

City of Elmhurst

AMENDMENTS

to the

ICC INTERNATIONAL RESIDENTIAL  
CODE 2012 edition

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## City of Elmhurst

## AMENDMENTS

To the ICC International Residential Code 2012 edition

## GENERAL AMENDMENTS

**1. Applicability**

The City of Elmhurst Amendments, Zoning Ordinance, and Municipal Ordinance and all of the adopted model codes shall be applicable to the planning and construction of all projects within the City.

**2. Conflicts**

Whenever two codes are in conflict, the more stringent requirement shall govern.

**Exception:**

Fire Sprinklers shall not be required in one and two family dwellings or in townhomes or their garages.

**2a. Automatic Fire Sprinkler Systems in Single Family Homes and Townhouses – Not Required**

Automatic fire sprinkler systems shall not be required for one and two family dwellings or townhomes. Fire Sprinkler Systems are highly recommended but, shall be the option of the homeowner and/or builder. If the house is constructed with the manufactured “I” joists, then a Fire Sprinkler System shall be required.

**3. Permit - Required, Duration, Exempt**

A permit is required, and must be obtained before any work may commence. A building permit shall expire one year after the date of issuance for single-family residences, townhomes or any other structure covered under the International Residential Code 2012 edition. Fences and sheds must be completed within 30 days of the start of construction. No permit is required for minor repair or replacement. No permit is required for re-roofing, however the work shall be performed by a state licensed roofing contractor. Proper re-roofing is entirely the owner’s responsibility as the owner needs to contract with a state licensed roofing contractor to perform the work.

**3a. Permit Drawings – Architect’s Seal – Electronic Plan Submittal**

All drawings submitted for permit shall bear the seal of the Architect’s license as well as his signature and the expiration date of his license. Other drawings shall bear the seal and same information of the design

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professional who prepared them, such as the Structural Engineer, Civil Engineer, Mechanical Engineer, Professional Engineer, etc. as applicable.  
(Every Sheet)

Submit one set of paper construction documents with a permit application to the Community Development Department and e-mail an electronic copy of the permit application in PDF and the drawings in DWF format or as directed by the Building Department to: [planreview@elmhurst.org](mailto:planreview@elmhurst.org) - The "SUBJECT" for the e-mail shall be the address of the project. If the architect's office does not have the technology to send the drawings electronically in **DWF** format, then 2 complete stamped paper sets of the construction documents shall be submitted along with a completed permit application to the Community Development Department.

EXCEPTION: An architect's seal (i.e. Design Professional seal) is not required for sheds and other minor accessory structures.

### **3b. Area Data & Volume - Required**

All drawings submitted for a permit for a new house, townhouse, or addition, shall have Area Data & Volume clearly indicated on the cover sheet or first sheet in the set of drawings.

The Architect or design professional who prepared the drawings shall provide the following Data:

- Area of the lot (Land Area)
- Area of the footprint of the house (all portions under a roof)
- Area of each floor of the house including the basement
- The volume of each floor of the house
- Total area of the exterior surface of the walls
- Area of any and all accessory structures
- Percentage of lot coverage of the house (including any accessory structures)
- Area of all impervious surfaces on the lot
- Percentage of impervious surface coverage

### **3c. Radon System – Section & Details Required**

All drawings submitted for a new house, townhouse, or addition, shall indicate the Radon System being installed and shall provide sections and details which comply with the provisions of the Appendix F in the IRC and the State of Illinois law. See amendment #73 in this section (Section 3) regarding specific requirements. Also see the graphics at the end of Section 3.

**3d. Residential Energy Review & Testing by Third Party – Required**

The IECC energy review and building thermal envelope testing shall be performed by an approved third party agency at the expense of the contractor. The results of the review and tests which evidence compliance with all of the provisions set forth in the International Energy Conservation Code 2015 edition, shall be submitted to the Building Department.

**3d.1 The Following needs to be Reviewed, Test Performed or Information provided by an Approved Third Party Agency – at the Contractors Expense.**

- **Blower Door Test per R402.4.1.2**

The Building Thermal Envelope shall comply with the State of Illinois Amendments, having an air leakage rate of not exceeding 5 air changes per hour. The building shall be provided with a whole house mechanical ventilation system per R403.6

- **Duct Blaster Test**

Duct tightness shall be tested and verified to comply with Section R403.3.3 of the IECC when ducts are located outside the building thermal envelope. (If all the ducts are in the conditioned space, the duct blaster test is not required.)

- **Manual J – Equipment Sizing per R403.7**

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 heating and cooling calculation methodologies.

- **Simulated Performance Alternative – Remrate & etc. per R405**

When using the Simulated Performance Alternates such as Remrate in lieu of the prescriptive method, the design shall comply with all of the requirements in Section R405 of the IECC.

- **Mandatory Certificate – Reviewed by Third Party**

The mandatory certificate as required by Section R401.3 of the IECC shall be reviewed for accuracy and approved by a Third Party agency before posting.

R401.3 Certificate **(Mandatory)**. A permanent certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the

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predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list “gas-fired unvented room heater,” “electric furnace” or “baseboard electric heater” as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

### **3d.2 Required Tests**

For the required tests and information the contractor shall utilize City of Elmhurst approved, Third Party Agencies.

### **3e. Plan Review Fee:**

For projects which have been reviewed and then subsequently withdrawn, a minimum plan review fee of \$200 or a fee equal to the cost for the department to perform the review, whichever is greater shall be charged to the applicant.

## **4. Penalties**

If a building or structure is not completed within the allotted time and the permit expires, the applicant shall be required to pay an additional permit fee, equal to one half (50%) of the original permit fee and provide the Building Department with a schedule of completion, such that the project is complete within 30 days. If the project is not completed within the 30 day period, an additional fine of \$100.00 per day shall be imposed for each and every day the project is incomplete.

Further, legal action may be taken to insure all fines are paid and the project gets completed. The penalty for beginning work without paying for and obtaining a permit, is that the permit fee shall be doubled.

## **5. City’s Right to Draw On Bond (\$1,000.00 as refundable cash bond with Public Works)**

The City of Elmhurst shall have the right at all times, at its option, to draw on the contractors bond for the costs, including but without limitation for: legal fees, administrative expenses - for damage to neighbor’s property or damage to city property – for undertaking any work in violation of the code or for refusing to complete work authorized by any permit.



Also, if the contractor refuses to correct work that is in violation of any code, the bond shall be collected to correct and remedy the code violation.

**6. Replenishment of Bond**

If the City of Elmhurst draws on the contractor's bond, then the contractor shall replenish the bond to the full amount. If the "Amount to Remedy" exceeded the amount of the bond, the contractor shall also "Make Whole" the amount of the difference required to the party affected, either the City of Elmhurst or other persons or entity.

Failure to replenish the bond and financially "Make Whole" the affected party, shall result in one or all of the following:

- A Stop Work Order
- Cancellation of the Permit
- Refusal of an Occupancy Permit
- Refusal by the City to Issue Transfer Tax Stamps
- Refusal to Issue the Contractor Any Other New Permit
- Refusal for Said Contractor to do Any Other Work Within the City of Elmhurst

**7. Damage to Property**

No person engaged in any work pursuant to a permit shall injure damage or destroy any property, public or private, not owned by such person. In the event property is injured, damaged or destroyed, the general contractor shall be responsible for the damage and shall promptly repair and restore the damaged property at his own expense.

The general contractor or applicant acting as a general contractor shall be responsible for all of the sub-contractors actions and shall be responsible for all of the work in its entirety including means, methods and techniques of construction.

**8. Safeguards**

The General Contractor or applicant acting as a general contractor shall be responsible for safety on, in, near and around the job site. All persons undertaking work pursuant to a permit issued by the City of Elmhurst shall exercise proper care for the safety of all persons and property.

**9. Wet Saw Required**

A wet saw shall be required for cutting all types of masonry, stone, brick pavers, concrete and pavement. Any person not using a wet saw shall be issued a "Stop Work Order" and fined \$100.00. The fine must be paid before work is allowed to continue with a wet saw.

**10. Demolitions**

Whenever a building is demolished, the contractor shall be required to provide dust abatement by hosing down the structure with water, during the demolition. The penalty for failing to hose down the demolition, shall be \$500.00. The demolition contractor shall not be issued a subsequent demolition permit until the fine is paid.

**10.1 Private Garages**

(a) **Height and Size.** Garages shall comply with respect to height, area, materials of construction and other details as provided for building and structures elsewhere in these building regulations, except that:

**The side walls** of a private detached garage shall not exceed ten (10) feet in height and the highest point of roof shall not be more than twenty-one (21) feet above the grade.

In a private detached garage having a storage space above the main story, such storage space shall not contain more than (50) percent of the cubical volume of the main floor of the garage.

(b) **Area of Private Detached Garages.** The floor area of private detached garages shall not exceed seven hundred twenty (720) square feet.

(c) **Garages Attached to Residences.** A private garage may be attached to or form a part of a residence building or a business building if separated from other occupancies by walls, partitions and ceilings of materials to restrict the passage of gases, smoke and odor from the garage to other parts of the building.

(d) **Walls, Ceilings or Partitions.** Walls, ceilings or partitions of a private garage shall be of masonry or of standard stud construction with a sixty (60) minute fire rating. If the space above the garage is used for living purposes, the floor and ceiling of such living area shall have a one-hour rating on the walls and two hour fire rating at the ceiling.

(e) **Attached Garage – Man Door – Opening Protection.** Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 $\frac{3}{8}$  inches in thickness, solid or honeycomb core steel doors not less than 1 $\frac{3}{8}$  inches thick, or 20-minute fire-rated doors.

(f) **Separation required.** The attached garage shall be separated from the residence and its attic area by not less than  $\frac{5}{8}$  inch Type “X” FIRECODE gypsum board applied to the garage side. Garages beneath habitable rooms shall be

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separated from all habitable rooms above by not less than 2 layers of Type "X" FIRECODE gypsum board. (For "man door" requirements see Sect. 3 - #12p)

### 11. Concrete Foundations

#### a) Footings and Foundation Walls

All footings and foundation walls shall be cast in place concrete. Wood, Masonry, ICF, Flat ICF, Waffle grid ICF, Screen Grid ICF and other similar systems for foundations are not permitted. All concrete shall be 6 bag mix or an engineered design mix which shall have the specified compressive strength ( $f'c$ ) of not less than 3,000 pounds per square inch (psi) at 28 days, unless the concrete is required to have a greater compressive strength as designed by the architect or structural engineer. The minimum foundation wall thickness shall be 8" for a frame wall and 10" for a brick veneer wall. All foundation walls shall have 2 - #5 bars, top and bottom, minimum.

#### b) Admixture

The use of calcium chloride as an admixture is not permitted.

#### c) Depth

The minimum depth for all footings shall be 4'-0", measured from finished grade to the bottom of the footing.

#### d) Thickness

The minimum thickness for all footings shall be 12 inches.

#### e) Extension

All footings shall extend a minimum of 6" each side of the foundation wall it is supporting.

Example: A 1'-0" wide foundation wall shall be supported by a 2'-0" wide footing

#### ee) Footing – Curing Period

After a footing is poured, a forty-eight (48) hour cure period must elapse before the foundation wall can be poured. Such requirement shall apply to all construction, whether residential, commercial or otherwise.

(formerly MCO 24.16)

#### eee) Foundation Wall – Exposed Above Grade – 8" Max.

For aesthetic reasons, all foundation walls shall not have more than 8" of concrete exposed above grade. Utilize drop siding or a brick ledge to achieve this requirement.

#### f) Foam Plastic Forms

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Foam plastic forms used for pouring a foundation wall (or exterior, or interior wall) into a grid pattern, and then left in place, are not permitted. Insulating Concrete forms (ICF) are not permitted. Flat ICF, Waffle Grid ICF, Screen Grid ICF and other similar systems are not permitted.

**g) Reinforcement**

All foundation walls shall have steel reinforcing bars, a minimum of 2-5# bars @ the top and bottom of the foundation wall, running continuous, [or more as directed by the IRC.](#)

**h) Three-Season Rooms/Porches**

Three season rooms, screened porches and the like shall be built on a full footing and foundation wall, like any other habitable space. (400 s.f. or less may utilize a trench footing) – the trench footing shall be 12” wide x 48” below grade with 2-5# bars @ top and bottom.

**i) Existing Masonry Foundation**

When a second floor addition is planned for an existing house which has a masonry foundation, [concrete block foundation](#) or a concrete foundation that is of questionable structural integrity, the existing foundation must be evaluated by a license structural engineer. The Structural Engineer shall prepare and submit a written report to the Building Department that indicates one or more of the following:

- The existing foundation is capable of supporting the new loads imposed by the addition.

Or

- The existing foundation shall be capable of supporting the new loads if specified reinforcement or improvements are made.

Or

- The existing foundation is not capable of supporting new loads.

The Structural engineers report is to protect the owner in advance from a catastrophic and/or unexpected collapse of the structure.

**j) Window Well Covers Required**

Bars, grills, covers, screens or similar devices are required to be placed over all window wells, whether rescue, escape or otherwise.

Window well covers shall be capable of supporting a full grown adult. (minimum capacity 250 lbs.)

**k) Concrete Slabs**

Concrete slabs in basements and slab on grade construction shall be a minimum of 4" thick w/6 X 6 W 1.4 X W 1.4 W. W. F. over 6 Mil. Vapor barrier over a 5" crushed stone base.

**11.1 Public Sidewalks for New or Remodeled Homes**

- a. Public sidewalks shall be of a serviceable quality under the minimum standards set forth by the City of Elmhurst Engineering Department.
- b. If a contractor damages an existing public or private sidewalk, the damaged portion of the sidewalk shall be replaced at the contractor's sole expense.
- c. A contractor shall replace any part of an existing public sidewalk adjacent to a newly constructed home deemed unserviceable by the City Engineering Department.
- d. If a new home is constructed on a property not served by a public sidewalk prior to construction, but a new public walk would create a continuation of any existing public sidewalk on any adjacent property to the benefit of the general public, then the contractor shall construct a new public sidewalk adjacent to the property.
- e. If a new home is constructed in a neighborhood with no sidewalks, then a new public sidewalk for that property is not required.
- f. If a contractor is required to install or replace a sidewalk under Paragraph c. or d. of this Section, the City shall, after completion of the work, pay the contractor 50% of the amount the City would pay its contractors for such work.

**11.1a Public Sidewalks**

Public walks shall be a minimum of 5" thick concrete over a 4" compacted aggregate base. Public walks across driveways shall be a minimum of 6" thick concrete over 6" compacted aggregate base.

**11.2 Residential Driveway Approaches – Paved Driveways Required**

All driveways, parking areas and parking lots shall consist of a paved surface such as concrete, asphalt (bituminous paving), stamped concrete, brick pavers or similar. Gravel is not permitted for driveways, parking areas and parking lots irrespective of the zoning district in which it is located.

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- a. **Concrete** - Residential driveway approaches shall be a minimum of 6" thick concrete over a 6" compacted aggregate base.
- b. **Asphalt** – Residential driveway approaches shall be a minimum of 3" hot mix bituminous paving over 6" compacted aggregate base.
- c. **Sub-base** - The sub-base for all approaches shall be native soils, but no top soil.
- d. **Single Driveways** – Single driveways shall be a maximum of 12'-0" wide at the City right-of-way/property line and shall have a maximum curb opening of 18'-0".
- e. **Double Wide Driveways** – Double wide driveways shall be a maximum of 18'-0" wide at the City right-of-way/property line and shall have a maximum curb opening of 24'-0".
- f. **Paved Driveways Required** – All driveways, parking areas and parking lots shall consist of a paved surface such as concrete, asphalt (bituminous paving), stamped concrete, brick pavers or similar. Gravel is not permitted for driveways, parking areas and parking lots irrespective of the zoning district in which it is located (Ref. MCO 24.60)

### 12. Carpentry

- a) All framing shall be 16" O. C. or less than 16" O. C. (balloon framing shall not be permitted)
- aa) All habitable areas and all levels of a house for living, sleeping, recreation or mechanical systems shall be designed for a 40 lb/sq ft live load.
- b) **ALL plumbing walls shall be 2 x 6 wood stud framing. (minimum)**
- c) All framing shall be dimension lumber with the lumber species and grade identified on the permit drawings.
- d) All roof sheathing shall be 5/8" exterior grade plywood, minimum. O.S.B. and particle board are **NOT** permitted for roof sheathing.
- e) **Wall sheathing** shall be minimum ½" plywood or ½" O.S.B. (oriented strand board). The entire exterior envelope (exterior walls) shall be completely sheathed with ½" plywood or ½" O.S.B. wall sheathing.
- f) All **floors** shall be 2 layers of 5/8" plywood or ¾" plus ½" plywood. A single layer of 1-1/4" plywood is not permitted for floor sheathing. O. S. B. is not permitted for floor sheathing.

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- g)** All **gypsum board** used everywhere shall be 5/8" Type "X" minimum. Two layers of 5/8" G.W.B. shall be required on the ceiling of a garage which has habitable rooms above.
- h)** Interior **soffits** must be fireblocked with 5/8" Gypsum Board or ½" plywood at the concealed wall and ceiling areas, entirely, **or completely packed and filled with mineral wool.**
- i) Fireblocking Required:**  
**Fireblocking** shall be provided to cut off all concealed draft openings (both vertical and horizontal) to form an effective fire barrier between stories and between a top story and a roof space. **(See Section R-302.11 and R-302.11.1).**

Some materials which may be used are as follows:

- Unfaced Batt insulation, when the stud cavity is filled to a height of 16" vertically per **R-302.11.1.2**
  - **2" Nominal Lumber**
  - Blankets of Mineral Wool
  - Thermal fiber or Fire Safe batts
  - Drywall compound
  - Cementitious material
  - 3-M Firestopping caulk or equal (intumescent firestopping caulk)
  - Other approved materials installed in such a manner as to be securely retained in place as an acceptable fireblock by the Building Official.
- j) Fireblock** at the rim height of every tub with 2 x wood blocking, every stud space, all around, - or -  
Provide water resistant 5/8" G.W.B. or ½" DURA ROCK completely down to the floor behind all tubs and shower stalls for proper firestopping, or use other **approved** materials.
- k)** Manufactured "**I**" **joists** may be used if and only if the entire residence has an automatic fire sprinkler system installed per N.F.P.A. 13D, "Installation of Sprinkler Systems for Residential Occupancies".
- l) Wood roof trusses** and wood **floor trusses** must have their metal gusset plates covered with ½" plywood, glued and screwed over **every** gusset plate, both sides. The plywood must extend 6" beyond each side of the plate. (That is, on 3 sides of the plate, the 4<sup>th</sup> side is usually obstructed by sheathing or ceiling board.)

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m) **Three season rooms**, screened in porches and like structures shall be built with construction consistent with this code, and the same as any other house addition. All shall have a full footing and foundation (See Amendment 11h, 400 s.f. or less may utilize a trench footing). Use of foam plastic panels, structural or otherwise are not permitted, **unless protected with one layer of 5/8" g.w.b. "Type X"**. A one hour fire rating is required at walls and ceiling. (5/8" gypsum board Type X)

n) **Underside of Stairs – 5/8" Gypsum Board**

The underside of all stairways and landings shall be protected by one layer of 5/8" Gypsum Board, "Type X" fire code.

**Exceptions:**

1. When the vertical walls on three sides of the stairway have enclosed the underside of the stairway and there is no access to that space.
2. When an open riser stair is designed per the IRC 2012 edition.

p) **Attached Garage – Man Door – Opening Protection**

Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 $\frac{3}{8}$  inches in thickness, solid or honeycomb core steel doors not less than 1 $\frac{3}{8}$  inches thick, or 20 minute fire-rated doors.  
(ref: IRC R309.1 – 2003)

q) **Decks**

All decks shall be designed for a 60 P.S.F. live load. All decks shall be supported by min. 12" dia. concrete filled post holes which extend 48 inches below grade. The wood posts shall be securely anchored with metal post base anchors which are embedded in the concrete or mechanically fastened to the concrete, with expansion bolts.

### 13. Electrical

a) **Smoke Alarms** shall be interconnected and shall be located per all requirements of Section **R-313** of the IRC as follows:

- In each sleeping room
- Outside each separate sleeping area in the immediate vicinity of the bedrooms
- On each story of the dwelling, including basements and habitable attics
- Above or near the furnace



- aa) **Carbon Monoxide Detectors** shall be provided as follows: (ref. R-315.1)
- Outside each separate sleeping area in the immediate vicinity of the bedrooms
  - On every occupiable level of a dwelling unit including basements (Ref. 101 Life Safety Code)
  - **On every floor** on which a fossil fuel burning boiler or furnace is located and/or in the room in which the furnace or water heater is located.
  - **On every floor** in which sleeping rooms are heated by any type of warm air heating plant that burns fossil fuel.
- Ref: State of Illinois 91<sup>st</sup> General Assembly Legislation 91-HB0603 Engrossed.
- b) **210.12 Arc-Fault Circuit-Interrupted Protection**  
Arc-fault circuit-interrupter protection shall be provided as required in 210.12(A) (B), and (C) of the NEC 2014 edition. The arc-fault circuit interrupter shall be installed in a readily accessible location.
- (A) Dwelling Units**  
All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected by any of the means described in 210.12 (A) (1) through (6) of the NEC 2014 edition.
- c) All electrical conductors shall be copper,  
**Aluminum Conductors** are not permitted.
- d) **Non-Metallic Sheathed Cable**, Mineral insulated, metal-sheathed cable, rigid non-metallic conduit and boxes, armored cable, and flat conductor cable are all **NOT PERMITTED**.
- e) All switches, receptacles and light fixtures in a bathroom, powder room, shower, etc. shall be **GFCI protected**.
- f) **Required Outlets** – Receptacle outlets and lighting outlets shall be installed as specified in sections 210.52 through 210.64 in the N.E.C. 2014 edition.
- g) **Exterior below ground conduit** may be rigid galvanized (min.) 6” deep,
- or –

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Electrical grade rigid non-metallic conduit (Schedule 40 Gray PVC) minimum 18" deep,

- or –

Type "UF" cable with ground conductor (min.) 24" deep per N. E. C. Table 300.5

- h) **Low voltage wiring** and cables are not required to be in conduit for single family homes and townhomes.
- i) **Sump pumps and ejector pumps:** The electrical circuit which provides power for the sump pump and/or ejector pump shall each have a dedicated circuit independent of all circuits in the building and shall have a single outlet.

### 14. Mechanical

- a) **Attic furnaces** and crawlspace furnaces are not permitted.
- b) **Air conditioning equipment**, including pads, condensing units, heat pumps, etc. are not permitted in the required sideyard setbacks. (per Zoning Ordinance).
- c) All **dryer vents** shall be metal or metal flex. Non-metallic vents for dryers are not permitted.
- d) All **ductwork** shall be a closed system and in compliance with the International Mechanical Code Section 603. Use of a stud space or joist space for a supply or plenum return is not permitted. Gypsum ducts are not permitted.
- e) Provide a 1-1/2" precast concrete pad under all furnaces which are set on a wood floor. (or use 2 layers of ½" DURA ROCK or a 2" Thickness of poured concrete).
- f) All bathroom, shower and powder room exhaust fans shall have insulated duct work.

**15. Fireplaces****a) Masonry Fireplaces**

All wood burning fireplaces shall be constructed of masonry in accordance with Chapter 10 of the IRC and in compliance with the New York Masonry Associations guidelines and details. The hearth extension shall always be 20" minimum. Provide an exterior air supply per Section R-1006. The smoke shelf shall be 12 inches minimum. The exposed chimney shall be brick, stone, or other masonry materials.

**b) Prefabricated Metal Fireplaces**

Prefabricated metal fireplaces are not permitted.

**c) Direct Vent Fireplaces**

Direct vent fireplace units which burn gas only and have a fixed glass plate in front of the firebox which cannot be opened, are permitted.

i) The direct vent unit may terminate the vent at the outside wall, directly behind the unit, with a collar, per manufacturer's installation instructions.

ii) If a chimney is created for the direct vent, on the outside of the building, it must be brick or stone veneer. Wood siding or non-masonry materials are not permitted to enclose the chimney created on the outside wall.

iii) If the direct vent is run vertically in the interior of the building, it may terminate through the roof as an exposed vent. If the vent through the roof has a chimney enclosure around it, the enclosure must be clad to look like stone or brick. (Wood siding or similar siding material shall not be permitted to create a chimney.)

iv) Provide one layer of 5/8" DURA ROCK under the firebox.

v) Provide a gas shut off in the same room and in the immediate vicinity as the fireplace.

**d) Ventless Fireplace**

Ventless fireplace units which burn gas and have no vent to the outside, are not permitted in bedrooms, basements and attics. They must be operated with a door or window open, per manufacturer's instructions.

This product is not recommended by the City of Elmhurst Building Department or the City of Elmhurst Fire Department.

**e) Gas Fireplaces – Key Shutoff Location**

All fireplaces with a gas supply shall have a key shutoff outside of the unit and within the immediate vicinity of the fireplace. The requirement for a key shutoff applies to all fireplaces, including masonry fireplaces, direct vent fireplaces and ventless fireplaces. (formerly 24.14)

**f) Exterior Air Supply**

All fireplaces shall be provided with an exterior air supply in conformance Section R1006 of the IRC 2012 edition.

Fireplaces in basements shall have an exterior air supply provided within 24" to 36" measured horizontally from the firebox. The height of the dampered supply grill shall be centered at the midpoint height of the firebox. A minimum 3 inch diameter duct shall terminate to the outside through the rim joist. The exterior outlet shall be screened.

**16. Interior Wood Paneling**

All interior wood paneling shall be applied over 5/8" G. W.B. which is secured to wood framing @ 16" O. C.

**SPECIFIC AMENDMENTS to the Sections of the IRC 2012 edition****17. R-101.1 Title**

These provisions shall be known as the Residential Code for One- and Two-Family Dwellings of the City of Elmhurst, and shall be cited as such and will be referred to herein as "this code".

**18. R-101.2 Scope**

The provisions of the International Residential Code for One- and Two-Family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location removal and demolition of single family residences, townhouses and duplexes, and their accessory structures. (Townhouses and duplexes shall have a vertical wall as a fire barrier and shall not have one dwelling unit stacked above another. Apartment type buildings and other multiple dwelling buildings shall be governed by the IBC 2012 as amended.

**No exception for existing buildings:**

Existing buildings undergoing repair, alteration, additions or movement shall comply with the requirements of this code, same as new buildings, [for the area being constructed or altered](#).

- 19. R-103.1 Enforcement Agency**  
 The Building Department is the Department of Building Safety, [and commonly called the Community Development Department](#). The individual in charge of the Building Department shall be known as the Building Official, [and holds the title, Building Commissioner](#).
- 20. R-104.11.1 Tests**  
 Add: The Building Official shall have the final authority to approve or disapprove materials, designs, assemblies, products, methods of construction, equipment, and etc. proposed to be used in any construction project.
- 21. R-105.2 Work exempt from permit**  
 All work shall require a permit, including detached accessory structures, fences, retaining walls, patios, decks, gazebos, sidewalks, driveways, swimming pools and all other construction listed on the City of Elmhurst fee schedule.
- Work **exempt** from permit shall be as follows:
- Sheds 100 s. f. or less, however the shed must be located properly per the Elmhurst Zoning Ordinance, [and properly secured](#)
  - Emergency repairs – [A permit shall be required after the emergency repair, as soon as practical](#)
  - Minor repair or replacement
  - Painting, papering, carpeting, tiling, cabinets and other finish work
  - Re-roofing of a single family residence or townhouse
  - Water heater and furnace repair or replacement
  - Electrical, gas, mechanical and plumbing repair and replacement as identified in this section
- 22. R-106.1 Submittal documents:**  
 All construction documents submitted shall be signed and sealed by the Design Professional who prepared them. (The Licenced Architect, Structural Engineer, or Registered Professional Engineer

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shall include his license number, signature, and the expiration date of his license clearly identified on the drawings.)

- 23. R-113.4 Violation Penalties:**  
Add: The Building Official and/or his agents may issue citations which carry a fine of \$100.00 per day for each and every violation which exists. The \$100.00 per day penalty also applies to “orders” in which the contractor or other persons “fail to comply” as directed by the building official, inspectors, or his agents.
- 24. R-114.2 Unlawful Continuance**  
Any person who shall continue to work after having been served a “Stop Work Order” shall be liable to a fine of \$100.00 for the first day, \$200.00 for the second day and an additional \$300.00 for the third day.
- 25. R-202 Air Admittance Valve**  
Air admittance valves are not permitted. For an isolated case the Building Official may approve the use of an Air Admittance Valve when extenuating circumstances exist.
- 26. R-115 Site Requirements** is hereby added.  
All sites shall have a Code of Conduct Sign clearly posted. All construction sites shall have the following and comply with the following:
- a) Approved **portable sanitation** facility maintained in an approved manner on site.
  - aa) All contractor/service providers and other persons associated with a construction project shall **restrict the parking of vehicles** to one side of the street. Do not park vehicles on the public parkway or blocking the public sidewalk.
  - b) Keep **public walks clear and passable**. Maintain sidewalk area with compacted gravel as necessary throughout the duration of construction, so that it is safe for pedestrians to walk on.
  - c) **Sidewalks** shall not be blocked with parked vehicles. Concrete trucks or delivery vehicles may block the sidewalks for a short period of time while they are placing concrete or delivering materials.
  - d) **Materials shall not be placed or stored on the public parkway.**

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- e) For new homes, keep **tree protection** in place and properly constructed at all times. The contractor may be required to install **tree protection**, when deemed necessary by the Building Official or [Engineering Department](#), for home “additions”.
- f) **Provide a dumpster** for all trash and discarded building materials, or keep the trash or scrap building materials contained inside of the building. The maximum length of time that a dumpster may be on site is 6 months. After 6 months, all garbage and debris shall be placed in a 6 yard dumpster which shall be located inside the garage, or the garbage and debris shall be placed in trash receptacles located inside the house.
- g) **Maintain** streets and sidewalks **free of mud**. The General Contractor shall be responsible to clean up large clumps of mud, immediately, as trucks or other vehicles leave the site. (\$100.00 fine for each occurrence.)
- h) On all new construction sites, the designed area for the **driveway shall be graveled** from the back of the curb to the garage entry. Gravel shall be in place immediately after the foundation is backfilled. This gravel is a sacrificial base for use during construction. More gravel shall be added as appropriate during construction to assist in keeping the site and the public streets clean. Additional gravel shall be added to meet appropriate requirements for the pre-pour driveway inspection. The **driveway width** for a two car garage may be 18’-0” wide and the **approach** at the curb may be 24’-0” wide.
- i) **Spot Survey Required**  
The City requires that the builder of a new single family home submit a certificate of elevation and a spot survey after the pouring of the foundation and that those documents be reviewed and approved by the City prior to any framing work being started on the structure. The certificate of elevation shall be on a form approved by the City and shall contain, as a minimum, all pertinent elevations (and their relative locations for stepped foundations). The spot survey shall indicate the dimension from the foundation to all property lines. In both cases, these documents shall be signed and sealed by either a Professional Engineer or a Registered Land Surveyor and shall contain verbiage indicating that the foundation has been installed in accordance with the site plan submitted and approved by the City.
- j) **Neighbor property:** The General Contractor is responsible for controlling the sub-contractors and the project as a whole. No person shall trespass on a neighbor’s property, without their permission.  
Do not damage neighbor’s property. The General Contractor shall be responsible to restore any damage to neighbor’s property, or

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compensate that neighbor for damage to his property, regardless of which sub-contractor or service provided actually did the damage.

- k) All **street closings** shall be properly barricaded, have signs and/or a flagman, according to policy set forth by the Department of Public Works.
- l) **Landscaping:** The minimum requirement for landscaping is that the front yard, side yards and parkway shall be sod, and the rear may be seeded. The entire property may be seeded, if the work is performed by a professional landscaper. (Ref. MCO 24.65)
- m) The silt fence and other Erosion measures shall be kept in place and maintained during construction.
- n) **No open fires** or burning, except for heating sand for mortar.
- o) Obey **work hours:**

Monday through Saturday	7 am – 6 pm
Sundays & Holidays	10 am – 6 pm
- p) **Window Well Drains and Perimeter Drainage**

All window wells shall have adequate drainage installed. A drain pipe of not less than 4 inches in diameter, shall be connected to a tee fitting, incorporated with the building foundation footing drain tile system. The type and height of the window wells shall be as directed by the City Engineering Department, to protect from flooding.

A perimeter drain with leaders from window wells, is always required at basements. A 4 inch diameter perimeter drain tile at footing shall be set on a minimum of 2 inches of stone and covered with a minimum of 6 inches of stone. The total height of the stone used shall be 12 inches minimum. (2"+4"+6"=12"). The top of the tile must be below the top of the footing.
- q) **Sump Pump Discharge**

The sump discharge shall be as directed by the City Engineering Department. The discharge of the sump pump is storm water and shall **not** be connected to or discharged into the sanitary sewer. The penalty for connecting any storm water discharge into a sanitary sewer line shall be a fine of \$250.00 per day. The fine shall be levied against the plumber who performed the work and also an additional fine of \$250.00 per day to the homeowner and/or general contractor who is in control of the property.
- r) **Gutters and Downspouts**

Gutters and Downspouts are required. The discharge of downspouts, sumps and other drainage patterns shall be as directed by the City



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Engineering Department. Drainage shall not be directed onto adjacent property. Provide a grading plan to the city engineer for pre-approval.

27. R-202 Definitions

- a) **Air Admittance Valves** are not permitted. For an isolated case, the Building Official may approve the use of an Air Admittance Valve when extenuating circumstances exist.
- b) **Insulating Concrete Forms (ICF)** are not permitted.
- c) **Manufactured Home:** Manufactured homes as defined are not permitted.  
Any manufactured home must meet all of the requirements of “this code” as well as the requirements of the City of Elmhurst amendments.
- d) **Structural Insulated Panels (SIPS)**  
Structural insulated panels are not permitted.
- e) **Wet Vents:** Wet vents are not permitted, except when permitted by the Plumbing Inspector or Building Official because of extenuating circumstances.

28. R-301.1.2 Construction Systems  
Balloon framing is not permitted.

29. R-301.2 (1) Climatic, Geographic Design & Structural Design Criteria Table

<b>Roof Snow Load</b>	<b>30 P. S. F. (Min. – No Reductions)</b>
<b>Wind Speed</b>	<b>90 mph., 3 second gust-Fig 301.2(4) 75 mph, fastest mile – Table 301.2.1.3</b>
<b>Seismic Design Category</b>	<b>A</b>
<b>Weathering</b>	<b>Severe</b>
<b>Front Line Depth</b>	<b>48” Below Finished Grade(minimum)</b>
<b>Termite</b>	<b>Slight to Moderate</b>
<b>Decay</b>	<b>Slight to Moderate</b>
<b>Winter Design Temperature</b>	<b>-4 Degrees Fahrenheit</b>

<b>Ice Shield Underlayment Required</b>	<b>Yes</b>
<b>Flood Hazards</b>	<b>Contact Engineering</b>
<b>Air Freezing Index</b>	<b>1750</b>
<b>Mean Annual Temperature</b>	<b>50 Degrees Fahrenheit</b>
<b>All Habitable Levels of the House</b>	<b>40 lbs/s.f. Live Load</b>
<b>Decks &amp; Balconies</b>	<b>60 lbs/s.f. Live Load</b>

- 30. 303.9 Basements – light and ventilation**  
Basements shall be provided with an aggregate glazing area in windows of not less than 2% of the floor area and 2% ventilation. All habitable spaces in a basement shall be designed per R303.1. (8% light and 4% ventilation), [or an approved mechanical HVAC system with artificial light.](#)
- 31. R305.1.2 Crawlspace height**  
All crawlspace areas shall have a minimum required clear height of 3 feet (36 inches). Beams, girders, ductwork, mechanical and plumbing components may project into that area as long as there remains 2 feet (24 inches) under those projections.
- 32. R-306.3 Private Sewage Disposal**  
A private sewage disposal system is not permitted.
- 33. R-309.2 Separation Required**  
This section is hereby amended to require 5/8" fire rated gypsum board on all walls and ceilings of an attached garage. (2 layers of 5/8" fire rated gypsum board is required on the ceiling of the garage if habitable rooms, a storage room or closet is above.)
- 33a. R-309.5 Fire Sprinklers**  
[This section is hereby deleted. Fire sprinklers shall not be required in private garages.](#)

- 34. R-309.1.1 Garage Floor Drainage**  
The garage floor shall have a minimum slope from back to front of 2 (two) inches, for drainage. A garage floor may not slope to any drain. All garage floors shall be 5" thick concrete over 6 mil. vapor barrier over 5" crushed stone base and have wire mesh or be fiber mesh concrete. (6 mil. vapor barrier is not required for detached garages)
- 35. R-309.1.2 Gas Curb**  
The floor of the garage shall be separated vertically from the adjacent floor of the main residence by a concrete gas curb, minimum 6 inches in height.
- 36. R-305.1.3 Attic and Crawlspace Access**  
Access to attics and crawlspaces shall be a minimum of 30 inches by 30 inches. A light is required in the immediate vicinity of the opening, inside the attic and/or crawlspace.
- 37. R-311.7.10.1 Spiral Stairways**  
Spiral stairways are not permitted to be used as a means of egress; they are considered a decorative element only.
- 38. R-312.1 Guardrails**  
In addition to the requirements of this section, add: "Porches, balconies, decks or exterior raised floor surfaces 8 feet or more above the floor or grade below shall have a guardrail not less than 42 inches in height."
- 39. R-316 Foam Plastic**  
Structural Insulation Panels (SIPS), Insulating concrete forms, structural panels comprised of foam plastic shall not be permitted unless prior approval for three season rooms is obtained from the Building Official.
- 40. R-302.10 Insulation**  
The R-Value of all insulation shall be in compliance with the International Energy Conservation Code as mandated by the State of Illinois
- 41. R-313 Automatic Fire Sprinkler Systems in Single Family Homes and Townhouses – Not Required**  
Automatic fire sprinkler systems shall not be required for one and two family dwellings or townhouses. Fire Sprinkler Systems

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are highly recommended but, shall be the option of the homeowner and/or builder. If the house is constructed with the manufactured "I" joists, then a Fire Sprinkler System shall be required.

### 41.1 R-313

#### Dwelling Unit Separation for Townhouses & Duplexes

- a) Townhouses and duplexes shall have a 2 (two) hour fire rated, masonry vertical separation wall, constructed of 8" C.M.U. between each unit (and independent of each unit). The 8" C. M. U. fire separation wall shall be continuous with no penetrations from front to rear, and from foundation wall to underside of roof sheathing, between each and every unit. (Or may utilize through roof parapet wall constructed of 8" masonry.)

The supporting foundation wall, for the masonry separation wall, shall have a minimum width of 1' – 8" if floor joists are bearing on the foundation wall. A minimum width of 1'-6" is required if joists are parallel to the foundation wall. Provide 3 - #5 bars top and bottom in the foundation wall. The footing must extend 6" each side of the foundation wall. (i.e. 2'-8" wide footing for a 1'-8" wide foundation wall. The footing shall be 1'-0" thick).

- b) The plywood roof sheathing shall be fire retardant plywood for a minimum of 4'-0" each side of the masonry fire separation wall.

**Or**

- c) Install 5/8" G. W. B TYPE "X" in each joist space up against the sheathing and support the G. W. B. with continuous 2 x 2 wood blocking each side. Provide the G. W. B. protection 4'-0" each side of the masonry wall, continuous, front to back.

**Or**

- d) Install a minimum 8" wide masonry fire barrier wall with a parapet through roof, extended not less than 30 inches above the roof per code requirements.

- e) Each and every townhouse wall which is adjacent to the masonry fire separation wall shall be sheathed with ½" plywood or ½" O. S. B. from the foundation wall, continuous all the way to the roofline sheathing. This is to insure that each unit is self contained, and in the event of one unit being destroyed by fire, and the masonry wall came down, the adjacent unit would be adequately enclosed and relatively weather tight.

- f) Townhouse and Duplex units by definition are units which have a vertical masonry fire separation wall. Townhouses and Duplexes are not permitted to be constructed in a configuration in which they are stacked, one on top of another. Stacking dwelling units puts the structure in a Category with apartments and condominiums and like structures. (See IBC Amendments)
42. **R-319** **Site Address**  
Premises identification: The address numbers shall be a minimum of 4 inches high (6" high preferred) with a minimum stroke of 0.5 of a contrasting color, facing the street and readily visible for emergency vehicles.
43. **R-324** **Manufactured Housing**  
Manufactured and prefabricated construction shall comply with all of the code provisions and amendments for standard construction, as amended by the City of Elmhurst, herein.
44. **R-401** **Wood Foundations – R-401, Fig. 403.1 (2) and (3) et al.**  
Wood foundations are not permitted.
45. **R-401.3** **Drainage**  
Drainage shall be as directed and as approved by the City Engineering Department.
46. **R-402.2** **Concrete Compressive Strength**  
Revise Section R-402.2 and Table R-402.2, such that, in all cases the minimum specified compressive strength of concrete shall be 3,000 p.s.i., or greater as indicated by Table R-402.2.
47. **R-403.1.1** **Footings, Minimum Size**
- a) All spread footings shall be one foot (12 inches) thick, and a minimum of 20 inches wide for an 8" wide foundation wall. Footing projections shall be at least 6" each side of the foundation wall. Example: A 10 inch foundation wall requires a 22 inch wide footing. Provide a continuous 1-1/2" x 3-1/2" key way centered in the top of all spread footings.
- b) Trench footings may be utilized for slab on grade additions, such as a 3-season room and the like, which does not exceed an area of 400 square feet, and is only one story in height. The trench footing shall be 12" wide with 2-#5 bars top and bottom. The bottom of the trench footing shall be 48 inches below grade.

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- c) Concrete slab for a detached garage, shall utilize a full perimeter grade beam **12 inches wide** with a depth of **12 inches below grade**. It shall also have 2-#5 bars continuous around perimeter. The garage slab shall be 5" thick with wire mesh or fiber mesh concrete poured monolithic with the grade beam. The slab shall be over a 5" crushed gravel base.
- d) Concrete slabs for sheds may be a 4" concrete slab over 4" crushed stone base. Turn down perimeter edge below grade as necessary. A shed is not required to have a concrete slab but must be properly anchored.
- 48. R-403.1.4.1 Frost Protection**  
All footings shall **be 48 inches** below grade. Delete the "EXCEPTIONS" in this section.
- 49. R-404 Masonry Foundation**  
Masonry foundation walls and others are not permitted. Masonry foundation walls, pier & curtain wall foundations, rubble stone masonry, wood foundation walls, insulating concrete forms (ICF), waffle grid insulating concrete form wall and screen grid insulating concrete form wall systems are "**NOT PERMITTED**".
- 50. R-405.1 Foundation Drainage**  
Delete the EXCEPTION.  
Add: The electrical circuit that provides power for the **sump pump** in the perimeter drainage system shall be a dedicated circuit, independent of all circuits in the building and shall have a single outlet.
- 50a. R-502.2 Decks**  
All decks shall be designed for a 60 P.S.F. live load. All decks shall be supported by **12 inch diameter (minimum)** concrete filled post holes which **extend** 48 inches below grade. The wood posts shall be securely anchored with metal post base anchors which are embedded in the concrete or mechanically fastened to the concrete, with expansion bolts.
- 51. R-504 Pressure Preservatively Treated – Wood Floors (on ground)**  
Treated wood floors on the ground shall not be permitted. Delete this section in its entirety.
- 52. R-506 Concrete Floors (on ground)**  
Concrete slab-on-ground floors shall be minimum of 4" thick over 5" crushed stone base. Basement concrete floors shall have a 6 mil vapor barrier.

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- a) Garage slabs shall be a minimum of 5" thick w/6x6 w 2.1 x w 2.1 W.W.F. over a 5" crushed stone base or fiber mesh concrete. Attached garages shall have a 6 mil vapor barrier.
  - b) Concrete floors in basements shall be 4" concrete slab with 6 x 6 W 1.4 W. W. F. over 6 MIL. Vapor barrier over 5" crushed stone base, minimum
  - c) Typical welded wire fabric required for various slab thicknesses are as follows:
    - 4" CONC. SLAB – 6 x 6 W 1.4 x W 1.4 W.W.F.
    - 5" CONC. SLAB – 6 x 6 W 2.1 x W 2.1 W.W.F.
    - 6" CONC. SLAB – 6 x 6 W 2.9 x W 2.9 W.W.F.
    - (ALL VAPOR BARRIERS SHALL BE 6 MIL. – MINIMUM)
  - d) Blast furnace slag shall not be permitted as a base for a concrete slab.
  - e) Delete the Exception in section R-506.2.2. The exception says that a base course is not required under certain conditions. A base course shall always be required.
53. **R-602.3.2 Top Plate**  
A double top plate shall always be required. Delete the Exception in this section. A single top plate is not permitted.
54. **Tables Stud Spacing and Panel Thickness**  
**R-602.3 (3 & 4)**  
Stud spacing shall always by 16" O.C. or less than 16" O. C.
- a) The minimum panel thickness shall be ½" plywood or ½" O.S.B. for wood structural panel wall sheathing.
  - b) Particle board wall sheathing is not permitted.
55. **R-602.8 Fireblocking Required**  
Fireblocking shall be required per this section. Other materials which may be used, in addition to the materials listed in R-

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**302.11.1** are Therma fibre insulation and approved intumescent firestopping caulk. (See 12i carpentry)

- 55a.**            **R-602.9 Cripple Walls** – Cripple walls shall be 2 X 6 studs @ 16” O.C., minimum. Foundation cripple walls which have a stud height less than 14 inches shall be sheathed on both sides with a wood structural panel that is glued with sub-floor adhesive and fastened to both the top and bottom plates in accordance with Table 602.3 (1) or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations.
- 56.**    **R606.1.1**        **Professional Registration Required**  
All project drawings, typical details and specifications are required to bear the seal of the architect or engineer responsible for the design (typical for all).
- 57.**    **R-611**            **Exterior Concrete Wall Construction**  
Delete this section in its entirety. ICF wall construction is not permitted.
- 58.**    **R-612**            **Exterior Windows**  
**Add:** All exterior windows shall have insulating glass, [per the requirements of the International Energy Conservation Code.](#)
- 58a.**   **R-613**            **Structural Insulated Panel Wall Construction**  
[Delete this section. Structural Insulated Panel \(SIP\) Wall construction in not permitted.](#)
- 59.**    **R-703.9**          **Exterior Insulation Finish Systems (EIFS)**  
**Add:** All Exterior Insulation Finish Systems (EIFS) shall be a completely drainable type system utilizing one or more of the following, as specified by the manufacturer’s installation instructions:
- A continuous mesh
  - A “Wrinkle Wrap” type of building wrap
  - Vertical groove drains in the insulation board
  - Other method as prescribed by the manufacturer’s installation instructions
- a)**                    The insulation shall be mechanically fastened.



- b) The contractor performing the work must be a certified installer of the EIFS product that he is installing
  - c) The Certified EIFS contractor shall provide a warranty for the labor and materials, identifying that the installation was performed in accordance with manufacturer's installation instructions as well as the provisions of this code. Any and all violations of this code or discrepancies with the manufacturer's installation instructions shall be corrected at the expense of the EIFS contractor, and General Contractor who has control over the project.
  - d) The City of Elmhurst Building Department does not recommend EIFS and assumes no responsibility for its use and/or application to any building.
60. **R-801.3 Roof Drainage and Sump Discharge**  
 Gutters and Downspouts are required. The discharge of downspouts, sumps and other drainage patterns shall be as directed by the City Engineering Department. The City Engineer's directive in the plan review process or as directed in the field during construction is the final authority with respect to roof drainage and sump pump (stormwater) discharge.
- a) Storm water from the roof, perimeter drain tile system, sump pump or any other source shall not be connected to the sanitary sewer.
  - b) A sanitary sewer shall not be connected to a storm sewer.
61. **R-905.2.7.1 Ice Barrier/Ice Protection (i.e. Self-Adhesive ice/water shield)**  
 Ice protection shall be provided for asphalt shingled roofs that consists of a self-adhering polymer modified bitumen sheet, which shall be used in lieu of normal underlayment and shall extend from the eaves edge to a point at least 24 inches inside the exterior wall line of the building. (or installed per this section of the code)
- a) The same requirement applies for metal roof shingles, mineral surface roll roofing, slate and slate type shingles, wood shingles, wood shakes, similar roofs and when a complete "tear-off" occurs for re-roofing of an existing building.

- 62. Chapter 11 Energy Efficiency**  
The energy efficiency shall be as prescribed and in accordance with the International Energy Conservation Code as required by the State of Illinois.
- 63. M-1408** Delete this section in its entirety. Vented floor furnaces are not permitted.
- 64. M-1601.1.1** Items #5, #6 and #7 are hereby deleted. Construction cavities in stud and joist spaces shall not be used as a plenum for air supply or returns.
- 65. Part VII Plumbing – Chapter 25 through 33.**  
All plumbing shall comply with the Illinois State plumbing code and the more stringent, City of Elmhurst amendments, to that code.
- a)** The Plumbing Chapters 25 through 33 of the International Residential Code 2012 edition may be referenced and shall apply when:
- The standards set forth are at least as stringent as the State of Illinois Plumbing Code, as amended.
  - The standards set forth are at least as stringent as the applicable City of Elmhurst amendments.
  - When the State of Illinois Plumbing Code and City of Elmhurst amendments are silent on a particular subject.
- b)** Individual private water supply systems and private sewage disposal systems are not permitted.
- c)** The extension pipe from a pressure relief valve on a water heater shall be type L or type M copper.
- 66. P-2903.7 Water Service Pipe**  
The minimum size water service pipe shall be 1 inch, type K copper.
- 66a. Automatic Fire Sprinkler Systems in Single Family Homes and Townhouses – Not Required**  
Automatic fire sprinkler systems shall not be required for one and two family dwellings or townhouses. Fire Sprinkler Systems

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are highly recommended but, shall be the option of the homeowner and/or builder. If the house is constructed with the manufactured "I" joists, then a Fire Sprinkler System shall be required.

- 67. P-2905 CPVC Plastic Pipe – Not Permitted**  
All forms of plastic, vinyl, CPVC, PEX, etc. shall not be permitted for use in a water distribution system.
- a) Water distribution lines Type L or Type M copper shall not be placed on any outside/exterior walls, unless properly insulated to protect from freezing.
- b) The use of foam core pipe shall not be permitted.
- 68. P-3103.1 Vent Pipe – Roof Extension**  
All open vent pipes which extend through a roof shall be terminated at least 12 inches above the roof.
- 69. Part VIII Electrical Chapters 34 through 43.**  
All electrical shall comply with the N.F.P.A. 70, National Electrical Code 2014 edition and the more stringent, City of Elmhurst Amendments to that code.
- a) The electrical Chapters 34 through 43 of the International Residential Code 2012 may be referenced and shall apply when:
- The standards set forth are at least as stringent as the NEC 2014 edition as amended.
  - The standards set forth are at least as stringent as the applicable City of Elmhurst amendments.
  - When the NEC 2014 and the City of Elmhurst amendments are silent on a particular subject.
- 70. Chapter 42 – Swimming Pools**  
In addition to the requirements of this chapter, swimming pools shall comply with the International Swimming Pool and Spa Code, 2012 edition and the City of Elmhurst Amendments.
- 71. Part IX Chapter 44 Referenced Standards**  
The application of the referenced standards shall be as specified in Section R102.4

**72. Part X Appendices of the IRC 2012 edition:**

- **Appendix A** – Sizing and capacities of gas piping (adopted)
- **Appendix B** – Sizing of venting systems serving appliances equipped with draft hood, Category I appliances, and appliances listed for use with Type B vents (adopted)
- **Appendix C** – Exit terminals of mechanical draft and direct-vent systems (adopted)
- **Appendix D** – Recommended Procedure for Safety Inspection of an Existing Appliance Installation (not adopted)
- **Appendix E** – Manufactured Housing Used as Dwellings (not adopted)

**73. Appendix F – Radon Control Methods (adopted)**

Appendix F – Radon Control Methods is hereby adopted and the provisions in the appendix shall be used to install a Passive Radon Control System i.e. Sub-slab Depressurization System (Passive) in all new one and two family dwellings and townhomes as required by the State of Illinois. The provisions of this appendix shall also be used to install an Active System i.e. Sub-slab Depressurization System (Active) when necessary. Provide a Section and Details on the drawings of the Radon Mitigation System being installed.

**PASSIVE RADON MITIGATION SYSTEM REQUIRED**

(Use Schedule 40 PVC Pipe - Foam Core Pipe is not Permitted)

- a) Per the State of Illinois, effective June 1, 2013, all new construction of single-family homes or dwellings containing 2 or fewer apartments, condominiums, or town houses must have a **passive radon system** (pipe) installed. The installation of this radon resistant construction may be performed by a residential building contractor, one of the subcontractors or a radon contractor during new residential construction. A passive radon mitigation system does not have a power fan.

Only a radon mitigation contractor licensed by the Illinois Emergency Management Agency may install a radon vent fan or upgrade this passive

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new construction pipe to an active **radon mitigation system**. A permit is required.

- b) If a house has a passive mitigation system installed, but still tests over the limit, the passive (no power fan) system will need to be converted to an active (power fan added) radon mitigation system.
- c) While a homeowner or general contractor can install a passive mitigation system, only a state licensed radon mitigation contractor can install a fan to activate a radon reduction system.
- d) Residents who have questions about radon should refer to the Illinois Emergency Management Association regarding radon at [www.radon.illinois.gov](http://www.radon.illinois.gov).
- e) The City of Elmhurst has adopted APPENDIX F, RADON CONTROL METHODS of the 2012 international Residential Code.
- f) **Scope:**  
Per the State of Illinois, Radon Mitigation shall be required in all new construction. Minimum requirements are a Passive system as outlined below. If necessary, a more stringent system (Active) will be required. Active systems requiring a radon vent fan, shall be required to have the fan installed by a Licensed Radon Mitigation Contractor.

### Definitions:

- g) **Drain Tile Loop:** A continuous length of drain tile or perforated pipe extending around all or part of the internal or external perimeter of a basement or crawl space footing.
- h) **Radon Gas:** A naturally occurring, chemically inert, radioactive gas that is not detectable by human senses. As a gas, it can move readily through particles of soil and rock, and can accumulate under the slabs and foundations of homes where it can easily enter into the living space through construction cracks and openings.
- i) **Soil Gas Retarder:** A continuous membrane of 6-mil. (0.15mm) polyethylene or other equivalent material used to retard the flow of soil gases into a building.
- j) **Submembrane Depressurization System:** A system designed to achieve lower submembrane air pressure relative to crawl space air pressure by use of a vent drawing air from beneath the soil gas retarder membrane.

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- k) **Subslab Depressurization System (Active):** A system designed to achieve lower subslab air pressure relative to indoor air pressure by use of a fan powered vent drawing air from beneath the slab.
- l) **Subslab Depressurization System (Passive):** A system designed to achieve lower subslab air pressure relative to indoor air pressure by use of a vent pipe routed through the conditioned space of a building and connecting the subslab area with outdoor air, thereby relying on the convective flow of air upward in the vent to draw air from beneath the slab.

### Requirements:

- m) **General:** The following construction techniques are intended to resist radon entry and prepare the building for post construction radon mitigation, if necessary.
- n) **Subfloor Preparation:** A layer of gas permeable material shall be placed under all concrete slabs and other floor systems that directly contact the ground and are within the walls of the living spaces of the building, to facilitate future installation of a subslab depressurization system, if needed. The gas permeable layer shall consist of:  
A uniform layer of clean aggregate, a minimum of 5 inches thick per Elmhurst Code Amendments. The aggregate shall consist of material that will pass through a 2 inch sieve and be retained by a ¼ inch sieve.
- o) **Soil Gas Retarder:** A minimum 6 mil. (0.15mm) polyethylene sheeting material shall be placed on top of the gas permeable layer prior to casting the slab, to serve as a soil gas retarder by bridging any cracks that develop in the slab or floor assembly, and to prevent concrete from entering the void spaces in the aggregate base material. The sheeting shall cover the entire floor area with separate sections of sheeting lapped at least 12 inches (305 mm). The sheeting shall fit closely around any pipe, wire or other penetrations of the material. All punctures or tears in the material shall be sealed or covered with additional sheeting.
- p) **Entry Routes:** Potential radon entry routes shall be closed in accordance with the following:
  - I. **Floor Openings:** Openings around bathtubs, showers, water closets, pipes, wires or other objects that penetrate concrete slabs, or other floor assemblies, shall be filled with a polyurethane caulk of equivalent sealant applied in accordance with the manufacturer's recommendations.
  - II. **Concrete Joints:** All control joints, isolation joints, construction joints, and any other joints in concrete slabs or between slabs and foundation walls shall be sealed with a caulk or sealant. Gaps and joints shall be cleared of loose material and filled with polyurethane caulk or other elastomeric sealant applied in accordance with the manufacturer's recommendations.

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- III. **Condensate Drains**: Condensate drains shall be trapped or routed through nonperforated pipe to the exterior of the building.
  - IV. **Sumps**: Sump pits open to soil or serving as the termination point for subslab or exterior drain tile loops shall be covered with a gasketed or sealed lid. Sumps used as the suction point in a subslab depressurization system shall have a lid designed to accommodate the vent pipe. Sumps used as a floor drain shall have a lid equipped with a trapped inlet.
  - V. **Foundation Walls**: All cracks in foundation walls shall be filled with polyurethane caulk or equivalent sealant. Penetrations of concrete foundation walls shall be filled.
  - VI. **Dampproofing**: The exterior surfaces of concrete foundation walls below the ground surface shall be dampproofed in accordance with IRC Section R406.
  - VII. **Ducts**: Ductwork passing through a crawl space shall have all seams and joints sealed per M1601.4.1
  - VIII. **Crawl Space Floors**: All openings around penetration through floors above crawl spaces shall be caulked or otherwise filled to prevent air leakage.
  - IX. **Crawl Space Access**: Access doors and other openings or penetrations between basements and adjoining crawl spaces shall be closed, gasketed, or otherwise filled to prevent air leakage.
- q) **Passive Submembrane Depressurization System**: In buildings with crawl space foundations, the following components of a passive submembrane depressurization system shall be installed during construction.
- I. **Exception**: Buildings in which an approved mechanical crawl space ventilation system or other equivalent system is installed.
  - II. **Ventilation**: Crawl spaces shall be provided with vents to the exterior of the building. The minimum net area of ventilation openings shall comply with Section R408.1
  - III. **Soil Gas Retarder**: The soil in crawl spaces shall be covered with a continuous layer of minimum 6 mil (0.15mm) polyethylene soil-gas retarder. The ground cover shall be lapped a minimum of 12 inches (305mm) at joints and shall extend to all foundation walls enclosing the crawl space area.
  - IV. **Vent Pipe**: A plumbing tee or other approved connection shall be inserted horizontally beneath the sheeting and connected to a 3 or 4 inch diameter (46 or 102mm) fitting with a vertical vent pipe installed through the sheeting. The vent pipe shall extend up through the building floors, and terminate at least 12 inches (305 mm) above the roof in a location at least 10 feet away from any window or other opening into the conditioned spaces of the building that is less than 2 feet below the exhaust point, and 10 feet from any window or other opening in adjoining or adjacent buildings.

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- r) **Passive Subslab Depressurization System:** In basement or slab on grade buildings, the following components of a passive subslab depressurization system shall be installed during construction:
- I. **Vent Pipe:** A minimum 3 inch diameter Schedule 40 PVC gas tight pipe shall be embedded vertically into the subslab aggregate before the slab is cast. A “T” fitting or equivalent method shall be used to ensure that the pipe opening remains within the subslab permeable material. Alternatively, the 3 inch pipe can be inserted directly into an interior perimeter drain tile loop or through a sealed sump cover where the sump is exposed to the subslab aggregate or connected to it through a drainage system. The Pipe shall extend up through the building floors, and terminate at least 12 inches (305mm) above the surface of the roof in a location at least 10 feet away from any window or other opening into the *conditioned spaces* of the building that is less than 2 feet below the exhaust point, and 10 feet from any window or other opening in adjoining or adjacent buildings.
  - II. **Multiple Vent Pipes:** In buildings where interior footings or other barriers separate the subslab aggregate or other gas permeable material, each area shall be fitted with an individual vent pipe. Vent pipes shall connect to a single vent that terminates above the roof or each individual vent pipe shall terminate separately above the roof. (min 12 inches above the surface of the roof, and 10 feet away...)
  - III. **Vent Pipe Drainage:** All Components of the radon vent pipe system shall be installed to provide positive drainage to the ground beneath the slab or solid gas retarder.
  - IV. **Vent Pipe Accessibility:** Radon Vent Pipes shall be accessible for future fan installation through an attic or other area outside the habitable space.  
**Exception:** The radon vent pipe need not be accessible in an attic space where an approved roof top electrical supply is provided for future use.
  - V. **Vent Pipe Identification:** All exposed and visible interior radon vent pipes shall be identified with at least one label on each floor and in accessible attics. The label shall read: “Radon Reduction System”.
  - VI. **Combination Foundations:** Combination basement /crawl space or slab on grade / crawl space foundations shall have separate radon vent pipes installed in each type of foundation area. Each radon vent pipe shall terminate above the roof or shall be connected to a single vent that terminated above the roof.
  - VII. **Building Depressurization:** Joints in air ducts in unconditioned spaces shall meet the requirements of Section M1601. Thermal envelope air infiltration requirements shall comply with the Energy Conservation Code provisions. Fireblocking shall meet the requirements contained in Section R302.11 and Local Amendments to the Code.
  - VIII. **Power Source:** To provide for future installation of an active submembrane or subslab depressurization system, an electrical circuit terminated in an approved electrical box shall be installed during



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construction in the attic or other anticipated location of vent pipe fans. An electrical supply shall also be accessible in anticipated locations of system failure alarms.

74. **Appendix G – Swimming Pools, Spas and Hot Tubs** (adopted)
75. **Appendix H – Patio Covers** (not adopted)  
**Appendix I - Private Sewage Disposal** (not adopted)
76. **Appendix J – Existing Buildings and Structures** (adopted)
  - a) All new work on existing buildings and structures shall be in compliance with this code and the local amendments.
77. **Appendix K – Sound Transmission** (adopted)
78. **Appendix L – Permit Fees** (not adopted)
79. **Appendix M – Home Day Care – R3 Occupancy** (adopted)
80. **Appendix N – Venting Methods** (not adopted)
81. **Appendix O – Automatic Vehicular Gates** (not adopted)  
**Appendix P – Sizing of Water Piping System** (not adopted)  
**Appendix Q – ICC International Residential Code Electrical Provisions/National Electrical Code Cross Reference** (not adopted)
82. **Rule Making Authority**

The Code Official shall have authority as necessary in the interest of public health, safety and general welfare, to adopt and promulgate rules, regulations and policies to interpret and implement the provisions of this code to secure the intent thereof and to designate requirements applicable because of local climatic, other unique conditions or extenuating circumstances. Such rules shall not have the effect of waiving structural or fire performance requirements specifically provided for in this code of violating accepted engineering practice involving public safety.

**83. Matters not provided for**

Any requirements that are essential for the structural, fire or sanitary safety of an existing or proposed building or structure, or for the safety of the occupants thereof, which are not specifically provided for by this code, shall be determined by the Code Official. The Code Official shall have the authority to enforce such requirements.

◆◆◆ END ◆◆◆