floor exterior bearing walls). As an A-3 or Group B occupancy of construction type V-B, the floor area of the combined buildings greatly exceeds the allowable limit specified in Table 503 of the Building Code. Appendix K of the 2002 Building Code allows additions to increase building areas beyond those specified in Chapter 5 when a fire barrier is provided, but sets no limits on how much additional area is allowed. This makes no sense and is therefore unenforceable—no other known Code permits the combined area of existing buildings and additions to exceed the limits of Table 503 (or equivalent) without providing a fire wall, not just a fire barrier. Even if Appendix K is interpreted as allowing the “addition” to count as a separate building (i.e., as if it were separated by a fire wall—an assumption that is *not* supported by any provisions in the 2002 Code), the combustible wood-framed third floor exterior bearing wall of adjacent Sibley Hall still is problematic.

*VI. Improper occupancy class designation.* The second floor of Milstein Hall was inappropriately classified as both an A-3 and B occupancy, based on Section 302.4 (Spaces used for different purposes) of the 2002 Building Code of NYS. This section is meant to apply to spaces where different uses (occupancies) actually occur within the same space at different times, not to a situation where only a single occupancy occurs in the space, but where a hypothetical future occupancy—noncompliant under current building codes—would therefore be “grandfathered” under the old code.

*VII. Inadequate exits from 261 E. Sibley Hall.* When the Fine Arts Library was recently moved from Sibley Hall, a space formerly occupied by the library was changed into a different type of assembly or classroom space. This space can be occupied by as many as 240 people, yet has only a single exit. New York State’s “Code Interpretation 2008-01” ruled that such spaces with more than 49 occupants must have two exits, even if they were compliant (“grandfathered”) under older Codes.

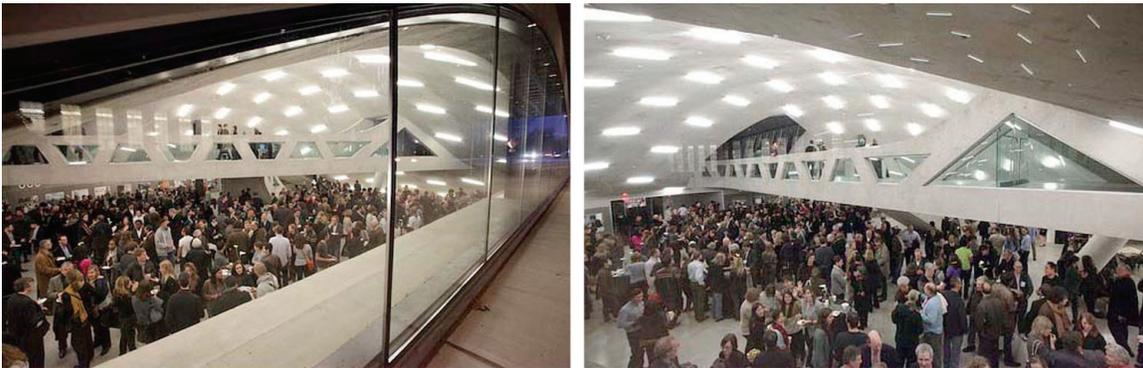
*VIII. Noncompliant A-3 library occupancy of Rand Hall, third floor.* After Milstein Hall was completed, and under a separate building permit, the existing group B occupancy on the third floor of Rand Hall was replaced with a new A-3 occupancy in this location, without a required fire wall being installed. Creating a higher-hazard occupancy (A-3 replacing B) triggers a review under the *current* (2010) New York State Building Code, with which the proposed construction and occupancy must comply. Any nonconforming

conditions that may have been allowed under the older 2002 Code do not count in the determination of whether this change to a higher hazard is compliant. Under the *current* Code, Milstein-Sibley-Rand Hall counts as a single building (since the three "fire areas" defining Milstein, Sibley, and Rand Halls are not separated by fire walls, and only fire walls create separate buildings) and therefore a single construction type (V-B) must be applied to all three fire areas. An A-3 occupancy on the third floor of a building with Type V-B construction is not permitted.

## Exhibit 1: Inadequate exits from Milstein Hall “crit room” assembly space

Only one compliant exit is provided for the crit room in Milstein Hall even though a) its occupancy exceeds the limits for one exit; and b) its common path of egress travel exceeds 2002 Building Code of NYS limits.

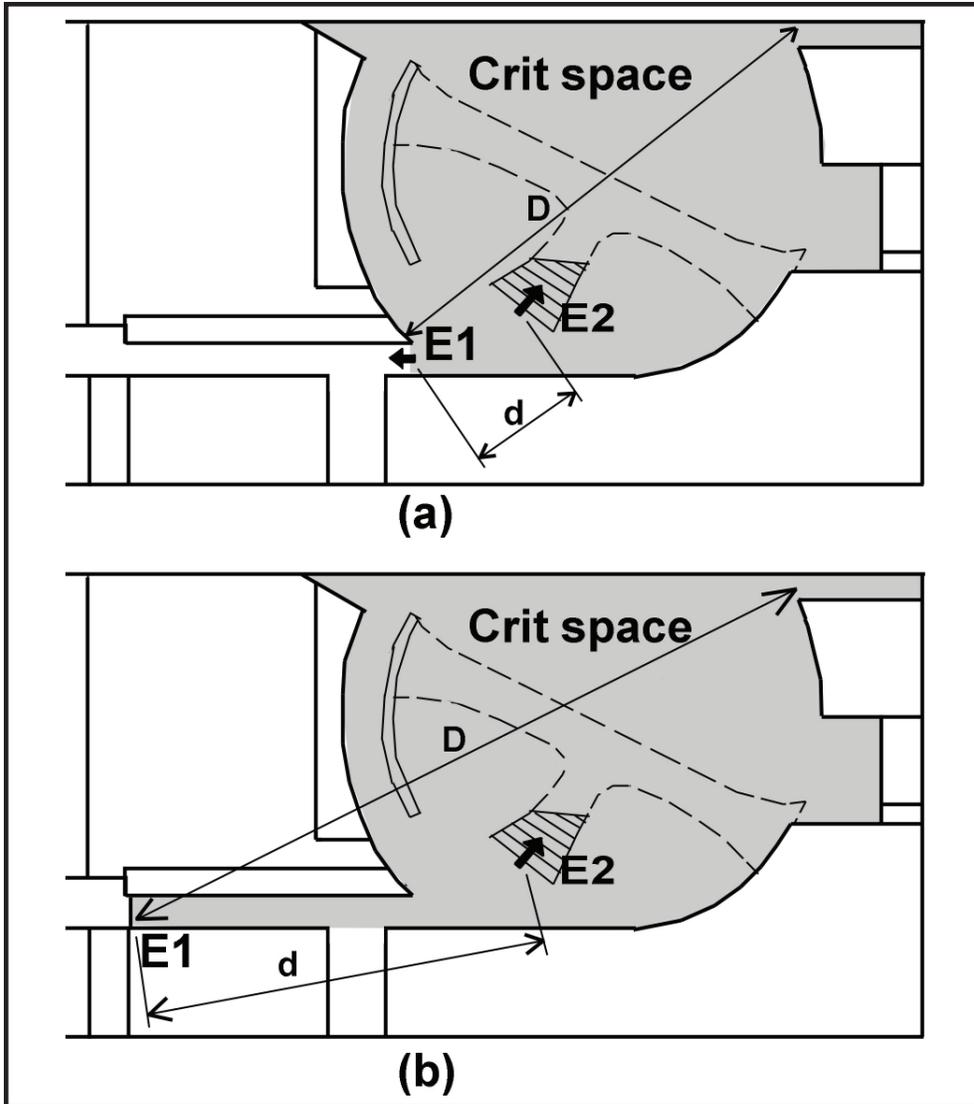
The “crit space” in Milstein Hall’s lowest level, directly under its concrete dome, is an assembly space with an area of approximately 3,600 square feet (this number is based on my calculations; the area is 4,978 square feet according to the Milstein Hall Dec. 5, 2008 “Issued for Construction” working drawings). Occupancy is “assembly without fixed seats” (2002 Building Code of NYS, Table 1003.2.2.2) with 7 square feet per occupant, corresponding to “Concentrated (chairs only – not fixed),” so the space should be designed for at least  $3,600 / 7 = 514$  people, and should therefore have three exits (Section 1004.2.1.1, 2002 Building Code of NYS). If the space is used as “Standing space” with 5 square feet per occupant (2002 Building Code of NYS, Table 1003.2.2.2), as it often is—see Figure 1—then the space should be designed for at least  $3,600 / 5 = 720$  occupants.



**Figure 1.** Photos published by Cornell University show “Standing space” occupancy of the crit room in Milstein Hall. Images accessed 11/12/12 at [http://aap.cornell.edu/arch/news/newsitem.cfm?customel\\_datapageid\\_2892=534783](http://aap.cornell.edu/arch/news/newsitem.cfm?customel_datapageid_2892=534783)

However, even assuming two exits are appropriate, these two exits must be “placed a distance apart equal to not less than one half [or one third for this sprinklered space, per exception 2] of the length of the maximum overall diagonal dimension of the building or area to be served” (2002 Building Code of NYS, Table 1004.2.2.1). The exits from this space do not comply with this separation requirement. Rather, the two exits—the first opens to a corridor and the second consists of a stair leading to an overhead bridge—are immediately adjacent to each other without adequate separation distance (Figure 2a).

I was first informed by Gary Wilhelm, Project Director at Cornell, that egress compliance is achieved by considering the corridor leading from the crit room space *to be actually part of the crit room space*, thereby extending the separation distance between the first exit (now “moved” to the far end of the corridor) and the second exit (the stair), as illustrated in Figure 2b.



**Figure 2.** Egress from Milstein Hall crit space (a) as it actually is; and (b) with the room hypothetically extended into the corridor. Drawing by Jonathan Ochshorn based on Milstein Hall plans.

This explanation violates both the letter and spirit of the exit requirements in the 2002 Building Code of NYS. While an expert Code opinion on this question is not binding on local Code Enforcement Officials, the following opinion, written by Michael W. Giachetti, P.E., Senior Staff Engineer for the International Code Council, does raise substantial doubts about the judgment of those charged with implementing the Milstein Hall project. He stated, in an email to me dated March 5, 2012:

"Section 1015.2.1 requires the exit doors or exit access doorways to be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the area to be served or one-third the length if the building is sprinklered. In applying the provisions of this section, it is important to recognize any convergence of egress paths that may exist. While the actual exit doors or exit access doorways may be remote, *if the paths either before or after these doors converge, then remoteness would*

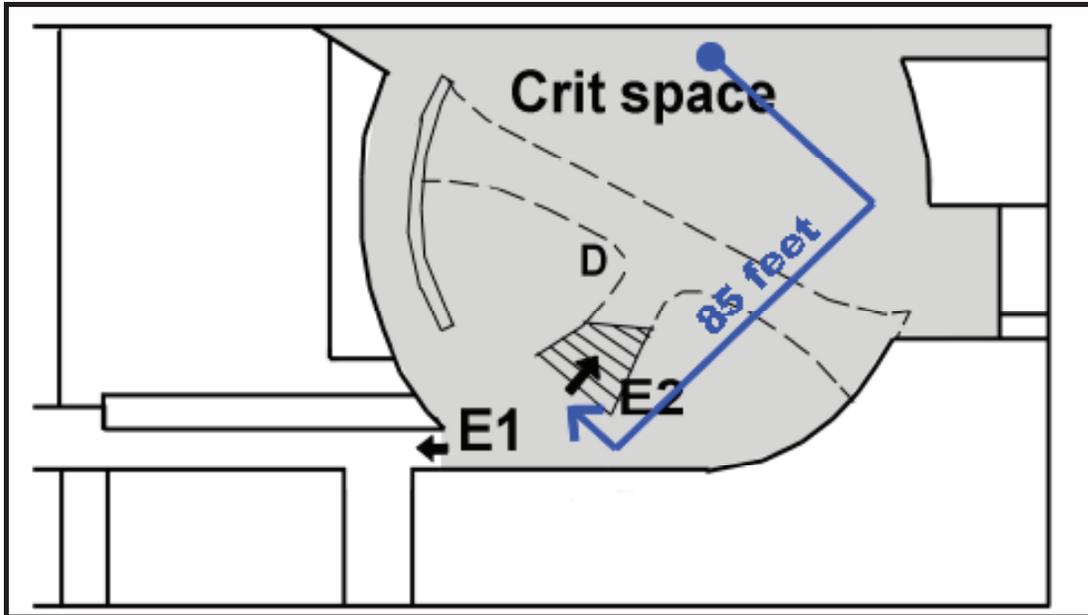
*not be satisfied. In your example, including the area of the corridor as part of the “room” does not change the fact that the two paths into the corridor are not remote. As such, including the area of the corridor as part of the “room” does not resolve the problem with remoteness” (emphasis added).*

However, when I challenged this interpretation that two exits which are, in fact, adjacent to each other, could be construed as remote exits, the City of Ithaca Deputy Building Commissioner informed me that, in his view, the space *did not need two remote exits at all* because occupants could move along a common path of travel, no more than 75 feet in length, to a point where two distinct egress paths were available: He wrote to me that the “2003 Building Code of NYS Section 1004.2.5 ‘Common path of egress travel’ allows a 75 foot common path of travel before access to two exits is required. The definition of ‘common path of egress travel’ is in Section 1002. Basically, for up to 75 feet only one path to the two exits is required. The Crit space meets this requirement; therefore, it does have two code compliant exits.” [Michael Niechwiadowicz, Deputy Building Commissioner, email to me dated March 7, 2012].

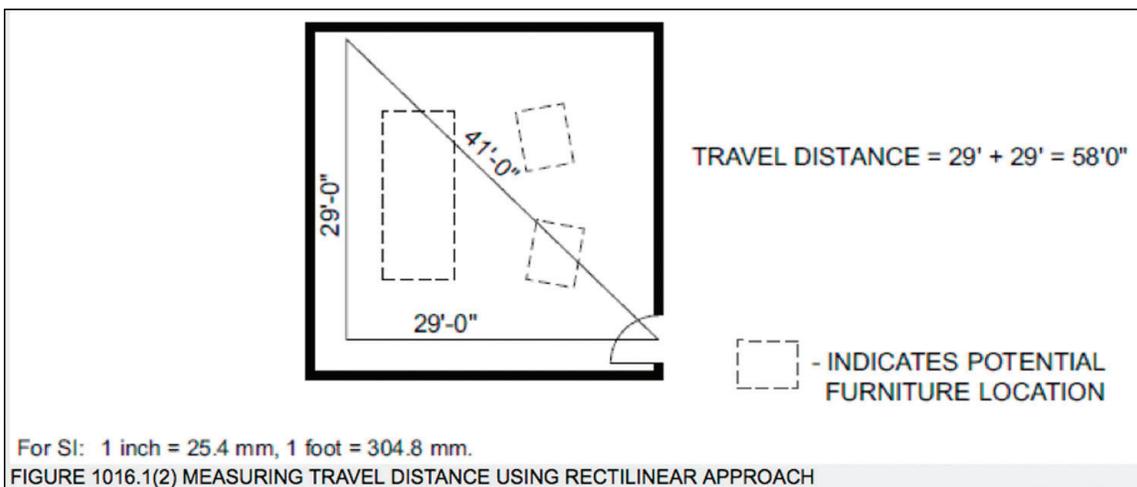
First, this is not what the Building Code requires: the common path of travel limits must be complied with, *and* the two required exits must be separated from each other by a minimum code-specified distance. Meeting one of these requirements does not allow you to violate the other. Second, it is not even true that the 75-foot limit for common path of travel (2002 Building Code of NYS, Section 1004.2.5) is met: see Figure 3. Common path of egress travel is rarely measured “as the crow flies”; rather, the measurement must account for typical placements of chairs, desks, or partitions, as shown in Figure 3. This requirement is discussed in the *Commentary* to the 2009 IBC: “The route must be assumed to be the natural path of travel without obstruction. This commonly results in a rectilinear path similar to what can be experienced in most occupancies, such as a schoolroom or an office with rows of desks [see Figure 1016.1(2)]. The ‘arc’ method, using an ‘as the crow flies’ linear measurement, must be used with caution, as it seldom represents typical floor design and layout and, in most cases, would not be deemed to be the natural, unobstructed path.” Figure 1016.1(2) from the *Commentary* is reproduced below as Figure 4. The permanent partitions in the crit room, not shown in Figure 3, but illustrated in Figure 5, make it absolutely critical that the common path of egress travel accurately reflects the “natural path of travel” around such partitions or chairs.

All three of these code-required provisions—an adequate number of exits, exits placed an adequate distance apart, and common path of egress travel requirements—are not met in this space, making it triply noncompliant and dangerous.

Moreover, the crit room space has been subdivided into several “flexible” spaces with permanent 8-foot high movable partitions. These partitions can be configured in ways that also create assembly rooms, each required to have two separated means of egress. Some configurations create conditions where only a single means of egress is provided even when the calculated occupancy exceeds 50 people (Figure 5).

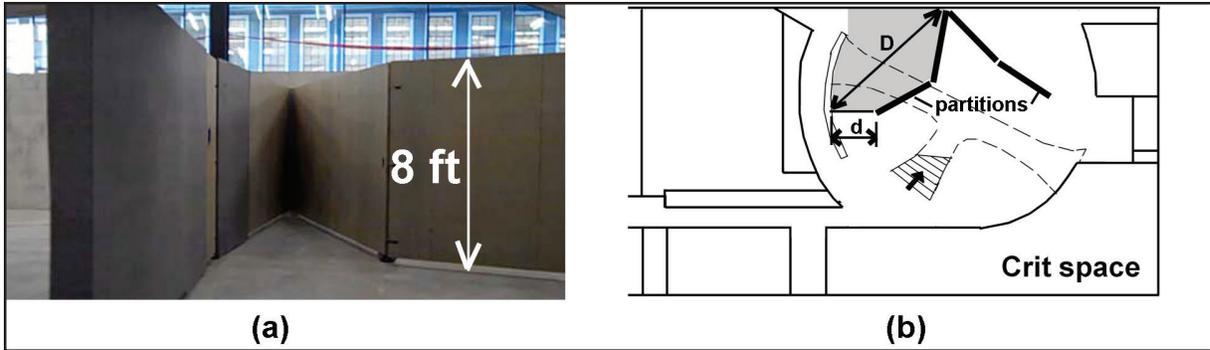


**Figure 3.** Common path of travel from crit space exceeds 75-foot limit: partitions and furnishings preclude measuring this distance as a single straight line. Drawing by Jonathan Ochshorn based on Milstein Hall plans.



**Figure 4.** Common path of travel must be measured along the natural path of egress, typically resulting in a series of perpendicular line segments rather than a single "as-the-crow-flies" arc. Image from the 2009 *IBC Code and Commentary*, Figure 1016.1(2).

These partitions are not lightweight dividers equivalent to pieces of furniture. Rather, they are quite substantial—in fact, far more substantial than typical room-dividing partitions—and consist of welded structural-steel frames clad with layers of plywood, Homasote, and felt. They extend a full eight feet above the floor and are permanently fastened to the building's structure. That they can also be moved into positions where they do not create noncompliant spaces is not relevant: the 2002 Building Code of NYS does not permit noncompliant spaces just because they are only noncompliant some of the time. A building must be Code-compliant in *all* of its possible configurations.



**Figure 5.** Permanent movable partitions in Milstein Hall crit space: (a) photo of partitions under construction; and (b) one of many scenarios in which assembly rooms formed by partitions have more than 50 occupants with a single exit. Photo and drawing by Jonathan Ochshorn; drawing based on Milstein Hall plans.

The Dec. 5, 2008 "Issued for Construction" working drawings for Milstein Hall provide a different, and equally faulty, justification for having a single means of egress in this assembly space. In the Building Code analysis section of these working drawings, the crit room is specified as a "Business" occupancy with 100 square feet assigned to each occupant. This would be appropriate for a typical office space with actual offices or cubicles. It is absolutely inappropriate for an assembly space where there are no offices or desks.

What is even more peculiar is that the architects make reference to Section 303.1 of the 2002 NYS Building Code to justify this occupancy classification. Per Section 303.1, they write: "The crit rooms are a business occupancy since they are accessory use [sic] by less than 50 persons to Assembly A-3 Occupancy." However, this is what Section 303.1 actually says: "A room or space *used for assembly purposes* by less than 50 persons and accessory to another occupancy shall be included as a part of that occupancy." (emphasis added).

In other words, this provision only applies if the occupancy of the crit room is for "assembly purposes," not for "business." And as an assembly occupancy (which it clearly is), Table 1003.2.2.2 of the 2002 NYS Building Code provides three choices for floor area assigned to each occupant: 7 sq. ft. per occupant for "concentrated (chairs only - not fixed)", 5 sq. ft. per occupant for "standing space," or 15 sq. ft. per occupant for "unconcentrated (tables and chairs)."

Even assuming the most generous interpretation of the 2002 Building Code of NYS, i.e., using 15 sq. ft. per occupant, the 4,978 square foot crit room area would support 332 occupants (or 240 occupants if the area is assumed to be 3,600 square feet), far more than the 49 occupant limit specified in Section 303.1 that would permit the Crit Room to count as an accessory use.

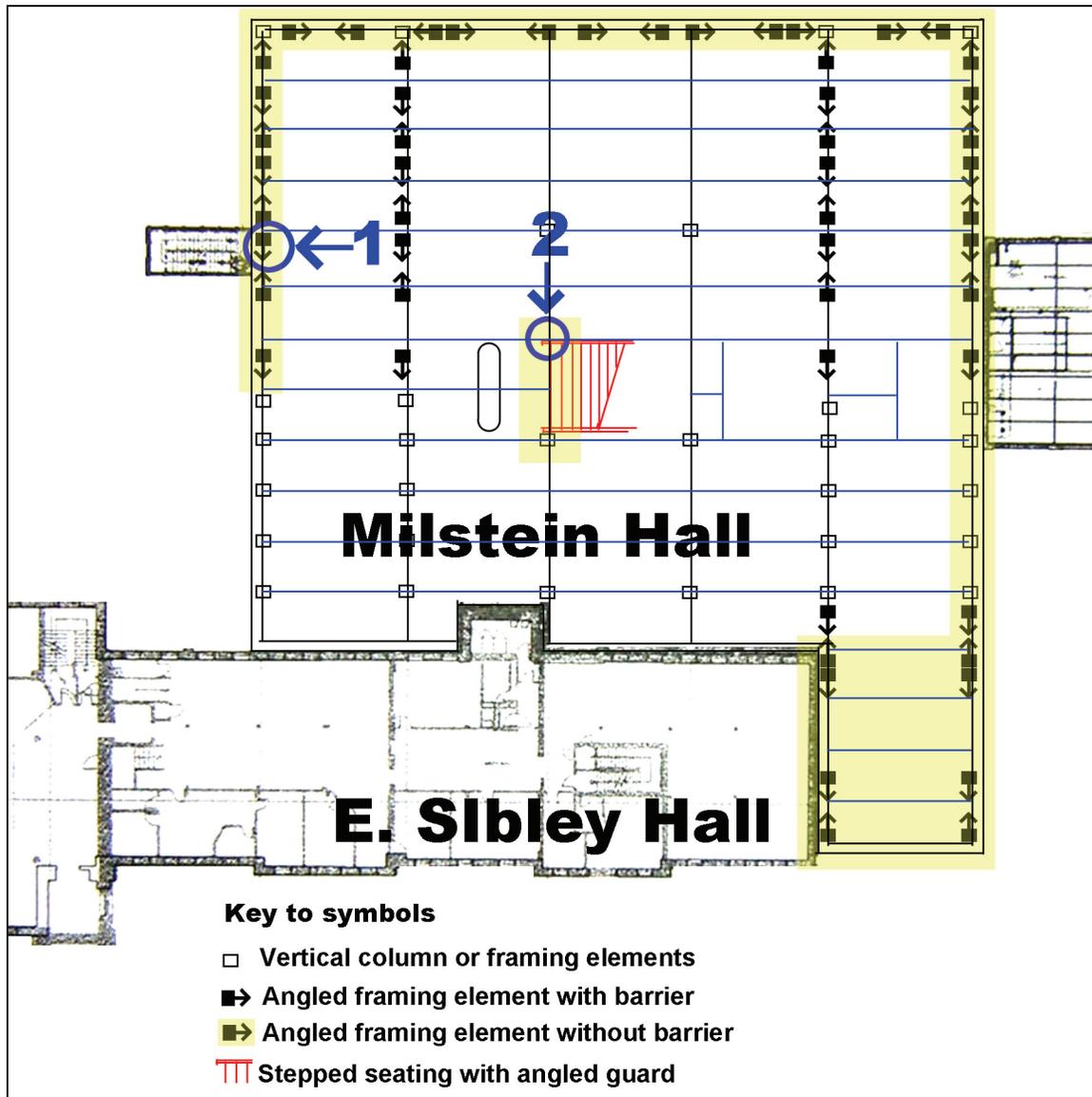
There are only two remedies for this situation. If one exit is to be maintained, then the floor area of the space must be reduced so that the calculated occupancy, including the occupancy of any accessory spaces that egress through the crit room space, does not exceed 50 [note that the 2010 Code has a maximum occupancy limit

of 49; the 2002 Code has a limit of 50]. An alternative remedy would be to add additional, remote, exits from the space, corresponding to the calculated occupancy.

A third approach—posting a maximum occupancy sign limiting the occupancy to 50 people—is *not supported by the Code*. While this strategy can be used in existing buildings found to exceed current Code limits (see, for example, Exhibit 7), it is not appropriate for new construction. In new buildings, the number of exits is determined by Section 1003.2.2 (2002 New York State Building Code, Design occupant load), which states: "In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be established by the largest number computed in accordance with Sections 1003.2.2.1 through 1003.2.2.3." The three occupant load numbers, of which the *largest* value must be used, are based on 1) actual number of occupants; 2) number per Table 1003.2.2.2 (which contains the various "assembly without fixed seats" values quoted above); and 3) the number by combination (which includes any additional occupants egressing through the space from accessory spaces). Since the values established by Table 1003.2.2.2 are *larger* than 50, a posted maximum occupant load of 50 cannot be used for this space.

**Exhibit 2: Noncompliant protruding objects in egress path.**

Sections 1003.2.5.1 and 1003.2.5.3 of the 2002 Building Code of NYS specify that protruding objects that reduce headroom below 80 inches or project more than 4 inches horizontally over any walking surface between the heights of 27 and 80 inches are not permitted within the means of egress. Numerous instances of such protruding objects can be found on the second floor (studio level) of Milstein Hall, as shown in Figure 6.



**Figure 6.** Plan of Milstein Hall, second floor (studio) level, showing angled structural framing elements and guards. The yellow tone highlights protruding elements without barriers; column "arrows" indicate the direction of slope from the bottom of the element to the top. The framing element labeled #1 is shown in Figure 7; the angled guard labeled #2 is shown in Figure 8. Drawing by Jonathan Ochshorn, based on structural floor plan.

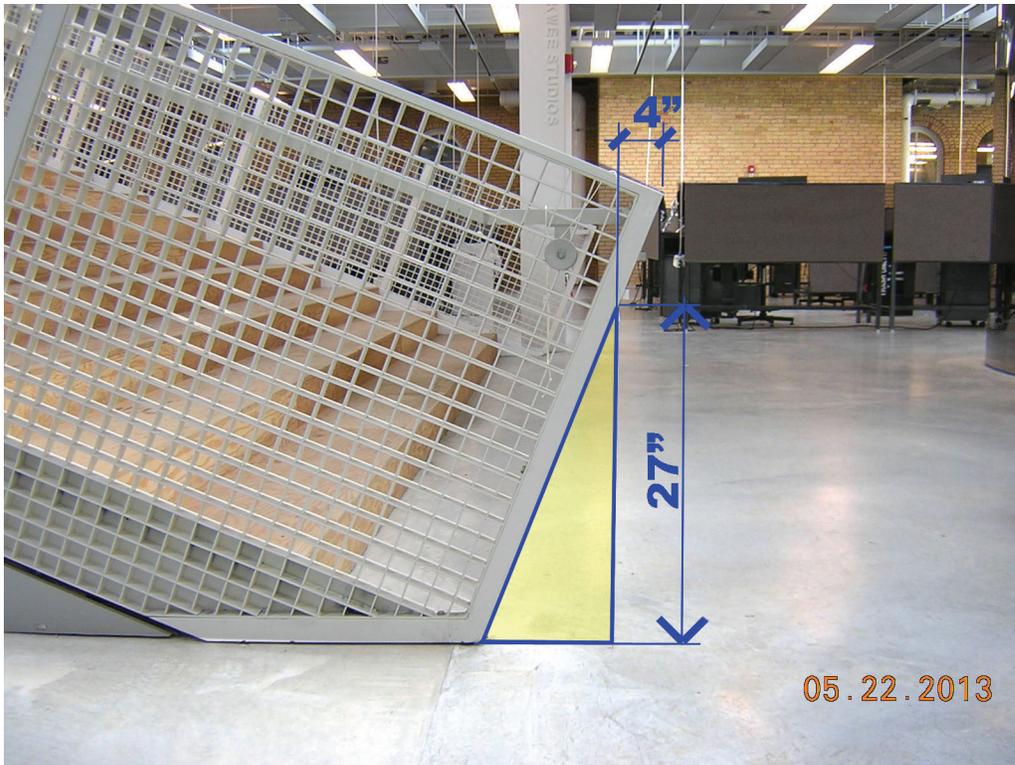
The means of egress is defined in Section 1002 of the 2002 Building Code of NYS as a "continuous and unobstructed path of vertical and horizontal egress travel *from any point*

*in a building or structure to a public way"* (emphasis added) so all of the aisles and passageways on the second floor plate count as part of the means of egress. Two types of protruding objects are present, as identified in Figure 6, and illustrated in Figures 7 and 8 below: angled framing elements which reduce headroom below 80 inches, and angled stepped seating guards that protrude horizontally more than 4 inches into the egress space.

If it is claimed that angled framing elements along the outside edge of the second floor plate are not in the means of egress because they form a boundary to the egress pathway (see, for example, the angled element shown in Figure 7), it should be noted that without a barrier defining this boundary, it remains *invisible* to those with visual impairments, and becomes especially dangerous if the room fills with smoke—precisely the reasons for requiring boundaries around such protrusions.



**Figure 7.** Typical angled column reducing headroom below 80 inches (labeled #1 in Figure 6). The yellow tone indicates the general area within which a barrier is needed. Photo and annotations by Jonathan Ochshorn.

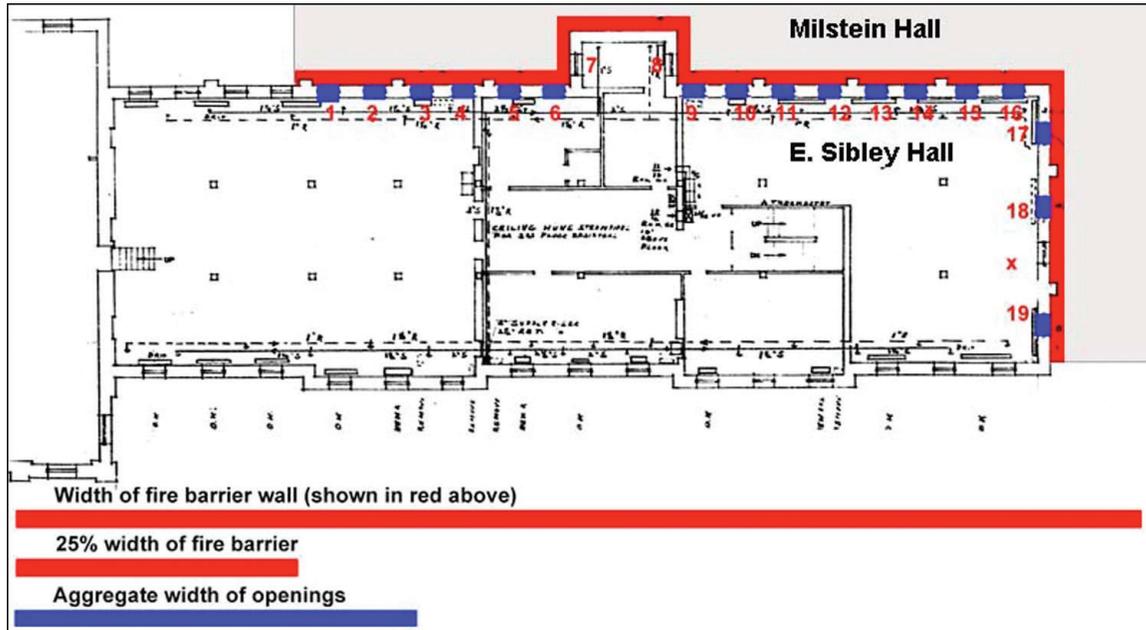


**Figure 8.** Angled guard at stepped seating area protrudes more than 4 inches into egress space (labeled #2 in Figure 6). The yellow tone indicates the general area within which a barrier is needed. Photo and annotations by Jonathan Ochshorn.

To remedy this situation, barriers should be placed at all noncompliant angled framing elements and guards.

### Exhibit 3: Inadequate fire barrier between Milstein and E. Sibley Hall

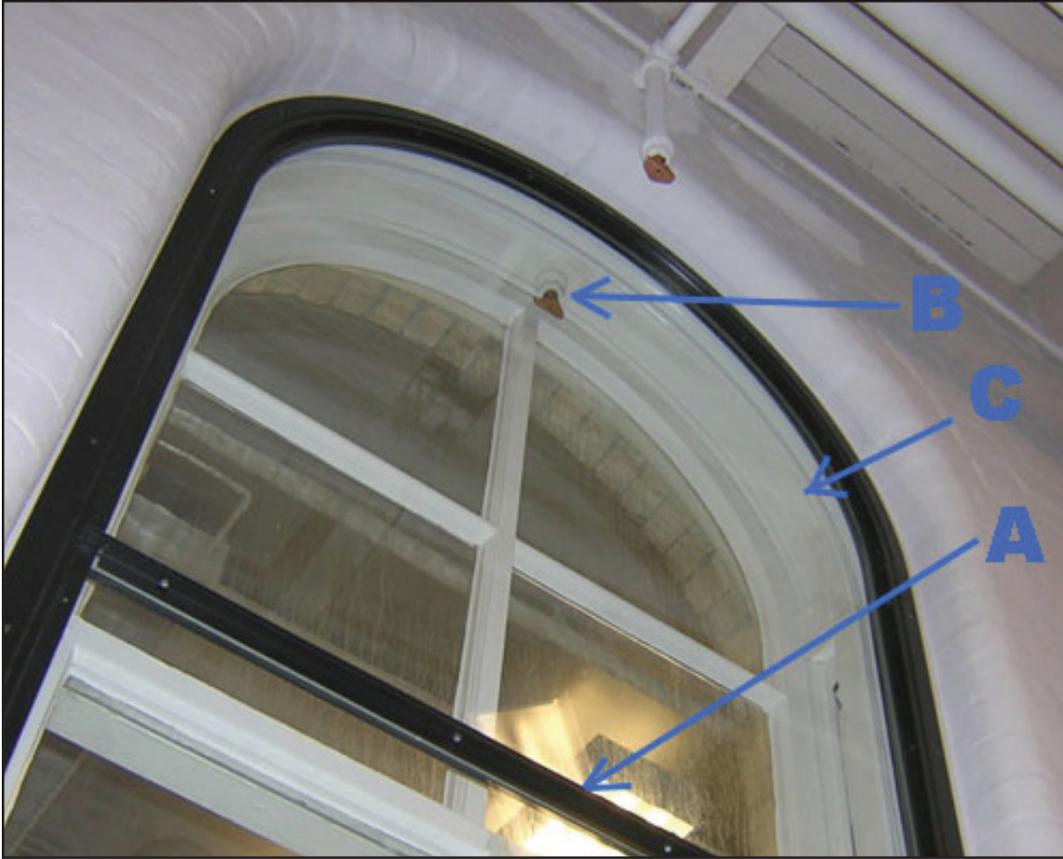
The fire barrier provided between Milstein and Sibley Halls is noncompliant. Section 706.6 of the 2002 Building Code of NYS limits openings in fire barriers to a maximum aggregate width of 25 percent of the length of the wall. The opening width in the fire barrier between Milstein and Sibley Halls exceeds 25 percent and is therefore noncompliant, as shown in Figure 9.



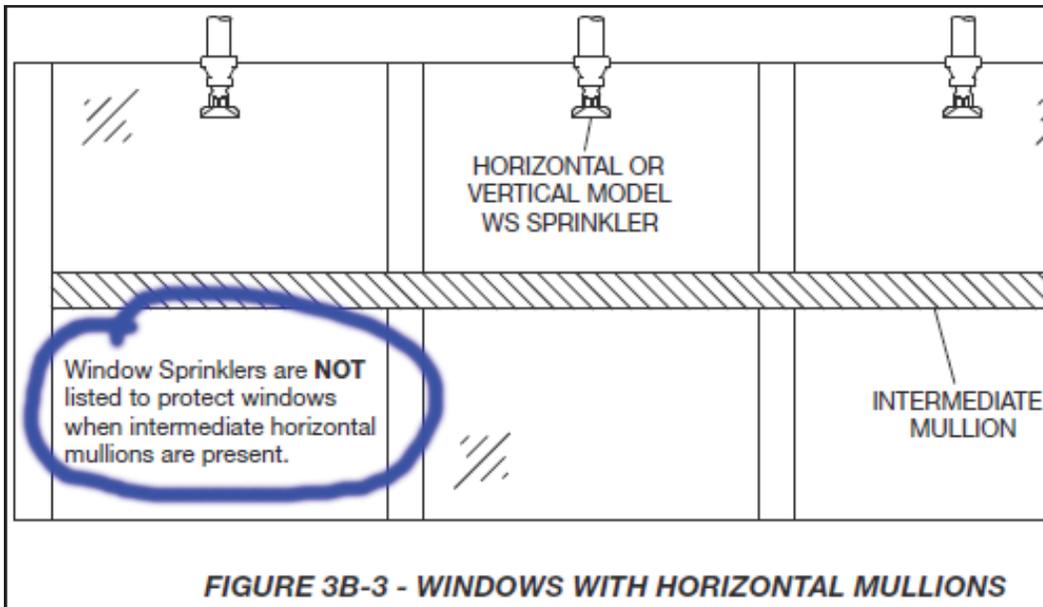
**Figure 9.** Second-floor plan: The fire barrier wall width, between Milstein Hall and E. Sibley Hall, is shown in red; openings are shown in blue. The aggregate opening width exceeds 25% of the fire barrier width. Drawing by Jonathan Ochshorn based on Sibley and Milstein Hall plans.

Gary Wilhelm, Project Director at Cornell, suggested to me that Tyco 5.6 K-Factor Model WS Specific Application Window Sprinklers could be provided to create a compliant fire barrier (Section 706.6, exception 3, 2002 Building Code of NYS). These sprinklers were, in fact, later installed. However, the Tyco product specifications indicate that this system is inappropriate for this application—i.e., not tested in accordance with ASTM E 119—for the following three reasons, illustrated in Figure 10:

- a) Such window sprinklers are *not* listed to protect windows when intermediate horizontal mullions are present (the Tyco prohibition against horizontal mullions is reproduced in Figure 11). In this Sibley-Milstein Hall application, horizontal mullions *are* present in the fire-rated glazing.
- b) The sprinklers cannot be sandwiched between new fire-rated glazing and existing windows, as they are in this application.
- c) All combustible materials must be kept two inches from the front face of the glass. In this application, wooden window frames are closer than two inches from the glass.



**Figure 10.** Milstein Hall’s sprinkler-protected fire barrier is noncompliant in three ways: A) fire-rated glazing has horizontal mullions; B) sprinkler is sandwiched between fire-rated glazing and existing window; and C) combustible material (wood window trim) is within 2 inches of fire-rated glazing. Photo and annotation by Jonathan Ochshorn.



**Figure 11.** Diagram from Tyco literature TFP 620 prohibiting horizontal mullions

Milstein Hall's history and pattern of systematic Code noncompliance can be illustrated by the way in which this fire barrier was initially specified. When a building permit was originally granted, a fire barrier was specified only for the second floor between Milstein Hall and Sibley Hall. Only later were the drawings and specifications revised to extend the fire barrier to the first floor and basement. The third floor wall remains unprotected wood-frame construction, as described in Exhibit 5. None of these fire barriers was ever actually Code-compliant, however, since the aggregate width of openings exceeds the maximum allowable width.

To remedy this situation, openings in all fire barriers must be limited to a maximum aggregate width of 25 percent of the length of the fire barrier wall, unless the opening protective assembly has been tested in accordance with ASTM E 119 and has a minimum fire-resistance rating not less than the required fire-resistance rating of the wall.

#### Exhibit 4: Improper mezzanine designation

Milstein Hall appears to be a 3-story building; the basement level counts as a "story above grade plane" since the finished surface of the floor above the basement is more than 6 feet above grade plane (Section 502.1 Definitions, 2002 Building Code of NYS). The other two stories are the entrance lobby level, and the studio-floor level. These three stories are interconnected in a manner that appears to violate the requirement for shaft enclosures since none of the exceptions in the Code section dealing with "shaft enclosures" (Section 707, 2002 Building Code of NYS) apply.



**Figure 12.** It is questionable whether the lobby can be considered "in" the crit space. As can be seen in the section (a) and the photo of the crit space (b), the lobby is *outside* the reinforced concrete dome, and only connected to the crit space through an opening in the reinforced concrete dome (this opening is highlighted with a blue circle in the photo). Section adapted by Jonathan Ochshorn from Milstein Hall drawings placed online by Cornell; photo accessed 5/23/13 at <http://afasiaarq.blogspot.com/2012/09/4-oma.html>.

However, the architects of Milstein Hall claim that the entrance lobby is not a story, but rather is a mezzanine. In that case, only two stories would be interconnected (the mezzanine level wouldn't count as a story), and the interconnected spaces would be compliant.

There are two main conditions for qualifying as a mezzanine, and Milstein Hall's designation is questionable on both counts.

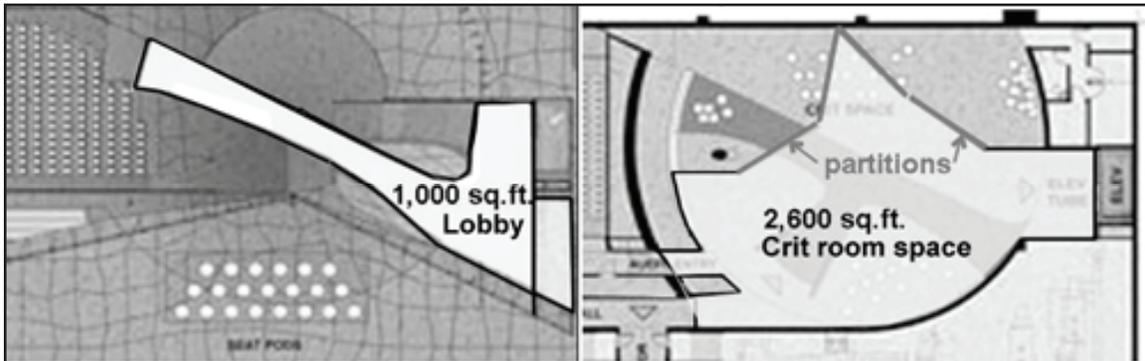
The definition of *mezzanine* (Section 502.1, 2002 Building Code of NYS) states that it must have "a floor area of not more than one-third of the area of the room or space in which the level or levels are located." The key word here is "in." The mezzanine must be "in" the room or space, not outside the room or space with an opening that connects them. As can be seen in Figure 12, common sense would suggest that the entrance lobby is not "in" the dome. Both the section (Figure 12a) and the photo (Figure 12b) show clearly that the concrete structure of the dome creates a distinct "room" or "space" and that the lobby—pictured through the opening in the dome highlighted by the blue circle in Figure 12b—is completely *outside* that space.

If the opening in the concrete dome between the crit room space and the lobby were to be closed off with a partition and door—a condition that *actually is permitted* for mezzanines "having two or more means of egress...if at least one of the means of egress provides direct access to an exit from the mezzanine level" (Section 505.4, exception 2, 2002 Building Code of NYS)—then it would be clear that the lobby, now completely outside the crit space, would not count as a mezzanine. Removing this hypothetical partition and door changes nothing with respect to the definition of a mezzanine: if it doesn't qualify *with* a partition and door, then it shouldn't qualify *without* a partition and door.

Whether this relationship of being outside of, but connected to, another space is consistent with the definition of a mezzanine is questionable. But even if this questionable interpretation is upheld, the specific requirement that the lobby be no larger than one-third the area of the space it is in makes the lobby's designation as a "mezzanine" problematic.

The movable partitions in the lower-level crit space of Milstein Hall create separate and smaller rooms within what was a single space, and therefore call into question the designation of the ground-floor lobby as a mezzanine (Figure 13). The lobby floor area is not less than one-third the area of smaller spaces that can be configured using the movable partitions (exactly what room the lobby is "in" when the movable partitions are deployed is difficult to determine), so the lobby appears to no longer satisfy the criteria for designation as a mezzanine.

If these partitions were permanently fastened to the floor within the domed space of the crit room, there is little question that they would be considered separate spaces or rooms. That they are permanent, but not fixed-in-place partitions (i.e., they are movable) should not alter this conclusion: they are constructed with heavy steel frames, studs, and plywood, and extend from the floor to a height of 8 feet; much like the construction of fixed-in-place partitions.



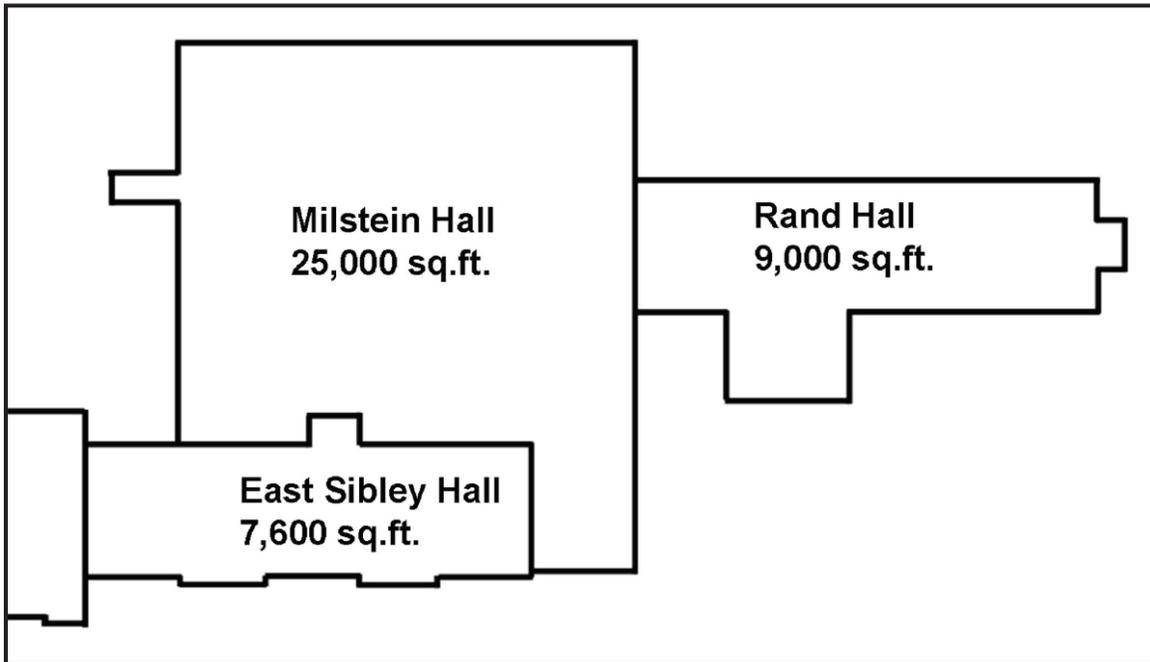
**Figure 13.** Noncompliant mezzanine: Ground floor lobby-bridge (left) exceeds one-third area of crit room space at lower level (right). Drawing by Jonathan Ochshorn; plans based on Milstein Hall drawings placed online by Cornell University; areas are approximate, based on dimensions scaled from plans.

In either case—whether the lobby is judged to be *outside* the crit room space; or whether the size of the lobby is determined to exceed the size limit for mezzanines based on the floor area of the *partitioned* crit room—the lobby becomes a “story” rather than a mezzanine, and therefore at least two aspects of the building become noncompliant with the 2002 Building Code of NYS: a) unprotected floor openings now connect three, rather than two, stories in Milstein Hall in violation of Section 707; and b) required men’s and women’s rooms become two stories distant from the main studio floor level, in violation of Section 2902.4.1.

To remedy this situation, the building must be redesigned as a 3-story structure. Shaft enclosures must be constructed so that no more than two adjacent stories are open to each other, or one of the other exceptions permitted in Section 707.2 (Shaft enclosure required) must be implemented. In addition, men's and women's rooms must be provided within one story distant from the main studio level.

**Exhibit 5: Milstein-Sibley-Rand Halls exceed floor area limits under Appendix K**

Milstein Hall is noncompliant under the 2002 Building Code of New York, since the total floor area of the combined buildings (Milstein-Sibley-Rand Halls) exceeds floor area limits based on Table 503 (Figure 14). Only by separating Milstein Hall from Sibley Hall with a *fire wall* or upgrading Sibley Hall to Type III-A construction would the floor areas be compliant.



**Figure 14.** Approximate second-floor areas Halls (adapted from Cornell’s Milstein Hall web site by Jonathan Ochshorn)

The maximum allowable building area, per floor, tabulated in Table 503 of the 2002 Building Code of NYS is 6,000 square feet for an A-3 occupancy with V-B construction type (this construction type is determined by the construction of Sibley Hall). Adding 12,000 square feet for sprinklers and 4,500 square feet for frontage (the *maximum possible* allowance), we get a maximum allowable per floor area of 22,500 square feet—far less than the actual combined second-floor area. Assuming a Group B occupancy with a tabular maximum per floor area of 9,000 square feet, the total allowable per-floor area becomes 33,750 square feet, still far less than the actual combined second-floor area of this project.

A single construction type of V-B must be used for the combined Milstein-Sibley-Rand Halls because multiple construction types cannot be assigned to different fire areas (separated by fire barriers) in a single building: each building can have only a single construction type. Section 503.1 of the 2002 Building Code of NYS states: The height and area for buildings of different construction types shall be governed by the intended use of the building and shall not exceed the limits of Table 503 except as modified hereafter. *Each part of a building included within the exterior walls or the exterior walls and fire walls where provided shall be permitted to be a separate building* (emphasis

added). Section 706.3.5 (Separation of occupancies and fire areas) in the 2002 Building Code of NYS states: "Where the provisions of Section 302.3.3 are applicable, the fire barrier separating mixed occupancies of a single occupancy into different fire areas shall have a fire-resistance rating of not less than that indicated in Section 302.3.3 *based on the occupancies being separated*" (emphasis added). The only variable mentioned is "occupancy," not construction type. This is because *one* construction type is assigned to the building as a whole, and not to individual fire areas. Section 602.1 of the 2002 Building Code of NYS states: "Buildings and structures erected or to be erected, altered or extended in height or area shall be classified in *one* of the five construction types defined in Sections 602.2 through 602.5..." (emphasis added). Only fire walls—not fire barriers—can create separate buildings with their own construction types. Section 705.1 of the 2002 Building Code states: "Each portion of a building separated by one or more fire walls that comply with the provisions of this section shall be considered a separate building..." This point is reinforced in the unofficial *Commentary* to the 2009 *International Building Code*, which states: "Areas separated with fire barriers are not considered separate buildings; they are considered separate fire areas. Two areas must be separated by a fire wall or exterior walls to be considered separate buildings. Two areas separated with fire barriers are still considered part of a single building. This distinction is critical in determining compliance with allowable height and area, and other code provisions" (commentary on Section 707.3.9 of the 2009 IBC).

City of Ithaca Building Department Officials have claimed that the combined floor area of Milstein-Sibley-Rand, although it exceeds the limits in Table 503, is somehow acceptable based on provisions for additions found in Appendix K of the 2002 Building Code of NYS. The relevant text of Appendix K should be quoted in its entirety, since the building's compliance rests on this single code section:

**K902.2 Area limitations.** No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the Building Code for new buildings, unless a fire barrier in accordance with Section 706 of the Building Code is provided.

It should be emphasized that this section makes no sense, and is therefore unenforceable, because it *sets no limits* on the floor area of any addition that is "provided" with a fire barrier. If you provide a fire barrier according to Section K902.2 of the 2002 Building Code of NYS, then the limits of Chapter 5 do not apply, and no new limits are specified.

Section 302.3.3 (Separated uses) of the 2002 Building Code of NYS appears to offer floor area limits that might be used to control the floor area of additions constructed with fire barriers in accordance with Appendix K: "...Each fire area shall comply with the height limitations based on the use of that space and the type of construction classification. *In each story, the building area shall be such that the sum of the ratios of the floor area of each use divided by the allowable area for each use shall not exceed 1* (emphasis added). Such limits would clearly make the Milstein Hall addition noncompliant. However, because these limits refer to "allowable area for each use"—values that are determined in Chapter 5—they circle back to the same dilemma posed earlier and do not provide clear guidance for establishing area limits under Section K902.2.

While Appendix K was promoted as a state-of-the-art reform of existing building regulations based on work already found in the *New Jersey Rehab Code* and the *Nationally Applicable Recommended Rehabilitation Provisions* (NARRP) prepared for the U.S. Department of Housing and Urban Development in 1999, the specific provision in New York's Appendix K allowing fire barriers to "increase the area of an existing building" has no precedent in either of these documents. Not only that, every other building code—including the old pre-IBC Building Code of NYS, including *all* subsequent New York State Building Codes (e.g., 2007 and 2010 versions), including *all* editions of the *International Building Code* and *International Existing Building Code*, and including both the *New Jersey Rehab Code* and NARRP—every single Code *prevents* additions to existing buildings from using fire barriers to exceed the limits of Chapter 5 (or its equivalent). Only a fire wall (not just a fire barrier) can effectively create two separate buildings in which different construction types apply. I have researched the original transcripts of the New York State Code Council's deliberations—this is the group empowered to maintain and update the Building Code of NYS—and have found not a single word of text describing or explaining this unique and peculiar section of Appendix K in the 2002 Building Code.

Given that no other Code, past or present, has ever suggested that a fire barrier can be used to increase the size of an existing building beyond the limits permitted under Chapter 5 (or equivalent), and given that every other Code, past or present, requires that a fire *wall* be used to increase the area of an existing building beyond the limits permitted under Chapter 5 (or equivalent), it is likely that the language in Appendix K was included in error. For example, the two Codes that served as a model for Appendix K both require fire walls in such circumstances. The *New Jersey Rehab Code* states: "No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of the building subcode unless a *fire wall* is provided in accordance with Section 705 of the building subcode." The NARRP states: "No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the Building Code for new buildings unless fire separation as required in the Building Code [i.e., a fire *wall*] is provided." Both of these Codes require a fire wall, not a fire barrier, where additions to existing buildings increase the floor area beyond that permitted under Chapter 5. It should also be mentioned that Milstein Hall, as designed, would not have been permitted under either the 2007 or 2010 NYS Building Codes, both of which contain explicit language requiring a fire wall in such circumstances.

Given the inability to make sense of Section K902.2, this quotation provided by Ronald E. Piester, Director of the New York State Division of Code Enforcement and Administration, in his October 2008 *Code Interpretation 2008-01 endnote 4*, is worth considering: "A construction which would make a statute absurd will be rejected." (Id. § 145.)

In the case of Milstein Hall, the "construction which would make a statute absurd" is the allowance in Section K902.2 for additions to be built *without any floor area limits* if a fire barrier is provided. To assume that the intention is for the fire barrier to count as a

fire wall, in effect creating a separate building, has no basis in the 2002 Building Code of NYS and has no precedent in any other building code.

For example, The 2002 Building Code of NYS, Section K802.3.1 (Height and area for change to higher hazard category), requires that any change of occupancy to a higher hazard *within an existing building* must meet the height and area limits of Table 503. The section states: "Where a change of occupancy is made to a higher hazard category as shown in Table K802.3, heights and areas of buildings and structures shall meet the limitations of Chapter 5 of the Building Code for the new occupancy group." It would make no sense for the 2002 Building Code of NYS to require spaces in existing buildings that have been changed to a higher hazard occupancy, even when separated with fire barriers, to meet the conditions of Table 503 (as modified by the requirements of Section 302.3 for "separated mixed occupancies") while at the same time permitting additions to those same existing buildings, also separated by fire barriers and also potentially containing occupancies of higher hazard than those in the existing building, to *exceed* those limits.

And while changes to equal or lesser hazard occupancies in existing buildings are deemed to be acceptable irrespective of any deviation from the requirements of Table 503 (Section K802.3.2 of the 2002 Building Code of NYS), such changes cannot, by definition, increase the area of the existing building. Even when a fire barrier is used to change a space to a higher-hazard occupancy, it still does not make a separate building out of the separated space, but only a separate fire area. *Nothing in Appendix K, or anywhere else in the 2002 Building Code of NYS, suggests that a fire barrier used to separate a space allows such a space to be considered as a separate building with its own construction type.*

This is completely different from the interpretation being proposed by the Milstein Hall architects for Section K902.2 of the 2002 Building Code of NYS. Without any explicit justification, and in direct contradiction to specific sections of the 2002 Building Code of NYS (see above), the addition is being considered as a separate building—not just a separate fire area—even though it is not separated from the existing building by a fire wall as required by the Code.

Because Appendix K does *not* specify how the increased area of the combined Milstein-Sibley-Rand Halls should be regulated when a fire barrier is provided, the entire premise of combining these three buildings in a way that exceeds the allowances of Table 503 (and Section 302.3.3) of the 2002 Building Code of NYS is suspect. The building's architects claim that the fire barrier separating Milstein Hall from the existing buildings to which it connects permits Milstein Hall to be effectively designed *as a separate building*, with its own construction type. The Code consultant for a later proposed occupancy change within Sibley Hall (see Exhibit 8) has a different justification for exceeding the floor areas allowed in Chapter 5: he claims that the combined Milstein-Sibley-Rand Hall is *actually a single building*, but with multiple construction types separated by fire barriers. However, this interpretation of the Code cannot be sustained either: a single building can have only a single construction type governed by the most

restrictive construction type in the combined building.

Even if one accepts the questionable premise that Milstein Hall can be designed as if it were a separate building with its own construction type, the lack of adequate fire separation distance between Milstein and Sibley Halls makes the combustible wood-framed third-floor wall of Sibley Hall noncompliant (Figure 15).



**Figure 15.** Sibley and Milstein Halls (adapted from Cornell’s Milstein Hall web site by Jonathan Ochshorn)

The 2002 Building Code of NYS (specifically, Section 704.10), under which Milstein Hall was permitted, requires that “opening protectives” be provided “in every opening that is less than 15 feet (4572 mm) vertically above the roof of an adjoining building or adjacent structure that is within a horizontal fire separation distance of 15 feet (4572 mm) of the wall in which the opening is located.” All of the window openings in the third floor of E. Sibley Hall that overlook Milstein Hall qualify under this section for opening protectives. The only exception to this requirement is where the roof construction below the openings has a 1-hour fire-resistance rating and its structure (i.e., the steel beams and girders supporting the roof) has a 1-hour fire-resistance rating. Milstein Hall’s roof structure has no fire-resistance rating, so the exception does not apply.

Not only do Sibley’s third-floor windows require opening protectives, but the entire exterior wall on the third floor of Sibley (facing Milstein Hall) needs to be reconstructed with a 1-hour fire-resistance rating. Footnote “f” in Table 601 of the 2002 Building Code of NYS (exterior bearing walls) requires that the fire-resistance rating of the wall be not less than that based on fire separation distance (Table 602). Table 602 requires a 1-hour

fire-resistance rating for Occupancy Groups A or B if the fire separation distance is less than 5 feet. The fire separation distance between Sibley and Milstein Halls is 0 feet (they are physically connected).

If the fire barrier is seen as replacing a fire wall that “serves as an exterior wall for a building and separates buildings having different roof levels [as is the case with the Milstein/Sibley fire barrier – see Figure 15], such wall shall terminate at a point not less than 30 inches above the lower roof level, provided the exterior wall for a height of 15 feet above the lower roof is not less than 1-hour fire-resistance-rated construction from both sides with openings protected by assemblies having a 3/4-hour fire protection rating.” (Section 705.6.1 Stepped buildings, 2002 NYS Building Code). The existing 3rd-floor exterior wall of Sibley Hall does not satisfy these requirements.

The architects of Milstein Hall have apparently decided to have it both ways: i.e., to design Milstein-Sibley-Rand as a *single* building, but with *multiple* construction types. Not only does this violate basic building code principles (since a single building can have only one construction type; and only a fire wall can create two separate buildings each with their own construction type), but there is absolutely nothing in Appendix K, or anywhere else in the 2002 Building Code of NYS, that supports such an interpretation. Appendix K does *not* say that a fire barrier can act as a fire wall. It does *not* say that a fire barrier in this context can create two separate buildings, each with its own construction type. It says absolutely *nothing* about how the increased area that it permits should actually be determined.

Under these circumstances, it seems to me that any interpretation of Appendix K should, at a minimum, make its assumptions explicit, and then act consistently according to those assumptions. Allowing a fire barrier to create two separate buildings, with separate construction types, and then permitting those separate buildings to violate fire separation distance requirements established for separate buildings (or for separate structures on a single site, or for stepped buildings with fire walls) cannot be justified by any specific text in Appendix K. Furthermore, such a strategy represents an inconsistent interpretation of Appendix K, and creates an unsafe building.

In order to bring the floor areas of Milstein-Sibley-Rand Hall into conformance with the 2002 Building Code of NYS, either a fire wall would need to be constructed between Milstein and Sibley Halls, or the construction of Sibley Hall would need to be upgraded to III-A construction. In the latter case, the allowable floor area for A-3 occupancy would be greater than the combined second-floor areas of Milstein, Sibley, and Rand Halls, and neither fire walls nor fire barriers would be required.

## **Exhibit 6: Improper occupancy class designation**

The second floor of Milstein Hall was inappropriately classified as both an A-3 and a B occupancy, based on Section 302.4 (Spaces used for different purposes) of the 2002 Building Code of NYS: "A room or space that is intended to be occupied at different times for different purposes shall comply with all the requirements that are applicable to each of the purposes for which the room or space will be occupied." This section addresses situations where a single space or room is used for different purposes at different times, and is not intended to "reserve" for all time the possibility of a change of occupancy to a noncompliant use.

The unofficial Commentary to the 2009 IBC confirms this interpretation: "Occasionally, a building or space is intended to be occupied for completely different purposes at different times. For instance, a church hall might be used as a day care center during weekdays and as a reception hall for weddings and other similar events at other times. In these cases, the code provisions for each occupancy must be satisfied." The situation in Milstein Hall is completely different. The studio classrooms (and ancillary spaces) on the upper-level floor plate of Milstein fall exclusively under the Group B occupancy class, and there is no different "purpose" that this space is intended for "at different times": *the space is used for Group B occupancies at all times.*

Both Section 302.3.2 (Nonseparated uses) and Section 302.3.3 (Separated uses) of the 2002 Building Code of NYS make it clear that any space or room must be assigned to the occupancy that corresponds to its actual use: "Each portion of the building shall be individually classified as to use..." Section 302.1 states that "[w]here a structure is proposed for a purpose which is not specifically provided for in this code, such structure shall be classified in the group which the occupancy most nearly resembles, according to the fire safety and relative hazard involved." It is clear from analogous occupancy classifications of studio/lab spaces in adjacent Rand Hall (see Figure 17 in Exhibit 8) that the appropriate occupancy classification for the upper-level studio floor plate in Milstein Hall is Group B.

If the occupancy of Milstein Hall's upper level were properly classified as Group B, a future change to an A-3 (library or lecture hall) occupancy would not be permitted, because such a change would involve replacing an existing occupancy with one of a higher hazard. The relevant code language is as follows: Section 912.5.1 of the 2010 Existing Building Code of NYS says: "When a change of occupancy group is made to a higher hazard category as shown in Table 912.5, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the Building Code of New York State for the new occupancy group." Table 912.5 classifies group A-3 spaces as having a "relative hazard" of 2 (with 1 being the highest hazard), and group B spaces as having a relative hazard of 4 (lowest hazard). Therefore, it is clear that a change from group B to group A-3 constitutes an alteration to a higher hazard occupancy.

With such a change, the building would need to conform to the requirements of Chapter 5 of the current Building Code of New York State. What are those requirements? Chapter 5

regulates the allowable heights and areas of buildings, based on construction type and occupancy. Since the fire barrier separating Milstein and Sibley Halls is nonconforming with respect to the current code, it cannot be invoked to consider Milstein Hall as a separate building, as would be the case with a fire wall. Therefore, Milstein-Sibley-Rand Hall must be treated as a single building under the current code, and the height/area limits are as follows: the maximum height is 60 feet; the maximum number of stories is two; and the maximum area on a single floor is at most 22,500 square feet. The combined second-floor area for Milstein-Sibley-Hall greatly exceeds this limit of 22,500 square feet, so any alteration to a higher hazard occupancy would not be permitted, as the requirements of Chapter 5 would not be met, and cannot be met.

The objection may be raised that the 2002 Building Code of NYS would permit an A-3 occupancy for the upper-level floor plate of Milstein Hall (assuming that the fire barrier separating Milstein from Sibley Hall allows Milstein Hall to be designed as a separate building with its own construction type, an assumption that is challenged in Exhibit 5), so why not allow such a change of occupancy in the future by "reserving" the A-3 designation under the 2002 Building Code of NYS? This objection conveniently forgets the fact that the design of Milstein Hall is nonconforming with respect to current codes. The whole point of the "grandfathering" clause in the Code is to allow such nonconformance to persist into the future, *but to require that alterations to higher hazard occupancies meet current standards.*

Milstein Hall does not meet current Code standards. By claiming that the current occupancy is within group A-3, the building architects and City of Ithaca Code Enforcement Officials appear to be violating those sections of the Code which (a) require them to designate each space according to its actual use; and (b) designate each use according to the occupancy it most closely resembles. The reason for designating the second-floor Milstein Hall spaces as both group A-3 and group B is clear: by doing so (in apparent violation of the Code), the building owner and architects are hoping that any hypothetical future alteration involving an A-3 lecture hall or library will be considered as a change to an equal or lesser hazard category (which it really isn't) rather than a change to a higher hazard category (which it really is).

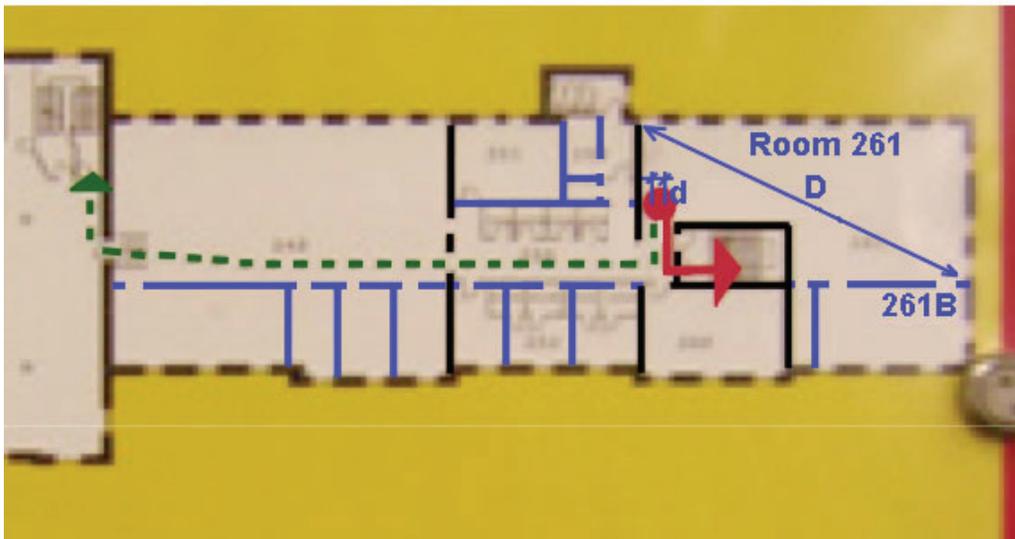
The remedy for this is to enforce Section 302.3.3 (Separated uses) of the 2002 Building Code of NYS and to require that each portion of the building is individually classified according to its use.

## Exhibit 7: Inadequate exits from 261 E. Sibley Hall

After Milstein Hall was occupied in Fall 2011, the Fine Arts Library in adjacent Sibley Hall was moved to Rand Hall and a new form of assembly occupancy was created in the spaces vacated by the library. A posted occupancy sign for one of these spaces, 261 E. Sibley Hall, allows 112 to 300 people (replaced with a sign allowing up to 240 people: see Figure 16a). As can be seen in the plan that accompanies the occupancy limits (Figure 16b, annotated in blue by Jonathan Ochshorn), there is only one exit from the space, even though its posted maximum occupancy is greater than 49 occupants.



(a)



(b)

**Figure 16.** (a) Posted occupancy sign in room 261 E. Sibley Hall shows occupancy in excess of 49 people without two remote exits; (b) detail of plan, with new partitions and notations added in blue by J. Ochshorn, shows Room 261 distance between exits,  $d$ , much less than  $1/3$  the diagonal length,  $D$  (photo by J. Ochshorn taken March 26, 2012).

Whether the 2010 Existing Building Code of NYS explicitly requires that this space conform to current egress requirements is not relevant, since Code Interpretation 2008-01 mandates that *all* spaces with occupancies that exceed 49 people have two means of egress.

Section 705.2 of the 2010 Existing Building Code exempts "[b]uildings constructed in conformance with the Uniform Fire Prevention and Building Code, State Building Construction Code or other codes in force before the effective date of this code." On the other hand, Section 912.1 states that "provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. *This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group.* Such buildings shall also comply with Sections 902 through 911" (emphasis added). Section 912.4.2, Means of egress for change of use to equal or lower hazard category, states: "When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 912.4, existing elements of the means of egress shall comply with the requirements of Section 805 for the new occupancy classification." Section 805.1 states: "The means of egress shall comply with the requirements of Section 705..." Finally, Section 705.4.1.1, Occupant load and travel distance, states: "In any work area, all rooms and spaces having an occupant load greater than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) *shall have a minimum of two egress doorways*" (emphasis added).

According to Code Interpretation 2008-01, spaces with a single exit but more than 49 occupants cannot be "grandfathered" based on a prior legal occupancy. A New York State Supreme Court ruling on August 4, 2009, in a case brought by Cornell University challenging this Code Interpretation and affecting this very building (Sibley Hall), upheld the Code Interpretation and its requirement that *all* spaces with more than 49 occupants have at least two remote means of egress.

The Supreme Court ruling states: "In the instant case, the State is not imposing a retroactive construction mandate. It is merely interpreting the law to give Cornell a choice, to wit: either continue to use the lecture hall with an occupancy limit of fifty, or install a second exit."

The key argument is summarized in the Code Interpretation as follows: "Section 1028.3 of the 2007 FCNYS [equivalent to section 1029.3 in the 2010 FCNYS] limits the occupant load of buildings and portions of buildings. Compliance with section 1028.3 does not require construction or alteration of a building or any part of a building. The Department of State concludes that section 1028.3 is not a *construction-related* provision, but is a provision relating to the condition, *occupancy*, maintenance and/or conservation of existing buildings, and to the safeguarding of life and property therein and thereabout. Therefore, the Department of State concludes that section 1028.3 of the 2007 FCNYS applies to all buildings, including those constructed prior to 1984." While this Code Interpretation was based on the 2007 FCNYS, there are no substantial differences between the 2007 and the 2010 versions of the FCNYS in this respect.

The *2010 Fire Code of NYS*, Section 1029.3 (capacity of means of egress) states that: "The occupant load of buildings or portions of buildings shall not exceed the capacity of the means of egress from the buildings or portions thereof. Occupant load shall be calculated as provided in Section 1004.1. Capacity of the means of egress shall be calculated as provided in Sections 1005.1, 1019.1 and 1025.6."

Section 1004.1 determines the design occupant load; that is, the allowable occupancy that, according to the posted sign, is from 112 to 240 people. Section 1005.1 establishes minimum required egress width. Section 1019.1 establishes the minimum number of exits (2 in this case, for an occupant load between 1-500), except as modified in Section 1015.1 or 1019.2. Section 1015.1 confirms that 2 exits are required, since: "The occupant load of the space exceeds the values in Table 1015.1" (spaces for occupancy groups *A* and *B* with only one means of egress have a *maximum occupancy of 49*). Section 1019.2 sets similar limits for buildings with only one exit. Section 1025.6 establishes widths of means of egress for assembly.

Since these sections of the 2010 Fire Code of NYS apply to existing buildings, two exits are required. In that case, the two exits cannot be adjacent to each other. Section 1015.2.1 of the 2010 FCNYS states: "Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway." Exception 2 reduces the required separation length from one-half to one-third for sprinklered buildings.

It seems clear that either the posted maximum occupancy must be reduced to 49 occupants; or that a second remote exit must be created for this room.

**Exhibit 8: Noncompliant A-3 library occupancy of Rand Hall, third floor.**

The Fine Arts Library, an A-3 (assembly) occupancy, was inappropriately moved to the third floor of Rand Hall, not as part of the original Milstein Hall permit, but under a separate permit based on the 2010 Existing Building Code of New York State. Since the mid-1970s, when architecture studio classrooms were moved into the building, Rand Hall has been classified as a Group B occupancy (typically meaning "business," but also "educational occupancies above the 12th grade"; see Figure 17), and an existing group B occupancy cannot be replaced with a new A-3 occupancy in this location unless an adequate fire wall is installed.

		<b>Inspection Report</b>		Print Date: 3/26/2009
<b>Fire Safety and Property Maintenance</b>		Activity Date: 3/26/2009 10:45:00AM		
City of Ithaca Fire Department 310 W. Green St. Ithaca, NY 14850 Phone: 607-277-7354 Fax: 607-272-2793		Activity Number: I-146-08-0009.B		
		Activity Cause: Reinspection		
		Inspector Name: Otis Jackson		
		Inspector Phone:		
<b>Location:</b> Rand Hall (500700-31.-1-1.2) 947 University Ave Rand Hall Ithaca, NY 14853		Occupancy Type: B - Business		
		Property Use: College Laboratory and Office		
		Total Violation: 5		
		Corrected Violation: 3		
		Hours: 0.17		
		Total Fees: \$ 0.00		
Notice of Violation - Order to Remedy by the City of Ithaca Fire Marshal: A Fire Safety and Property Maintenance Inspection was performed at the location and address indicated above. You are hereby directed and ordered to comply with the law and to correct any violations that have been cited. Severe violations must be corrected immediately. All other violations must be corrected prior to the re-inspection date indicated at the end of this report. Failure to correct any violation and to comply with the applicable provisions of the law, may constitute an offense punishable by fine or imprisonment or both.				
<b>Building Manager</b> Charles D. Pomada				

**Figure 17.** Inspection report for Rand Hall, dated March 26, 2009, showing Group B occupancy status for design studios (obtained from Ithaca Building Department).

Section 912.5.1 of the 2010 Existing Building Code of NYS states: "When a change of occupancy classification is made to a higher hazard category as shown in Table 912.5, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the 2010 Building Code of New York State for the new occupancy classification." Chapter 5 of the 2010 Building Code doesn't "upgrade" the nonconforming fire barriers of Milstein-Rand-Sibley that were put in place based on Appendix K of the 2002 Building Code (see Exhibit 3), and Chapter 5 only permits portions of a building to be considered separate buildings when "included within the exterior walls or the exterior walls and fire walls" (Section 503.1). Therefore the combined Milstein-Sibley-Rand building has a Construction Type of V-B under the 2010 Building Code of NYS—the governing Code when higher-hazard occupancies are proposed—and the placement of a library (A-3) on the 3rd floor of Rand violates the 2-story limit for A-3 occupancies in V-B sprinklered construction, according to Table 503 in the 2010 Building Code of NYS (Figure 18).

TABLE 503 ALLOWABLE HEIGHT AND BUILDING AREAS <sup>a</sup>										
Height limitations shown as stories and feet above grade plane. Area limitations as determined by the definition of 'Area, building,' per story										
GROUP	HGT(feet) HGT(S)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		UL	160	65	55	65	55	65	50	40
A-1	S	UL	5	3	2	3	2	3	2	1
	A	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
A-2	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
A-3	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000

**Figure 18.** Table 503 from the 2010 Building Code of New York State has a 1-story limit (2-stories with sprinklers) for A-3 occupancies in V-B construction.

The V-B construction type for the combined Milstein-Sibley-Rand Halls is determined by the 3rd-floor construction of Sibley Hall, which contains *combustible* load-bearing exterior wood-framed walls (see Table 601 of the 2010 Building Code of NYS).

There is an exception to Section 912.5.1 of the 2010 Existing Building Code of NYS which permits fire barriers to substitute for fire walls, but only if the fire barriers have fire-resistive ratings per 705.4 of the 2010 Building Code of NYS, which permits 2 hour ratings when separating Type II or V construction; and only if such fire barriers comply with Section 706 which, by reference to Table 715.4, requires minimum 1-1/2 hour ratings for fire shutters, and doesn't seem to permit fire-rated glazing assemblies at all, except when tested per ASTM E 119. The existing fire barriers between Milstein, Sibley, and Rand Halls do not meet the requirements of this exception. Not only that, this fire-barrier exception is only applicable to area increases, not to height increases. The exception states, in full: "In other than Groups H, F-1, I and S-1, in lieu of fire walls, use of fire barriers having a fire-resistance rating of not less than that specified in Table 705.4 of the *Building Code of New York State*, constructed in accordance with Section 706 of the *Building Code of New York State*, shall be **permitted to meet area limitations** required for the new occupancy in buildings protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *Fire Code of New York State*" (emphasis added). Therefore, the third-floor A-3 occupancy change would only be compliant if a fire wall were constructed to separate Rand Hall from the V-B construction of Sibley Hall (such a fire wall could be built between Rand Hall and Milstein Hall, or between Milstein Hall and Sibley Hall).

It is not directly relevant to this argument, but any fire barrier provided per Appendix K in the 2002 Building Code of NYS also only permits a floor area increase (Section K902.2), and *does not permit a height increase*. Therefore, even if this proposal to move the library had been made under the 2002 Code, a new third-floor A-3 occupancy would not have been permitted, since mixed occupancies (Chapter 3 of the 2002 Building Code

of NYS) are subject to the height limitations of Chapter 5 and there is a 2-story limit for sprinklered A-3 occupancies in Type V-B construction.

The occupancy type for Rand Hall has been consistently listed as "B" in various inspection reports (Figure 17) or as "C.5.5" in old building permits. Both of these classifications are for educational occupancies, and not for assembly occupancies. Therefore, any proposed change to an A-3 (assembly) occupancy should have triggered the increased level of scrutiny required by the 2010 Existing Building Code, and prevented issuance of a building permit for the Fine Arts Library move.

Nevertheless, a building permit was issued based largely on a flawed "code analysis" prepared by HOLT Architects. Ithaca Deputy Building Commissioner Michael Niechwiadowicz provided a copy of this document to me and confirmed that a building permit was issued on the basis of that report. In my email response, dated Sept. 30, 2011, I explained why the analysis prepared by HOLT was seriously flawed and suggested that any permit issued based on such a faulty analysis be rescinded.

Some of the errors in the HOLT analysis used as a basis for the Rand Hall renovation are as follows:

1. HOLT Architect's code analysis: "Sibley/Milstein/Rand is now considered to be a single mixed-use building with five separate fire areas (West Sibley, Sibley Dome, East Sibley, Milstein Hall, and Rand Hall), separated from one another by 2 hour fire barriers."

The fire barrier between Milstein and Sibley Halls is designed as a 1-hr fire-resistance rated fire barrier with 3/4 hour opening protectives, not as a "2 hour fire barrier" as claimed. The fire barrier between Milstein and Rand Halls has a 1-hr fire-resistance rated door, which is not consistent with a 2-hour fire barrier. This fire barrier also seems to be violated on the ground level, since existing exhaust ducts from the wood/metal shop that penetrate the wall do not seem to be fire-rated at all.

Furthermore, based on 2010 Building Code of NYS requirements triggered by the change to a higher-hazard occupancy, fire barriers do not allow different construction types to be assigned to the various fire areas in a "single building." The governing construction type for the whole "single building," including Rand Hall, is V-B, and A-3 occupancies are not permitted above the 2nd floor of sprinklered V-B buildings.

2. HOLT Architect's code analysis: "Moving the Fine Arts Library from Sibley Dome to Rand III does not constitute a change of occupancy classification for the building (Sibley/Milstein/Rand); the A-3 library use was already a component of the mixed use building."

The idea of an "occupancy classification for the building" is not applicable to a separated mixed-use building: a separated mixed-use building has multiple occupancy classifications corresponding to the occupancy of each separated portion. Moving an A-3

occupancy into a space formerly occupied by a Group B occupancy is, by definition, a change in occupancy classification. The relevant text from the 2010 NYS Existing Building Code is: "912.1 General. The provisions of this section shall apply to buildings *or portions thereof* undergoing a change of occupancy classification" (emphasis added). In other words, each portion of a building is individually classified by occupancy; not just the building as a whole. The reasons are clear: if an assembly space is proposed for space not designed according to the requirements for assembly (even though there may be other assembly spaces elsewhere in the building), then it clearly needs to be reviewed for compliance with the more stringent Code provisions governing the assembly space. In this case, the change of occupancy classification for this portion of the building is a change to a higher hazard category, which triggers the various provisions discussed above, and renders the change in occupancy noncompliant.

Furthermore, if it is claimed that a Group A-3 occupancy classification was assigned to the combined Milstein-Sibley-Rand Hall when Milstein Hall was given a building permit, such a classification for the third floor of Rand Hall would not be compliant, since an A-3 occupancy cannot be placed above the second-floor of a sprinklered building of V-B construction. Section K902.1 of Appendix K in the 2002 Building Code of NYS specifically states that "[n]o addition shall increase the height of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the Building Code for new buildings." Height limitations, in Chapter 5 of the 2002 Building Code of NYS are "shown as stories and feet above grade plane" in Table 503, and are clearly limited to 2 stories for a sprinklered Type V-B building with A-3 occupancy (Figure 18).

3. HOLT Architect's code analysis: "Using the most restrictive occupancy classification (use) for each fire area, and applying the permitted increases for each fire area based on sprinkler protection and frontage, I found the following total allowable fire areas:

East Sibley: Type VB construction, A-3 use.....	18,000 SF
Sibley Dome: Type IIIB construction, A-3 use.....	30,875 SF
West Sibley: Type IIIB construction, B use.....	66,500 SF
Milstein Hall, Type IIB construction, A-3 use.....	30,875 SF
Rand Hall, Type IIB construction, A-3 use.....	30,875 SF

Each of the fire areas is within the corresponding allowable fire area."

The noncompliance of the Fine Arts Library on the third floor of Rand Hall has nothing to do with allowable floor area. Rather, its use is prohibited under Table 503 height restrictions: An A-3 occupancy with a V-B construction type in a sprinklered building cannot be on a floor higher than the second floor. The proposed change in occupancy to a higher hazard (from B to A-3) makes the requirements of Chapter 5 applicable. It is not possible to invoke the area increases that may have been permitted under Appendix K of the old 2002 NYS Code for two reasons: first, the problem with the library on the third floor has nothing to do with floor area; second, the allowances based on Appendix K have no bearing on any Code questions determined by the 2010 Existing Building Code, as these Appendix K allowances are nonconforming. As discussed under item #2 above,

an A-3 occupancy above the second story in sprinklered Type V-B construction is not even permitted for an addition under Appendix K of the 2002 Building Code of NYS. In any case, a change to a higher hazard occupancy requires that the *current* Code provisions govern. The fire barriers that were permitted under the 2002 Building do *not* count as fire walls when a higher hazard occupancy change triggers the provisions of Chapter 5 of the new Code. They become ordinary fire barriers (with no special powers to create separate construction types) under the current Code and, as such, they cannot be used to give Rand Hall a construction type of II-B or anything else other than the construction type governed by Sibley Hall (V-B).

For the record, the Fine Arts Library cannot be moved to the second floor of Rand Hall either. In this case (which has not yet been formally proposed, as far as I know), the problem would involve a floor area increase greater than that allowed per Chapter 5 (again, triggered by the change to a higher hazard occupancy). In such a case, a properly constructed 2-hour fire-resistive rated fire barrier "in lieu of fire walls," per the exception in Section 912.5.1 of the 2010 Existing Building Code of NYS, would be necessary.

The HOLT Architect's code analyses quoted above were prepared by Thomas D. Hoard, Code Analyst for HOLT Architects, P.C. in a letter dated 6 September 2011 addressed to Peter Turner, Assistant Dean for Administration, College of Architecture, Art and Planning, Cornell University, and copied to Mike Niechwiadowicz of the City of Ithaca Building Department. In his email to me dated 28 September 2011, Niechwiadowicz says: "It is my understanding that you requested documents related to the move of the Fine Arts Library from Sibley Hall to Rand Hall. Attached please find the documents you requested. These include the code analysis by HOLT Architects, fire protection plans by HOLT Architects and structural analysis by Robert Silman Associates. The building permit was issued based on these documents. Please direct any questions you have about this project to Assistant Dean Peter Turner."

There are three remedies for this code violation. Either (a) construct a *fire wall* (not a fire barrier) between Rand and Milstein Halls, or between Milstein and Sibley Halls; or (b) upgrade the construction type of Sibley Hall to III-A; or (c) move the library from the third-floor to the second-floor of Rand Hall *and* construct a 2-hour rated fire barrier between Rand and Milstein Hall.

**APPENDIX 1: Excerpts from 2002 Building Code of NYS for Exhibits 1-6.**

**For Exhibit 1**

**1003.2.2 Design occupant load.** In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be established by the largest number computed in accordance with Sections 1003.2.2.1 through 1003.2.2.3.

**1003.2.2.1 Actual number.** The actual number of occupants for whom each occupied space, floor or building is designed.

**1003.2.2.2 Number by Table 1003.2.2.2.** The number of occupants computed at the rate of one occupant per unit of area as prescribed by Table 1003.2.2.2.

**1003.2.2.3 Number by combination.** Where occupants from accessory spaces egress through a primary area, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory space.

**1003.2.2.5 Posting of occupant load.** Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space...

**Table 1003.2.2.2 Maximum floor area allowances per occupant (excerpts)**

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Assembly without fixed seats	
Concentrated (chairs only – not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net

**1004.2 Exit access design requirements.** The exit access portion of the means of egress system shall comply with the applicable design requirements of Sections 1004.2.1 through 104.2.5.

**1004.2.1 Exit or exit access doorways required.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1004.2.1
2. The common path of egress travel exceeds the limitations of Section 1004.2.5.
3. Where required by Section 1007.

**Table 1004.2.1 Spaces with one means of egress (excerpts)**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E, F, M, U	50

**1004.2.1.1 Three or more exits.** Access to three or more exits shall be provided from a floor area where required by Section 1005.2.1.

**1004.2.2.1 Two exit or exit access doorways.** Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half [one-third per exception 2] of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

**1004.2.5 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In occupancies in Groups H-1, H-2, and H-3 the common path of egress travel shall not exceed 25 feet (7620 mm).

Exceptions:

1. The length of a common path of egress travel in Groups B, F, and S shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Exceptions 2-3 not applicable.

**1005.2.1 Minimum number of exits.** Every floor area shall be provided with the minimum number of approved independent exits as required by Table 1005.2.1 based on the occupant load, except as modified in Sections 1004.2.1 or 1005.2.2...

**Table 1005.2.1 Minimum number of exits for occupant load**

OCCUPANT LOAD	MINIMUM NUMBER OF EXITS
1-500	2
501 – 1,000	3
More than 1,000	4

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**For Exhibit 2**

**1003.2.5 Protruding objects.** Protruding objects shall comply with the requirements of Sections 1003.2.5.1 through 1003.2.5.4.

Exception: not applicable

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

**1003.2.5.1 Headroom.** Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2.4 provided minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.

**1003.2.5.3 Horizontal projection.** Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 (686 mm) and 80 inches (2032 mm) above the walking surface.

Exception: not applicable.

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**For Exhibit 3**

**706.6 Openings.** Openings in a fire barrier wall shall be protected in accordance with Section 714. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 120 square feet (11 m<sup>2</sup>). Openings in exit enclosures shall also comply with Section 1005.3.4.

Exceptions:

1. Openings shall not be limited to 120 square feet (11 m<sup>2</sup>) where adjoining fire areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Fire doors serving an exit enclosure.
3. Openings shall not be limited to 120 square feet (11 m<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective assembly has been tested in accordance with ASTM E 119 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.

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**For Exhibit 4**

**505.2 Area limitation.** The aggregate area of a mezzanine or mezzanines within a room shall not exceed one-third of the area of that room or space in which they are located. The enclosed portions of rooms shall not be included in a determination of the size of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the area of the room.

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**For Exhibit 5**

**3410.1 Scope.** The provisions of Appendix K of this code shall control the alteration, repair, addition, change of occupancy, and relocation of existing structures.

**K902.2 Area limitations.** No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the Building Code for new buildings, unless a fire barrier in accordance with Section 706 of the Building Code is provided. [Exceptions not applicable]

**503.1 General.** The height and area for buildings of different construction types shall be governed by the intended use of the building and shall not exceed the limits of Table 503 except as modified hereafter. Each part of a building included within the exterior walls or the exterior walls and fire walls where provided shall be permitted to be a separate building.

**706.3.5 Separation of occupancies and fire areas.** Where the provisions of Section 302.3.3 are applicable, the fire barrier separating mixed occupancies or a single occupancy into different fire areas shall have a fire-resistance rating of not less than that indicated in Section 302.3.3 based on the occupancies being separated.

**302.3.3 Separated uses.** Each portion of the building shall be individually classified as to use and shall be completely separated from adjacent areas by fire barrier walls or horizontal assemblies or both having a fire-resistance rating determined in accordance with Table 302.3.3 for the uses being separated. Each fire area shall comply with the code based on the use of that space. Each fire area shall comply

with the height limitations based on the use of that space and the type of construction classification. In each story, the building area shall be such that the sum of the ratios of the floor area of each use divided by the allowable area for each use shall not exceed 1.

Exceptions:

1. Except for Group H and I-2 areas, where the building is equipped throughout with an automatic sprinkler system, the fire-resistance ratings in Table 302.3.3 shall be reduced by 1 hour but to not less than 1 hour and to not less than that required for floor construction according to the type of construction.

[Exceptions 2-4 not applicable.]

[Note that Table 302.3.3 requires a 2 hour separation between A-3 and A-3, or A-3 and B, or B and B; this is reduced to 1 hour per exception 1.]

For changes of occupancy in existing buildings:

**K801.1 Change of occupancy classification.** The occupancy classification of an existing building or structure or portion thereof may be changed, provided the building or structure or portion thereof meets all the requirements of Chapter K7 (Reconstruction) applied throughout the building of the building for the new occupancy classification and the requirements of this chapter. (Exceptions n/a)

**K801.7 Partial change of occupancy.** A portion of an existing building changed to a new occupancy shall conform to Section K801.7.1 or K.801.7.2.

**K801.7.1 Change of occupancy without separation.** Where a portion of an existing building is changed to a new occupancy classification, and that portion is not separated from the remainder of the building in accordance with the requirements of Table 302.3.3 of the Building Code for the separate occupancy classification, the entire building shall comply with all the requirements of Chapter K7 (Reconstruction) applied throughout the building for the new occupancy classification and with the requirements of this chapter. (Exceptions n/a)

**K801.7.2 Change of occupancy with separation.** Where a portion of an existing building is changed to a new occupancy group, and that portion is separated from the remainder of the building with fire barriers in accordance with the requirements of Table 302.3.3 of the Building Code for the separated occupancy classification, the portion changed shall comply with all the requirements of Chapter K7 (Reconstruction) for the new occupancy group and with the requirements of this chapter. (Exceptions n/a)

**K802.3.1 Height and area for change to higher hazard category.** Where a change of occupancy is made to a higher hazard category as shown in Table K802.3 [e.g., from A with hazard=2 to B with hazard=4], heights and areas of buildings and structures shall meet the limitations of Chapter 5 of the Building Code for the new occupancy group. (Exception n/a)

**K802.3.2 Height and area for change to equal or lower hazard category.** Where a change of occupancy is made to an equal or lower hazard category as shown in Table K802.3 [e.g., to B with hazard=4 from A with hazard=2], the height and area of the existing building shall be deemed to be acceptable.

**K802.3.3 Fire barriers.** When a change of occupancy is made to a higher hazard category as shown in Table K802.3, the fire barriers separating uses in mixed-occupancy buildings shall comply with the requirements in Section K302.3 (Mixed Occupancies) of

the Building Code. [This is an error; as there is no Section K302.3 (Mixed Occupancies), but only Section 302.3 (Mixed Occupancies). Therefore, this section refers to the standards for mixed occupancies in new construction, Section 302.3, which requires the mixed occupancies to conform to Table 503 according to the ratios of actual to allowable floor area for each separated occupancy.] (Exception n/a)

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**For Exhibit 6**

**302.1 General.** Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed below. Structures with multiple uses shall be classified according to Section 302.3. Where a structure is proposed for a purpose which is not specifically provided for in this code, such structure shall be classified in the group which the occupancy most nearly resembles, according to the fire safety and relative hazard involved.."

**302.3.3 Separated uses.** Each portion of the building shall be individually classified as to use and shall be completely separated from adjacent areas by fire barrier walls or horizontal assemblies or both having a fire-resistance rating determined in accordance with Table 302.3.3 for the uses being separated. Each fire area shall comply with the code based on the use of that space. Each fire area shall comply with the height limitations based on the use of that space and the type of construction classification. In each story, the building area shall be such that the sum of the ratios of the floor area of each use divided by the allowable area for each use shall not exceed 1.

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## APPENDIX 2: Code Interpretation 2008-01



### *Code Interpretation 2008 - 01<sup>1</sup>*

**Code Effective Date: January 1, 2008**

**Source Document: 19 NYCRR Part 1225 - Fire Code of New York State (the 2007 FCNYS)**

**Question: Is the occupant load of a room or space within a legally existing building constructed prior to January 1, 1984 limited by Section 1028.3 of the 2007 FCNYS?**

**Interpretation: YES**

A Code Enforcement Official responsible for the administration and enforcement of the provisions of the Uniform Fire Prevention and Building Code (the Uniform Code) in the City of Ithaca, New York has submitted a written request for interpretation of Section 1028.3 of the *Fire Code of New York State* the 2007 FCNYS as it applies to the occupant load of a room or space within a legally existing building constructed prior to January 1, 1984. The specific example cited in the Request For Code Interpretation involves three lecture rooms in Myron Taylor Hall, a building which was constructed in 1932 and which is part of Cornell University's Law School. The Request For Code Interpretation indicates that (1) each lecture room has an occupant load of approximately 85 persons, based on the exit width and seating capacity as required under previous editions of the Uniform Code, and (2) each lecture room has only one means of egress from the room to the hallway. The Request For Code Interpretation also indicates that "the City of Ithaca has recognized Myron Taylor Hall as a legally existing building," that "there have been no renovations or modifications of recent record to any of the lecture spaces in question," and that to the best of the knowledge of the Code Enforcement Official, the rooms "have existed in their present floor plan since they were constructed in the early 1930s."

Section 1028.3 of the FCNYS provides that "*(t)he occupant load of buildings or portions of buildings shall not exceed the capacity of the means of egress from the buildings or portions thereof. Occupant load shall be calculated as provided in §F1004.1. Capacity of the means of egress shall be calculated as provided in section 1005.1, section 1018.1 and section 1024.6.*"

In the case of the lecture halls mentioned in the subject Request For Code Interpretation, the principal concern involves the application of Section 1018.1 and Section 1014.1 (one

of the sections referenced in Section 1018.1).<sup>2</sup> Section 1018.1 of the 2007 FCNYS provides that all rooms and spaces having an occupant load of 1 to 500 shall be provided with and have access to at least two approved and independent exits, “except as modified in (Sections 1014.1 or 1018.2).” Section 1014.1, in turn, provides that in the case of an A occupancy (such as a lecture hall), two exits or exit access doorways from any space shall be provided where the maximum occupant load of the space exceeds 50. If Sections 1018.1 and 1014.1 of the 2007 FCNYS are applied in this case, each lecture hall would have to be posted as having a maximum capacity of 50 persons.

Section 1028.3 of the 2007 FCNYS is clearly intended to apply to buildings that were constructed before January 1, 2008 (the date of which the 2007 FCNYS became effective). Section 102.8 of the 2007 FCNYS provides that “(t)he legal occupancy of any structure existing on the date of adoption of (the 2007 FCNYS) shall be permitted to continue without change, *except as is specifically covered in (the 2007 FCNYS), the Property Maintenance Code of New York State, or the Existing Building Code of New York State.*” However, Section 1028 of the 2007 FCNYS provides that “(m)ean of egress in *existing buildings* shall conform with the requirements of this section.” Section 1028.3 is part of Section 1028. Therefore, Section 1028 (including Section 1028.3) specifically covers existing buildings, and buildings constructed prior to January 1, 2008 must comply with Section 1028.3.

However, Myron Taylor Hall was constructed in 1932. The Request for Code Interpretation cites section 19 of Chapter 707 of the Laws of 1981 for the proposition that Section 1028 of the 2007 FCNYS is not applicable to buildings constructed prior to 1984. The New York State Uniform Fire Prevention and Building Code Act (Article 18 of the Executive Law) was added by Chapter 707 of the Laws of 1981. Section 19 of Chapter 707 of the Laws of 1981 (“Section 19”) provides that:

“Notwithstanding any other provisions of this act (L.1981, c. 707), the provisions of article eighteen of the executive law provided for in section one of this act shall not be applicable to any building constructed or under construction prior to the first day of January, nineteen hundred eighty-four, until the legislature by law expressly provides for financial incentives and assistance for the implementation of such provisions and their applicability to such buildings provided, however, that this section shall not apply to any provision of such article eighteen which is substantially similar to any provision of a code, general, special or local law, or ordinance to which an existing building was subject immediately prior to the effective date of such article.”

Section 19 was construed in *Rabinor V. City of Ithaca Building Code Board of Appeals*, 252 A.D.2d 290 (Third Dept., 1998). The *Rabinor* case involved an ordinance which was adopted by the City of Ithaca in 1995 and which required the installation of a smoke/heat detector system in all structures (including structures constructed prior to 1984) used wholly or partially for residential purposes. The City petitioned the State Fire Prevention and Building Code Council for approval of the ordinance under Executive Law section 379, and such approval was granted. In 1996, the City Building Commissioner ordered Mr. Rabinor to install smoke/heat detection systems as required by the ordinance all

residential property which he and his companies owned. Following an unsuccessful administrative appeal to the City, Mr. Rabinor and his companies commenced an Article 78 proceeding to challenge the City's determination. Supreme Court granted the petition, and the Appellate Division affirmed. The Appellate Division recognized the general authority of a local government to adopt a more restrictive local standard pursuant to section 379 of the Executive Law, but held that the ordinance in question could not be applied retroactively "to buildings plainly beyond the reach of the Uniform Building Code, i.e., those buildings constructed or under construction prior to January 1, 1984." (252 A.D.2d at 293.)

However, notwithstanding the sweeping language of the Rabinor decision, the exception for pre-1984 buildings in Section 19 has been construed and applied very narrowly by other courts, including the Court of Appeals. In *Tarquini v. Town of Aurora*, 77 N.Y.2d 354 (1991), the plaintiff maintained that a provision in the Uniform Code requiring construction of a fence around swimming pools was inapplicable to his pool, which had been constructed prior to January 1, 1984. The Court of Appeals disagreed, holding that the statutory exemption (Section 19) applied only to "buildings" constructed prior to 1984, but not "structures and premises." Therefore, the swimming pool, although constructed before 1984, was not exempted from the Uniform Code.

In an opinion issued 2 1/2 years after Rabinor, the Third Department also adopted a more narrow construction of Section 19. In *Town of Conklin v. Ritter*, 285 A.D. 2d 855 (Third Dept., 2001), the Third Department indicates that Section 19 does not preclude the application of Uniform Code provisions related to *condition, occupancy, maintenance, conservation, rehabilitation and renewal of existing buildings, structures and premises and to the safeguarding of life and property therein and thereabout* to buildings that were constructed prior to 1984. See *Town of Conklin v. Ritter* (Supreme Court, Broome County, Index No. 98-2690, November 5, 1999 Motion Term, Decision and Order dated November 12, 1999).<sup>3</sup> In *Town of Conklin*, the owner of a four-family residential building sought a declaration that Subchapter F (the "Housing Maintenance" provisions of the Uniform Code then in effect) did not apply to his building since it was constructed prior to 1984, citing Section 19. The Supreme Court noted that

"(The Uniform Code) is intended to address, *inter alia*, standards for the construction of new buildings [*Section 378 (1)*], and standards for the condition, occupancy, maintenance, conservation, rehabilitation and renewal of 'existing buildings, structures and premises' and for the 'safeguarding of life and property therein and thereabout' [*Section 387 (2)*]. . . .

"Defendant asserts that his building was constructed prior to 1984 and therefore is exempted from the code. That statutory exemption has been construed and applied very narrowly (citing *Tarquini v. Town of Aurora*) . . . .

"The statute itself makes a distinction between construction of buildings [*section 378 (1)*] and condition, occupancy and maintenance of existing buildings, structures and premises. If the intent was to exempt any building under construction at the time of enactment from

all aspects of the code, then inclusion of the language ‘existing’ with respect to maintenance and safety provisions would have been meaningless. . . .

“Similarly this court recognized a distinction between those aspects of the code regulating building construction and those designed as safety measures aimed at the premises in general and the persons thereon. The purpose of Subchapter F, titled ‘Housing Maintenance,’ is to establish ‘standards governing the facilities and the condition, use, occupancy and maintenance of residential premises, [and] to safeguard the safety, health and welfare of the occupants and users thereof’ [*Section 1240.1*]. The nature of the violations asserted by (the Town) in this action include bat infestation, obstructed exits, deteriorated steps, water leaks, exposed electrical wires, and garbage and debris in the basement. These conditions are covered by and in violation of subchapter F, ‘Housing Maintenance.’ They do not relate to the construction of the building; they are incident to the maintenance of the premises.

“A property owner must be deemed to have purchased a building with a consciousness of the possibility that new technological developments may require installation of newly perfected means of protecting life and limb [12 NY Jur 2d, Buildings, Section 31. Accordingly, a state or municipality may require reasonable changes even in buildings previously erected in order to meet new health and safety standards [*Ibid.*]. This is particularly true in the case of multi-tenant 1999, at pages 3-5, emphasis in original.)

In an appeal of a subsequent order made in the same case, the Appellate Division expressly adopted the Broome County Supreme Court’s reading of Section 19, stating that “(p)reliminarily, we reject defendant’s contention that the maintenance provisions of the Building Code would not be applicable to the subject building since it was in existence prior to the enactment thereof (see, L. 1981, ch. 707, § 19) *for all of the reasons detailed by Supreme Court in its decision and order dated November 5, 1999.*” (*Town of Conklin v. Ritter*, 285 A.D. 2d 855 [Third Dept., 2001], at 855-856, emphasis added.) Thus, the Appellate Division, Third Department, which decided *Rabinor* in 1998, affirmatively adopted the Broome County Supreme Court’s narrow construction of Section 19 in 2001.

The Court of Appeals affirmed, stating that “(t)he courts below correctly concluded that the State Uniform Fire Prevention and Building Code applies to defendant’s building.” (*Town of Conklin v. Ritter*, 97 N.Y.2d 712 [2002], at 713.)

The Supreme Court’s decision in *Town of Conklin* distinguishes between construction related provisions, which are included in the Uniform Code pursuant to subdivision 1 of section 378 of the Executive Law, and provisions related to the condition, occupancy, maintenance, conservation, rehabilitation and renewal of existing buildings, structures and premises and for the safeguarding of life and property therein and thereabout, which are included in the Uniform Code pursuant to subdivision 2 of section 378. The Supreme Court held, in effect, that a literal application of Section 19 would render subdivision 2, and its reference to “existing” buildings, meaningless, and concluded that Section 19 did not preclude the application of subdivision 2 provisions to pre-1984 buildings.<sup>4</sup>

The distinction between provisions related to the construction of new buildings and provisions related to the condition, occupancy, maintenance, conservation, rehabilitation and renewal of existing buildings can be traced to the State Building Construction Code, promulgated under former Article 18 of the Executive Law, and the State Building Conservation and Fire Prevention Code, promulgated under former Article 18-A of the Executive Law. The State Building Construction Code was intended “to provide reasonably uniform standards and requirements for construction and construction materials . . .” (See former section 375 (1) of the Executive Law.) The State Building Conservation and Fire Prevention Code was intended to be a set of “rules and regulations relating to the condition, occupancy, maintenance, conservation, rehabilitation and renewal of certain existing buildings, structures and premises and to the safeguarding of life and property therein and thereabout . . .” (See former section 391 (1) of the Executive Law.)

When it enacted the current version of Article 18 in 1981, the Legislature determined that there should be a single code in effect in all parts of the State, and that the single code should include “standards for the construction of all buildings or classes of buildings . . .” (subdivision 1 of current section 378 of the Executive Law) and “standards for the condition, occupancy, maintenance, conservation, rehabilitation and renewal of certain existing buildings, structures and premises and for the safeguarding of life and property therein and thereabout . . .” (subdivision 2 of current section 378 of the Executive Law, mirroring, verbatim, former section 391 (1) of the Executive Law).

To bridge the gap between the enactment of new Article 18 in 1981 and the effective date of the new Uniform Code to be adopted pursuant to new Article 18 (January 1, 1984), the Legislature provided that the State Building Construction Code and the State Building Conservation and Fire Prevention Code “. . . shall be applicable from and after (March 1, 1982) in every local government that does not on such date have in effect a building or fire protection code. Said state building construction code and state building conservation and fire prevention code shall also be applicable in every local government that on the first day of March, nineteen hundred eighty-two has a building or fire prevention code in effect but which prior to the first day of January, nineteen hundred eighty-four, repeals such code . . .” (Executive Law section 373.)

It appears from the foregoing that the Legislature intended that on and after March 1, 1982, a code providing rules and regulations relating to the *condition, occupancy, maintenance, conservation, rehabilitation and renewal of certain existing buildings, structures and premises and to the safeguarding of life and property therein and thereabout* should be applicable in all areas of the State. Between March 1, 1982 and December 31, 1983, that code was the State Building Conservation and Fire Prevention Code, and that code applied to all existing buildings, including those constructed prior to March 1, 1982. On and after January 1, 1984, that code has been the portion of the Uniform Code included pursuant to subdivision 2 of Executive Law section 378, and that portion of the Uniform Code applies to all existing buildings, including those constructed prior to January 1, 1984.

Section 1028.3 of the 2007 FCNYS limits the occupant load of buildings and portions of buildings. Compliance with section 1028.3 does not require construction or alteration of a building or any part of a building. The Department of State concludes that section 1028.3 is not a *construction-related* provision, but is a provision relating to the condition, *occupancy*, maintenance and/or conservation of existing buildings, and to the *safeguarding of life and property therein and thereabout*. Therefore, the Department of State concludes that section 1028.3 of the 2007 FCNYS applies to all buildings, including those constructed prior to 1984.

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**Ronald E. Piester, AIA**  
**Special Deputy Secretary of State and**  
**Director, Division of Code Enforcement and Administration**  
October 17, 2008

Endnotes

1. The prior version of Code Interpretation 2008-01, dated July 11, 2008, is withdrawn. This Code Interpretation 2008-01 supercedes [sic] the July 11, 2008 version of Code Interpretation 2008-01.
2. Section 1004.1 of the 2007 FCNYS specifies the manner in which the number of occupants for whom means of egress must be provided (the occupant load) is to be determined. Section 1005.1 of the 2007 FCNYS specifies the manner in which the minimum egress width is to be determined. Section 1024.6 of the 2007 FCNYS specifies additional requirements for egress width in Group A occupancies which contain seats, tables, displays, equipment or other material. The Request For Code Interpretation did not provide the information necessary to verify the calculation of the occupant load or egress width; however, calculation of occupancy load and egress width is not an issue raised in the Request For Code Interpretation now under consideration.
3. The Supreme Court Decision and Order in *Town of Conklin v. Ritter* is not officially reported, but is available on-line at [http://decisions.courts.state.ny.us/fcas/FCAS\\_docs/2001SEP/0300026901998104SCIV.PDF](http://decisions.courts.state.ny.us/fcas/FCAS_docs/2001SEP/0300026901998104SCIV.PDF).
4. “The courts may in a proper case indulge in a departure from literal construction and will sustain the legislative intention although it is contrary to the literal letter of the statute.” (McKinney’s Statutes § 111.) “Generally, statutes will be given a reasonable construction, it being presumed that a reasonable result was intended by the Legislature.” (Id. § 143.) “A construction which would make a statute absurd will be rejected. (Id. § 145.)