

Facilities Planning

Newsletter 98 – June 2009

Office of Facilities Planning Newsletter #98 – June 2009

From the "Clerks of the Works "

Certification of Substantial Completion:

When sending in this form please make sure that all the information is filled out. The areas that have routinely been omitted are:

- Inspection date: that work was performed on the project.
- Date of Substantial Completion of the project when completed.
- Signature of Architect or Engineer

Alterations to the language on the form will not be accepted! When any of the above is omitted, the form will be returned for completion.

Change Orders:

Please make sure that the (SED) project number(s) are correct and the number on the front page matches the (SED) project number(s) on the Certification page.

The Certification page should be stapled to the back of the Change Order.

All areas on the change order is signed and dated.

When any of the above is omitted, the form will be returned for completion.

LOIs:

The areas which mistakes occur when Letter of Intent (LOI's) are received are:

- Where the construction will be taking place.
- Address- PLEASE MAKE SURE THE ADDRESS IS CORRECT,

When any of the above is omitted, the form will be returned for completion.

Review Numbers:

When sending in the information so that a Project Review Number can be issued, please make sure that all documents are included and stapled. If paperwork is missing, it will be sent back for completion. This will delay the process for issuing a project review number.

From the Project Managers

Bus garages

We are in the process of re-evaluating the construction of new bus garages and additions to existing bus garages as it pertains to bus storage. We have recently seen many submissions with requests to construct storage facilities to house the entire district's bus fleet and believe this is excessive.

Outdoor storage of school busses is a cost effective and reasonable approach to storing a district's fleet. There is no proven benefit to indoor storage and the construction and maintenance of such facilities is expensive.

As we work towards developing specific guidelines for bus garage construction, we encourage you to consider the following:

- > Consider that no more than fifty percent of a district's bus fleet needs to be undercover. The guidelines we are developing will likely indicate that NO busses need to be undercover.
- > Develop the school bus garage site such that security systems, fencing, lighting and block heaters provide for protection of the bus fleet.
- > In heavy snow regions, consider designing snow removal stanchions that facilitate the removal of snow in a semi-automatic fashion. In such an arrangement, a bus is driven through the apparatus and the overhead brushes scrape the snow off to within about an inch of the top of the bus. The remainder is removed manually with snow brushes.
- > In districts subject to re-organization, please consider the needs of a re-organized district in your planning. This includes siting of the bus garage. What may be an ideal location for a district's bus garage may prove very unworkable in a re-organized district. Please note that we will need to see comments on this on the Application for Apportionment of Building Aid form, which must accompany submission documents for all proposed projects for districts subject to re-organization.

From the Architects

Asbestos License

Asbestos reminder: The New York State Department of Labor asbestos regulations require anyone designing an asbestos project to have a valid asbestos project designer certificate, and be employed by a licensed asbestos contractor. Please don't forget to procure or maintain the asbestos contractor license.

Additions and Requirement for Fire Walls:

We continue to see many project submissions that include additions to existing buildings increasing the area of the building beyond that allowed by "Code", that do not include a fire wall separating the addition from the existing building.

The 2007 Existing Building Code of NYS, Chapter 9, Section 902, paragraph 902.2 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 of NYS for new buildings unless fire separation as required by the Building Code of NYS is provided."

Chapter 5 of the 2007 Building Code of NYS contains the definition of building area as: "AREA, BUILDING. The area included within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts."

The 2002 Building Code of NYS contained language in Appendix K, Section K902, paragraph K902.2 stating: "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."

The 2007 "Code" no longer contains language allowing the use of a fire barrier as a separation between buildings.

The 2007 Existing Building Code of NYS, Chapter 9, Section 902, paragraph 902.2 contains two exceptions where a fire wall is not required. Those exceptions in general include infilling of floor

openings, nonoccupiable appendages such as elevator and exit stair shafts, and a 25 percent increase in floor area for one- and two-story buildings beyond what is permitted by the Building Code of NYS.

The 2007 Building Code of NYS, Chapter 7, Section 705, contains requirements for fire walls. Those requirements include: "The extent and location of such fire walls shall provide a complete separation", and, "Fire walls shall have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall".

Please review your projects for compliance with the "Code" regarding separation of building areas by use of a fire wall not a fire barrier prior to submission to facilities planning.

Building Area vs Fire Area:

We also see the terms "building area" and "fire area" used interchangeably on documents.

When planning an addition or new building, the Building Area (as discussed above) per floor needs to comply with Table 503 of the "Code".

The 2007 Building Code of NYS contains the definition of fire area as: "FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or fire-resistance-rated horizontal assemblies of a building." This is not the same as "Building Area" as defined in Chapter 5 of the "Code". The aggregate floor area of fire areas can include multiple floors of a building if the floors are not separated by 2 hour fire-resistance-rated construction, while the aggregate "building area" is per floor.

For educational occupancies, the fire area is limited to 20,000 square feet unless an automatic sprinkler system is provided per Chapter 9, Section 903, paragraph 903.2.2.

We are concerned with the existing building fire areas and building areas only to the extent you are including part of the existing building in your allowable calculations; and to assist in our review for required opening protectives.

Electronic review reminders

- Name the drawings - do not just use drawing numbers
- Name the specifications - do not just use specification numbers
- Load civil & structural drawings in architectural review folder not engineering review folder
- Highlight SED required items in spec sections - similar to "paper clip" method used for paper copy of spec - this will save time searching for correct wording in spec sections
- Keep drawing and specification names and numbers consistent for each submission (original and addenda) such that the current and previous document revisions (versions) are connected and manageable
- Address every comment provided by SED - either provide an addendum design document change or a clarification/response letter (signed by the A/E of record)
- Addendum changes to Specifications - "cloud" changes, highlight changes, or use different font color for changes
- Addendum changes to Drawings - "cloud" any changes made to each drawing

From the Engineers

Face-to-face reviews

The SED engineers must have a full set of up to date 100% construction drawings (civil, structural, architectural, and engineering). The SED architects must have a full set of up to date 100% construction drawings (civil, structural, architectural). One full set of up to date 100% construction specifications is required.

If the original submission set that was sent to SED includes up to date 100% construction drawings (civil, structural, architectural, and engineering), this will be acceptable for the SED engineer to review. Please bring an additional full set of up to date 100% construction drawings (civil, structural, architectural) for the SED architect to review. If the original submission set that was sent to SED includes up to date 100% construction specifications, this will be acceptable for the SED engineer and architect to review.

Emergency Boiler Shutdown

The use of break glass stations to shut down boilers is no longer required, and is not recommended. Break glass stations present their own set of problems. However, a means to shut down power and fuel to boilers is still required.

The following is a proposed revision to the "Manual of Planning Standards" under the paragraph that starts with, "The following general boiler room provisions must be provided:

"Emergency shut off controls clearly labeled at boiler room entrance or entrances (inside or outside of boiler room) to de-energize the primary control circuit and to close the main fuel valves and shut down the fuel pumps to stop the flow of fuel through the burner during an emergency."

Fire Alarm Strobe Coverage in Single Water Closet Toilet Rooms:

There have been some questions as to the extent of visible alarm notification appliance (fire alarm strobe) coverage in classroom toilet rooms. Toilet rooms that open off classrooms, typically, contain a single water closet for the use of classroom occupants at lower grade levels. It is recognized that classroom toilet rooms for the lower grade levels are typically supervised toilet rooms. The classroom instructor, or aide, has an obligation to clear the spaces under their control when the fire alarm notification devices are activated.

When a fire alarm system is upgraded, or replaced, or a new fire alarm system is installed, strobe coverage must be provided.

Given that the "Code" requirement has an impact on existing buildings; and that there are many, existing, classroom toilet rooms that do not meet the accessibility requirements of ANSI A117.1; and that classroom toilet rooms for lower grade levels are considered supervised spaces, we are going to treat classroom toilet rooms differently in existing buildings than in new construction.

Fire alarm strobes must be provided in the following toilet room locations when required by Code:

- Strobes in New Construction or existing toilet rooms altered to meet the accessibility requirements of ANSI A117.1:
 - All toilet rooms must have strobe coverage with the following exception.
 - Any toilet room for the exclusive use of one person, if the person is not hearing impaired.
- Strobes in Existing Buildings:
 - All toilet rooms must have strobe coverage with the following exceptions.
 - Any toilet room for the exclusive use of one person, if the person is not hearing impaired.

- Classroom toilet rooms in lower grade levels that are accessed from only one classroom; and do not meet the accessibility requirements of ANSI A117.1; and will not be used by someone who is hearing impaired.

Emergency Lights and Classroom Toilet Rooms:

Section 1028, Means of Egress for Existing Buildings of the "Fire Code of NYS" (2007) is retroactive for all buildings. For an education (E) occupancy, Section 1028 calls for emergency light coverage in interior stairs, corridors, windowless areas of student occupancy, shops and labs. When this first came out as Section 1012 of the "Fire Code of NYS" (2002) there was considerable discussion as to what this portion of the section meant.

The requirements for emergency light coverage in new construction are generally as follows:

- All spaces requiring two or more means of egress;
- Corridors and stairways;
- Exterior egress components;
- Interior exit discharge elements as allowed by code (vestibules);
- Exterior side of exit discharge.

There were two ways of interpreting the emergency light portion of Section 1028. The first is less strict than "Code" for new construction. The second is in some ways more strict than "Code" for new construction. They are as follows:

1. Only those spaces requiring two or more means of egress; and are windowless areas of student occupancy, shops or labs require emergency light coverage. All interior stairs and all corridors require emergency light coverage.
2. Spaces that are windowless areas of student occupancy, shops or labs require emergency light coverage. All interior stairs and all corridors require emergency light coverage.

The analysis included the following:

- Assembly spaces: With respect to spaces requiring two or more means of egress (assembly spaces), there is no difference, between Interpretations One and Two. Only those assembly spaces that are windowless require emergency light coverage. This was considered a non-issue for our jurisdiction, because the Regulations of the Commissioner of Education require emergency lights in most assembly spaces.
- Corridors and Stairs: All corridors and stairways are covered, regardless of interpretation.
- Shops and labs: With respect to shops and labs, it was felt that there are few, if any, shops and labs in schools under our jurisdiction that have an occupant load large enough to require two or more means of egress. It is also unlikely that shops and labs in the state would have an occupant load requiring two means of egress. Thus under Interpretation One, few, if any shops or labs would receive emergency light coverage. So why specifically add those spaces to the list? It was felt that shops and labs were placed in the list due to the nature of the obstructions in the space, and because students may be using or may come in contact with hazardous equipment or substances (hot equipment, rotating equipment and/or chemicals).
- Windowless areas of student occupancy: Under Interpretation One only those spaces that require two means of egress, and are windowless, would require coverage. Under Interpretation Two, potentially every windowless area of student occupancy would receive emergency light coverage. For some time prior to the 2002 "Code" we had been recommending emergency light coverage in spaces that were both windowless, and difficult to navigate to (or locate) the egress door. These spaces included locker rooms, gang toilet rooms, classrooms, and mechanical equipment rooms. It was also recognized that size does matter. There are a great number of toilet rooms that open off classrooms that are barely large enough to contain a water closet. Some may be large enough to contain a water closet and a lavatory, but are still very small. Some classroom toilet rooms are so small that the

doors must open out of the toilet room. These rooms likely have a single light fixture with a single lamp.

Because the wording in the "Code" specifically included shops and labs, we assumed that the Interpretation Two was the correct one. In addition, since 1994, NFPA 101 "Life Safety Code" has specifically called for emergency light coverage in Existing Educational Occupancies in the same areas as Section 1028 of the Fire Code plus some additional areas. Even though NFPA 101 does not apply, we believe it provides some insight as to the intent of the Code

We required emergency light coverage in windowless student occupied areas with the exception of areas we felt were small enough that it would be easy to find the door, even if the light(s) went out. The line was drawn such that windowless, single water closet toilet rooms were not required to have emergency light coverage while windowless, multiple fixture (water closet/urinal), toilet rooms were required to have emergency light coverage.

With respect to classroom toilet rooms, these are typically provided for younger age groups. It is assumed that classrooms for these age groups have constant supervision when occupied. A student would not be left in a darkened toilet room for any period of time.

Since that time, the thinking has changed somewhat. It is recognized that some occupants of accessible toilet rooms (accessible in accordance with ANSI A117.1) may have additional difficulties in negotiating egress from a single water closet toilet room, and emergency light coverage would be beneficial for those occupants. We have started requiring emergency light coverage in all windowless, accessible toilet rooms used by students. Generally, we will not require emergency light coverage in single water closet toilet rooms used by students that are not accessible.

Other Emergency Light Coverage Issues:

Please note that we require emergency light coverage in gang toilet rooms that are open for use when assembly spaces are open, whether they are windowless or not, due to the potential to use these spaces after dark. This is above and beyond "Code", but it makes sense.

Please note that if exterior lights are provided or replaced; and emergency light coverage is required in the area(s) served by these lights (in accordance with code requirements for new construction); then emergency light coverage must be provided.

Please note we still recommend emergency light coverage in new, windowless, staff occupied spaces, that pose difficulties in accessing the egress door (such as mechanical equipment rooms, electric rooms, and large storage rooms).

Please note that the emergency light portion of Section 1028 also includes requirements for both the length of time of operation of the emergency lights; and the maintenance, inspection, testing and recordkeeping of the emergency power system(s). Any evaluation of emergency light coverage in an existing building must include a determination of whether the existing emergency power system(s) have been maintained, inspected and tested in accordance with the "Code" or standard at the time of original installation.

Please note that we strongly recommend any existing, central, power system, installed prior to 1974 be updated to comply with the existing code requirement for emergency lights to be on or come on within 10 seconds after loss of power. Emergency lights in any system installed after 1974 must be on or come on within 10 seconds after loss of power.

Please note that we strongly recommend for new construction that sufficient emergency lighting be provided at the exit discharge to get occupants away from building. In particular, discharge locations with ramps and stairs.

If you would like to have this Newsletter sent directly to you by e-mail, please send your e-mail address to Curt Miller at hmliller2@mail.nysed.gov.

Please continue to send in your comments and requests. If you have a subject you would like addressed, feedback on the material you read, input or general comments we are happy to hear from you.