



Common Inspection Information Relating to the 2015 International Residential Code

1. **Footings:** Property pins must be located so setbacks can be checked. All required erosion controls from Public Works must be in place, i.e. silt fence/eels. No inspections will be conducted unless these are in place and maintained until the site has passed final storm water inspection.
 - a. Footings shall be a minimum of 12 inches below grade in undisturbed soils (IRC R403.1.4). Any structural fill must be tested and approved by a soils engineer.
 - b. Width and thickness of footing will vary depending on type of home being built—please refer to IRC Table R403.1 (1).
 - c. The top surface of footings shall be level. The bottom surface of footings shall not have a slope exceeding one-unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footings will exceed one-unit vertical in 10 units horizontal (10-percent slope). (R403.1.5)
2. **Foundation:**
 - a. Crawl Space Foundations – anchor bolts are required to be spaced a maximum of 6 feet on center. There shall be a minimum of 2 bolts per plate section with one bolt located not more than 12 inches from each end of the plate section (IRC R403.1.6). Crawl spaces are required to have ventilation. Where a Class 1 vapor retarder material is used, the minimum net area of ventilation openings shall not be less than 1 square foot for each 1,500 square feet of under-floor space are. One such ventilating opening shall be within 3 feet of each corner of the building (R408.1). Hollow masonry piers shall be capped with 4 inches of solid masonry or concrete, a masonry cap block, or shall have cavities of the top course filled with concrete or grout (R404.1.9.1). The under-floor grade shall be cleaned of all vegetation and organic material as well as removal of all debris (R408.5). The finished grade of under-floor surface shall be permitted to be located at the bottom of the footings; however, where there is evidence that the ground-water table can rise to within 6 inches of the finished floor at the building perimeter or where there is evidence that the surface water does not readily drain from the building site, the grade in the under-floor space shall be as high as the outside finished grade, unless an approved drainage system is provided (R408.6).

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- b. **Concrete Slab Foundations**—the area within the foundation walls shall have all vegetation, top-soil, and foreign material removed (R506.2). A 6-mil polyethylene or approved vapor retarder with joints lapped not less than 6 inches shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists (R506.2.3). Where provided in slabs-on-ground, reinforcement shall be supported to remain in place from the center to upper one-third of the slab for the duration of the concrete placement (R506.2.4).
3. **Under-Slab Plumbing:** this occurs after the under-slab plumbing is installed but prior to being covered. (Water test with a 5-foot head for 15 minutes) (IRC P2503.5.1)
4. **Rough-In Plumbing, Mechanical, and Framing:** these will be done after the Rough Electrical has been passed by the State Inspector. Each phase must be complete before inspection will pass.
 - a. **Rough Plumbing** - 5-foot water test is required on the Drain Waste Vent system to hold with no visible leaks for minimum of 15 minutes. Call for explanation if needed. (IRC P2503.1)
 - b. **Rough Plumbing** -Water test is required for PEX supply piping at the working pressure for minimum of 15 minutes. Any supply piping other than plastic can have an air test with minimum of 50 psi for 15 minutes. (IRC P2503.7)
 - c. **Rough Plumbing**- plumbing pipe shield plates (nail guards) needed on top plates and bottom plates when pipe is less than 1 ¼” from the edge of plate and shall extend 2” above the bottom plate and 2” below the top plate. (IRC P2603.2.1)
 - d. **Rough Plumbing/Rough Mechanical/Rough Frame** - fire rated caulk or fire rated foam around all vertical penetrations around all pipes, wires, vents, cables, etc. at the time of these rough inspections or at the time of insulation inspection.(IRC R302.11 #4)
 - e. **Fuel Gas**- Fireplaces with gas supply must be installed and a gas line pressure test is required- minimum of 3 psi for 10 minutes, preferably 15 psi. (IRC G2417.1.3 & G2417.4.1)
 - f. **Fuel Gas**- any gas vents passing through insulated assemblies (attics) shall have an insulation shield installed to provide clearance between the vent and the insulation material. (IRC G2426.4)
 - g. **Mechanical** – attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches high and 22 inches wide, and not more than 20 feet long measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring not less than 24 inches wide. See IRC Section M1305.1.3 or call with any questions.
 - h. **Mechanical/Fuel Gas** - appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches above the floor in garages. Appliances in garages shall not be installed in a location subject to vehicle damage except where protected by approved barriers (bollard installed or recessed in wall). If you will have any natural gas lines in the house, call ERPUD for their required inspections. (IRC M1307.3, M1307.3.1)

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- i. Rough Framing – notches in solid lumber joists, rafters, and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member, and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches to the notch. (IRC R502.8.1)
- j. Rough Framing - notching of any stud in an exterior wall or bearing partition shall not exceed 25% of its width. Studs in nonbearing partitions shall not be notched more than 40% of its width. (IRC R602.6 #1)
- k. Rough Framing – any stud shall be permitted to be bored or drilled, provided that the diameter of the resulting hole is not more than 60 percent of the stud width, the edge of the hole is not more than 5/8 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall be doubled with not more than two successive doubled studs bored. Exception: use of approved stud shoes is permitted where they are installed in accordance with the manufacturer’s recommendations. (IRC R602.6 #2)
- l. Rough Framing- glazing in an individual fixed or operable pane adjacent to a door needs to be safety glazed (tempered) where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface and is within 24 inches of either side of the door in the plane of the door in a closed position. (IRC R308.4.2). See section 308 of the IRC for further information relating to glazing and glazing adjacent to stairs and ramps.
- m. Rough Framing- glazing in walls, enclosures, or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom edge of the exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface will need to be safety glazed (tempered). Exception: glazing that is more than 60 inches measured horizontally and in a straight line, from the water’s edge of a bathtub, hot tub, spa, whirlpool, or swimming pool or from the edge of a shower, sauna, or steam room. (IRC R308.4.5)
- n. Rough Framing- vertical joints or panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to, common blocking of a minimum 1 ½ inch thickness. See IRC Section R602.10.10 for more information.
- o. Rough Framing- **DO NOT** cover with any brick veneer or siding until the framing inspection is conducted. Windows, window tape, flashing, and house wrap need to be checked prior to covering. If you need a partial framing inspection in-order for you to proceed with exterior finish material, please call in a partial framing inspection. (IRC Sections R703.2 and R703.4)

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- p. Rough Framing- where the top of the sill of an operable window opening is located less than 24 inches above the finished floor and greater than 72 inches above the finished grade or surface below on the exterior of the building, the operable window shall comply with one of the following: 1) Operable windows with openings that will not allow a 4 inch diameter sphere to pass through the opening where the opening is in its largest opened position. 2) Operable windows that are provided with window fall prevention devices. 3) Operable windows that are provided with window opening control devices. (IRC Section R312.2.1)
- q. Underground Water & Sewer- building sewer shall be tested by insertion of a test plug at the point of connection with the public sewer, filling the building sewer with water and pressurizing the sewer to not less than a 10-foot head of water. The test pressure shall not decrease during a period of not less than 15 minutes. (IRC Section P2503.4). Water service pipe shall be installed a minimum of 18 inches deep and laid on firm bed with no blocks or rocks used as supports at any point. (IRC Section P2604.1)

5. **Insulation:**

- a. R20 or R13 + 5 Thermal Envelope (IRC Table N1102.1.2). R8/13 on mass walls.
 - i. This can be achieved by framing with 2x6 walls and using R19 batt insulation in the cavities. You could frame 2x4 walls but must use close cell spray foam insulation or use R13 batts with R5 continuous insulation. If bricking exterior walls, 2x4 walls with R13 batt insulation will suffice.
- b. R-49 Ceilings - measurement markers shall be installed in the attic for blown insulation - 1 marker every 300 sf. with the printed side facing the attic access opening. (IRC Tables N1102.1.2 & N1101.4)
- c. All bottom plates, corners, etc. shall be sealed with foam or caulk (IRC Table 1102.4.1.1)
- d. Baffles in place to maintain the required 1-inch clearance (IRC 806.3)

6. **Final Building, Final Plumbing, Final Mechanical, and Final**

Insulation: to occur after both Final Electrical and Final Storm Water have passed.

- a. The Doc Box can be removed after the Final Inspection has passed and C.O. issued.
- b. Permanent C.O.'s will not be issued until Final Storm Water passes regardless of whether you have a Storm Water Bond. A temporary C.O. can be issued at the discretion of the inspector.
- c. Foundation Drainage will be checked at this time. Six inches of fall is required within the first 10 feet from the foundation. Ensure you backfill to achieve this slope away from the foundation. (IRC 401.3)
- d. Smoke alarms are required to be installed in each sleeping room, outside each sleeping room in the immediate vicinity of the bedrooms, and on each additional story of the dwelling. These are required to be interconnected in a manner that the actuation of one alarm will activate all alarms in the individual dwelling unit. (IRC Sections R314.3 and R314.4). Carbon monoxide detectors are required where the dwelling unit contains a fuel-fired appliance or has an attached garage that communicates with the dwelling unit. They shall be installed outside of each separate sleeping area in the immediate vicinity of

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- the bedrooms. Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms. (IRC Sections R315.2.1, R315.3, & R315.4)
- e. Address numbers on the house are required. IRC requires minimum of 4 inches in height and must contrast with background. (IRC R319.1)
 - f. Handrails are required at any stair with 4 or more risers. (IRC 311.7.8)
 - g. Guardrails are required for any stairs and floor levels 30 inches or more above grade; railings shall prevent the free the passage of a 4" sphere. (IRC R312.1.2 & R312.1.3)
 - h. Hose bibbs require permanent vacuum breakers (IRC P2902.4.3)
 - i. Water heaters in the garage must be protected from vehicle impact by a bollard. Ask for details. (IRC M1307.3.1)
 - j. If using PEX piping for the water heater relief valve piping, it must be one pipe size larger than the relief valve and fastened/secured in place. Or you can use 3/4" CPVC with no fasteners required. (P2804.6.1 (14))
 - k. All exterior doors require landings on both sides of the door, to be as wide as the door served and 36" in direction of travel (IRC R311.3)
 - l. Weep holes in brick – a diagram from the code book is available upon request for required locations. (IRC R703.7.6)
 - m. Bathroom fans must vent directly to the outside-if you are venting them to the soffit, the duct must connect to a soffit vent fitting. The fitting shall be of the proper type for this installation (IRC M1501.1)
 - n. Garage entry doors leading from garage into the home require a self-closing device, i.e. self-closing hinges, door closer, etc. (IRC R302.5.1)
 - o. All water pipes 3/4" or larger outside the thermal envelope need to be wrapped with R-3 pipe insulation. (IRC N1103.5.3)

Please note: the above-mentioned information is a brief overview of minimum code requirements. This is meant to be used as a guide; other code requirements may be addressed at various inspection stages.

WHEN IN DOUBT, PLEASE CALL AHEAD TO VERIFY

I have read and understand the information provided herein.

Signature

Date