UNF Building Code Administration Program

Design and Construction Checklist Guideline
[Florida Building Code, 5th Edition (2014)]

Listed below are typical design and construction issues found by the building code administration program (BCAP) for designer and contractor consideration regarding construction projects at UNF.

LOCATION	COMMENT/ISSUE	REFERENCES
General	All work shall be inspected prior to cover-up unless otherwise directed by the BCO	
Reviews	Architect/Engineer shall respond to BCAP Construction Document Review comments in writing.	
Product Approval	Florida Product Approval information for exterior components needs to be submitted prior to issuance of the permit.	FAC 9B-72
Fire Sprinklers	Schematics and riser diagrams of fire sprinkler system needs to be submitted prior to issuance of the permit.	FBC 107.3.5.5
	► BUILDING ◄	
Termite Protection	Existing – All floor penetrations or cutouts shall be retreated for termites unless otherwise directed by the BCO.	FBC 1816; 105.10 and 105.11
	New – After completion, the treatment company needs to provide, to the owner, a warranty and label for placement within the building.	
	New & Existing – Prior to exterior concrete pour or after disturbance, the area within 12 inches of a building needs to be retreated.	
Stairwells & Hallways	Obstructions in and adjacent to accessible routes and stairwells, including light fixtures, fire extinguisher cabinets, sprinkler heads & piping, etc. need to comply with the requirements of the FBC.	FBC Accessibility (CBCA) 204 & 307; FBC 1003.3.1 and 1003.3.3
Aisle Stairs	In Assembly Area – Center aisle stairs typically require handrails on each side of aisle or in the center; Ramped aisles may also need handrails.	FBC 1028.13; FBCA 505.7.4
Stairs & Ramps	Construction variances on treads and risers of stairs.	FBC 1009; NFPA 101 7.2.2.3.6
	Handrail heights (top of railing to be 34” to 38” AFF of landing, ramp or step nosing).	FBC 1012.2; FBCA 505.4
	Handrail Diameter – 2.0” outside diameter or width (gripping diameter) maximum; 1.25 “ ID,	FBCA 505.7
	Openings in guardrails.	FBC 1013.4
	Termination of handrails.	FBCA 505.10
	Guardrail heights (top of rail to be minimum 42” AFF).	FBC 1013.3
	Handrail Continuity – Minimum 2.25” (NFPA 101) from rail to wall and minimum 1.5” from bottom of rail to top of wall/post mounting bracket. FBC requires 1.5” minimum between wall and handrail.	FBC 1012.4; NFPA 101-7.2.2.4.5

LOCATION	COMMENT/ISSUE	REFERENCES
Masonry	Vertical rebars in fill cells need to be fixed in position.	ACI 530
	Cleanouts needed on fill cell lifts over 5' in height; fill cell shall be a minimum width of 3" and a minimum area of 10 square inches.	
	Provide required length on rebar splices (horizontal and vertical), including corner bars.	
	Keep fill cells clean of debris and excess mortar; Leave the grout at least 2" – 4" below the surface of the top CMU for the next pour.	
Reinforcing	Provide minimum spacing between reinforcing bars.	ACI 318 - 7.6
	Provide minimum cover over rebar to earth and formwork.	ACI 318 - 7.7.1
	► BUILDING – ACCESSIBILITY ◄	
Construction Tolerance	If ranges with minimums and maximums are given then standard construction tolerances do not apply	FBCA 104.1
Observation & Service Windows	Typically, observation and service windows are set too high and not functional for wheelchair users. Review locations and heights with the UNF ADA Compliance Officer prior to design and construction.	
Ramps	Landing size (top, bottom and intermediate).	FBC Accessibility (FBCA) 405.7
	Cross-slope (slope < 1:48).	FBCA 405.3
Sidewalks	Cross-slope of sidewalks on accessible routes (slope < 1:48).	FBCA 403.3
Stairwells	Overhead Hazards – Typically, the first floor intermediate landing and flight create an overhead hazard, Less than 80" AFF, for the sight impaired that needs to be addressed.	FBCA 307.2 & 4; Figure 307.2
Equipment & Millwork	Check with UNF ADA Compliance Officer and BCO on required equipment accessibility prior to ordering. Typically, all cabinet and countertops need a section at a maximum height of 34" AFF, on both customer and employee sides.	FBCA 902.3
General Accessibility	Breakroom, lounges and hallway sinks, and counters (or portion), workstation sinks (unless use requirements prevent), workstation counters (or portion); service desks (or portion) shall be accessible for workers and customers; UNF ADA Compliance Office may have additional requirements.	
Detectable Warning	Detectable warning pads required where accessible routes adjoin roadway; UNF ADA Compliance Office may have additional requirements.	FBCA 406.8, 705
Lavatories & Mirrors	At least one accessible lavatory (and mirror) shall be installed in a restroom, in addition to the one required for the accessible toilet stall/room.	FBCA 213.3.4 & 5
Lavatories & Vanities	The bottom of the front apron shall have a minimum clearance of 27" AFF.	FBCA 606.2, 306.3; Figure 306.3
Toilet Stall or Compartment (new)	There shall be a 60" clear floor space provided between the edge of the water closet and wall adjacent to the lavatory.	FBCA Figure 604.8.1.6
Door Opening Force	Interior Doors: 5 lbf (with latch and closer); Exterior Doors: 8.5 lbf.	FBCA 404.2.9
Showers	Maximum height for the shower head and controls is 48" AFF.	FBCA 608.5.1, 608.6
	► ELECTRICAL ◄	
MC Cable	Properly support cable and keep off ceiling grid to allow access.	NEC 300.4(A) & (D); NEC 330.30; NEC300.11
	Typically, if the edge of a metal stud cutout is closer than 1.25" from the stud face the cable shall be secured as required to protect the cable (providing a minimum 1.25" clearance).	NEC 330.17

LOCATION	COMMENT/ISSUE	REFERENCES
MC Cable	Should not be attached to ceiling grid or grid support wires; separate wires are required and shall be attached at the bottom.	NEC 300.11(A)
	Drop wires used to support conduit and cables shall be attached at the bottom (same for EMT, IMC, etc.).	
	Installations through, parallel and attached to studs, shall have a 1.25" clearance to the face of the stud, or shall be protected.	NEC 330.17
Conductor Sizing	Circuits with overcurrent protection up to and including 30A shall have grounded conductors the same size as ungrounded conductors (proportionality rule).	NEC 250.122(B)
Conductor ID	Sizes 6 AWG and less grounded conductors shall be identified continuously in accordance with NEC; Phase tape, or similar, not acceptable.	NEC 200.6(A)
Panels	Keep equipment out of the overhead dedicated equipment space; and protect from foreign systems as required.	NEC 110.26(F)(1)
	Series-rated Panels: Provide panel manual for inspection and place rating label on panel.	
	Panel to have "Arc-Flash" warning label.	
Initiation and Notification Devices	The entire strobe lens must be a minimum of 80" AFF – coordinate height of J-box rough-in with device supplier; Recommend 82" AFF.	NFPA 72-7.5.4
	Properly mark circuit components, including J-boxes, circuit breakers, etc.	NEC 760.30; NFPA 72-4.4.1.4.2.2
	Conductors need to be secured against pull-out within the J-boxes.	
	Install circuit breaker lock if subpanel not secured against unauthorized access.	NFPA 72-4.4.1.4.2 Commentary
Lights	Fixtures to be properly supported or attached to structure or ceiling grid (main runners).	
J-boxes	When conductors are spliced within metal J-box the box needs to be bonded, in all cases.	NEC 250.148
Device Boxes	Box shall be a maximum of 0.25" from face of finished wall surface (noncombustible); Box shall have a maximum of 1/8" gap around box to wall surface in GWB and plaster.	NEC 314.20; NEC 314.21
	► MECHANICAL ◄	
Fire & Smoke Dampers	All dampers need to be tested in place and the specified log sheet completed and signed; Labeled access doors required.	NFPA 90A, Chapter 7; FBC Mechanical 607.4
Duct Pressure Tests	To be witnessed by BCO if required by code or SMACNA.	
Exterior Equipment	Design anchoring for equipment to meet wind loading requirements, including roof curbings, compressors, AHUs, etc.	FBC Mechanical 301.15
	► PLUMBING ◄	
Pressure Tests	Use proper size gauges for tests (1# increments from 10# to 100# test; 2# increments over 100# test); Provide gauge that reads higher than test pressure. "Pegging" of gauge is not acceptable.	FBC Plumbing 312.1.1
Pipe Supports	PVC Pipe Supports: Horizontal – 4' on center (maximum); Vertical – 10' (midstory guide for 2"and smaller).	FBC Plumbing Table 308.5
Pipe Protection	Protect PVC pipe from cut edges of metal studs and within 1.5" of stud edge; Protect copper piping from dissimilar metal studs and	FBC Plumbing Section 305.6

	unistrut hangers.	
Floor & Wall Penetrations	PVC piping more difficult to firestop over 2" diameter; Provide listing for firestopping systems prior to inspection.	

LOCATION	COMMENT/ISSUE	REFERENCES
Urinals	At least one accessible urinal in restroom if urinals provided; Maximum height of accessible urinal is 17" AFF to front of elongated rim.	FBC Accessibility 605.2
	► LIFE SAFETY ◄	
Sprinkler Calcs	Need to be provided for review prior to installation.	
Rated-Walls	Inspection required to check for proper screw patterns based on UL listing used and orientation of sheetrock; Warning labels required.	
	2-hour rated walls – 1st layer needs to be inspected prior to installation of top layer.	
Firestop Systems	Provide copies of firestop assemblies and systems to be used, prior to first inspection.	
Initiation and Notification Devices	Sound Levels - The dbA levels in rooms and areas, new and existing, may be checked during inspections; Check for incorrect device addresses prior to final inspection.	NFPA 72-7.4.2
Initiation and Notification devices	Plans, including Life Safety Plan, need to show location of devices and candela rating of strobes (existing and new).	
Manual Pull Station	Manual Pull Station shall be located not more than 5' from door.	FBC 907.4.2.1
Sprinkler Heads	Typically, uplift clips required for pendent heads mounted in ceilings with fire pump systems (>100 psi).	NFPA 13-9.2.3.5.2.2
Rated-Walls	Provide UL Listing number, or equivalent, for partitions.	
Tactile EXIT Signs	Tactile signage shall be located at each EXIT door requiring EXIT sign	NFPA 101 - 7.10.1.3; FBC 1011.4
Storage	General office storage rooms large enough to walk into shall be protected (typically, more than 36" deep).	NFPA 101, 38/39.3.2
State Fire Marshal	Typically, the SFM review requires submittal of sprinkler and alarm system shop drawings prior to the first inspections.	
State Fire Marshal	Inspection Requests: The SFM has a form that needs to be submitted to the Tallahassee Office at least 5 working days before the inspection. The form is submitted to the SFM by Dan Endicott, Director, UNF EH&S. Typically, the UNF construction project manager should submit the form to EH&S after the contractor has informed them of the time and date of the required inspection.	UNF Permit Manual

Code References: FBC, 5th Edition (2014) (Building, Mechanical and Plumbing); 2010 NEC (NFPA 13); 2011 NEC (NFPA 70); 2010 National Fire Alarm Code (NFPA 72); 2012 Life Safety Code (NFPA 101); 2012 Installation of AC and Ventilating Systems (NFPA 90A)