

LEON COUNTY COMMERCIAL PLANS REVIEW CHECK LIST

PLANS EXAMINER

- Reviews plans for structural, mechanical, gas, plumbing, electrical plans and associated permitting documents for completeness, accuracy and code compliance.
- Calculates building, electrical, mechanical, plumbing and surcharge fees.
- Maintains file and log of appropriate records.
- Works with permit processors and records management.
- Works closely with general public, contractors, engineers, etc., to answer questions related to the Florida Building Code and for questions about their specific projects.
- Access and manage permit applications and specific projects through computerized tracking system.
- Verify type of commercial application submitted.
- New construction, alteration, addition, repair, roofing, electrical, swimming pool or miscellaneous.

1. Log into computer tracking system.
2. Check for proper parcel identification number on all submittal documents.
3. Verify submission of all required construction documents
 - a. Soil test
 - b. Flood certificate
 - c. Energy efficiency form and BTU/H load calculations
 - d. Project status determination
 - e. Permitted use verification
 - f. Concurrency letter
 - g. Wind load analysis
 - h. Two complete sets of plans including but not limited to:
 - (1) Site plan, foundation plan, floor plan, life safety plan, roof framing plan,
 - (2) mechanical plan with equipment and appliance schedules,
 - (3) gas piping plan and gas appliance and equipment submittal documents,
 - (4) plumbing plan with risers, electrical plans with panel schedules and load calculations,
 - (5) steel building plans (if applicable) truss layout, accessibility plans and details,
 - (6) wall section details, fire wall details, schedules page including door, window and interior finish schedules.
4. Verify occupancy type for structure
 - a. Assembly - A1, A2, A3, A4, A5
 - b. Business
 - c. Education
 - d. Factory/Industrial - F1, F2
 - e. Hazardous – H1, H2, H3, H4
 - f. Institutional – I1, I2, I3, I4
 - g. Mercantile
 - h. Residential – R1, R2, R3, R4,
 - i. Storage – S1, S2
 - j. Utility and Miscellaneous
5. Check building height and compare with allowable maximums.
6. Check number of stories and compare with allowable maximums.

7. Check detailed construction requirements for:
 - a. Fire protection of structural members.
 - b. Fire protection of nonstructural components and assemblies.
 - c. Fire protection requirements for general construction, opening protectives, penetrations, and draft stopping.
 - d. Egress components and assemblies for life safety.
 - e. Accessibility standards for individuals with disabilities.
 - f. Interior environments for light, ventilation, and sanitation.
 - g. Roof coverings and roof top structures such as towers and antennas.
 - h. Concrete, steel, and masonry construction standards.
 - i. Glass, glazing, and gypsum plaster construction methods.
 - j. Sprinkler requirements, standpipes and alarm systems.
 - k. Construction in the public right of way considerations.
 - l. Requirements for renovation of existing buildings.
 - m. Wind and seismic force requirements.
 - n. Site work, demolition safety requirements.
 - o. Electrical, Structural, Mechanical, Fuel Gas, and Plumbing review.
8. Check contractor license.
 - a. Verify if license qualifies contractor to build structure
 - b. Verify Contractor insurance requirements

9. SOIL TEST

- a. Check soil test for presence of expansive clays, organic debris, or high water table. (I) if any are present, a specially designed engineered foundation is required.
- b. Verify that test borings are within the perimeter of the proposed structure.
- c. Check soil test for boring depth and soil classifications at each depth indicated.
- d. Verify that soil classification types have sufficient load bearing capacity for proposed structure.
- e. Check soil test for engineering directives for soil removal, fill requirements, compaction density requirements, and foundation design recommendations.
- f. Check soil test for engineer's signature, seal and appropriate disclosure information.

10. FLOOD LETTER

- a. Check flood letter for engineer's signature, seal, date and appropriate disclosure information.
- b. Check flood letter for required minimum finish floor elevation.
- c. Check flood letter for special conditions that affect minimum finish floor elevation.
- d. Check flood letter to verify if the parcel is within or outside the 100 year flood plain.
- e. Check flood letter for correct address and property identification number.

11. ENERGY FORM

- a. Verify energy form for correct version of computer program used.
- b. Check energy form for correct address
- c. Check energy form for correct occupancy of structure
- d. Check energy form for type of construction.
 - (1) New construction
 - (2) Addition
 - (3) Alteration
 - (4) Conditioned floor area.
 - (5) Cornices overhang length.

- (6) Porch overhangs length.
- (7) Glass square footage, single or double pane, tinting, or Argon gas options.
- (8) Exterior wall square footage.
- (9) Exterior and adjacent door square footage
- (10) Adjacent and knee wall square footage
- (11) Ductwork length and location.
- (12) Air handler location
- (13) Thermostat type and location
- (14) Attic, roof, mechanical room, etc.
- (15) Type cooling system used
- (16) Electric, LP gas, natural gas, Hydronic
- (17) Energy efficiency rating.
- (18) Seer, eer, afue, hspf, cop
- (19) A/C unit energy rating number
- (20) Type heating system used
- (21) Heat pump, packaged units, unit heaters, duct furnaces, boilers
- (22) Efficiency rating,
- (23) R values
- (24) Exterior walls, adjacent walls, ductwork, ceiling, roof deck if applicable, floor system if applicable
- (25) Energy credits
- (26) Ceiling fans, multi-zone systems, whole house fan, cross ventilation, attic radiant barrier, programmable thermostat.
- (27) Infiltration practice to be used, 1, 2, 3
- (28) Hot water type to be used
Electric, LP gas, natural gas, solar, efficiency rating number, hot water credits
- (29) Sub 100 EPI rating number

e. System Sizing Calculations (Manual N)

- (1) Method used, A or B
- (2) Verify proper computer program and version.
- (3) Check load calculations for fenestration (doors, windows and skylights) U and SHGC factors.
- (4) Compare listed fenestration U and SHGC factors to baseline factors.
- (5) Verify calculations of glass square footage
- (6) Verify percentage of glass square footage to floor square footage.
- (7) Verify exposed wall and partition square footage.
- (8) Calculate and verify exterior and adjacent door square footages.
- (9) Check calculations for ceiling square footage.
sloped or flat
- (10) Check load calculations for minimum R values of all thermal envelope insulation.
- (11) Verify building material thermal properties and heat capacities.
- (12) Check load calculations for floor square footage.
- (13) Check load calculations for total sensible B.T.U. load
- (14) Check load calculations for required unit tonnage
- (15) Add 15% oversize factor
- (16) Calculate total latent gain

12. LAND USE APPROVAL

- a. Verify parcel number with other application documents.
- b. Check zoning districts.
- c. Check for the type of development.
 - a. Site built
 - b. Modular
 - c. Other
- d. Check for verification of lot of record.

- e. Check for recorded subdivision.
- f. Check for environmental permit clearance.
- g. Check for septic or other sewer permit clearance.
- h. Check for building permit clearance.
- i. Check for reviewer signature and date of above listed approvals.

13. SITE PLAN

- a. Check site plan for consistency with approved subdivision file.
- b. Record perimeter information on back of application
 - (1) Property size
 - (2) Front, sides and rear setbacks
- c. Verify setbacks to other vertical construction on the same lot or adjacent properties.
- d. Verify structures orientation on site.
- e. Check for fill requirements and if fill is allowed outside impervious areas.
- f. Verify structures location on site to ensure consistency with environmental approvals.
 - (1) Near wet lands
 - (2) Near ponds
 - (3) Near streams
 - (4) Near drainage easements
- g. Check site plan for structures potential infringement upon buffer zones.
- h. Check site plan for structures potential infringement into protected areas.
- i. Check site plan to ensure all accessible site components have been met.
 - (1) Accessible route from public transportation, streets and sidewalks without overhangs or protrusions that create an unsafe condition
 - (2) Accessible parking and route from parking to building entrances.
 - (3) Ground surfaces along accessible routes comply with appropriate code sections.
 - (4) Signs that designate accessible parking, passenger loading zones, building entrances and any directional signage required.
- j. Check site plan for reviewer signatures and date approved.

14. FLOOR PLAN

- a. Check floor plan to ensure room dimensions meet minimum requirements
- b. Check floor plan for room designations.
- c. Check floor plan for means of ingress and egress.
 - (1) Egress doors. a. minimum size, b. location
 - (2) Emergency escape windows if required.
- d. Check floor plan for handicap bathroom accessibility and route to bathrooms.
- e. Check floor plan for hazardous window locations.
 - (1) Glazing in ingress or egress doors
 - (2) Fixed or sliding panels in door assemblies
 - (3) Glazing in storm doors
 - (4) Glazing in all unframed swinging doors
 - (5) Glazing in doors or enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers.
 - (6) nearest vertical edge of window within a 24 inch arc of a door and whose bottom edge is less than 60 inches above the finish floor.
 - (7) Less than 18 inches above finish floor, greater than 9 square feet of glass area, top edge greater than 36 inches above the finish floor, one or more walking surfaces within 36 inches horizontally.
 - (8) Bottom edge less than 60 inches above a tub or shower drain inlet.
- f. Check floor plan for hot water heater and air handler locations.
- g. Verify electrical panel location
 - a. prohibited locations.
 - (1) Closets
 - (2) Storage rooms containing combustible materials
- h. Check floor plan for SPA motor access door.

- i. Check floor plan electrical outlet locations.
- j. Check floor plan for ground fault circuit interrupter at required locations.
 - (1) All exterior outlets
 - (2) Kitchen area
 - (3) Bathroom area
 - (4) Adjacent laundry sinks
 - (5) Garage receptacles
 - Within 25 foot of AC compressor
- k. Check floor plan for lighting locations.
- l. Check floor plan for required fan sizes.
- m. Check floor plan for light and ventilation requirements.
 - (1) Bathroom windows
 - a. 3 sq. ft. minimum opening (if no mechanical ventilation)
 - (2) Bathroom exhaust fans
 - (3) Range hoods
 - (4) Dryer vents
 - a. 25 feet maximum duct length
 - b. 5 foot reduction in length for 90 degree turns
 - c. 2.5 foot reduction in length for 45 degree turns
- n. Check floor plan for location and size of all load carrying beams.
- o. Check floor plan for floor joist and floor truss verification.
 - (1) Size
 - (2) Spans
 - (3) Spacing
- p. Check floor plan for stairs.
 - (1) Type
 - (2) Width
 - (3) Number of stringers
 - (4) Size of landings
 - (5) Doors opening into landing area
 - (6) Handrail height
 - (7) Minimum tread width
 - (8) Maximum riser height
 - (9) Baluster openings
 - (10) Headroom height
- q. Check floor plan for required bathroom.
 - (1) 1 per dwelling unit
 - (2) Bathtub plumbing accessibility
- r. Check floor plan for hallway width.
- s. Check floor plan for fire walls as appropriate.
- t. Check floor plan for travel distances.
- u. Check floor plan for location and size of attic access.
- v. Check floor plan for smoke detector adjacent to each sleeping area.
- w. Check floor plan for fireplace requirements.
 - (1) No combustible within 6 inches of fire box side
 - (2) No combustible within 6 inches of fire box top
 - a. if combustible projection no more than 12 inches
 - b. 12 inch minimum clearance required
 - (3) Hearth requirements
 - a. firebox with less than 6 sq. ft shall be 8 inches on side, 16 inches on front
 - b. firebox with 6 sq. ft. or more shall be 12 inches on side, 20 inches on front
- x. Check floor plan for knee wall insulation.
 - (1) R-19 minimum required
- y. Check floor plan for location of return air intake.
 - (1) Not within closed area with gas appliances
 - (2) Not within closed area with floor drain
- z. Check floor plan to verify porch overhang length with energy form.

- aa. Check floor plan to verify window square footage with energy form.

15. ELEVATIONS

- a. Check elevations for roof slope.
 - (1) less than 4: 12 slope with composite shingles require double layer of #15 felt.
- b. Check elevations for type of siding.
- c. Check elevations for window size and locations (verify with floor plan).
- d. Check elevations for porches.
 - (1) If over 30 inches above grade
 - a. guardrail is required
 - b. 36 inches minimum
 - c. baluster spacing less than 4 inches in clear
- e. Check elevations for attic and foundation vents.
- f. Check elevations for chimney heights.
 - (1) 36 inches minimum clearance above roof penetration
 - (2) 24 inches minimum clearance above roof at a distance of 10 feet from chimney
- g. Check elevations for wind loading compliance.
 - (1) non compliant siding solidly backed with approved structural sheathing
- h. Verify overhang recorded on energy form.

16. FOUNDATION PLAN

- a. Check foundation plan for type of foundation system.
 - (1) Monolithic
 - a. size of footing
 - b. size of reinforcing steel
 - c. size of interior grade beams
 - (2) Spread footing with stem wall
 - a. size of footing
 - b. size of reinforcing steel
 - c. comers poured and reinforced with I #5 diameter reinforcing bar.
 - d. protection of wood floor system
 - e. size of interior grade beams
 - f. lintel with vertical reinforcing at perimeter
 - (3) Piling
 - a. composition
 - b. dimension
 - c. embedment
 - d. height
 - e. type installation
 - (1) Driven
 - (2) Augured
- b. Check foundation plan for floor type.
 - (1) Concrete slab on grade
 - a. 4 inches minimum thickness
 - b. reinforcing wire size or certification of fiber mesh in concrete
 - c. anchor bolt location and size
 - d. interior grade beam runs and locations, with regard to load bearing partitions.
 - e. step downs at porches and garages (as necessary)
 - f. vapor barrier
 - (2) Off grade wood floor
 - a. location of spot piers
 - (3) Girder sizes
 - (4) Girder spans
 - (5) Joist sizes
 - (6) Joist spans

- (7) Joist spacing
 - a. 8 feet maximum distance from center to center
 - b. size of footings
 - c. size of reinforcing steel
- (9) Approved wood type or protection for wood in contact with masonry
- (10) Crawl space ventilation
- (11) Crawl space access

17. COMMON FRAMING PLAN

- a. Check second floor framing plan.
 - (1) Joist size
 - (2) Joist spacing
 - (3) Joist spans
 - (4) Truss
- b. Check ceiling plan.
 - (1) Joist size
 - (2) Joist spacing
 - (3) Joist spans
- c. Check roof framing plan.
 - (1) Rafter sizes
 - (2) Rafter spans
 - (3) Rafter spacing

18. WALL SECTION

- a. Check wall section for reinforcing steel location and size.
- b. Check wall section for footing depth.
- c. Check wall section for sole plate.
 - (1) Type of wood used.
- d. Check wall section for anchor bolt length and spacing.
- e. Check wall section for wall height
- f. Check wall section for exterior cladding.
 - (1) Vinyl lap siding
 - a. must have solid backing of structural sheathing
 - (2) Brick veneer
 - a. 1 inch air space
 - b. wall ties @ 18 inches vertically and 32 inches horizontally
 - c. perimeter flashing
 - d. weep holes @ 4 foot centers maximum spacing
- g. Check wall section for double top plates.
- h. Check wall section for stud spacing.
- i. Check wall section for continuous loading path.
 - (1) Solid sheathing on two story structures
 - (2) Lateral control straps
 - a. top and bottom
 - b. 6 feet on center maximum spacing
- j. Check wall section for truss / rafter anchors.
- k. Check wall section for soffit ventilation.
- l. Check wall section for truss bracing.
- m. Check wall section for sheathing.
 - (1) Type
 - a. structural
 - b. nonstructural
 - (2) Thickness
- n. Check wall section to verify floor type with energy form.
- o. Check wall section to verify wall type with energy form.

- p. Check wall section to verify ceding type with energy form.
 - (1) Flat
 - (2) Vaulted

19. WIND ANALYSIS

- a. Determine the total length of building.
- b. Determine the width of the building
- c. Determine the roof overhang.
- d. Determine the roof pitch.
- e. Determine the height of exterior walls.
- f. Calculate mean roof height
- g. Determine if building is enclosed or open construction.
- h. Determine "use factor" of occupancy.
- i. Determine wind velocity to be used for calculations based on location.
- j. Perform calculations on the main wind force resisting system.
 - (1) Transverse lateral forces
 - a. windward wall
 - b. leeward wall
 - (2) Uplift forces
 - a. windward roof
 - b. leeward roof
 - c. windward overhang
 - (3) Longitudinal lateral forces
 - a. windward wall
 - b. leeward wall
- k. Calculate roof dead loads.
- l. Calculate wall dead loads.
- m. Calculate floor dead loads.
- n. Calculate roof framing member forces.
 - (1) End zone
 - (2) Interior zone
- o. Calculate outward forces on wall framing.
 - (1) End zone
 - (2) Interior zone
- p. Analyze roof sheathing as shear diaphragm.
 - (1) Determine total length of shear wall
 - (2) Calculate total lateral wind loading on building
 - (3) Calculate total load transferred through diaphragm to shear wall.
 - (3) Calculate diaphragm forces per lineal foot of shear wall and compare actual forces to allowable forces
- q. Analyze wall studs in interior zone.
 - (1) Determine stud spacing
 - (2) Determine exterior sheathing
 - (3) Calculate total outward forces on studs
 - (4) Calculate stud moment
 - (5) Calculate vertical bending
 - (5) Calculate shear stresses
 - (6) Calculate tensile stresses
 - (7) Calculate deflection
- r. Analyze wall studs in end zone.
 - (1) Determine stud spacing
 - (2) Determine exterior sheathing
 - (3) Calculate total outward forces on studs.
 - (4) Calculate stud moment
 - (5) Calculate vertical bending
 - (6) Calculate shear stresses

- (7) Calculate tensile stresses
- (8) Calculate deflection
- s. Calculate wind uplift per lineal foot at top of exterior wall.
- t. Calculate uniform dead load per lineal foot at top of exterior wall.
- u. Calculate net uplift per lineal foot at top of exterior wall.
- v. Calculate uplift forces on fasteners in exterior wall.
- w. Calculate shear stresses on fasteners in exterior wall.
- x. Analyze continuous loading paths.
- y. Calculate uplift stresses on hurricane clips in interior zone.
- z. Calculate dead loads in interior zone
- aa. Calculate difference between dead loads and uplift forces on hurricane clips in interior zone.
- bb. Compare hurricane clip rating with the difference between dead load and uplift forces.
- cc. Calculate uplift on hurricane clips in end zone.
- dd. Calculate dead loads in the end zone.
- ee. Calculate difference between dead loads and uplift forces on hurricane clips in the end zone.
- ff. Compare hurricane clip ratings with the difference between dead load and uplift forces.
- gg. Analyze connection of wall studs to top plate.
- hh. Analyze connection of wall studs to bottom plate.
- ii. Calculate uplift forces per lineal foot on foundation.
- jj. Check anchor bolt spacing and analyze uplift forces on each anchor bolt and washer in interior zone.
- kk. Check anchor bolt spacing and analyze uplift forces on each anchor bolt and washer in the end zone.

20. FEE CALCULATIONS

- a. Calculate square footage for building permit fees.
- b. Calculate plumbing permit fees.
- c. Calculate electrical permit fees.
- d. Calculate mechanical permit fees.
- e. Calculate gas fees.
- f. Calculate fire review fees

21. FINAL REVIEW AND APPROVALS

- a. Calculate window square footage to verify energy form.
- b. Stamp approvals and code requirements on plans.
- c. Initial and date application and plans.
- d. Record fees on application.
- e. Notify contractor or owner if additional information is needed
 - (1) Special engineered foundation
 - (2) Revised energy form
 - (3) Revised BTU/hr load calculations
 - (4) Revised flood letter
- f. Record special conditions on application.
 - (1) Engineered foundation needed
 - (2) Minimum finish floor elevation required
 - (3) Existence of and length of flag on lot (deeded access road)
- g. Check for completion of environmental review and approval signature
- h. Log into computer tracking system.
 - (1) See permit tracking procedure manual
- i. Deliver to contractor licensing review.