

BUILDING PLAN REQUIREMENTS FOR COMMERCIAL PROJECTS **FOR ICC BUILDING PLAN REVIEW**

The following items are required for new commercial projects. Drawings should be drawn to 1/4" or 1/8" scale and shall provide the necessary information to verify compliance with the building code.

All drawings shall bear the stamp and signature of the design professional responsible for the design.

Three (3) sets of construction drawings shall be submitted and shall include:

Title Page Drawing: to include the contact information for all design professionals, description of square footage per floor, number of floors, type of construction to be utilized, area modifications utilized, use group classification(s), separation or non-separation of mixed use groups, design occupancy load(s), finish materials classification, design codes utilized.

Site Plan Drawings: to include all utility layouts, handicap parking & access, designated fire lanes, distance between adjacent structures and property lines.

Floor Plan Drawings: to include the use of all areas, location & types of fire resistant construction, U.L. Listing of fire resistant construction, means of egress components, handicap access.

Structural Drawings: to include the structural design calculations, geo-technical engineering report, uniform live loads, dead loads, roof & snow loads, wind loads, footing construction detail, foundation construction details, framing construction details, concrete construction details, masonry construction details, wood construction details, steel construction details.

Electrical Drawings: to include all lighting facilities, electrically operated equipment, and electrical circuits required for all service equipment of the building or structure. Drawings should include panel schedules, grounding systems, and wiring methods.

Mechanical Drawings: to include size & type of appliances, construction of flues and chimney systems, ventilation air provided, fresh air make-up provided, location of all ducting and piping.

Plumbing Drawings: to include a plan view and a riser diagram of waste & water piping, pipe sizing, grade of piping, drainage fixture unit loads on stacks and drains, water distribution design criteria.

Fire Protection Systems: to include the submittal guide for each type of system. See specific submittal guide requirements.

IECC (energy) Compliance: Either a REScheck application for residential construction or COMcheck for commercial construction to show compliance. (www.energycodes.gov/rescheck)

GUIDELINES FOR CONSTRUCTION DRAWINGS

The following is to be used as a guideline and is not all-inclusive.

DECKS

DESIGNATE NEW FROM EXISTING & SCALE OF DRAWING

DEPTH OF FOOTERS

- Minimum of 36" below grade required

GUARDRAIL FOR RAISED SURFACE OVER 30"

- 36" min. height required

HANDRAIL FOR STAIRS

- 34"-38" min height w/ 2" maximum grip required

DISTANCE BETWEEN RAILING POSTS

- Must be small enough a 4" sphere cannot fit through

STAIRS

- min. 36" wide
- max 8"
- min tread 9"

TYPE AND SIZE OF CONSTRUCTION MATERIALS

- Must be pressure treated wood
- Specify size and spacing of joists (e.g. 2x10's @ 16" on center)
- Specify size of posts (e.g. 6x6) required for deck columns and girder beam support

DIMENSIONS OF STRUCTURE

- All dimensions must be given
- Be sure to check for zoning setback requirements based on zoning district

BEARING ON EXISTING STRUCTURE

- Indicate use of ledger board, lagbolts, and joist hangers, where applicable

ADDITIONS

FLOOR PLANS

- Dimensioned clearly - indicate new vs. existing & scale of drawing

EXTERIOR ELEVATIONS - (all applicable views)

- Show scale of drawing
- Designate new from existing
- Show building materials (sizes/types) and indicate w/ arrows
- Indicate any special materials, such as tempered glass, etc.
- Dimensions: note vertical & horizontal
- Show footer dimension depth with reinforcing rods, and size

CONSTRUCTION SECTION

- Construction materials
- Depth of footer (must be a min. of 36" below grade)
- Show size and spacing of structural members
- When cutting through a load-bearing wall, show size of new header or other structural member to carry load, bearing points, point loads, load transfer to foundation
- Fireplace: show hearth extension, clearances from combustibles

WALL SECTION

- Show all dimensions where necessary
- Show all material, sizes, etc.
- Show size/spacing of structural members
- Show insulation material, flashings, damproofing
- Show scale

PLAN VIEW

- designate new from existing & show scale
- all dimensions shall be given (including porch and bay window)
- show size and spacing of structural members.
- when cutting through a load-bearing wall, show size of new header or other structural member to carry load.
- fireplace - show hearth extension

EXTERIOR ELEVATIONS Show scale

- designate new from existing & show scale
- dimensions (note vertical and horizontal)
- show all materials being used, sizes, etc.
- show footers dotted and dimension depth

WALL SECTION

- show scale
- dimensions where necessary
- all material, sizes, etc.
- size and spacing of structural members
- insulation material, flashings, damproofing

IECC CODE (International Energy Code Council) REQUIREMENTS

- show R-value
- show window values
- use either REScheck (www.energycodes.gov/rescheck) or PHRC *Simplified Requirements Chart* – [Climate Zone: “C”]

Table PA1103.1: Simplified Requirements for Thermal Envelope Components

Climate Zone	Maximum U-Factor [Btu/(hr·ft ² ·°F)]		Minimum Thermal Insulation R-Value [(hr·ft ² ·°F)/Btu]								
			Roof/Ceiling		Wood Framed enclosure walls		Floor over non-conditioned space	Slab perimeter R-value and length	Basement walls	Crawl-space walls	
			SFD Type A-1	SFD Type A-2	Type A-1	Type A-2					
S	0.45	0.53	0.60	R-38	R-30	R-16	R-13	R-19	R-6, 2 ft	R-9	R-17
C	0.40	0.51	0.55	R-38	R-30	R-18	R-13	R-21	R-9, 4 ft	R-10	R-19
N	0.35	0.45	0.50	R-49	R-38	R-21	R-16	R-21	R-13, 4ft	R-11	R-20

For S1: 1 Btu/(hr·ft²·°F)=5.68W/m²·K, 1 (hr·ft²·°F)/Btu=0.176m²·K/W.

- a. Excluding skylights and opaque doors.

RETAINING WALLS**SUBMITTAL**

- planview and/or section drawing to scale
- all dimensions and materials designated

CONSTRUCTION

- masonry, concrete, steel piling or other approved material
- wood used for retaining walls shall be of approved preservative-treated wood or naturally durable wood if not more than 2 feet in height

DEPTH OF FOOTERS

- footers shall be 36” in depth for frost protection

DESIGN

- to resist the natural lateral soil loads, both dead and live load surcharges, and to ensure stability against overturning, sliding, excessive foundation pressure and water uplift

HYDROSTATIC PRESSURE

- unless drainage is provided, the hydrostatic head of the water pressure shall be assumed to be equal to the height of the wall
- show proposed drainage

COPING

- masonry retaining walls must be protected with an approved coping of concrete or other approved material

GUARDS

- where walls with differences in grade level on either side, in excess of 4 feet, are located closer than 2 feet to a walk, path, parking lot or driveway on the high side, said walls must have guards not less than 36" in height either solid or with balusters with openings no greater than 4" or other approved protective measures such as plantings, etc.