

Email from Mike Nugent: independent contractor reviewing MHS drawings for Building Permit approval.

Sent November 14, 2007 to Nick Collins

- 1) Need a statement of Special Inspections that conforms to Chapter 17. Because of the seismic design category, a seismic Q/A plan and contractor's statement of responsibility is required. *See attached copy of Special Inspections report from Becker.*
- 2) Need a COMcheck report establishing compliance with the 2003 International Energy Code. **Report being compiled 11/27/07**
- 3) What kind of cooking equipment will be used in the kitchen? *Microwave. (other equipment includes a residential refrigerator and dishwasher).*
- 4) Because this is an A3 use group and type 3A construction, how many stories is this structure in IBC terms and does the addition to the Mezzanine make it non-conforming to Section 505? *Please note that this is type 3B construction: three stories as defined by IBC.*

The addition to the mezzanine is a landing of 54 s.f. that connects the mezzanine to the elevator and to the fire stair. Previously the only access to the mezzanine was from a non-conforming stair, which is being removed. The landing in the new building (the "addition") provides improvement off he life-safety egress from this level. The addition meets Exception 1 under 505.4 "Mezzanines or portions thereof are not required to be open to the room in which the mezzanine is located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10."

The mezzanine does not meet Exception 3 by one square foot. "Mezzanines or portions thereof are not required to be open the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area." The aggregate area of the mezzanine = 534 s.f. and the area of the enclosed portion = 54 s.f. We are looking for relief of this requirement based on the minimum amount of overage.

- 5) The plan sets that were provided are not stamped.
- 6) Please provide a spec book.
- 7) Please confirm that all stair risers will not exceed 7 inches. *See sheet 13/A8.01 which indicates that the risers of the new stair are in compliance with code and shall not exceed 7 inches. Please note that the existing stair, with risers of 7 ½" is to remain and complies to code as per IBC 3403.1 Existing Buildings or Structures: "...Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure."*
- 8) Please confirm and direct me to the area of the submission that establishes that all construction that supports the 2 hr shafts has at least a 2hr fire resistance rating. Also please provide the UL listing for this rating. *Wall construction is shown on all floor plans with a partition type tag, which references sheet A11.03, partition types, in which the construction of partition types is shown and, where applicable, U.L. designations are listed. Please note, too, that the structural plan drawings use the designation "F.R." next to steel that is to be fireproofed.*
- 9) What is the actual potential maximum occupant load for each floor of the existing and proposed structure and please provide analysis that shows that the proposed number of plumbing fixtures complies with the State of Maine Plumbing Code (200 UPC). *See response below.*

10) I'd like to know more about how the structure will be used specifically. *The Maine Historical Society Research Library is used for the storage of and public use of the Society's historic archival print collections. The existing building will be used for staff spaces as well as public reading rooms and open stacks. The new addition provides for compact collections storage, accessible only to the staff, as well as staff offices, the staff lunchroom, and a conference room.*

Project Overview

The Maine Historical Society Research Library addition and renovation project includes a 9,927gsf addition to the existing stack and reading room for collections storage space and staff offices. The original 1907 library building is listed on the National Historic Register; so the renovation project includes relatively little work in the historic rooms. There will be no net increase in staff from the existing plan, and actual occupancies for the past several years as supplied by the client are as follows: seven to ten employees, and an average number of total visitors per day of twenty-five. It is typical that less than half of the total daily visitors occupy the building at any given time, so the typical total building occupancy is approximately twenty persons.

The new addition has collection storage spaces at each level, with some staff offices at two levels, and a staff breakroom at the garden level. The existing building has a limited public access reading room on the second floor, a public-access reading room on the first floor, and staff office space and collections storage on the garden level. Plumbing fixture locations are as follows below.

Plumbing Fixture Requirements

The library is identified as a public building per Table 4-1 in the UPC. The occupancy as determined by life safety calculations is 189 persons: which breaks down to 95 male, 95 female given the minimum number of fixtures per sex at 50% of the occupant load. Fixture requirements for the building are as follows given the occupancy: one w.c., one urinal, and one lavatory for males, four w.c.'s, and one lavatory for females. Article 413.2.1 Access to Fixtures requires that "in multi-story buildings, accessibility to the required fixtures shall not exceed one (1) vertical story."

The drinking fountain requirement is one per 150 persons, with an additional one for every 300 thereafter; per this the building requirement is two drinking fountains. Endnote 13 of the UPC's Table 4-1, however states the following "There shall be a minimum of one (1) drinking fountain per occupied floor in schools, theaters, auditoriums, dormitories, offices or public building."

Proposed Plumbing Fixture Design

The design as shown in the construction documents provides fewer fixtures than required: the design is short one female water closet and two drinking fountains.

The building as designed provides at the garden level: two lavatories, two urinals, and one w.c. for males, two lavatories and three w.c.'s for females. There is also a single-occupant accessible restroom at the first floor. There is one drinking fountain at the first floor, although there is also a sink in staff kitchen and one in the staff office space, both at the garden level.

Although the proposed design does not meet the UPC standards in three areas (one female w.c. short, one drinking fountain short and one extra story of travel required to access to fixtures), this office's opinion is that this is a sufficient level of compliance given the particular conditions of the project. The Historical Society building is a small historic building of recognized national importance, with well-established patterns of occupancy far below the life-safety occupancy figures whose use the UPC would require. Because it is an historic renovation there is relatively little work at the existing historic reading rooms and stacks, and because it is a document archive it is strongly recommended to restrict "wet rooms" to building locations where they will not be above or adjacent to collections storage. We note also that the library has operated for decades with a very small number of plumbing fixtures, per the table below; realistically the proposed plumbing fixture design will provide capacity that they will rarely, if ever, need.

	Total S.F.	# w.c.	# urinals	# drinking fountains	# Staff
Pre-renovation library	8,720	1	0	0	10
Post-renovation library	18,647	5	2	1	10