

ADVANCED FBC:

Understanding
the

**EXISTING BUILDING
CODE**

8th Edition (2023)



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CODE**

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Presented By: AIA FLORIDA
 104 East Jefferson Street
 Tallahassee, Florida 32301

Course Description: The course provides a detailed overview of what and how an architect should understand design considerations when taking on a renovation, remodel, addition, relocation, or change of occupancy to any building or historic building. The course will instruct the attendee on the proper use of the prescriptive, performance or work area compliance methods and the required level of the alterations to the building.

The American Institute of Architects – Course No. 107 - This program qualifies for 2.0 HSW/SD/LU Hours & Florida Advanced Building Code Course.



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Learning Objectives

At the end of this program, participants will be able to:

- Better able to understand the need to properly classify a compliance method with the proper level of alteration;
- Be able to discern the difference between a prescriptive compliance method versus a performance method;
- Understand how the Work Area compliance method is used and how it works with either a prescriptive or performance method; and
- Explain to a plan reviewer in a concise manner, both visually (written) and verbally, the design parameters affected by the use of the Existing Building Code.

Existing Building Code History

- *ICC* First edition 1997
- Florida Legislature mandates code(s) 1974
- Over 400 jurisdictions uneven enforcement
- Hurricane Andrew (1992) shown on ineffective codes
- Florida legislature creates Florida Building Code 2000
- Florida specific version of *ICEB*

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Course Overview

- Administration & Compliance Methods
- Historic Buildings, Relocated or Moved Buildings
- Performance Compliance Methods
- Construction Safeguards
- Retrofitting
- **Case Study**
- Q & A

Code Mandated Scope, Administration & Definitions

- ***FBC-E 2023*** (Eighth Edition – Incorporating 2021 ICC Code)
- Apply to all *repairs, alterations, changes of occupancy, & additions (101.2)*
·*Exception: Education and state licensed facilities use Ch 4, FBC-B.*
- Code intends flexibility in compliance (101.3)
- Applicable to all buildings previously occupied or unoccupied (101.4.1 and 101.4.2)
- Correction of violations of other codes (101.7)
- Mechanical Equipment only when removed during re-roof (101.8)

Code Mandated Scope, Administration & Definitions (Chapters 1 & 2)

- Administration & Enforcement (Reserved – 102)
- Apply to all *repairs, alterations, changes of occupancy, & additions*
- Proper use of terms (Definitions 201.1-201.4)
 - Interchangeability – present & future tenses
 - Terms in other FBC editions
 - Terms not Defined
- Definition Emphasis (202)
 - Change of Occupancy/Change of Use*
 - Exterior Wall Covering/Exterior Wall Covering*
 - Substantial Improvement
 - $\geq 50\%$ of market value of building
 - Any repair as result of *Substantial Damage*

Compliance Methods (Chapter 3)

- **Three Possible Choices (301.3)**
 - *Prescriptive* (Ch 5)
 - *Work Area* (Chs 6-13)
 - *Performance* (Ch 14)
- **Mechanical Roof-top Equipment (301.4)**
- **Other Codes Applicability (302.2)**
 - All other FBC Codes
 - National Electric Code (*NFPA 70*)
 - *FBC-Ex* takes Precedence
 - *Florida Fire Protection Code*

Compliance Methods (Chapter 3)

- *Additions & Replacements of Exterior Wall Coverings/Wall Envelopes (303)**
 - Materials & methods comply w/ FBC-B Chs 14 & 26; FBC-R Ch7 (303.2)*

Repairs (Chapter 4)

- *Repairs* comply w/ this Chapter & Section 706 (401.1-3)*
- Historic Buildings comply with Chapter 12 (401.2)
- Flood Hazard comply w/ FBC-B Ch 16 (401.5)*; Seaward of Construction Control Line (401.6)*
- Maintain
 - Protected Means of Egress
 - Clear Level of Accessibility
 - Structural Integrity
- M | E | P Systems may not reduce level of safety than existing

Prescriptive vs. Performance Compliance Methods

▪ ***PRESCRIPTIVE***

- Design per the *FBC-B* & *FBC-R*
- Many Code Sections are Customary
- Specific to Many Sections, eg. R and U-Values
- No Calculations Required
- Easier form for Compliance

▪ ***PERFORMANCE***

- Systems Achieve Compliance by Design
- Design must be “Modelled” = Proof Of Design
- Scorecard used by the Building Official
- Approval is Risky

Prescriptive Compliance Method (Chapter 5)

- Scope: applies to all *alterations, repairs, additions, change of occupancy*, relocation of buildings, historic buildings & structures defined in 301.3.1
 - Existing, bleachers, grandstands, folding & telescopic seating comply w/ ICC 300 (501.1)
- All above except *repairs* may use *Performance* or *Work Area Methods* of Compliance per 301.3 (501.1.1)
- Fire Resistance: when fully sprinkled, per *FBC-B*, building elements permitted to meet current *FBC-B*; Plans must identify elements for review and approved by AHJ (501.2)

Prescriptive Compliance Method (Chapter 5)

- New & Replacement Materials
 - any material permitted by code
 - like materials permitted w/ no hazard increase
 - no hazardous materials prohibited by *FBC-B* (501.3)
- Dangerous Conditions
 - determined by the Building Official
 - can require elimination of dangerous condition(501.4)

Prescriptive Compliance Method (Chapter 5)

▪ *Additions*

- comply w/ *FBC-B* for new construction (502.1)
- meet height & area requirements *FBC-B* (502.1)
- *substantial improvement* require flood hazard protection (502.2)*
- added gravity loads > 5% comply w/ *FBC-B* for new construction (502.3)
- decreased capacity is considered an alteration subject to 503.3 (502.3)
- non-conforming live loads require placard (502.3.1)
- R or I-1 Groups smoke alarms throughout (502.5)
- carbon monoxide protection per *FBC-B* & *FBC-R* (502.6)
- enhanced classroom acoustics $\leq 20,000$ Cu Ft (502.7)

Prescriptive Compliance Method (Chapter 5)

- *Alterations*

- comply w/ *FBC-B* for new construction
 - exception: existing stairs (See 503.1)
 - exception: handrails (See 503.1)
- flood hazards same as Additions (503.2)
- Structural elements (503.3)**
 - design live loads same as Additions (503.3.1 & 503.4)**

Prescriptive Compliance Method (Chapter 5)

- *Alterations (continued)*
 - removal roof deck > 30%; $V_{usd} > 115$ mph all roof connections evaluated – must resist 75% of loads (503.8)**
Exception: Buildings permitted per FBC
 - voluntary lateral force-resisting system – not req'd to meet FBC-B 1609 or 1613 if:
 - structural capacity not reduced
 - new systems fully detailed
 - new or relocated nonstructural elements connected to existing or new structure as per FBC-B (503.9)**

Prescriptive Compliance Method (Chapter 5)

- *Alterations (continued)*
 - *Substantial Structural Alteration: (503.10)*
 - >50% Work Area
 - meet FBC-B Section 1609
 - Exception: Group R \leq 5 dwellings or sleeping units meeting FBC-R
 - Exception: renovation is lowest story
 - smoke alarms same per FFPC for R & I-1 dwelling units (503.11)
 - Smoke compartments in I-2 >30 occupants (503.12)*
 - sleeping rooms on single story
 - divide floor in no less than two compartments

Prescriptive Compliance Method (Chapter 5)

- *Alterations (continued)*
 - refuge area(s) altered may not reduce below capacity of the refuge area care facilities maintained per *FBC-B* 1026.4 (503.13)*
 - horizontal exists for Groups I-2, I-3, & B and ambulatory care facilities maintained per *FBC-B* 407.5.1, 408.6.2, 420.4.1, & 422.3.2 (503.13)*

Prescriptive Compliance Method (Chapter 5)

- *Alterations (continued)*
 - smoke alarm 1, 2-family or townhome, *repair* or *Level 1 Alteration* may use 10-year battery operation (503.14)
 - does not apply to fire alarm smoke detectors
 - does not apply to centrally monitored smoke detectors
 - Does not apply to combination detectors (e.g. smoke/carbon dioxide)
 - > 50% *alteration* comply w/ Ch 16 *FBC-B* as a substantial structural alteration (503.13)

Prescriptive Compliance Method (Chapter 5)

- *Alterations* (continued)
 - Enhanced Classroom Acoustics (503.15)*
 - comply w/ reverb Sect 808 ICC A117.1
 - work area exceeds 50%
 - $\geq 20,000$ Cu Ft
 - Locking Arrangements (503.16)*
 - comply w/ FBC-B 1010.1.4.4
 - Group E, B (education Occupancies) &
 - Two-way Communication Systems (503.17)*
 - comply w/ FBC-Accessibility
 - work area > 50%
 - buildings w/ elevators

Prescriptive Compliance Method (Chapter 5)

- Fire Escapes
 - may not be a part of means of egress in new buildings (504.1.1); existing buildings only (504.1.2)
 - new fire escapes permitted ONLY where stairs are impractical (504.1.3); may not constitute more than 50% required number of exits or 50% of required capacity (504.1.4)
 - locations in the front of building (504.2)
 - support 100# LL; steel construction; 2" thk wood Type V; & walkways & railings over combustible Type III & IV (504.3); 22 inches wide, risers < 8 inches treads > 8 inches; landings > 40 inches wide by 36 inches long; < 8 inches below door (504.4)
 - openings protected for $\frac{3}{4}$ hour (504.5)

Prescriptive Compliance Method (Chapter 5)

- Glass & Window Replacement
 - comply w/ *FBC-B* for new construction (505.1)
 - fall protection ASTM F2090 in R-2, R-3, one- or two-family, or Townhomes: operable, replace sash and frame, sill < 36 inches for R-2 & R-3, sill < 24 inches for one- or two family or townhomes; when fully open 4 inch diameter ball pass, sill to finished grade > 72 inches, fully open comply w/ *FBC-B* 1030.2
 - exception: > 75 feet above grade w/ ASTM F2006 window fall prevention device
 - exception: windows w/ ASTM F2090 fall prevention (505.2)*
 - emergency escape exempt from *FBC-B* 1030; (505.3)*

Prescriptive Compliance Method (Chapter 5)

- *Change of Occupancy ***
 - Change must comply w/ FBC-B (506.1)
 - New use MAY NOT be required to meet all code requirements if new use is less hazardous
 - Exception: one & two-family converted to certified recovery residence not *Change/Occupancy* (506.1)*
 - Change in Character, but not Occupancy w/ applicable provisions *FBC-B* – require approval of Building Official but may not require full compliance FBC-B (506.1.1)*
- *Change of Occupancy (continued)*
 - Certificate of Occupancy required for Change (506.2)
 - Exist stairs may not need to meet *FBC-B* 1011 (506.3)
 - Existing Emergency Escape/Rescue Openings (506.4)*
 - Enhanced Classroom Acoustics (506.5)*

Prescriptive Compliance Method (Chapter 5)

- Historic Buildings refer Chapter 12 (507)
- Moved Structures refer Chapter 13 (508)
- Accessibility Existing Buildings (509)
- Existing Roofing (510)
 - Comply w/ 706
- Energy Conservation refer FBC-Energy Conservation (511)

Classification of Work (Chapter 6)

- This Chapter used with Chapters 7-13 (601.1)
- Identify w/ Compliance Method (601.1)
- When used W/ Work Area – Must be Indicated on Drawings (601.2)
- Three Levels
 - Alteration Level 1 - Ch 7 (602)
 - Alteration Level 2 - Ch 8, also complies w/ Ch 7 (603)
 - Alteration Level 3 – Ch 9, also complies w/ Chs 7 & 8 (604)

Classification of Work – Chapter 6

- *Change of Occupancy (605)*
 - Refer to Chapter 2
 - Comply w/ Chapter 10
- *Additions (606)*
 - Refer to Chapter 2
 - Comply w/ Chapter 11
- *Historic Buildings (607)*
 - Comply w/ Chapter 12
- *Relocated Buildings (608)*
 - *Reserved*
- *Retrofitting (609)*
 - Voluntary improvements not classified as Repairs
 - Comply w/ Chapter 17

Alteration Level 1 (Chapter 7)

- Removal & Replacement or Covering of (701)
 - existing materials,
 - elements,
 - equipment, or
 - fixtures used for same purpose – Level 1 comply W/ 602
- *Alterations* maintain or exceed existing safety level
 - Exception: if reduced must meet *FBC-B* (701.2)
- *Alterations* in flood hazard areas (701.3)*
 - *alterations* & replaced exterior equipment & appliances constituting substantial improvement
 - compliance W/ *FBC-B* 1612 or
 - *FBC-R* 322.1.6

Alteration Level 1 (Chapter 7)

- Building Elements & Materials (702)
 - interior finishes & trim (*FBC-B* Ch 8)
 - window alterations – primarily residential*
 - all new work must meet requirements of other Florida Building Codes
- Fire Protection (703)
 - maintain level of fire protection
 - smoke alarms for single and two-family
- Means of Egress (704)*
 - maintain level of protection
- Accessibility (705) meet *FBC-Accessibility***

Alteration Level 1 (Chapter 7)

- Existing Roofing (706)**
 - comply w/ *FBC-B* Ch 15 or *FBC-R* Ch9
 - 25% limit in 12 months – or – replace entirely
 - maintain or increase structural integrity (706.1.1)*

- Recovering vs Replacement (706.3)**
 - install removing existing to deck when:
 - existing is water-soaked or deteriorated
 - existing is wood shake, slate, clay or asbestos cement tile
 - existing has two or more applications
 - where blistered – blisters may be repaired
 - where *FBC-B* 1504.1 cannot be met
 - exceptions for HVHZ, metal roofs & coatings

Alteration Level 1 (Chapter 7)

- Reinstallation | Reuse of Materials (706.5)
 - Applies to Slate, Clay or Concrete Tile
 - material & profile of new must be same
 - damaged, cracked or broken may not be used
 - salvaged meets new construction code
 - replace damaged drainage elements
- Flashing (706.6)
 - Reconstruct w/ Manufacturer's Recommendations
 - Attachment to bituminous materials meet FBC-B 1512-1525 for HVHZ

Alteration Level 1 (Chapter 7)

- Mitigation (706.7)
 - Sawn Lumber, Wood Plank or Wood Structural Panel
 - new installation must meet *FBC-E* 706.7.1
 - must meet design wind speed requirements
 - existing fastening *FBC-E* Table 706.7.1.2

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Alteration Level 1 (Chapter 7)

Mitigation (706.7)

TABLE 706.7.1.2 SUPPLEMENT FASTENERS AT PANEL EDGES AND INTERMEDIATE FRAMING

EXISTING FASTENERS	EXISTING SPACING	V_{asd}^c 110 MPH OR LESS SUPPLEMENTAL FASTENER SPACING SHALL BE NO GREATER THAN	V_{asd}^c GREATER THAN 110 MPH SUPPLEMENTAL FASTENER SPACING SHALL BE NO GREATER THAN
Staples or 6d	Any	6" o.c. ^b	6" o.c. ^b
8d clipped head, round head, smooth or ring shank	6" o.c. or less	None necessary	None necessary
8d clipped head, round head, smooth or ring shank	Greater than 6" o.c.	6" o.c. ^a	6" o.c. ^a

For SI: 1 inch = 25.4 mm.

- a. Maximum spacing determined based on existing fasteners and supplemental fasteners.
- b. Maximum spacing determined based on supplemental fasteners only.
- c. V_{asd} shall be determined in accordance with Section 1609.3.1 of the *Florida Building Code, Building* or Section R301.2.1.3 of the *Florida Building Code, Residential*.

Alteration Level 1 (Chapter 7)

- Secondary Water Barrier | Wood Decks (706.7.2)*
- req'd compliance w/ FBC-B 1507.1.1 or 1518.2 or FBC-R 905.1.1
- Exceptions for Secondary Water Barrier
 - roof slopes < 2:12
 - clay or concrete tile serves as secondary barrier (706.7.2)

Alteration Level 1 (Chapter 7)

- Roof to Wall Connections | Wood Roof Decks (706.8)**
 - Retrofit Required insured or Ad Valorem Value \$300K
 - Maximum 15% increase to roofing cost
 - Exception: Permitted Buildings FBC-B
 - Retrofits meet uplift loads Table *FBC-E* 706.8.1
 - Exception: proof by code adoption date/permit
cont load paths were req'd
 - Exception: Not req'd if valuations of gable & end
connections can be completed for $\leq 15\%$ /
roof replacement

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Alteration Level 1 (Chapter 7)

TABLE 706.8.1 REQUIRED UPLIFT CAPACITIES FOR ROOF-TO-WALL CONNECTIONS^{a, b} (POUNDS PER LINEAL FOOT)

	ULTIMATE DESIGN WIND SPEED, $V_{ult}^{c,d}$	ROOF SPAN (feet)							OVERHANGS
		12	20	24	28	32	36	40	
Within 6 feet of building corner	85	-69.85	-116.42	-139.70	-162.99	-186.27	-209.55	-232.84	-27
	90	-82.67	-137.78	-165.34	-192.90	-220.45	-248.01	-275.57	-30.3
	100	-110.51	-184.18	-221.01	-257.85	-294.68	-331.52	-368.36	-37.4
	110	-141.27	-235.45	-282.55	-329.64	-376.73	-423.82	-470.91	-45.3
	120	-174.97	-291.62	-349.94	-408.26	-466.59	-524.91	-583.23	-53.9
	130	-211.60	-352.66	-423.19	-493.72	-564.26	-634.79	-705.32	-63.2
	140	-251.15	-418.59	-502.31	-586.02	-669.74	-753.46	-837.18	-73.3
	150	-293.64	-489.40	-587.28	-685.16	-783.04	-880.92	-978.80	-84.2
Greater than 6 feet from building corner	170	-387.40	-645.67	-774.81	-903.94	-1033.08	-1162.21	-1291.35	-108
	85	-39.10	-65.17	-78.20	-91.24	-104.27	-117.30	-130.34	-27
	90	-48.20	-80.33	-96.39	-112.46	-128.52	-144.59	-160.66	-30.3
	100	-67.95	-113.24	-135.89	-158.54	-181.19	-203.84	-226.49	-37.4
	110	-89.78	-149.63	-179.55	-209.48	-239.40	-269.33	-299.25	-45.3
	120	-113.68	-189.47	-227.37	-265.26	-303.16	-341.05	-378.94	-53.9
	130	-139.67	-232.78	-279.34	-325.90	-372.45	-419.01	-465.57	-63.2
	140	-167.74	-279.56	-335.47	-391.38	-447.29	-503.21	-559.12	-73.3
	150	-197.88	-329.80	-395.76	-461.72	-527.68	-593.64	-659.60	-84.2
	170	-264.41	-440.68	-528.81	-616.95	-705.08	-793.22	-881.35	-108

For SI: 1 foot = 304.8 mm; 1 pound per linear foot = 1.488 kg/m; 1 mile per hour = 0.305 m/s.

a. The uplift loads are pounds per lineal foot of building length. For roof uplift connections multiply by 1.33 for framing spaced 16-inches on center and multiply by 2 for framing spaced 24-inches on center.

b. The uplift loads do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing spaced 12-inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.

c. For Ultimate design wind speeds, V_{ult} , greater than 170 mph, wind uplift forces shall be determined in accordance with Florida Building Code, Residential, Section R301.2.1.1 of the Florida Building Code, Residential or ASCE 7.

d. Ultimate Design Wind Speeds determined from Figure 1609.3(1) in the Florida Building Code, Building or Figure R301.2(4) in the Florida Building Code, Residential.

Alteration Level 1 (Chapter 7)

- *Prescriptive* Roof-to-Wall Retrofit Requirements
 - Access for Retrofitting Roof to Wall (706.8.1.1)
 - Partially Inaccessible Straps (706.8.1.2)
 - Gable Roof to Frame Construction (706.8.1.3)
 - Gable Roof to Masonry Construction (706.8.1.4)
 - Hip Roof to Frame Construction (706.8.1.5)**
 - Hip Roof to Masonry Construction (706.8.1.6)**

- Priorities for Roof-to-Wall Retrofits (706.8.1.7)
 - Exterior Corners where Spans are Greatest
 - Roofs w/ both Hip & Gable – Gable Priority
 - Roofs w/ both Hip & Gable - 15% Threshold – Eliminates Non-Priority Areas

Alteration Level 1 (Chapter 7)

- Structural Requirements (707)**
 - Applies to Building Supported Equipment and
 - Where a Reroofing Permit is Required
 - Exception: HVHZ Buildings comply w/ *FBC-B* 1512-1525
 - Increased Dead Loads must Meet *FBC-B*
 - Exception: Dead Load < 5% or Second Layer Equal to or Less 3lbs/sf on existing layer of roof covering
 - >30% Retrofit Requires Full Analyses Winds > 115mph

Alteration Level 1 (Chapter 7)

- Window & Door Replacement (707.4)
 - Comply w/ Chapter 16 *FBC-B*
 - Exceptions – One & Two-Family Dwellings:
 - Codes Other than *FBC-B* / Windborne Debris
 - Openings Protection not Required
 - Wind Pressure Design for Enclosed Buildings
 - Aggregate Area Glazing < 25%
 - HVHZ Zones prior to September 1, 1994
 - Within 12 Month Period
 - Openings Protection not Required
 - Aggregate Area Glazing < 25%
- Energy Conservation comply w/ *FBC-E* (708)

Alteration Level 2 (Chapter 8)

- Reconfiguration of Space
- Addition or Elimination of Doors or Windows
- Extension or Reconfiguration of any System
- Installation of any Additional Equipment
- Inclusion of LEVEL 1 Alterations
- Provision Outlined in *FBC-E* Ch 8
- Applies to Work Area Only

Alteration Level 2 (Chapter 8)

- Compliance w/ *FBC-B* for Elements, Components & Systems (801.3)
 - Exceptions:
 - Windows Added Need Not Comply w/ Light & Ventilation
 - New Electrical Comply w/ 808
 - Dead End Corridors Comply w/ 805.6
 - Minimum Ceiling Height 7 Feet
- Special Use & Occupancy *Alterations* (802.1)
 - Refer to *FBC-B* for Descriptions
 - Comply w/ 801.1

Alteration Level 2 (Chapter 8)

- Building Elements & Materials (803)
 - Existing Vertical Elements- ≥ 2 Stories Enclosed w/ 60 min Approved Opening Protectives (803.2)
 - Exceptions: 14 Exceptions Primarily by Use Group
 - Shaft & Floor Openings Protected when *work area* > 50% Except Stairways (803.2.2)
 - Stairways as means of Egress in Work Area > 50%, Minimum Smoke-tight Construction Except Where Not Required by *FBC-B* (803.2.2)
 - *Work Area* > 50%, egress stairs must be enclosed w/ min. smoke-tight construction in *Work Area* on all floors, except where enclosure not req'd by *FBC-B* or *FFPC* (803.2.3)**

Alteration Level 2 (Chapter 8)

- Building Elements & Materials (803-continued))
 - Smoke Compartments in I-2 work area > 30 Patients Require 2 (Min) Compartments (803.3)
 - Interior Finishes comply w/ *FBC-B, existing materials must have been tested* (803.4)*
 - *Work area >50%* 803.4 applies to interior trim & finish in exits & corridors serving *Work Area* throughout floor (803.4.1)*
 - Guards comply w/ *FBC-B* (803.5)
 - Fire-resistance Ratings-Sprinkled Buildings (803.6)**
Applicant must submit list of materials, assemblies, occupancy, means-of-egress, fire code deficiencies, alternative materials, & equipment impacting fire-resistance requires evaluation by CBO for fire resistance

Alteration Level 2 (Chapter 8)

- Fire Protection (804)
 - Applies to *work area* + non-work area (804.1)
 - Corridors-Reduced Ratings Where Sprinkled (804.1.1)
 - Automatic Sprinkler Comply w/ *FBC-B* (804.2)
 - High Rise Work Area Requires Sprinkler, if >50%, Entire Floor Requires Sprinklers; Occupied Areas are Exempted outside of *work area*; Sufficient Water Supply Needed (804.2.1)

Alteration Level 2 (Chapter 8)

- Fire Protection (804-Continued)
 - Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 & S-2
 - applies to exits/corridors >1 tenant or occupant load > 30, require automatic sprinkler if:
 - *work area* is required by *FBC-B*
 - *work area* > 50%
 - exception for available water supply (804.2.2)
 - Mixed-Use (804.2.2)
 - where one or more areas require sprinklers by 804.2.2
 - no sprinkler required if spaces are separated by 2-hour fire-rated construction for Group H and 1-hour elsewhere

Alteration Level 2 (Chapter 8)

- Fire Protection (804-Continued)
 - Windowless Stories as per *FBC-B* w/ Water Supply (804.2.3)
 - Supervision Required:
 - approved central station-*NFPA 72*
 - approved proprietary system-*NFPA 72*
 - approved remote station-*NFPA 72* or
 - local alarm service approved by Building Official-*NFPA 72* (804.2.4)
 - Standpipes req'd Above or Below 50' lowest Fire Dept Access comply w/ *FBC-B* (804.3)
 - Fire Alarm Protection
 - comply w/ *NFPA 72* (804.4)
 - specific requirements for Groups E, I-1, I-2, I-3, R-1, R-2 and R-4 (804.4.1)

Alteration Level 2 (Chapter 8)

- Fire Protection (804-Continued)
 - Supplemental Fire Alarm Systems
 - *Work area* > 50% requires entire floor
 - exception: not req'd in tenant space outside *work area* (804.4.2)
 - Smoke Alarms
 - *Work area* Group R and I-1 in sleeping units and dwellings
 - exception: interconnected alarms not required outside *work area* (804.4.3)

Alteration Level 2 (Chapter 8)

- Means of Egress (805)
 - Limited to *work areas* that include:
 - exits and/or corridors serving > 1 tenant where Work Area has Level 2 Alterations
 - apply throughout the floor where *work area* is located (805.1)**
 - General: Means of Egress Complies w/ this Section
 - Except means of *work area* complies w/ NFPA 101
 - Code Official may grant under code the building was originally constructed (805.2)

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Number of Exits
 - >Single tenant w/in *work area*, Occupancy Load complying w/ *FBC-B* (805.3)
 - Single-exit Buildings
 - meet Table 805.3.1.1(1) and 805.3.1.1(2)*
 - R-1 & R-2 w/o auto-sprinkler in single or multiple story may have 1 exit if:
 - occupant load ≤ 10 & travel distance < 75 feet
 - buildings < 3 stories; exit access on 2nd floor; distance from habitable room to entry door ≤ 50 feet

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CODE
8th Edition (2023)

Alteration Level 2 (Chapter 8)

Means of Egress (805-Continued)

TABLE 805.3.1.1(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first or second story above grade plane	R-2 ^a	4 dwelling units	50 feet
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm. NP = Not Permitted. NA = Not Applicable.

a. Group R-2, nonsprinklered and provided with emergency escape and rescue openings in accordance with Section 1030 of the Florida Building Code, Building.

TABLE 805.3.1.1(2) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane	B, F-2, S-2 ^a	35	75
Second story above grade plane	B, F-2, S-2 ^a	35	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted. NA = Not Applicable.

a. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.



Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Fire Escapes Permitted in all but I-2 Groups (805.3.1.2)
 - access not permittable through adjoining spaces subject to locking
 - access through a door; window permitted in Group R-1, R-2 or I-1 or occupant load <10**
 - only permissible where stairs cannot be built
 - openings w/in 10 feet must be protected
 - ladders not permissible in Group E, I, rooming houses or child-care centers
 - support 100#/sf LL; non-combustible; 2-inch thick wood in Type V (805.3.1.2.2)
 - walkways & railings 2-inch thick permitted over or supported by combustible roofs Type III or IV

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Mezzanines in *work area*-Occupant Load >50 or Travel Distance >75 Feet = 2 exits
 - Two Exits not required Travel Distance < 100 Feet to Exit & Building Sprinklered throughout (805.3.2)
 - Main Entrance - Group A (805.3.3)**
 - > 300 occupant load of building, main entrance serves 50% of occupant load
 - where no identifiable main entrance – exits may be distributed, but all must serve 100% of required width

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Egress Doorways – *work area* require 2 (805.4)
 - *Work area* spaces occupant load > 50, Travel distance > 75 Feet—require 2 exit doorways
 - Exception: storage rooms w/ load < 10
 - Exception: buildings requiring 1 exit
 - load > 50 door swing in direction of egress
 - self-closing onto exit passageway and exit stairway except where exempted by *FBC-B* or in tenant space outside *work area*
 - panic hardware – Group A load >100, *work area* >50% - all exits have panic hardware (805.4.1.4)*

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Corridor Openings: solid core, no louvers; sleeping units Group R-1, R-2 and I-1, doors min 1 3/8-inches, solid core, no glass other than approved glazing in metal frames; sleeping units R-1, R-2 & I-1 require closers; replacement doors require 1 3/4" solid core, unless frame will not accommodate (805.5)
 - Exceptions:
 - corridors within sleeping or dwelling units
 - existing doors meeting *Guidelines on Fire ratings of Archaic and Assemblies* rated for 15 mins. are acceptable
 - existing doors in fully sprinklered building require smoke protection-tight fitting only
 - Group homes load < 15, full sprinklered, are exempt
 - door assemblies rated for 20 mins-minimum

Alteration Level 2 (Chapter8)

- Means of Egress (805-Continued)
 - Other Corridor Openings: (805.5.5.3)
 - any sash, grille, or opening in *work area* not opening to air must be sealed w/ materials consistent w/ corridor construction
 - where *Work Area* > 50% above applies entirely outside *Work Area*
 - Dead End Corridors (805.6)*
 - in *work area* ≤ 35 feet; ≤ 30 feet in Group I-2
 - Exceptions:
 - where permitted by FBC-B to be greater
 - Groups A, I-2 & H, existing 50 feet (max) w/ fire alarm per FBC-B
 - Other than Groups A, I-2 & H, existing 75 feet (max) w/ full sprinkler per FBC-B
 - Other than Groups A, I-2, & H, existing 50 feet (max) for new, existing or extended w/ full sprinkler per *FBC-B*

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Egress Lighting – artificial per *FBC-B*; where *work area* > 50% egress lighting required throughout
 - Exception: tenant spaces outside *work area* (805.7)**
 - Exit Signs: provide per *FBC-B*
 - Exception: tenant spaces outside *work area* (805.8)
 - Handrails: per *FBC-B*; egress stairways w/ >3 risers w/o handrails, or judged to be unsafe – provide at least one side; egress stairways > 66inches wide require one on each side (805.9)**

Alteration Level 2 (Chapter 8)

- Means of Egress (805-Continued)
 - Refuge Areas: may not reduce req'd capacity. Groups I-2, I-3, & ambulatory care facilities maintain as required
FBC-B; Horizontal exit as area of refuge requirements Groups I-1, I-2, I-3, * B ambulatory care facilities per *FBC-B* (805.10)*
 - Group I-2 ramps & corridors \geq 48 inches
 - Guards required for elevation change $>$ 30 inches per *FBC-B* (805.11)
- Accessibility (806)
 - Comply w/ *FBC-A*

Alteration Level 2 (Chapter 8)

- Structural (807)
 - Alterations comply w/ FBC-B (807.2)**
 - Alterations may not reduce capacity of gravity load carrying elements
 - Exception: stress increased $< 5\%$
 - Exception: Residential uses < 5 units constructed in accordance w/ FBC-B & FBC-R (807.3)
 - Alterations effecting lateral loads need proof of complying w/ FBC-B for wind (807.4 & 807.5)
 - Exception: effect $< 10\%$ may be ignored

Alteration Level 2 (Chapter 8)

- Structural (807-continued)
 - Voluntary alterations to lateral force-resisting systems need not comply w/ *FBC-B* 1609 or 1613 provided:
 - capacity of existing structure not reduced
 - new structural elements detailed & connected to existing structural system meet *FBC-B*
 - new or relocated non-structural elements are detailed and connected to existing or new structural system meet *FBC-B*
 - alterations do not create structural irregularity, defined by ASCE 7 or make an existing irregularity more severe (807.6)

Alteration Level 2 (Chapter 8)

- Electrical (808)
 - New work comply w/ *NEC (NFPA 70)* (808.1)
 - Groups A-1, A-2, A-5 & H wiring must be upgraded as per *FBC-E* Ch 7 (808.2)
 - Groups R-2, R-3, & R-4 & FBC-R regulated buildings, the following apply ONLY to Work Area (808.3)
 - except as below, enclosed areas have 2-duplex receptacles or 1 duplex and 1 ceiling and wall light outlet
 - kitchen: 2-duplex receptacles
 - laundry: 1-duplex near laundry equipment
 - all new receptacles have GFCI as per *NEC*
 - lighting for all enclosed spaces & exterior doors
 - utility room & basement: 1-light outlet

Alteration Level 2 (Chapter 8)

- Mechanical (809)
 - Natural & mechanical ventilation req'd in work area per FBC-M for occupiable and habitable spaces (809.1)
 - Altered, reconfigured or extended mechanical system
 - 5 cfm per person outdoor air
 - > 15 cfm ventilation air per person or not less than Air Quality Procedure of *ASRAE 62* (809.2)
 - Local exhaust required for any alteration adversely affecting health (809.3)

Alteration Level 2 (Chapter 8)

- Plumbing (810)*
 - Increase occupant load > 20% fixtures meet *FBC-P* (810.1)
 - Separate Facilities (810.2)
 - not req'd for single-use facilities in public accommodation
 - 2 single-use facilities not identified by sex can serve as req'd separate facilities
 - count toward total fixture count requirement
 - signage per *FBC-A* required
- Energy Conservation (811)**
 - Alterations Comply with *FBC-EC*

Alteration Level 3 (Chapter 9)

- Compliance (901.2)
 - Chapters *FBC-E* 7 & 8 apply in addition to Ch 9
 - requirements of 803, 804 & 805 apply in all *work areas*, w/ or w/o exits & corridors shared by more than 1 tenant, regardless of Occupant Load
- Special Use & Occupancy (902)
 - Hi-Rise Buildings
 - any building w/ occupied floors > 75 feet (902.1)
 - re-circ exhaust-public areas > 15,000cfm must be equipped w/ smoke & heat detectors per *FBC-M* (902.1.1)**
 - 1 elevator required for fire-fighting or rescue when travel > 25 feet above or below (902.1.2)

Alteration Level 3 (Chapter 9)

- Boilers & Furnace Equipment Rooms (902.2)
 - must be separated by 1-hour construction adjacent to I-1, I-2, I-4, R-1, R-2 & R-4 except:
 - steam boiler operating at < 15 psi gauge
 - hot water boilers < 170 psi gauge
 - furnace and boiler equipment < 400,000 BTUH **
 - furnace room protected w/ automatic sprinklers

Alteration Level 3 (Chapter 9)

- Building Elements & Materials (903)
 - Existing Shafts Vertical Openings (903.1)
 - existing stairways – means of egress component
 - enclose per 803.2.1
 - from highest point in *work area* to exit discharge
 - Fire Partition Separation
 - R-3 in accordance w/ 903.2.1
 - *work area* attached to dwelling unit or townhome
 - separation walls w/o continuous floor-roof deck resistance
 - provide missing portion w/ like construction
 - on side of dwelling *work area* (903.2.1)
 - Interior finish comply w/ 803.4 top-bottom *work area* (903.3)
 - Enhanced Classroom Acoustics (903.4)*

Alteration Level 3 (Chapter 9)

- Fire Protection (904)
 - Automatic Sprinkler req'd in *work area* per 804.2 (904.1)
 - in High-rise where water supply available (904.1.1)
 - in rubbish & linen chutes of *work area* where would be required by *FBC-B* (904.1.2)
 - upholstered furniture or mattresses in *Work Areas* where:
 - Group F-1 manufacturer > 2,500 gsf
 - Group M for display >5,000 gsf
 - Group S-1 storage >2,500 gsf (904.1.3)

Alteration Level 3 (Chapter 9)

- Fire Protection (904.1.4; 904.1.5;)*
 - Groups A, B, E, F-1,H, I-1, I-3, 1-4, M, R-1,R-2, R-3, S-1 & S-2 require automatic sprinkler when:
 - where *work area* req'd by FBC-B for new construction;
 - sufficient municipal water supply is available
 - Exception: protect *work areas w/ automatic smoke detection system throughout all occupiable spaces, other than sleep or dwelling units according to FBC-B*

Alteration Level 3 Chapter 9)

- Fire Protection (904.1.4; 904.1.5)*
 - Group I-2 requires automatic sprinkler when:
 - Group I-2, Condition 1, thru work area;
 - Group I-2, Condition 2, thru work area where area \leq 50% of smoke compartment;
 - Group I-2, Condition 2, thru smoke compartment when work area \geq 50% of smoke compartment
- Windowless stories require sprinklers where required for new construction by FBC-B

Alteration Level 3 (Chapter 9)

- Means of Egress (905)
 - Comply w/ 805 except as below (905.1)
 - From *work area* highest point to discharge artificial lighting req'd as per *FBC-B* (905.2)
 - From *work area* highest point to discharge exit signs req'd as per *FBC-B* (905.3)
 - Two-way communication system req'd in buildings w/ elevators where req'd by *FBC-B* (905.4)**
- Accessibility (906)**
 - All buildings, facilities or altered elements per *FBC-A* (906.1)

Alteration Level 3 (Chapter 9)

- Structural (907)
 - New structural elements comply w/ 807.4 (907.2)
 - Existing elements carrying gravity loads comply w/ 807.4 (907.3)
 - all existing elements resisting lateral loads comply w/ this Section
 - exception: Group R, less than 5 dwelling or sleeping units, based on light-frame construction per *FBC-B* or *FBC-R*;
 - exception: alteration is for only lowest floor, this story and below need not comply (907.4)**
 - engineering evaluation req'd to code official (907.4.1)
 - substantial alteration, evaluation demonstrates lateral load resistance complying w/ *FBC-B* for wind (907.4.2)

Alteration Level 3 (Chapter 9)

- Energy Conservation (908)
 - All alterations of Level 3, require compliance w/ FBC-EC (908.1)
- Plumbing (909)
 - Single-user facilities in Level 3 comply w/ 810.2 (909.1)

Change of Occupancy (Chapter 10)

- Scope: refer to Section 202 (1001.1)
- Certificate of Occupancy (1001.2)
 - Different fire protection system threshold from *FBC-B* Ch9,
 - Requires building official approval
 - Certificate of Occupancy required when Change is validated
- Change of Use (1001.2.1)
 - Does not include a Change of Occupancy
 - Does not include change of group w/in same Occupancy
 - Comply w/ *FBC-E* Ch6 and Sections 1002-1011, except Historic buildings *FBC-E* 1205**

Change of Occupancy (Chapter 10)

- Change of Occupancy Classification or Group
 - Applies to Occupancy classification or group of a portion of building comply w/ 1002 thru 1012 (1001.2.2)
 - Exception: single-family and two-family converted to certified recovery residence*
- Certificate of Occupancy (1001.3)
 - Req'd for any Change of Occupancy as per *FBC-B*
- Special Use and Occupancy (1002.1)*
 - Exist building or part of exist building
 - Occupancy change is a special use FBC-B Ch 4
 - Entire building must comply w/ FBC-B Ch 4

Change of Occupancy (Chapter 10)

- Incidental Uses (1002.2)*
 - Any change of Occupancy
 - Incidental uses in FBC-B Table 509 remain applicable
- Occupancy Change in Health Care (1002.3)*
 - Group I-1 or I-2 work area must comply w/ FBC-B
 - Exceptions:
 - Group I-2 Condition 2 to Group I-2, Condition 1
 - Group I-2 to ambulatory health care
 - Group I-2 to Group I-1
 - Group I-1, Condition 2 to Group I-1, Condition 1
- Storage in group I-2 w/ sprinklers room \leq 250 sf changes to storage, room separated by smoke assemblies (1002.4)

Change of Occupancy (Chapter 10)

- Building Elements & Materials (1003)
 - Comply w/ 1012
- Fire Protection (1004)
 - Comply w/ 1012
 - Where different fire protection systems may exist
- Means of Egress (1005)
 - Comply w/ 1012
- Accessibility (1006)
 - Comply w/ *FBC-A*

Change of Occupancy (Chapter 10)

- Structural (1007)
 - Gravity loads (1007.1)
 - where loads are increased per *FBC-B* table 1607.1
 - < 5% increase in stress exempted
 - Wind loads (1007.2)
 - increase above *FBC-B* Table 1604.5 or 1620
 - higher risk category less than or equal to 10% of floor area of building, cumulative effect considered

Change of Occupancy (Chapter 10)

- Electrical (1008)
 - Special occupancies listed below comply w/ *NEC* (*NFPA 70*)
 - Hazardous locations
 - Commercial garages, repair, & storage
 - Aircraft hangers
 - Gasoline dispensing & service stations
 - Bulk storage plants
 - Spray application, dipping, and coating processes
 - Health care facilities
 - Places of assembly
 - Theaters, audience areas of motion picture & TV studios, and similar locations
 - Motion picture & TV studios and similar locations
 - Motion picture projectors
 - Agricultural buildings

Change of Occupancy (Chapter 10)

- Electrical (1008-continued)
 - Unsafe conditions must be corrected w/o all parts of *NFPA 70* compliance (1008.2)
 - Service must be upgraded to meet *NFPA 70* requirements (1008.3)
 - The number of electrical outlets must meet *NFPA 70* for the new occupancy (1008.4)
- Mechanical (1009)
 - Where kitchen exhaust is changed Comply w/ *FBC-M*

Change of Occupancy (Chapter 10)

- Plumbing (1010)
 - Where increase demand occurs, comply w/ *FBC-P* (1010.1)
 - Exception: Occupant load increases $\geq 20\%$, comply with FBC-P fixture requirements
 - Food handling facilities
 - existing waste lines above food & beverage prep & storage must be panned
 - no new waste lines above food & beverage prep and storage (1010.2)
 - Interceptors req'd for new grease or oil-laden waste (1010.3)

Change of Occupancy (Chapter 10)

- Plumbing (1010)
 - If existing piping not compatible w/ chemical waste, must be neutralized prior to entering drainage system; no chemical waste is permitted to discharge to public sewer (1010.4)
 - New I-2 occupancies comply w/ *FBC-P* (1010.5)*
 - Single-user facilities comply w/ 810.1 (1010.6)*

Change of Occupancy (Chapter 10)

- Other Requirements (1011)
 - Light & ventilation requirements comply w/ *FBC-B*
- *Change of Occupancy Classification (1012)***
 - Applies to full change and changes within Groups (1012.1)
- *Change of Occupancy w/o Separation (1012.1.1.1)*
 - Difference is fire protection between change and existing – total building complies w/ Chapter 9 of *FBC-B* for more restrictive Group and with Chapter 10
- *Change of Occupancy w/ Separation (1012.1.1.2)***
 - Difference is fire protection between change and existing – only change complies w/ Chapter 9 of *FBC-B* for more restrictive Group and with Chapter 10

Change of Occupancy (Chapter 10)

- Fire protection & Interior Finish (1012.1.2)
 - Apply provisions of 1012.2 and 1012.3

- *Change of Occupancy* Classification based on Hazard Category (1012.1.2)*
 - Relative hazard classification per Tables 1012.5, 1012.6 & 1012.8
 - Determination is basis for 1012.5 through 1012.8

- Accessibility – comply w/ 1012.9*

Change of Occupancy

- *Change of Occupancy in Health Care (1012.1.5)**
 - Group I-1 or I-2 work area must comply w/ FBC-B
 - Exceptions:
 - Group I-2 Condition 2 to Group I-2, Condition 1
 - Group I-2 to ambulatory health care
 - Group I-2 to Group I-1
 - Group I-1, Condition 2 to Group I-1, Condition 1

- Fire Protection Systems
 - Automatic system req'd in change area (1012.2.1)
 - Alarms req'd in change area; activate whole building; if no alarms exist, change area only (1012.2.2)

Change of Occupancy

- Interior Finish (1012.3)
 - Comply w/ *FBC-B*
- Enhanced Classroom Acoustics (1012.4)*
- Means of Egress, General
 - For life safety and means of egress comply w/ Table 1012.5.*

Change of Occupancy (Chapter 10)

**TABLE 1012.5
MEANS OF EGRESS HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	I-2, I-3, I-4
3	A, E, I-1, M, R-1, R-2, R-4 Condition 2
4	B, F-1, R-3, R-4 Condition 1, S-1
5 (Lowest Hazard)	F-2, S-2, U

Exceptions:

1. Stairways enclosed per 903.1
2. Exist stairways incl guards & handrails complying w/ Ch 9 shall be permitted for continuous use as approved by CBO
3. Stairways replacing exist stairways, here slope or pitch cannot be altered need not meet FBC-B Ch 10
4. Exist corridors w/ good condition ½" thick gyp bd or wood lath & plaster may continue
5. Exist corridors, doorways & transoms comply w/ 805.5.1, 805.5.2 & 805.5.3
6. Exist dead end corridors comply w/ 805.6
7. operable windows complying w/ 1012.5.6 may be as emergency escape

Change of Occupancy (Chapter 10)

- Means of Egress, Change of Use equal or lower use
 - For equal or less hazard per Table 1012.5*
 - existing means comply w/ 905 for new occupancy
 - Exception: where stair cannot alter slope or pitch
 - New construction or reconfiguration means of egress comply with *FBC-B* Ch 10 (1012.5.2)
 - Egress capacity meet or exceed as per *FBC-B* for new capacity (1012.5.3)*
 - Existing stair handrails comply w/ 805.9 (1012.5.4)**
 - Existing guards comply w/ 805.11 (1012.5.5)*

Change of Occupancy (Chapter 10)

- Existing Emergency Escape & Rescue Openings (1012.5.6)*
 - Where occupancy change requires emergency or rescue escape, per FBC-B 1030.1 operable windows shall comply with:
 - 4 sq ft (min); 22 inches min clear height; 20 inches min clear width
 - replacement windows meeting 1012.5.6 (1); largest window size fitting in existing opening**

Change of Occupancy (Chapter 10)

- Heights & Areas (1012.6)*
 - Comply w/ Table 1012.6 for hazard classifications

**TABLE 1012.6
HEIGHTS AND AREAS HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	A-1, A-2, A-3, A-4, I, R-1, R-2, R-4 Condition 2
3	E, F-1, S-1, M
4 (Lowest Hazard)	B, F-2, S-2, A-5, R-3, R-4 Condition 1, U

- Change is of greater hazard, height and area comply w/ *FBC-B* Ch 5 (1012.6.1)*
 - exception: high-rise buildings, constructed as permitted per *FBC-B* 403.2.1 are exempt w/ automatic sprinkler per *FBC-B* 903.3.1.1

Change of Occupancy (Chapter 10)

- Heights & Areas (1012.6-continued)
 - Firewall Alternatives other than H, F-1 & S-1
 - barriers built complying w/ *FBC-B* 707 & 711 used in lieu of firewalls separating buildings to meet limitations of new occupancy as long as
 - automatic sprinklers installed
 - area between barriers < *FBC-B* Ch 5 w/o sprinkler increase
 - existing barriers not less than *FBC-B Table 706.4*
 - exception: barriers limiting allowable area can reduce by 1-hour, if height & area increase not used (1012.6.1.1)*
 - Change equal or less hazard per Table 1012.6* – existing height & area deemed acceptable (1012.6.2)*

Change of Occupancy (Chapter 10)

- Heights & Areas (1012.5-continued)
 - Fire Barriers
 - Change is > hazard per Table 1012.6*, barriers in mixed-use comply w/ *FBC-B*
 - exception: 1-hr barriers may use existing wood lath & plaster or existing ½-inch drywall (1012.6.3)*

Change of Occupancy (Chapter 10)

- Exterior Wall Fire-resistance Rating (1012.7)*
 - Hazard categories per Table 1012.7*

TABLE 1012.7
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATION
1 (Highest Hazard)	H
2	F-1, M, S-1
3	A, B, E, I, R
4 (Lowest Hazard)	F-2, S-2, U

Change of Occupancy (Chapter 10)

- Exterior Wall Fire-resistance Rating (1012.7*-continued)
 - Change for higher hazard
 - exterior walls & openings per *FBC-B*
 - exception: 2-hr where building 3 stories or less and is A-2 and A-3 w/ occupant load <300, B, F, M or S (1012.&.1)*
 - Change to equal or lesser hazard
 - existing walls & openings permissible (1012.&.2)*
 - Opening Protectives
 - comply w/ *FBC-B*
 - exterior openings require protection due to distance from lot line total < 50% of total wall area
 - exception: where permitted > 50% by *FBC-B*
 - exception: Group R, less than 3 stories, < 3 feet from property line
 - exception: automatic sprinklers may be substituted for protection
 - exception: protection not required for equal or lower hazard (1012.7.3)*

Change of Occupancy

- Vertical Shaft Enclosures (1012.8)*
 - Enclosure of vertical shafts comply w/ FBC-B for atriums (1012.8.1)*
 - Stairways in higher hazard changes per *FBC-B*
 - Exception: other than Group I, openings serving 1 adjacent floor, not connected to corridors or stairways serving other floors
 - Exception: unenclosed stairways not required for continuous vertical shaft where floors separated by 1-hr construction. Openings to corridors and occupant space have at least 1 sprinkler head above openings on tenant side. Domestic water supply acceptable w/ acceptable pressure
 - Exception: existing protected penetrations of stairway enclosures complying w/ FBC-B (1012.8.2)*

Change of Occupancy (Chapter 10)

- Vertical Shaft Enclosures (1012.8-continued)
 - Other vertical shafts
 - Comply w/ *FBC-B* for elevator hoistways, service, utility shafts where change is higher hazard
 - Exception: existing 1-hr shafts are acceptable
 - exception: other than Group I, shafts < 6 stories, not required to be protected if sprinklered (1012.8.3)*
 - Openings (1012.8.4)*
 - All openings into vertical shafts protected w/ not less than 1-hr protection;
 - self-closing, automatic close by smoke detection
 - fusible link acceptable, not on stairways, fusible link not greater than 135 Deg F
- Accessibility (1012.9)*
 - Comply w/ *FBC-A*
- Energy Conservation (1013)**
 - Comply w/ *FBC-EC*

Additions (Chapter 11)

- General (1101)
 - Scope requires compliance w/ *FBC-B* ONLY where required by *FBC-E* (1101.1)
 - Addition cannot create or extend nonconformity for:
 - accessibility
 - structural strength
 - fire safety
 - means of egress
 - capacity of M | E | P systems (1101.2)
 - Repairs or alterations in existing buildings where addition is made - comply w/ Chapter 6 (1101.3)
 - Enhanced Classroom Acoustics (1101.4)**

Additions (Chapter 11)

- Heights & Area
 - May not increase limits of *FBC-B* Ch 5 (1102.1)
 - Additions may exceed *FBC-B* Ch 5 w/ fire separation as provided by *FBC-B*
 - exception: non-occupiable appendages, e.g. elevators may be permitted beyond *FBC-B* Ch 5 (1102.2)
 - Additions comply w/ *FBC-B* Ch 9 for fire protection
 - exception: warehouse additions comply w/ *FBC-B* Ch 9, existing building need not comply if built complying w/ 2001 edition *FBC-B* Section 903 (1102.3)**

Additions (Chapter 11)

- Structural (1103)
 - Comply w/ *FBC-B* (1103.1)
 - Additional Gravity Loads (1103.2)
 - comply w/ *FBC-B*
 - exception: stress increase < 5%
 - exception: Group R, < 5 dwelling or sleeping units, existing building complying w/ light frame construction per *FBC-B* or *FBC-R* (1103.2)

Additions (Chapter 11)

- Structural (1103-continued)
 - Lateral force-resisting system
 - comply w/ 1103.3.1, 1103.3.2 & 1103.3.3 (1103)
 - exception: Group R, < 5 dwelling or sleeping units, existing building complying w/ light frame construction per *FBC-B* or *FBC-R* (1103.2)
 - exception: existing lateral load capacity < 10% of addition capacity may remain; (1103.3)
 - Vertical addition
 - increased vertical Loads comply w/ *FBC-B* (1103.3.1)
 - Horizontal addition
 - horizontal forces effecting an existing system comply w/ *FBC-B* (1103.3.2)
 - Voluntary addition to structural system comply w/ 807.6 (1103.3.3)

Additions (Chapter 11)

- Structural (1103-continued)
 - Flood Hazard – Substantial Improvement(1103.5)*
 - vertical & horizontal substantial additions comply w/ *FBC-B* 1612 or *FBC-R* 322 new & existing
 - vertical and horizontal non-substantial, the addition comply w/ *FBC-B* 1612 or *FBC-R* 322; may not extend non-conformity
 - Raised, extended, replaced, or new foundations comply w/ *FBC-B* 1612 or *FBC-R* 322
- Smoke Alarms Groups R and I-1 (1104)
 - Group R or I-1 is provided w/ alarms per *Florida Fire Prevention Code* or *FBC-R* 314, existing building also required

Additions (Chapter 11)

- Accessibility (1105)
 - Where effected, accessibility comply w/ *FBC-A* **
- Energy Conservation (1106)
 - Comply w/ *FBC-EC*
- Plumbing (1107)
 - Comply w/ 810.1*
- Carbon Monoxide Protection
 - Addition comply w/ Florida Fire Prevention Code, FBC-B Section 915, or *FBC-R 315* **

Historic Buildings (Chapter 12)

- Intent is to keep designated historic buildings safe & historic (1201.1)
- Applies to repair, alteration, restoration, change of occupancy, addition, & relocation of historic buildings (1201.2)
- Flood Hazard Areas – Substantial Improvement (1201.3)**
 - Comply w/ *FBC-B* 1612 or *FBC-R* 322
 - Exceptions:
 - listed in the National Registry of Historic Places
 - contributing resource in NRHP listed district
 - sanctioned local designations
 - eligible thru Florida State Historic Preservation office for property or district
- Accessibility comply w/ *FBC-A* (1201.4)

Historic Buildings (Chapter 12)

- Definitions (1202)
 - Need thorough understanding of meanings to use this Chapter effectively
- Standards & Guidelines Rehabilitating Historic Buildings (1203)
 - Maintain/preserve original space configuration
 - Minimize alteration, destruction or loss of historic fabric (1203.1)
 - Preservation objectives
 - preserve original quality & character
 - minimize removal of original materials
 - sensitivity to craftsmanship
 - retain additional form if additions or alterations are later removed
 - abide by Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings (1203.2)

Historic Buildings

- **Equivalency (1204)**
 - Nothing in this code is intended to prevent the use of equivalent elements providing the following:
 - technical information substantiating equivalency submitted to Building Official
 - the system, method, or device acceptable to Building Official
- **Compliance (1205)**
 - Structures or portions not strictly in compliance w/ code can be shown to satisfaction of Building Official that no hazard will be created (1205.1)

Historic Buildings (Chapter 12)

- Compliance (1205-continued)
 - Compliance options in accordance w/:
 - prescriptive-based provisions of this code
 - compliance based-alternative provisions of this code
 - performance-based provisions *NFPA 914*, Chapter 6 & structural evaluation comply w/ 1401.4.1 (1205.2)**
 - Conditions Specific to 2nd & 3rd options (above)
 - evaluation by Florida licensed architect or engineer
 - documentation kept on site
 - re-evaluation of changes made to Bldg Official
 - construction safeguards w/ Ch 15 & *NFPA 914*
 - maintain per 1204 & Chs 1,2,8,9,10 & 11 *NFPA 914* (1205.3)**

Historic Buildings (Chapter 12)

- Investigation & Evaluation (1206)**
 - *Alteration or Change of Occupancy* requires investigation
 - Written report to Building Official by Florida licensed architect or engineer
 - In accordance w/ *NFPA* 914, 4.3.1.2 and 4.3.2
 - identify each non-compliant feature and methods of abatement w/ equivalent safety features
- Historic Cuban Tile (1207)**
 - required to be preserved for existing & new construction
 - Applies to handmade or hand process made barrel (“C” shaped) natural clay tile

Relocated or Moved Buildings (Chapter 13)

- Scope & Conformance (1301)
 - Must be safe per *Florida Fire Prevention Code & FBC-B*
 - *Repairs, alterations or change of occupancy* comply w/ this code
 - Field-fabrications comply w/ *FBC-B*

- Requirements (1302)**
 - Residential buildings moved into or within jurisdiction not required to be in compliance w/ *FBC-B* provided:
 - building structurally sound for use
 - occupancy use not changed
 - building not substantially remodeled
 - fire code ingress & egress requirements met
 - electrical, gas & plumbing met code when built
 - foundation plans signed & sealed by FL design pro
 - moving building per *FBC-B*

Relocated or Moved Buildings (Chapter 13)

- Scope & Conformance
 - Building location on lot comply w/ *FBC-B or FBC-R* (1302.1)**
 - Foundation comply w/ *FBC-B or FBC-R* (1302.2)
 - Connections to foundations comply w/ *FBC-B or FBC-R* (1302.2.1)
 - Foundations of Historic Buildings
 - comply w/ *FBC-B* for foundations
 - sited for openings complying w/ *FBC-B or* compliance alternatives of this Chapter (1302.2.1.1)
- Wind Loads (1302.3)
 - Comply w/ *FBC-B*
 - Exceptions:
 - detached one & two-family & Group U where same for each location
 - where stress is not increased by > 10%
 - manufactured buildings approved by Manufactured Building program & DBPR

Relocated or Moved Buildings (Chapter 13)

- Flood Hazard Areas (1302.6)
 - Comply w/ *FBC-B 1612 or FBC-R 322* at the new location
 - Where new location is in flood hazard area

- Required Inspections and Repairs (1302.7)
 - Building Official has authority to inspect
 - Authorized professional may inspect
 - Expenses paid by owner
 - Verify structural integrity
 - repairs must be made to defective structure prior to final approval

Performance Compliance Methods (Chapter 14)

- Scope (1401.1)*
 - Applies to *alteration, addition, change of occupancy*, including historic and moved structures per 301.3.3
 - Maintain or increase public safety & welfare w/o complying w/ prescriptive code
 - Permits *alteration, addition or change of occupancy* existing structures
 - Does not require full compliance w/ Chs 6-13
 - May refer to other chapters in this code

Performance Compliance Methods (FBC-E Chapter 14)

- Applicability*
 - All existing buildings involving additions, alterations or changes of occupancy comply w/ Chs 6-12
 - Sections 1401.2.1 -1401.2.6 for existing buildings continuing in Groups A, B, E, F, I-2, M, R, & S
 - Group U undergoing *change of occupancy* or partial change (1402)*
 - *Change of occupancy* requires new occupancy compliance (1401.2.1)
 - *Partial changes of occupancy* (1401.2.2)
 - *Additions* comply w/ *FBC-B OR FBC-R* and this code for new construction; height and area per *FBC-B* Ch 5; fire separation per *FBC-B* 706 will constitute a separate building (1401.2.3)
 - *Alterations & repairs* must equal or increase safety or sanitation; if reduced portion conform to Chs *FBC-B* Chs 2-12 and 14-33 (1401.2.4)
 - Accessibility comply w/ 405, 705, 806, 906, 1105 & 1201.4 (1401.2.5)
 - Plumbing fixtures in accordance w/ 1010 and 810 comply w/ FBC-P (1401.2.6)*

Performance Compliance Methods (Chapter 14)

- Acceptance (1401.3)
 - *Repairs, additions, alterations & changes of occupancy* evaluated by architect or engineer in accordance w/ this section, accepted by Building Official
 - This section requires compliance w/ *FFPC* (1401.3.2)
 - In flood hazard areas, comply w/ *FBC-B* 1612 or *FBC-R* 322 for substantial improvements; non-conformity may be extended (1401.3.3)*
- Investigation & Evaluation (1401.4)
 - Performed by Florida architect or engineer (1401.4)
 - Structural analysis comply w/ *FBC-B* Ch 16 (1401.4.1)
 - Report submitted to Building Official (1401.4.2)
 - Building Official determines compliance (1401.4.3)

Performance Compliance Methods (Chapter 14)

- Evaluation (1401.5)
 - Fire Safety for structure, auto fire detection, sprinkler system (1405.1)
 - means of egress configuration, characteristics & support features (1401.5.2)
 - General safety included for both above (1401.5.3)

- Evaluation Process (1401.6)
 - All Groups except H & I evaluated by this process
 - Group I-2 evaluation for each smoke compartment
 - Table 1401.7 used as “score card” for evaluation
 - Mixed-use has special requirements
 - Lowest score for each category applies to entire bldg

Performance Compliance Methods (Chapter 14)

- Evaluation Categories

- Building height (1401.6.1)**
- Building area (1401.6.2)**
- Compartmentation (1401.6.3)*
- Tenant & dwelling unit separations (1401.6.4)*
- Corridor walls (1401.6.5)**
- Vertical openings (1401.6.6)**
- HVAC system (1401.6.7)**
- Automatic fire detection (1401.6.8)
- Fire alarm system (1401.6.9)
- Smoke Control (1401.6.10)**
- Means of egress capacity & number (1401.6.11)**
- Dead ends (1401.6.12)**
- Maximum travel distance to exits (1401.6.13)
- Elevator control (1401.6.14)
- Means of egress emergency lighting (1401.6.15)
- Mixed occupancy values (1401.6.16)**
- Sprinkler system (1401.6.17)*
- Standpipe system (1401.6.18)**
- Incidental uses (1406.1.19)**
- Smoke compartment (1406.1.20)
- Patient concentration (1401.6.21.1; 1401.6.21.2; & 1401.6.21.3)**

Performance Compliance Methods

- Sample Evaluation Score Cards

**TABLE 1401.6.11
MEANS OF EGRESS VALUES^a**

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1, A-2, A-3, A-4, E, I-2	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

ADVANCED FBC:

Understanding the EXISTING BUILDING CODE

8th Edition (2023)



Performance Compliance Methods (Chapter 14)

■ Total Building Score

Existing occupancy _____	Proposed occupancy _____
Year building was constructed _____	Number of stories _____ Height in feet _____
Type of construction _____	Area per floor _____
Percentage of open perimeter increase _____ %	
Completely suppressed: Yes _____ No _____	Corridor wall rating _____
	Type: _____
Compartmentation: Yes _____ No _____	Required door closers: Yes _____ No _____
Fire-resistance rating of vertical opening enclosures _____	
Type of HVAC system _____, serving number of floors _____	
Automatic fire detection: Yes _____ No _____	Type and location _____
Fire alarm system: Yes _____ No _____	Type _____
Smoke control: Yes _____ No _____	Type _____
Adequate exit routes: Yes _____ No _____	Dead ends: _____ Yes _____ No _____
Maximum exit access travel distance _____	Elevator controls: Yes _____ No _____
Means of egress emergency lighting: Yes _____ No _____	Mixed occupancies: Yes _____ No _____
Standpipes Yes _____ No _____	Patient ability for self-preservation _____
Incidental use Yes _____ No _____	Patient concentration _____
Smoke compartmentation less than 22,500 sq. feet (2092 m ²) Yes _____ No _____	Attendant-to-patient ratio _____

ADVANCED FBC:

Understanding the EXISTING BUILDING CODE

8th Edition (2023)



Performance Compliance Methods (Chapter 14)

■ Total Building Score

SAFETY PARAMETERS	FIRE SAFETY (FS)	MEANS OF EGRESS (ME)	GENERAL SAFETY (GS)
1401.6.1 Building Height 1401.6.2 Building Area 1401.6.3 Compartmentation			
1401.6.4 Tenant and Dwelling Unit Separations 1401.6.5 Corridor Walls 1401.6.6 Vertical Openings			
1401.6.7 HVAC Systems 1401.6.8 Automatic Fire Detection 1401.6.9 Fire Alarm System			
1401.6.10 Smoke control 1401.6.11 Means of Egress 1401.6.12 Dead ends	* * * *		
1401.6.13 Maximum Exit Access Travel Distance 1401.6.14 Elevator Control 1401.6.15 Means of Egress Emergency Lighting	* * * *		
1401.6.16 Mixed Occupancies 1401.6.17 Automatic Sprinklers 1401.6.18 Standpipes 1401.6.19 Incidental Use 1401.6.20 Smoke compartmentation 1401.6.21.1 Patient ability for self-preservation 1401.6.21.2 Patient concentration 1401.6.21.3 Attendant-to-patient Ratio	* * * *	* * * * ÷2 =	
Building score—total value			

* * * *No applicable value to be inserted.

Performance Compliance Methods (Chapter 14)

- Evaluation of Building Safety (1401.9)**
 - Mandatory scores Table 1401.8 subtracted from Table 1401.7
 - Score of zero or more = compliance
 - Score of less than zero = non-compliance
- Mixed occupancies
 - separation between occupancies does not qualify in 1401.6.16, then max safety score for occupancy is lowest general safety score in Table 1408.1
 - qualifying separations use safety scores for each occupancy

Other Considerations

- Construction Safeguards (FBC-E Chapter 15)
- Referenced Standards (FBC-E Chapter 16)
- Retrofitting (FBC-E Chapter 17)
 - *Prescriptive* requirements for voluntary use in hardening residential structures, primarily Group R-3

CASE STUDY

- Project Permitted under 6th Ed (2017) Code
- Too early in 8th Ed (2020) for a good Case Study
- Issues would be the same under 8th Ed (2020) Code
- The Case Study will:
 - Show what was presented for permit
 - Show what was incorrectly documented
 - Present what should have been documented

ADVANCED FBC:

**Understanding the
EXISTING BUILDING
CODE**

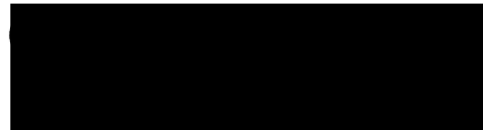
CASE STUDY



**BARRY UNIVERSITY
WEBER HALL**

11300 NE 2nd Avenue Miami Shores, Florida 33161

005620.00
ADDENDUM #4 - PERMIT REVISIONS
JUNE 25TH, 2019



CASE STUDY

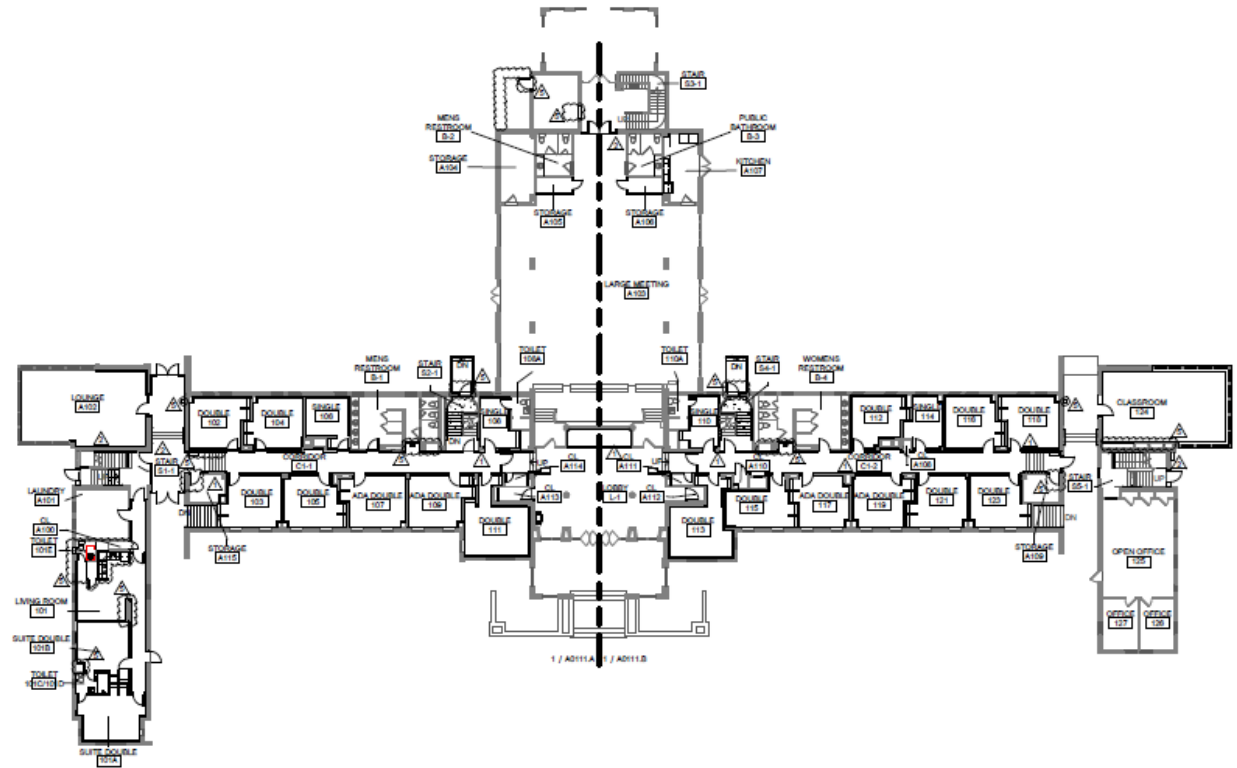
- Dormitory Renovations at Barry University
 - Building originally built in the 1940's
 - Codes were a local option prior to the mid-1970s in Florida
 - Unknown if a code was applied at time of construction
 - University likely had some type of prescriptive code
 - Building operated safely for more than 50 years

ADVANCED FBC:

Understanding the EXISTING BUILDING CODE

CASE STUDY

■ Level 01

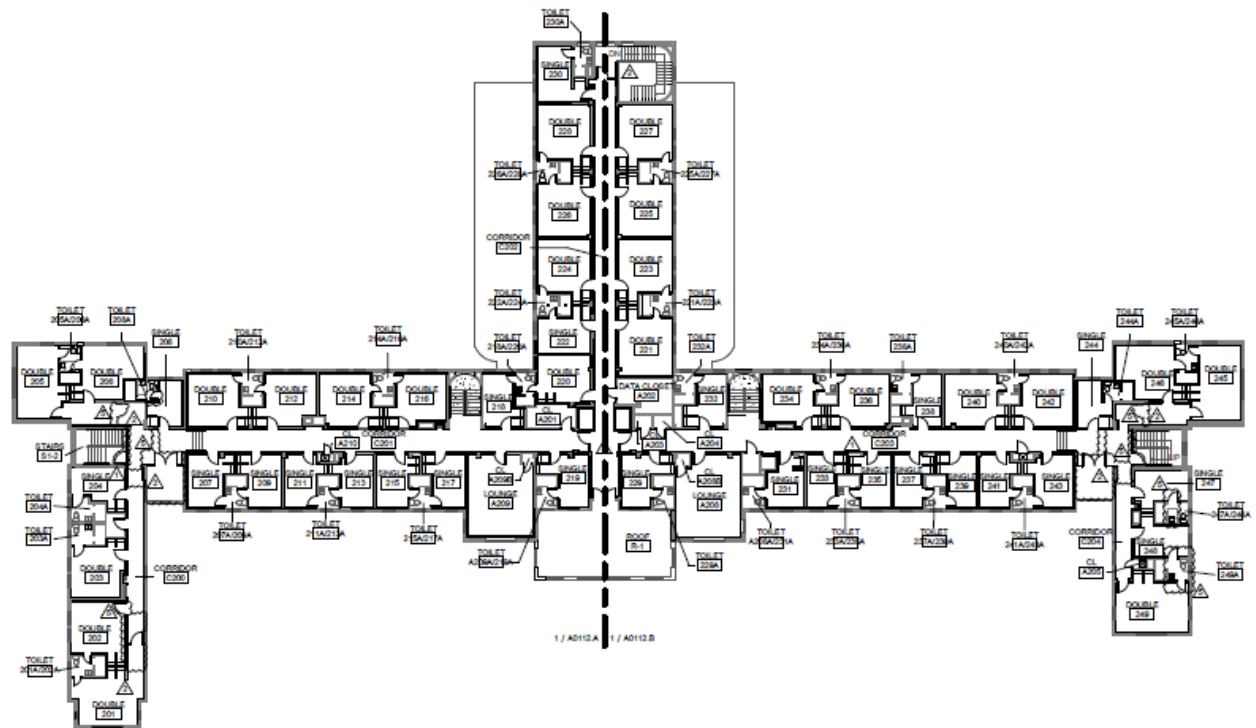


ADVANCED FBC:

Understanding the EXISTING BUILDING CODE

CASE STUDY

- Level 02



ADVANCED FBC:

Understanding the EXISTING BUILDING CODE

CASE STUDY

Code Compliance

AUTHORITIES HAVING JURISDICTION:

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CHIEF ALAN R. COMBENY, MIAMI-DADE FIRE RESCUE'S DEPUTY FIRE MARSHAL
786-331-0000
8000 NW 4TH STREET
MIAMI, FL 33170-3414

APPLICABLE CODES, STANDARDS, AND ORDINANCES:

ALL	CODE, STANDARD, OR ORDINANCE
1	EXISTING: 2017 FLORIDA EXISTING BUILDING CODE
1	ELECTRICAL: CHAPTER 27 / FLORIDA BUILDING CODE, BUILDING 2017
1	GAS: FLORIDA BUILDING CODE, FUEL GAS 2017
1	MECHANICAL: FLORIDA BUILDING CODE, MECHANICAL 2017
1	PLUMBING: FLORIDA BUILDING CODE, PLUMBING 2017
1,2	FIRE PREVENTION: FLORIDA FIRE PREVENTION CODE 2017
1	ENERGY: CHAPTER 13 / FLORIDA BUILDING CODE, BUILDING 2017
1	ACCESSIBILITY: CHAPTER 11 / FLORIDA BUILDING CODE, BUILDING 2017
1	ICC/ANSI A117.1 - 1983 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

GENERAL INFORMATION:

PERMITTED UNDER THE FLORIDA BUILDING CODE 2017

- 40% OF THE PROJECT IS ALTERATION LEVEL 1 PER 2017 FLORIDA EXISTING BUILDING CODE
11.3% OF THE PROJECT IS ALTERATION LEVEL 2 PER 2017 FLORIDA EXISTING BUILDING CODE
48% OF THE PROJECT IS CLASSIFIED AS RENOVATION PER NFPA 101 CHAPTER 42
11.3% OF THE PROJECT IS CLASSIFIED AS MODIFICATION PER NFPA 101 CHAPTER 42

PROJECT LOCATION: [REDACTED]
OCCUPANCY: [REDACTED]

OCCUPANCY CLASSIFICATION:
MULTIPLE OCCUPANCY - PRIMARY USE IS R-2 (EXISTING BUILDING OCCUPANCY TO REMAIN)

CONSTRUCTION CLASSIFICATION:

CONSTRUCTION TYPE: [REDACTED] EXISTING BUILDING CONSTRUCTION TYPE TO REMAIN

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS:

INTERIOR WALL & CEILING FINISH MINIMUM REQUIREMENTS FOR OCCUPANCY GROUP R-2 (TABLE 803.1.1)

EXIT ENCLOSURES & EXIT PASSAGEWAYS	CLASS B
CORRIDORS	CLASS B
ROOMS AND ENCLOSED SPACES	CLASS C

CLASSIFICATION OF INTERIOR WALL AND CEILING FINISHES (803.1.1):

CLASS A FLAME SPREAD 0-25; SMOKE DEVELOPED 0-450
CLASS B FLAME SPREAD 26-75; SMOKE DEVELOPED 0-450
CLASS C FLAME SPREAD 76-300; SMOKE DEVELOPED 0-450

EXIT ACCESS TRAVEL DISTANCES (TABLE 1017.2):

R-2 - DO NOT EXCEED 200 FEET
ACTUAL MAXIMUM EXIT TRAVEL DISTANCE 189'-2"

COMMON PATH OF EGRESS TRAVEL (TABLE 1006.2.1):

R-2: DO NOT EXCEED 125 FEET

DEAD END CORRIDOR (2017 FLORIDA EXISTING BUILDING CODE SECTION 805.9):

50 FEET MAX. ALLOWED WITH AUTOMATIC FIRE ALARM SYSTEM.
--

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1006.4.2):

ACCESSORY STORAGE / MECH (AG)	300 GROSS
ASSEMBLY TWO FIXED SEATS UNCONCENTRATED (A-4)	15 NET
BUSINESS (B)	100 GROSS
EDUCATIONAL CLASSROOM (E-4)	30 NET
RESIDENTIAL (R)	200 GROSS

FIRE RESISTANCE RATINGS

FBC 2017 - TABLE 801 - TYPE III	
ITEM	FIRE RATING
STRUCTURAL FRAME	0 HR
SUPPORTING ROOF ONLY	0 HR
BEARING WALLS:	
EXTERIOR	0 HR
INTERIOR	0 HR
INTERIOR SUPPORTING ROOF ONLY	0 HR
NON-BEARING WALLS AND PARTITIONS	
EXTERIOR SEPARATION >30'	0 HRG
INTERIOR	0 HRG
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR
MISCELLANEOUS	
FBC 201 [No Title]	
SHAFT ENCLOSURES (FBC EXISTING BUILDING SECTION 803.2.1 EXCEPTION 11)	30 MIN
CORRIDORS	0 HRG
VERTICAL EXIT ENCLOSURES	
>4 STORIES	1 HR

NOTE:

- 1) PER FBC - EXISTING BUILDING SECTION 803.2.1 EXCEPTION 11, SHAFT ENCLOSURES AND PENETRATIONS BETWEEN THE BASEMENT THROUGH LEVEL 01, AND LEVEL 01 THROUGH LEVEL 02 ARE ONLY REQUIRED TO BE 30-MINUTE FIRE RATED. THE PROJECT IS EXCEEDING THIS REQUIREMENT BY PROVIDING MINIMUM 1-HOUR ENCLOSURES AND SEALS BETWEEN THE BASEMENT THROUGH LEVEL 01, AND LEVEL 01 THROUGH LEVEL 02.
- 2) THE ROOF IS NON-OCCUPIED AND NOT CONSIDERED A STORY. SINCE THE PROJECT IS CONSTRUCTION TYPE III, AND THE ROOF IS NOT FIRE RATED, THE PENETRATIONS TO THE INTERSTITIAL SPACE THROUGH THE LEVEL 02 GYPSUM BOARD CEILING ARE NOT FIRE RATED.

CASE STUDY

- Existing Building Code Data (architect's data)

48% OF THE PROJECT IS ALTERATION LEVEL 1 PER 2017 FLORIDA EXISTING BUILDING CODE
11.3% OF THE PROJECT IS ALTERATION LEVEL 2 PER 2017 FLORIDA EXISTING BUILDING CODE
48% OF THE PROJECT IS CLASSIFIED AS RENOVATION PER NFPA 101 CHAPTER 43
11.3% OF THE PROJECT IS CLASSIFIED AS MODIFICATION PER NFPA 101 CHAPTER 43

- NFPA 101 – Chapter 43

Chapter 43 Building Rehabilitation

43.1 General.

43.1.1 Classification of Rehabilitation Work Categories. Rehabilitation work on existing buildings shall be classified as one of the following work categories:

- (1) Repair
- (2) Renovation
- (3) Modification
- (4) Reconstruction
- (5) Change of use or occupancy classification
- (6) Addition

CASE STUDY

- Consistency w/ *FBC-E*?

 - 43.1.3 Multiple Rehabilitation Work Categories.

 - 43.1.3.1 Work of more than one rehabilitation work category shall be permitted to be part of a single work project.

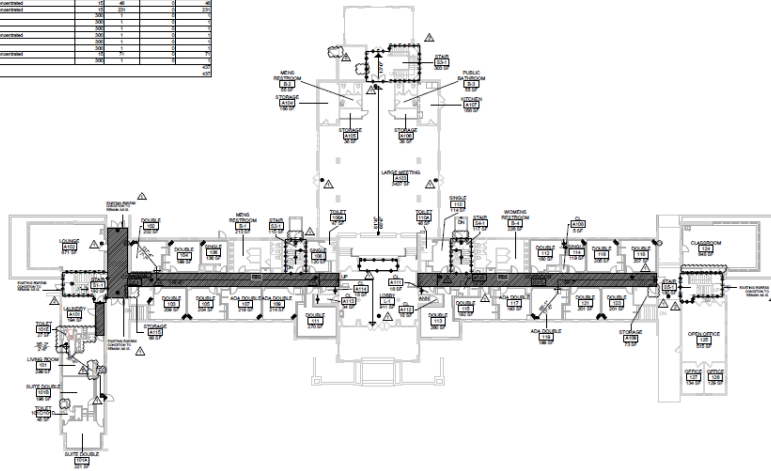
 - 43.1.3.2 Where a project includes one category of rehabilitation work in one building area and another category of rehabilitation work in a separate area of the building, each project area shall comply with the requirements of the respective category of rehabilitation work.

- Why is NFPA 101 a Consideration?
 - 2017, 6th edition *FBC-E, FBC-B & FFPC (NFPA 101 by incorporation)*
 - Compliance method not identified as req'd (301.3)
 - Building Official may grant permission to use code in effect at time of construction (303.1, Exception)
 - Exception not applicable to flood zone or structural for substantial alterations

Understanding the EXISTING BUILDING CODE

- Level 01 Code Compliance Plan

INDEX	SYMBOL	PRICE	OPEN	HIGH	LOW	CLOSING PRICE	ADJ. CLOSE	PERCENT CHG	PERCENT CHG	TOTAL VOLUME
100	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
101	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
102	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
103	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
104	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
105	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
106	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
107	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
108	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
109	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
110	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
111	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
112	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
113	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
114	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
115	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
116	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
117	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
118	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
119	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
120	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
121	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
122	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
123	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
124	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
125	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
126	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
127	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
128	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
129	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
130	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
131	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
132	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
133	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
134	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
135	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
136	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
137	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
138	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
139	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
140	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
141	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
142	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
143	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
144	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
145	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
146	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
147	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
148	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
149	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
150	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
151	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
152	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
153	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
154	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
155	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
156	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
157	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
158	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
159	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
160	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
161	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
162	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
163	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
164	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
165	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
166	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
167	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
168	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
169	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
170	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
171	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
172	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
173	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
174	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
175	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
176	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
177	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
178	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
179	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
180	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
181	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
182	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
183	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
184	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
185	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
186	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
187	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
188	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
189	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
190	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
191	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
192	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
193	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
194	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
195	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
196	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
197	PG	5.00	5.00	5.00	5.00	5.00	5.00	0.00	0.00	1000000
198	KO	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	1000000
199	WMT	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	1000000
200	CVX	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1000000
201	MRK	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	1000000
202	LLY	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	1000000
203	UNH	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	1000000
204	MDT	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	1000000
205	ABBV	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	1000000
206	MRNA	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	1000000
207	CRSP	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	1000000
208	SPY	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00	1000000
209	IBM	120.00	120.00	120.00	120.00	120.00	120.00	0.00	0.00	1000000
210	MSFT	80.00	80.00	80.00	80.00	80.00	80.00	0.00	0.00	1000000
211	GOOGL	60.00	60.00	60.00	60.00	60.00	60.00	0.00	0.00	1000000
212	AMZN	40.00	40.00	40.00	40.00	40.00	40.00	0.00	0.00	1000000
213	FB	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	1000000
214	DIS	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	1000000
215	PG	5.00	5.00	5.00	5.00	5.00	5.			



1 LEVEL 01 - CODE COMPLIANCE PLAN



Barry University
WEBER HALL
RENOVATION

5	ADDENDUM #4 - PERMIT REVISIONS	JUNE 25 2019
2	ADDENDUM #2 - PERMIT REVISIONS	APR 10 2019
1	ADDENDUM #1 - PERMIT REVISIONS	MAR 05 2019
-	PERMIT SET	DEC 14 2018
No.	Description	Date



Drawing Title:

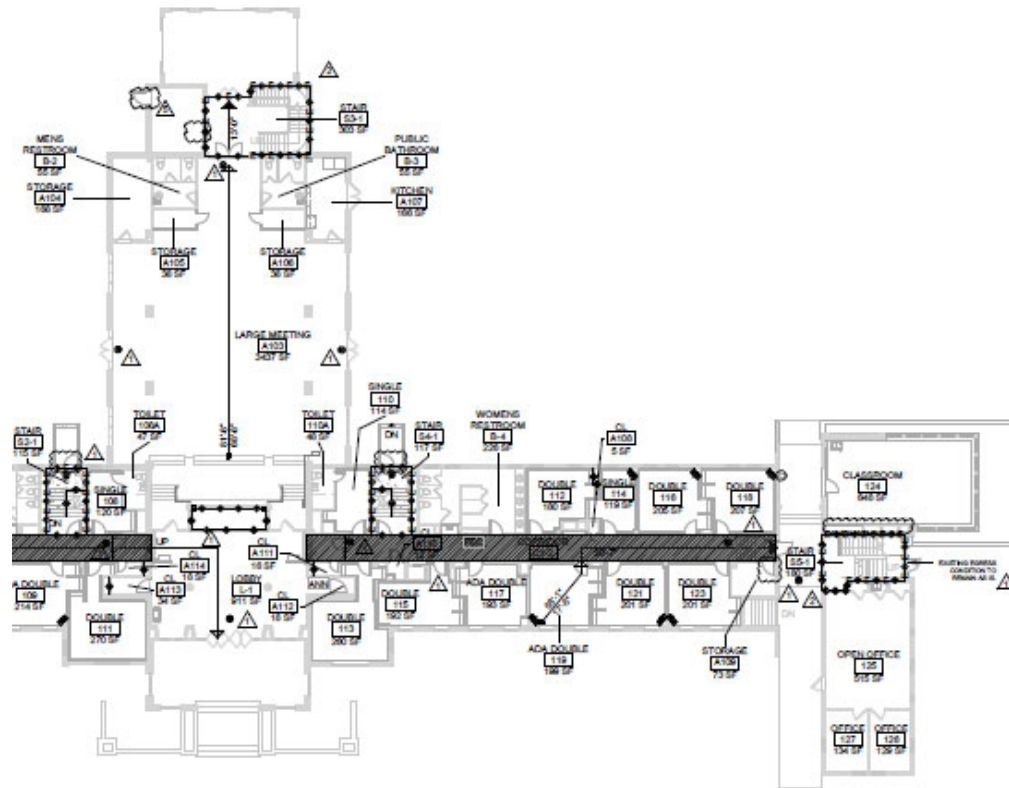
LEVEL 01 CODE
COMPLIANCE PLAN

Issue Date:	DEC 14 2018
Project No: 000000-00	Checked by: jg

G0201

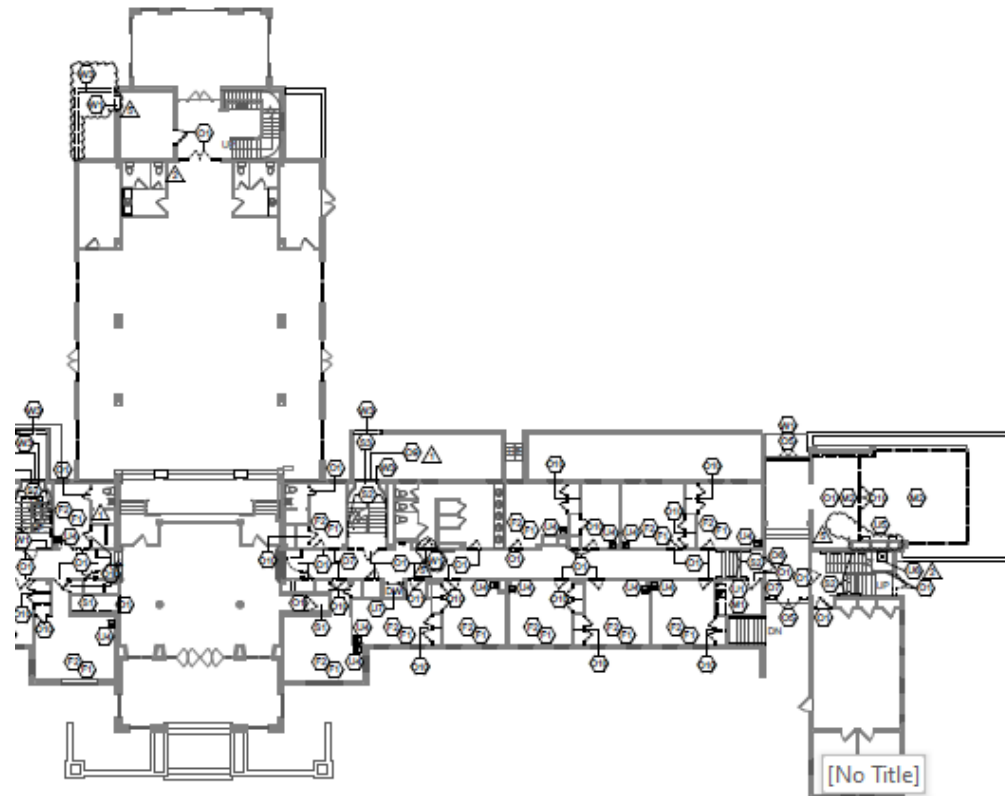
Understanding the EXISTING BUILDING CODE

- Level 01 Code Compliance Plan (Partial)



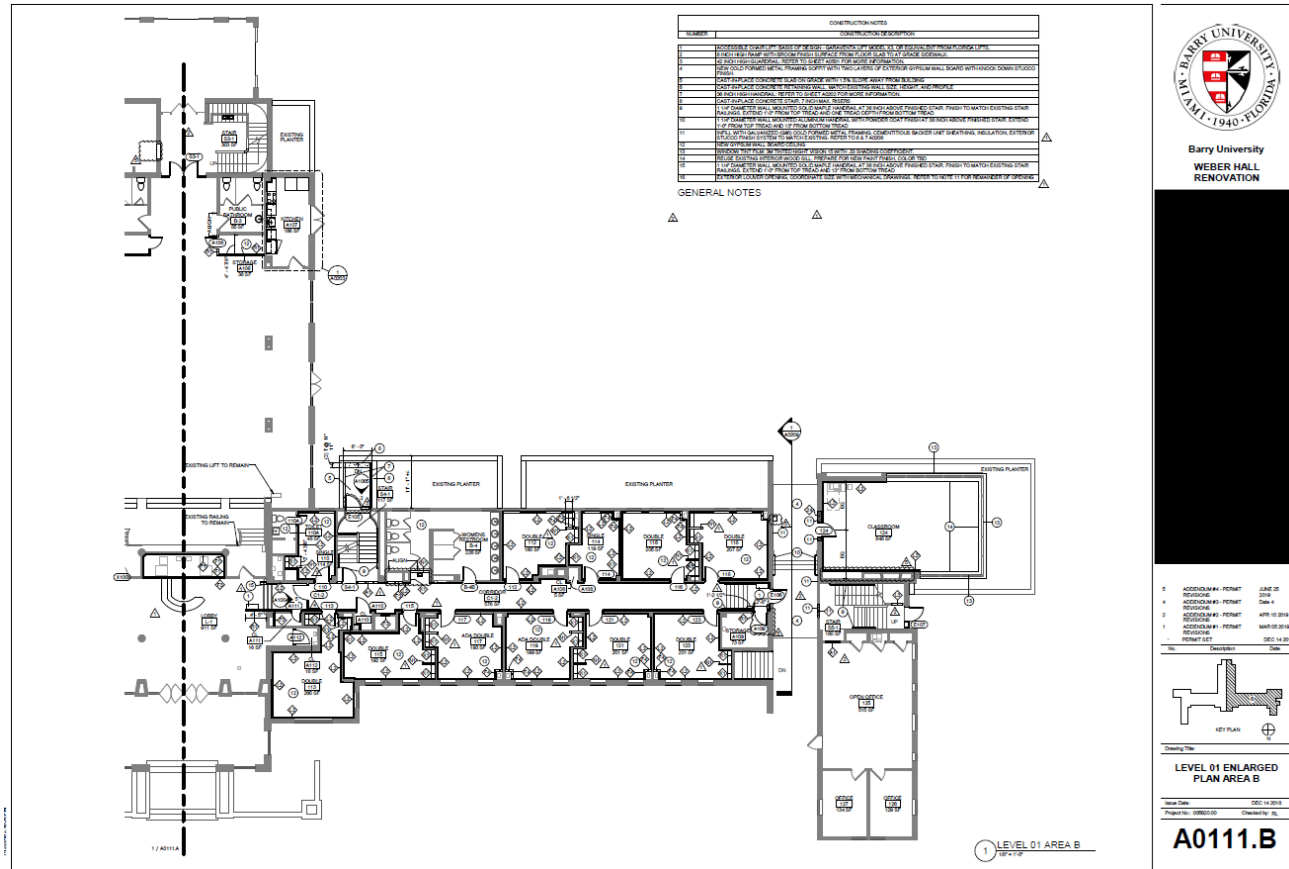
CASE STUDY

- Level 01 Demolition Plan (Partial)



Understanding the EXISTING BUILDING CODE

- Level 01 Architecture Plan (Partial)



CASE STUDY

- What Happened?
 - Building permitted for construction 2019
 - No sprinkler requirement by Fire or Building Depts
 - One week prior to C.O. issue – Building requests Building be Fully sprinkled
- What Went Wrong?
 - *FBC-E* has no provision for multiple Levels of Alteration
 - No Work Area identified on drawings – How does Plans Examiner know where the two levels are?
 - No Compliance Method selected by Architect
 - Permit issued – Bldg Dept got cold feet
 - Negotiation led to no sprinkler

CASE STUDY

- What Should Have Happened?
 - Do a detailed Code review
 - Confirm use of multiple Levels w/ Bldg & Fire
 - Five permit submissions points to need for better project management
 - Level 1 (48%) + Level 2 (11.3%) = Level 3 (59.3%)
 - Don't try to avoid Level 3 – talk to the Client
 - Conduct pre-submission meeting(s) w/ Bldg & Fire – make them a part of the design and decisions

ADVANCED FBC:

Understanding the
EXISTING BUILDING
CODE

SEISMIC & SNOW LOAD DESIGN

What should you pay for a
Seismic or Snow Load Study to a
Structural Engineer?

ADVANCED FBC:

**Understanding the
EXISTING BUILDING
CODE**

SEISMIC & SNOW LOAD DESIGN

\$0.00

[A] 101.2 Scope.

The provisions of this code shall apply to the construction, *alteration*, relocation, enlargement, replacement, *repair*, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

Exceptions:

1. Detached one- and two-family *dwelling*s and multiple single-family *dwelling*s (*townhouses*) not more than three stories above grade plane in height with a separate means of egress, and their accessory structures not more than three stories above grade plane in height, shall comply with the *Florida Building Code, Residential*.
2. Code requirements that address snow loads and earthquake protection are pervasive; they are left in place but shall not be utilized or enforced because Florida has no snow load or earthquake threat.

UNDERSTANDING
the
EXISTING BUILDING
CODE



ADVANCED BUILDING
CODE COURSE

