



CITY OF ELGIN
ONE AND TWO FAMILY RESIDENCES
NEW CONSTRUCTION, ADDITIONS, REMODELING

A. GENERAL REQUIREMENTS:

1. Permits are required. A fee schedule is available. A service fee of \$130 will be assessed for each re-inspection after the first inspection results in disapproval.
2. Zoning: A plat of survey showing the locations, dimensions, and setbacks of all existing and proposed improvements is required.
3. Historic District: If the property is located in the Historic District, a Certificate of Appropriateness (COA) is required.

B. ARCHITECT OR STRUCTURAL ENGINEER:

1. New construction: Architect or structural engineer's seal is required except for a detached single family residence (unless deemed necessary by the building official or unusual building conditions exist).
2. Additions or Remodeling: Architect or structural engineer's seal is required when existing structural elements are being altered (i.e., removal of bearing wall, second floor additions, new loads on existing roof, etc.) or when deemed necessary by the building official.
3. Fire Repairs/Natural Disasters or Other Damages: Architect or structural engineer's seal is required, along with a report of damage.

C. FOR INFORMATION CALL:

Department of Code Administration (847) 931-5920
Historic Preservation or COA's (847) 931-6004
Zoning (847) 931-5920

D. MINIMUM DRAWING REQUIREMENTS:

Three sets of plans plus one electronic set of plans are required to determine that your building project will be in conformance with the 2012 International Residential Code. The following information represents the minimum design requirements which must be included on the plans for review prior to issuance of a permit. Consult the building code or a design professional for additional information.

1. Required Drawings

- a. Site Plan or Plat of Survey
 - b. Foundation, Basement or Crawl Space Plans
 - c. Floor Plans
 - d. Building Elevations
 - e. Wall Sections
 - f. Framing Plans*
 - g. Fireplace Section (for masonry fireplaces only)
 - h. Pre-fabricated Fireplace Design and Installation Drawings
 - i. Fire Separation Wall Section (UL No.)
- * When required by the building official

2. Structural Requirements

- a. Indicate the size, location, direction of span and spacing of all structural elements; columns, posts, beams, headers, lintels, floor joists, trusses, etc.
- b. Generally, first floor framing is indicated on the basement plan. Second floor is shown on first floor plan and roof framing is shown on second floor plan. In certain situations a floor framing or roof framing plan may be required to clarify the structure.
- c. Second floor additions require as-built drawings of the first floor and foundations showing how all new loads are being transferred to the structure and footings below. The plans must be sealed by a licensed architect or engineer.

3. Foundation/Basement/Crawlspace Plans

- a. Indicate all basement, crawlspace and un-excavated areas as applicable to the project. Show complete foundation system including but not limited to: footing, piers, thickened slabs, foundation walls, retaining walls.
- b. Dimension all areas; indicate wall thickness and location of all elements.

R-402.2 Concrete: Compressive strength
Interior use- 2500 psi minimum
Exterior use - 3000 psi minimum

R-403.a Wall footings: on 2000 psi soil bearing capacity
8"x18" minimum for frame construction
10"x20" minimum for masonry veneer construction

R-404.1.5 Foundation walls: 8" thick for walls up to 7'-0" height

R-405.a Foundation drainage amended:
Provide foundation drain tile and window area well drains tied into an approved drain system at all basement and crawl spaces

R-407.3 Structural Requirements:
Columns wood 4"x4" minimum Steel 3" dia. Min. with 1/4" thick plate anchored top and bottom

- R-408.2 Crawl space options:
- a. When earth is left exposed, provide 1 sq. ft. of vent per 150 sq. ft. floor area
 - b. Provide 3" gravel over vapor barrier and 1 sq. ft. of vent per 1500 sq. ft. area and locate vents within 3 ft. of corner
 - c. Provide 1 air change per hour mechanical ventilation
- R-408.4 Crawl space access panel to be a minimum 18"X24"
- R-310.a Emergency egress from basements shall be through a door or an escape window 24" X 36" with the sill at 44" above the floor maximum
Area well shall be a minimum 36" X 36" extend from grade to 6" below window sill
- R-310.2.1 Window wells with a vertical depth greater than 44 inches shall be equipped with a permanent affixed ladder or steps usable with window in the fully open position.

4. Floor Plans

- R-106 Dimension floor plans and label all rooms by use
- R-303.1a Natural light and ventilation is required in all habitable rooms; 8% of floor area equals the required glass area for natural light; 4% of the floor area equals the operable window area for natural ventilation; mechanical ventilation and artificial light may be substituted for natural light and ventilation in other than sleeping rooms and kitchens in accordance with the code
- R-306 Show bathroom and kitchen fixture layouts
- R-308 Tempered glass is required in all hazardous locations (in, above and adjacent to all doors)
- R-302.6 Attached garage: separate from dwelling unit with 1 hour rated construction 5/8" firecode drywall at each side of common walls or 2 layers of 5/8" firecode drywall on garage side; where rooms occur above the garage, provide 1 hour rated walls and floor-ceiling assembly or 2 layers of 5/8 fire code drywall on all walls and ceilings; door to garage to be 1 hour rated or 1 3/4"; solid core door with closer
- R-310 bedroom window sill to be maximum 44" above floor and have net clear opening of 24" height and 20" wide; minimum net area to be 5 sq. ft. for 1st floor and 5.7 sq. ft. for 2nd floor
- R-311 Exits: 1 door to be minimum 36"x80"

- R-311.42 Exit door shall be a minimum of 36"x80"
- R-311.3 Minimum landing at exit door to be 36"x36"
- R-311.8 Ramps: maximum slope is 1:8 (12.5%); handrails are required
- R-311.7 Stairways: 36" minimum width
7 3/4" maximum riser
10" minimum tread nose to nose
3/4" minimum nose
- R-311.7.8 Handrails and Guardrails:
- R-312.1 Handrails - minimum 34" height and maximum 38" height
Guardrails - minimum 36" height
- R-312.1.3 Space balusters such that a 4" sphere cannot pass through at any point
- R-314.2 Smoke detectors with battery backup required in all bedrooms and in the immediate vicinity of the bedrooms and on each level (additions of bedrooms require smoke detectors in all bedrooms; interconnection is required). Additionally, a carbon monoxide detector is required on each floor level
- R-502.3 Allowable spans:
Indicate species and grade of lumber to be used; indicate size, direction of span, and spacing of structural member; headers, floor and ceiling joists, roof rafters, columns, posts, studs etc.
- R-502.7 Lateral support and bridging: (floor & ceiling joists)
- R-502.7.1 Provide a continuous rim joist/header and cross or solid bridging at 8'-0" O.C. maximum
- R-807.1a Attic access: minimum 22"x30", provide to any attic area over 30 inches in height; provide a latching device operable from The occupant sides

5. Wall Sections

- R-305.1a Ceiling height: 7'0" minimum height in all new construction
- R-403.a Wall footing: indicate size
- R-403.1.6 Anchor bolts 1/2" diameter at 6'0" on center, 7" minimum into concrete and not more than 12" from corner
- R-404 Foundation walls: minimum 42" depth from bottom of footing to finished grade; indicate size

- R-404.1.2.2 Concrete walls shall be reinforced by four #5 rods. Two rods shall be twelve 12" above the bottom of the wall and two rods shall be twelve 12" below the top of the wall.
- R-404.1.6 Top of foundations must be 6" minimum above grade
- R-405 Foundation drainage: indicate minimum 4" diameter drain tile and minimum 8" gravel cover
- R-406 Foundation damp roofing required on all basements and crawl spaces; if basement encloses a habitable space it must be waterproofed with an approved membrane; submit approved waterproofing specifications and details
- R-502.3 Floor joists shall not exceed allowable spans for species grade and size of lumber used
- R-502.10 Frame floor openings with double trimmers and headers; headers over 6' require hangers; joists under parallel partitions to be doubled
- R-503 Floor sheathing sized per joist spacing and load; specify attachment per table 602.3 (1)
- R-506 Concrete interior floors: 2500 psi concrete, control joints at 30 ft. on center maximum or provide wire mesh reinforcing
- R-506.2.2 4" thick granular base course under slabs below grade; where base course is omitted provide a vapor barrier
- N-1102.1 Insulation: minimum as required by the 2012 State of Illinois Energy Conservation Code
- R-602.3.1 Indicate stud size and spacing for interior and exterior walls; studs over 10" tall use 2X6 @ 16" O.C. minimum
- R-602.3.2 Minimum double 2X4 top plate; minimum 2X4 sill or sole plate (treated wood at foundation)
- R-602.7 Indicate header sizes per tables R502.5(1), R502.5(2), and R602.7.1
- R-602.10 Wall bracing (corner bracing): provide structural sheathing or diagonal bracing (1"X4" let-in or metal bracing) at the corners; extend from bottom plate to top plate
- R-703.7.4.1 Masonry veneer attachment: minimum 22 gage by 1" corrugated ties at 24" on center horizontal and vertical
- R-703.7.3 Masonry lintels: sized for span; see table R703.7.3.1; minimum 4" bearing each end

- R-703.2a Weather protection: exterior walls shall be covered with weather-resistant siding or membrane; house wrap or building felts are required
- R-703.7.5 Flashing: provide approved corrosion resistant flashing and weep holes over wall openings and at base of wall
- N-1102.1 Insulation: minimum as required by the 2012 State of Illinois Energy Conservation Code.
- R-801.3a Roof gutters: required in all areas where water will run off roof onto walking or driving surfaces; leaders shall not discharge across walking or driving surfaces
- R-802.1 Roof-ceiling construction shall conform to lumber species, grade, size and allowable span for applied loads; see tables 802.4(1) and 802.4(2)
- R-802.6 Bearing at end shall be 1 ½" minimum for rafters and joists (R-502.6, R606.14.1)
- R-802.8 Rafter and ceiling joists: Provide bridging at bearing points and at 8'-0" O.C. maximum
- R-803 Sheathing shall conform to thickness and span requirements per table R-503.2.1.1(1)(amended) or table R-803.1
- R-806.2 Attic ventilation: provide minimum 1 sq. ft. of vent per 300 sq. ft. of roof area when vents are located 3 feet above the eaves
- R-807.1.a Required attic access doors to have mechanical latches operable from the occupant side
- R-902 Roof covering: specify material, weight & type
- R-905 Specify underlayment below roofing material
- R-905.2.2 Asphalt Shingles: 2:12 minimum slope
- R-905.2.7.1 An ice barrier that consists of a self-adhering polymer modified bitumen sheet shall extend from the lowest edges of all roof surfaces to a point at least 24 inches inside the exterior wall line of the building.
- R-1001 Fireplaces and chimneys: provide manufacturer data sheets on pre-fab fireplace and flue installations

6. **Building Elevations**

- a. Provide building elevations of all sides of the project; indicate all materials to be used on the exterior walls and roof
- b. Indicate grade elevation at the building

- c. Indicate floor and roof heights
- d. Indicate chimney height to be a minimum of 2'-0" above the roof point within 10 feet, equipped with an approved spark arrester

R-905 Valley flashings: Woven:
 provide 36" wide no. 50 sheet of roll roofing centered in valley
 and over underlayment
 Open: provide no. 26 gauge galvanized corrosion resistant
 sheet metal flashing extending 12" minimum each way from
 center line of valley

R-905 Wall flashing to be stepped

7. Electrical Requirements

(Refer to Elgin amendments and the 2005 N.E.C.)

- a. Indicate the location of the meter and panel (with size), fixtures, outlets, lights and switches
- b. Indicate outlets @ 12"-0" on center maximum in all habitable rooms and on each section of wall 2'-0" long
- c. GFCI receptacles required at all receptacles located at kitchen area counter tops
- d. Indicate a light fixture over the kitchen sink and outlets at 4' on center maximum along the counter top; all counter top outlets to be GFCI
- e. Minimum 1 wall switch-controlled lighting outlet in each habitable room or area (wall outlet or ceiling wall fixture) and at exterior doors
- f. Minimum 1 GFCI in garage, at exterior of house, and whirlpools
- g. Minimum 1 switch controlled lighting outlet required for accessible attic and crawl spaces used for storage; all closets over 6 sq. ft. require a light fixture
- h. Indicate smoke detectors, 110 volt interconnected; minimum 1 per level and 15' of any bedroom and inside of each bedroom
- i. Single outlet receptacle required for a sump pump
- j. A carbon monoxide detector shall be installed on each floor level

8. Plumbing Requirements

(Refer to Elgin Amendments and the 2004 Illinois Plumbing Code)

- a. Indicate location of all plumbing fixtures such as kitchen sinks, dishwashers, bathroom lavatories, toilets, bidets, showers, bathtubs, whirlpools, etc.
- b. Show all sump pits, floor drains, drain tiles, ejector pits in basements or crawl

spaces as applicable to project; top edge of the sump pit to be 2" above floor.

9. **Heating and Ventilating Requirements**

(Refer to Elgin Amendments and the 2012 International Mechanical Code)

- a. All fuel burning equipment shall be vented to the outside
- b. All exhaust fans must be vented to the outside
- c. Heating systems shall be designed at a minimum to maintain an indoor air temperature of 70 degrees Fahrenheit when the temperature outside is minus 10 degrees Fahrenheit
- d. Indicate location of furnace, water heater or other heating, ventilating and cooling equipment
- e. Central returns are not permitted; a ducted return air grille is required from all rooms subject to closure

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