

Third Party Review Vendor Training Refresher

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**Office of Facilities Planning
NYS Education Department
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Resources

➤ Guides:

- ❖ [Guidance Document for Technical Project Review](#)

➤ Previous TPR Trainings:

- ❖ [Architectural Training Presentation \(2019\)](#)
- ❖ [Engineering Training Presentation \(2019\)](#)

➤ Please note that codes have changed since these documents were created and the therefore may include outdated references



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK

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GUIDANCE DOCUMENT FOR TECHNICAL PROJECT REVIEW

Referenced Codes Rules and Regulations:

UCS: 2016 Uniform Code Supplement
IBC: International Building Code 2015
IFC: International Fire Code 2015
IMC: International Mechanical Code 2015
IPC: International Plumbing Code 2015
IGC: International Fuel Gas Code 2015
IEBC: International Existing Building Code 2015
ECCC: 2016 Supplement to the New York State Energy Conservation Construction Code
MPS: Manual of Planning Standards (1998)
155: 8 NYCRR 155 Regulations of the Commissioner of Education

1. SED PROJECT SUBMISSIONS:

a. COMPLETE, COORDINATED, CODE COMPLIANT

COMPLETE: The project design documents, plans and specifications, must include all design information and details required to determine code compliance. Missing information is not acceptable:

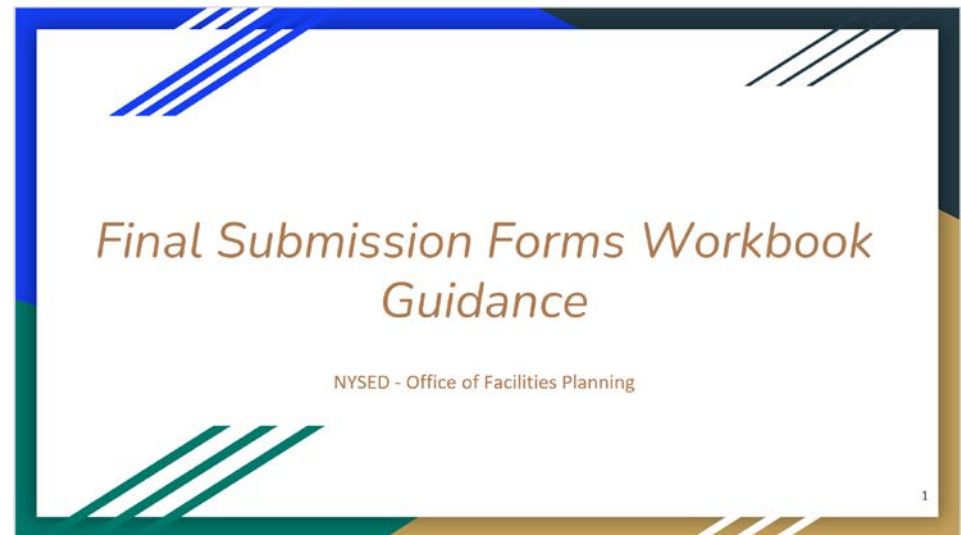
- Rated walls, rescue windows, travel distance to exits;
- Fire dampers, smoke dampers;
- Electric circuits, emergency lighting, exit signs, fire alarm devices;
- Sizes and ratings of materials and equipment, such as wire, conduit, fuses, circuit breakers, pipes, ducts, strobe candela, etc. must be indicated; and
- Specification sections must be complete/

If you believe you have a set of plans that are not complete, and not reviewable, stop review and contact SED.

COORDINATED: The project design documents, plans and specifications, must be fully coordinated among all trades. Fire rated construction shown on architectural drawings must be coordinated with mechanical drawings such that required fire dampers are shown. Smoke barrier construction shown on architectural drawings must be coordinated with mechanical and electrical drawings such that required smoke dampers are shown. Secondary (emergency) roof drains must be coordinated between the architectural, civil, and plumbing drawings. Site features, shown on civil drawings which require power, such as pumps and signs, must be coordinated with electrical drawings such that required electrical circuits are shown. Electrical requirements for equipment provided by the mechanical contractor must be coordinated with the electrical drawings.

New Resources

- Reference OFP Home Page for updates:
 - ❖ <http://www.p12.nysed.gov/facplan/>
- New Forms and Checklists:
Updated workbook and an associated guidance
PowerPoint document
 - ❖ [Forms Workbook](#)
 - ❖ [Forms Workbook Guidance](#)



New Resources

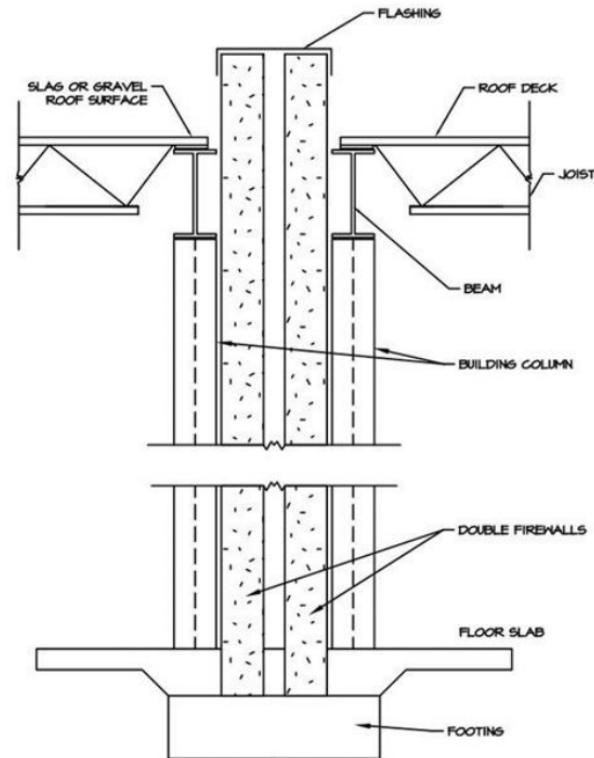
- [School Security and Door Hardening Memo 2022](#)
 - Outlines what door hardware is permitted
 - Describes the code sections governing door hardware
 - Describes the risks of using unpermitted after market door hardware
 - Shares links to further research on the topic of intruder door hardware

- Some visual examples of available code-compliant products:



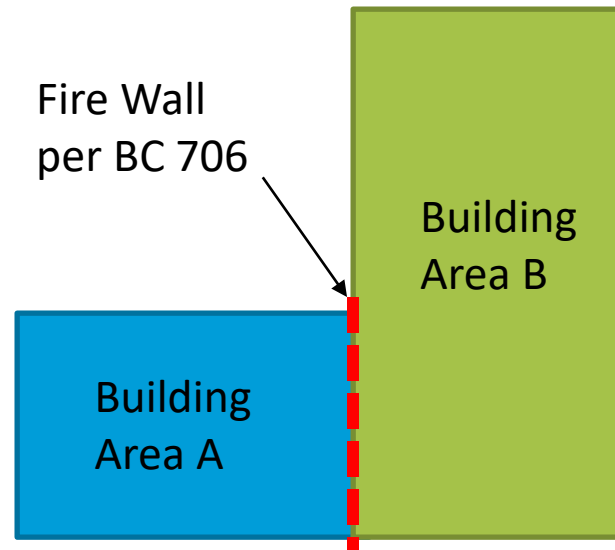
Building Area Vs. Fire Area

- A significant reoccurring issue that has been missed is a building addition without code compliant separation.
- The design team will evidence appropriate separation for a new Fire Area, but not properly provide a Fire Wall to separate the new Building Area from the existing building and pushing the Building Area past the limitations set by the code.



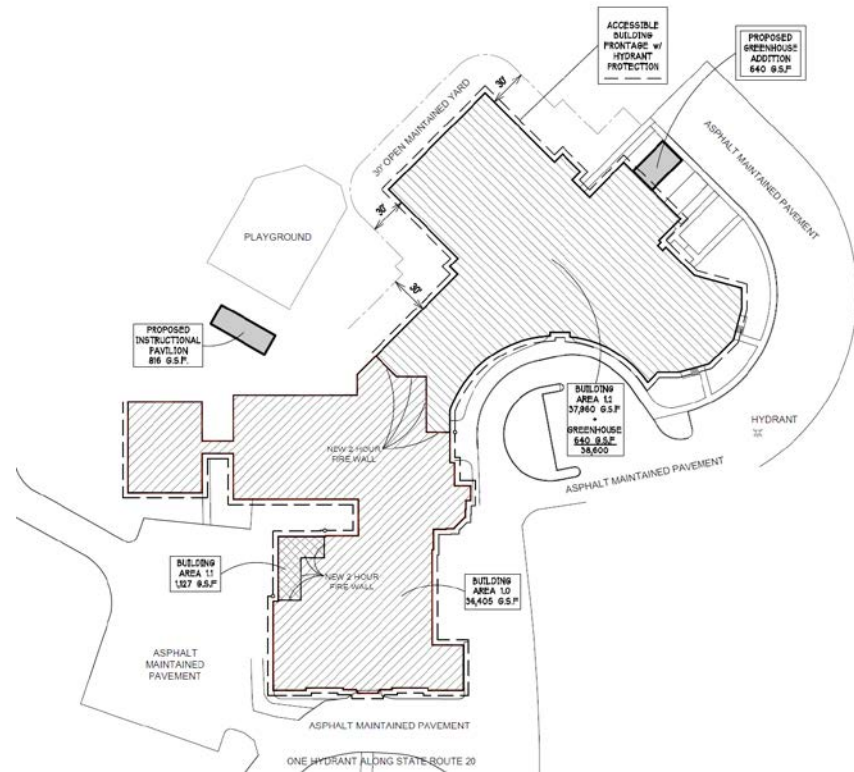
Building Area

- Building area definition:
- “The area included within surrounding exterior walls, or exterior walls and fire walls, exclusive of vent shafts and courts. Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included with the horizontal projection of the roof or floor above.”



Building Area

- Building area limits for existing buildings:
- EBC Section 1102.2, which references Chapter 5 of the BC.
- See section 506 Building Area.
- Area limit is based on the building's
 - type of construction
 - occupancy classification
 - sprinkler system
 - amount of frontage.
- A calculation must be performed and areas clearly documented



Building Area

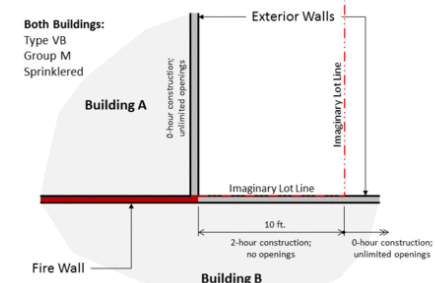
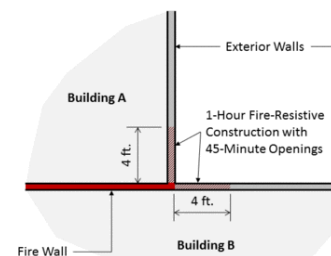
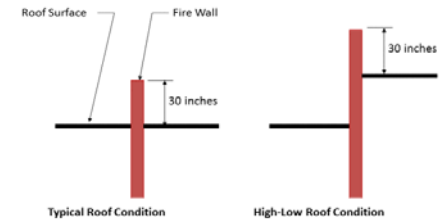
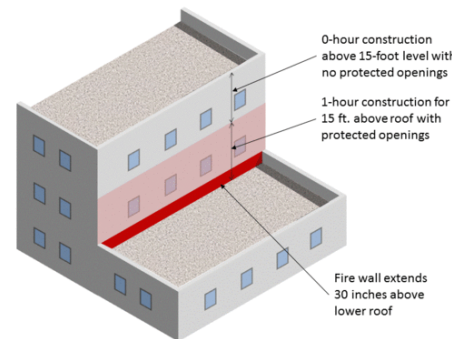
- If an addition will cause a building area to be above the limit established by Section 506, then the addition must be separated by a fire wall compliant with Section 706 Fire Walls.
- Fire walls have requirements
 - structural independence
 - continuity
 - extensions beyond exterior walls and roof
 - openings / penetrations
 - others
- A 2 hour fire barrier is not sufficient unless a DOS variance has been approved for such a substitution.

TABLE 706.4 FIRE WALL FIRE-RESISTANCE RATINGS

GROUP	FIRE-RESISTANCE RATING (hours)
A, B, E, H-4, I, R-1, R-2, U	3 ^a
F-1, H-3 ^b , H-5, M, S-1	3
H-1, H-2	4 ^b
F-2, S-2, R-3, R-4	2

a. In Type II or V construction, walls shall be permitted to have a 2-hour fire-resistance rating.

b. For Group H-1, H-2 or H-3 buildings, also see Sections 415.7 and 415.8.



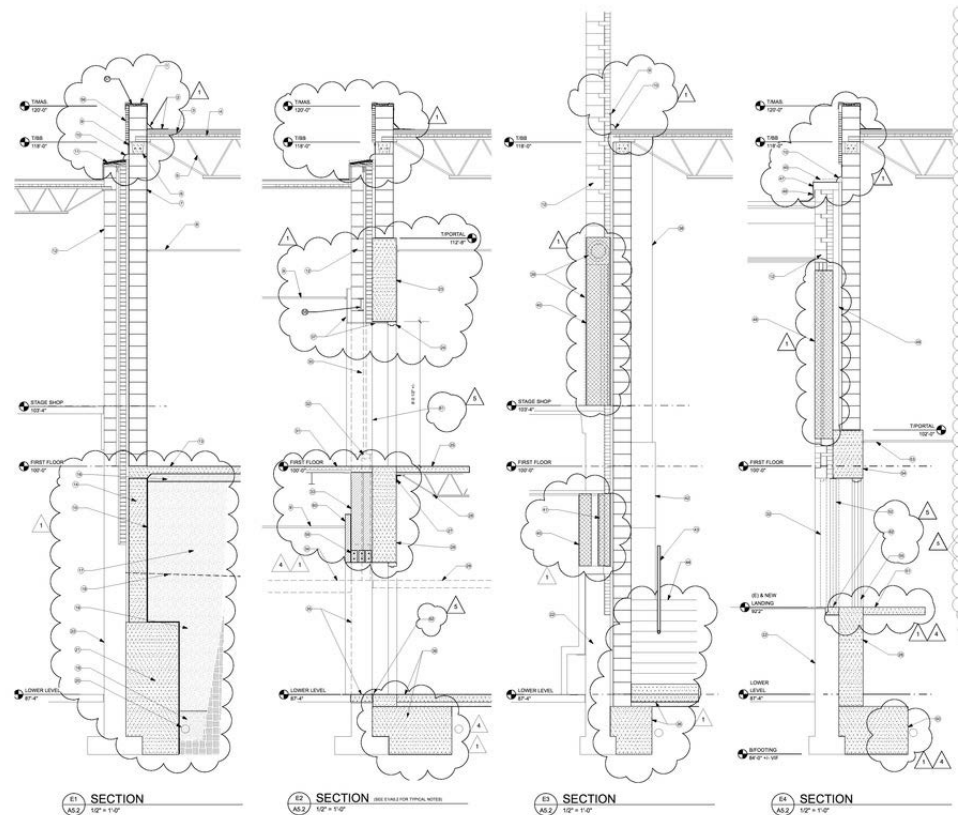
Building Area

- There are multiple ways of achieving the structural independence requirements of section 706. See code wording at the right. Designs may include:
 - Non-bearing, free standing wall w/ openings
 - Bearing wall with portal frames where openings occur
 - Bearing wall with break-away clips on the free standing wall
 - Triple wall
 - Others!
- Work with your structural engineer.

706.2 Structural stability.

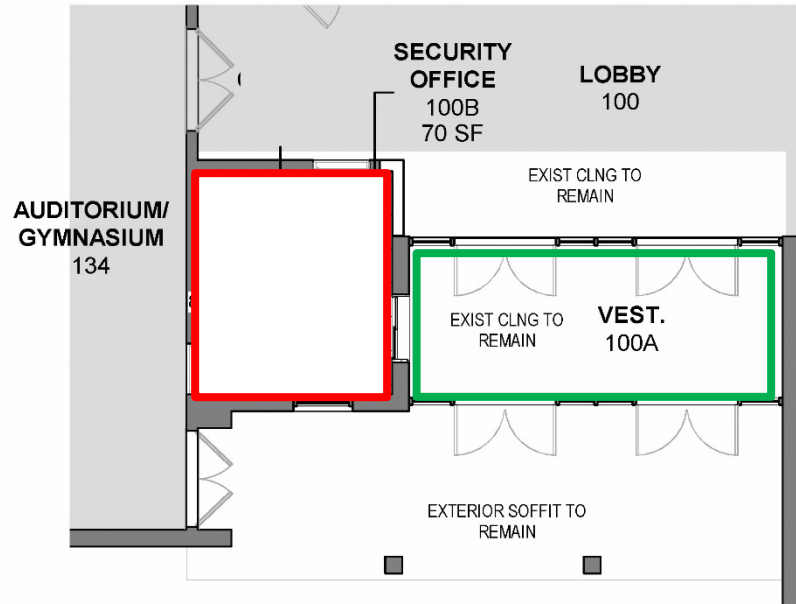
Fire walls shall be designed and constructed to allow collapse of the structure on either side without collapse of the wall under fire conditions. *Fire walls* designed and constructed in accordance with NFPA 221 shall be deemed to comply with this section.

Exception: In Seismic Design Categories D through F, where double *fire walls* are used in accordance with NFPA 221, floor and roof sheathing not exceeding $\frac{3}{4}$ inch (19.05 mm) thickness shall be permitted to be continuous through the wall assemblies of light frame construction.



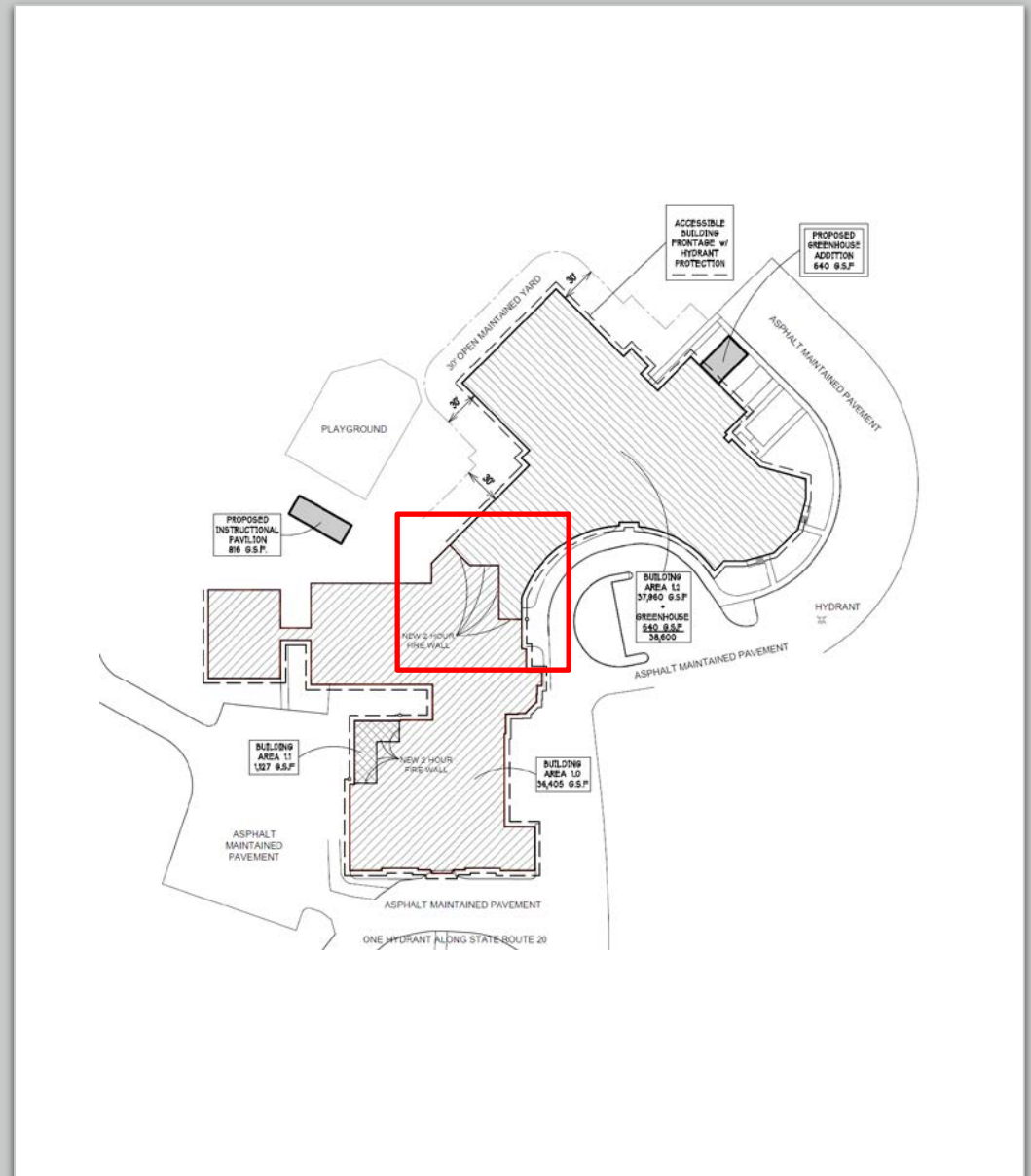
Building Area

- Additions do include
 - Greenhouses
 - Security guard stations
 - Any occupied space
- EBC 1102.2 does have an exception that building area limits may be surpassed for nonoccupiable appendages
 - Elevators
 - Exit Stairway shafts
 - Vestibules



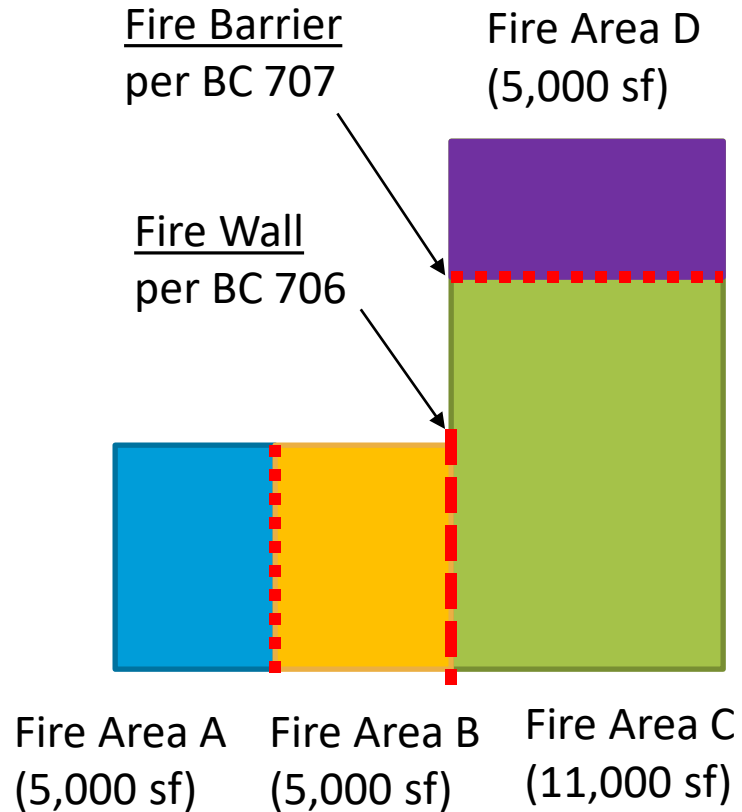
Building Area

- Using existing Fire Walls to evidence appropriate separation of a building into compliant Building Areas during an addition project, and thus eliminating the need for a new Fire Wall is permitted.
- But only when evidence is provided that the existing Fire Wall meets the requirements of the current code (706). Existing drawings, developing documentation on the existing conditions, on site photos, etc. for the TPR vendor's review.



Fire Area

- Fire area definition:
- “The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.”



Fire Area

- EBC Section 1102.3, which references Chapter 9 of the BC. Section 903 Automatic Sprinkler Systems.
- For un-sprinklered buildings, the fire area limit is based on the building's occupancy classification.
- The 2020 BC limits for E occupancy are copied here:

[F] 903.2.3 Group E.

An *automatic sprinkler system* shall be provided for Group E occupancies as follows:

1. Throughout all Group E *fire areas* greater than 12,000 square feet (1115 m²) in area.
2. The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an *automatic sprinkler system* is not required in any area below the lowest level of exit discharge serving that area.

3. The Group E fire area has an occupant load of 300 or more.

Fire Area

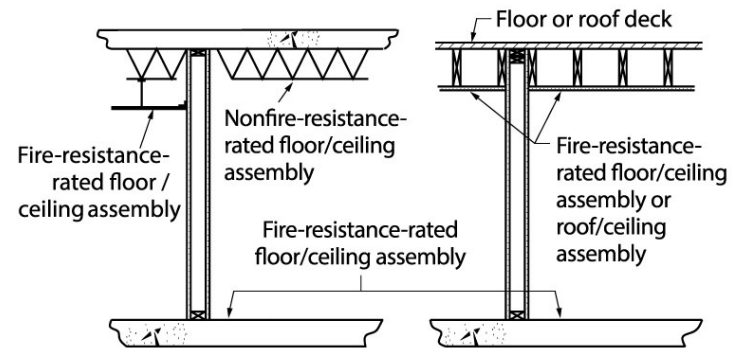
➤ If an addition will cause a fire area to exceed the limit established by Section 903, then the addition must be separated (at minimum) by a fire barrier compliant with Section 707 Fire Barriers.

- A fire barrier has lesser requirements than a fire wall. But still has requirements for:
 - Continuity
 - Fire resistance rating
 - Opening protectives
 - Penetrations
 - Etc.
- Alternatively, the entire fire area for which the addition will be included may be sprinklered.

TABLE 707.3.10

FIRE-RESISTANCE RATING REQUIREMENTS FOR FIRE BARRIERS, FIRE WALLS OR HORIZONTAL ASSEMBLIES BETWEEN FIRE AREAS

OCCUPANCY GROUP	FIRE-RESISTANCE RATING (hours)
H-1, H-2	4
F-1, H-3, S-1	3
A, B, E, F-2, H-4, H-5, I, M, R, S-2	2
U	1



- Diagrams to evidence how an addition is compliant with Fire Area restrictions is very valuable.



Reminders

- There are multiple documents housing requirements that your review must cover:
 - Uniform Fire Prevention and Building Code and Energy Conservation Construction Code.
 - NYSED Manual of Planning Standards 1998 [MPS 1998](#)
 - Commissioner's Regulations Part 155 [155 Regs](#)
 - Section 155.5- Safety During Const. & Renovations
 - Section 155.7- Min. Standards for Public Schools
 - Asbestos 12NYCRR Part 56 & AHERA
 - Americans with Disabilities Act
 - NYS Parks, Recreation and Historic Preservation
 - DEC – SEQRA, FEMA – Flood Plain Restrictions



Reminders

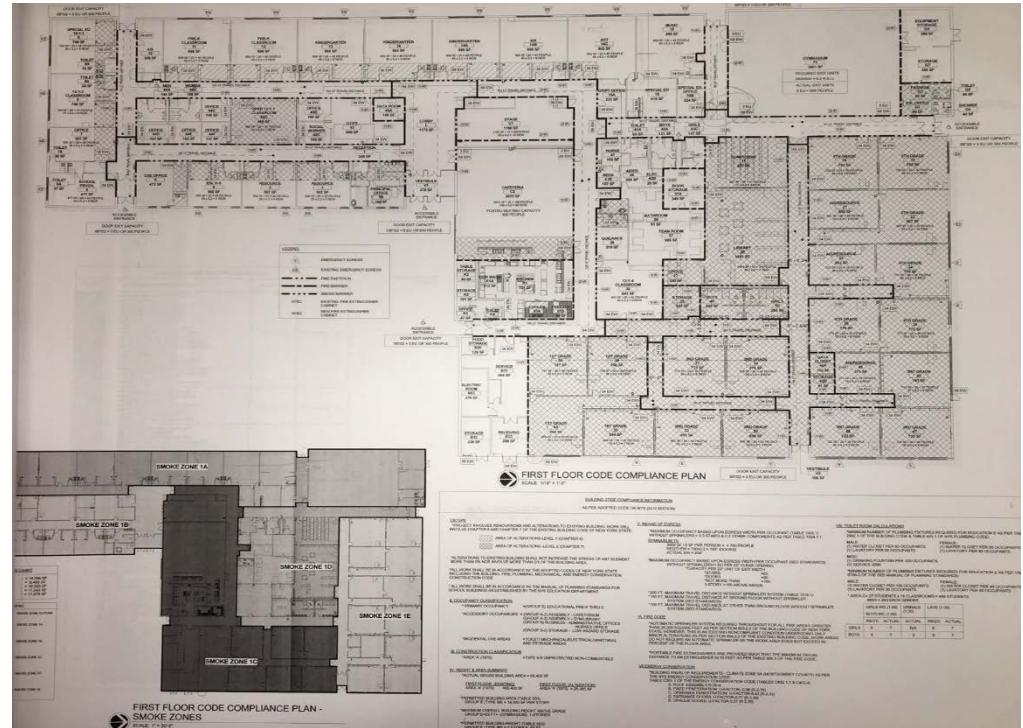
- Public School Requirements which, differ from / exceed the code (examples):
 - Corridor Travel Distances,
 - Main and Secondary Corridor Widths
 - Rescue Windows/smoke zones & exiting
 - Required Exit Units - R.E.U.s
 - Folding, Rolling, sliding doors not exits
 - Space of Occupancy without Corridor Concept
 - Door – Stair Enclosures and Smoke Barriers
 - Fire Resistant Construction
 - MEP Requirements

Manual of Planning Standards

[illegible]

Reminders

- Code Compliance Drawings should also include:
 - Work areas that show the level of Alterations / Addition / Change of Use / Etc.
 - Occupant loads
 - Areas of all rooms
 - Egress capacity and widths
 - Travel distances
 - Fire ratings of walls and floors
 - Rescue window locations



Reminders

- Watch for separate buildings that need to have their own project number
- Most common with
 - Demo Buildings
 - Small site buildings (storage, concession stand, etc.)
 - Two buildings close to one another (pavilion near an elementary school)
- Dug outs with no enclosed space do not require a separate project number



Reminders

- Watch for Accessibility items
 - Restrooms
 - Counter height
 - Door clearances
 - Parking signage
 - Security window sill height
 - Knee clearances at sinks
 - Curb cuts
 - Wheelchair spaces at assembly areas
 - Use of the old ADA symbol
 - Etc.



Reminders

- Watch for Gender Neutral signage at all single user restrooms (per Dec. 2020 new Education Law Section 409-m)
- The use of pictogram is at the school's discretion.
- The sign shall still meet ADA standards.

