



Residential Building Permit Plan Requirements

Footing and Foundation:

- Footing/Pier locations and a cross section detail identifying depth, width and rebar; [R403];
- Foundation details including material to be used, wall thickness, height, rebar, anchor bolt size and location(s); [R404];
- Concrete-slab floor: Review radon sub-slab passive system requirements; [2018 IRC-Appendix F]
- Foundation waterproofing, damp-proofing and drainage details; [R405 & R406];
- Crawl space access, ventilation (vented or unvented) [R408].

Building Information:

- Front, rear, left-side, side elevations. Basements: Elevation drawings.
- Height of structure
- 1st floor plan (if applicable)
- 2nd floor plan (if applicable);
- Basement floor plan (if applicable);
- Identify all bedrooms on all floors including basement and attic area (if applicable);
- Provide stairs, handrail and guardrail details (if applicable) [R311 & R312];
- Window opening size in bedrooms, tempered-safety glazing locations, fall protection locations (Operable windowsill minimum 24" from floor where more than 72" from grade); [R312];
- Identify location of "means of egress" door (32" clear width and 78" in height) [R311];
- Provide landing elevation at required egress and "other" exterior doors; [R311.3]
- Minimum 36" width hallway required [R311.7];
- Minimum 36" width stairway with 80" headroom; vertical rise less than 12' for flight of stairs;
- Ramps [R311.8.1];
- Identify types (masonry, factory-built, gas, wood burning, gas log-lighter, etc.) and locations of chimney and fireplaces. Provide manufacturer's specifications.

Framing Information – Details:

- Provide cross sectional detail (foundation to roof); include lumber grade/type/species, size, spacing, room heights, etc.;
- Floor & Deck assemblies (provide structural details and materials to be used for each individual floor and/or deck assembly; including method for attaching to main building) ([R507];
- Stud walls in basement and floors above (2x4, 2x6, height of wall) [Walls-Chapter6];
- Directional layout of framing members (floor, ceiling joists, rafters, trusses, etc.);
- Engineered lumber layout sheets and calculations for all engineered lumber (LVL's, I-Joist, beams, floor joists, floor trusses, etc.);
- Wall Bracing: When a building, or portion thereof, does not comply with one or more of the bracing requirements in this section those portions shall be designed in accordance with Section R301.1 & R602.10 (Consult with design professional);

- Provide detail(s) of flashing at window & door openings [R703.8] Corrosion-resistant flashing shall be applied in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. [R703.8] Any one of the following criteria may apply for flashing at window and door openings: The fenestration manufacturer's installation and flashing instructions, the flashing manufacturer's instructions, pan flashings required when instructions not provided, design or method of a registered design professional;
- Stone & Masonry Veneer- Openings & Maximum Heights [R703.7] (load design details);
- Roof & Ceiling framing details [Chapter 8] Rafter ties [802.3.1] Ceiling Joist Spans [R802.4], Purlins [R802.5.1], Rafter Spans [R802.5], Bearing [802.6], Wood Truss Design, Uplift Resistance [R802.11] [Chapter 9];
- Identify roof Ventilation Details [R806];
- Attic layout including proposed storage, finished habitable space or future space; include square footage and location(s) of attic access. (if applicable) [Attic space or concealed roof space exceeding 2,000 square feet requires 2 attic access points installed remotely and shall be placed a distance apart not less than one-half of the length of the maximum overall diagonal dimension of the attic area] A minimum of one pull-down stairs shall be installed. (25"x 54"rated for 350lbs+) [Code of Ordinances-Chapter 14];
- Elevator details including manufacturer's specifications [R321]

Smoke Alarms and Carbon Monoxide Alarms / Detectors:

- Location(s) of smoke alarms-detectors [R314];
- Location(s) of carbon monoxide alarms-detectors [R315];

Foam Plastic:

- Is foam plastic/insulation proposed in crawlspace, walls and/or attic. **Provide ICC-ES reports** [R316] Foam Plastic Requirements are located in section R316;
- Labeling & Identification (provide documentation)
- Surface burning characteristics (provide documentation)
- Thermal barrier requirements (provide documentation)
- Specific requirements (provide documentation)
- Installation in attic spaces (provide documentation) (use: storage, equipment)
- Installation in crawl spaces (provide documentation) (use: storage, equipment)

Mechanical System Requirements: [Chapters 12 through 24 of the 2018 IRC]

- Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved calculation methodologies. Calculations to be provided/submitted at plan review stage. [R403]; ***Section R403.2.2—Ducts***
- Identify type and location(s) of equipment (natural gas, propane, electric, geo-thermal, solar, radiant heat, etc.) [M1403];
- Identify appliance access for inspection, service, repair and REPLACEMENT. [M1305];
- Elevation of ignition source; see exception [M1307.3] Protection from impact [M1307.3];
- Identify combustion air source for gas-fired equipment (natural, louvers and grilles, mechanical);
- Identify clothes dryer exhaust routing [M1502] [metal, minimum 4" dia. and terminate outside];
- Identify bathroom ventilation-termination location(s);
- Gas piping systems require electrical bonding [G2411 & G2412] Identify piping material (metallic, copper, CSST, polyethylene plastic pipe, etc.);

- Gas appliance shut-off valves. Shut-off valve shall be in the same room as the appliance within 6 feet. [G2420.5];
- Permanently fixed-in-place outdoor decorative appliances shall be tested in accordance with ANSI-Z21.07 and shall be installed in accordance with the manufacturer's instructions [G2454.1].

Plumbing System Requirements: [Chapters 25 through 33 of the 2018 IRC]

- Identify location and type of internal sump and/or ejector pump [P3007]
- Identify location of exterior grinder pump [Contact W&S Department for guidance: 615-371-0080]
- Pipes through foundation walls [P2603.5] "The requirement for a pipe sleeve or a relieving arch for pipes passing under a footing was removed because the footer acts as the relieving arch for the pipe below." (Not to be incorporated into footing-pour)

Energy Requirements:

- Provide documentation that structure is compliant to the 2018 International Energy Conservation Code.
- Projects shall comply with sections identified as mandatory and with sections identified as either prescriptive or the performance approach.
- A permanent certificate shall be completed and posted on or in the electrical panel [IECC R401.3];
- Building thermal envelope- The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour. Testing shall be conducted with a blower door at a pressure of 50 Pascal's (1 psf). The Building Official can require a third-party testing agency. Written report to be submitted by the party conducting testing. [R402] (AIR LEAKAGE TEST REQUIRED);
- Recessed lighting shall be sealed to limit air leakage. [R402.4.];
- Thermostats shall be provided for each HVAC system [R403];
- Ducts, air handlers, and filter boxes shall be sealed. [R403.2];
- Building framing cavities shall not be used as ducts or plenums [R403.2.3];
- Mechanical system piping capable of carrying fluids above 105 degrees or below 55 degrees shall be insulated to a minimum R-3 [R403.3];
- Circulating hot water systems shall be provided with an automatic or readily accessible manual switch that can turn off the hot-water circulation pump when the system is not in use. [R403.4.];
- Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. [R403.5]
- A minimum of 50% of the permanently installed lighting fixtures shall be high-efficacy lamps. [R404]