

*****DETACHED SINGLE FAMILY DWELLING PLAN REVIEW REPORT*****

Permit Number :

Date:

Reviewer:

Address:

Lot/Sub:

Description of work: Single Family Residence

To permit owner or authorized agent,

Thank you for your interest in building a new home in DeKalb. We have reviewed your plans and offer the following comments for your review:

[] = Plans are code compliant

[OO] = Plans are incomplete or non-compliant. See Notes & Comments

Comments:

Code compliance is regulated by the following locally-adopted construction codes and ordinances:

- 2015 International Residential Code (IRC) w/Amendments
- 2015 International Mechanical Code (IMC) w/Amendments
- 2014 National Electrical Code (NEC) w/Amendments
- 2014 Illinois State Plumbing Code (IPC) w/Amendments
- 2018 Illinois Energy Conservation Code (IECC) w/Amendments
- City of DeKalb Municipal Code-Chapter 24
- City of DeKalb Unified Development Ordinance

This review is limited to a review of the information submitted and no responsibility is implied or accepted for results of the construction. Failure to identify a code violation within this plan review does not relieve the owner of the obligation to comply. Final construction and installations must be in conformance with locally adopted construction codes.

KEY TABLE

X=noted

OO=not shown but required

BOLD NOTES=Comments

NOTES=Concern

Zoning Requirements

- [] Lot width, depth, area and coverage meet the minimum lot development standards.
- [] Building meets the required front, side, rear and corner yard setback requirements.
- [] Dwelling will not be constructed on any public utility, drainage, or pipeline easement.

Comments:

Permits and House ADDRESS Numbers must be visible

Address numbers, visible from the street fronting the property, shall be posted prior to the issuance of a permit. Permanent address numbers shall be installed prior to the issuance of a final occupancy permit.

Minimum Room Areas & Dimensions

[] Habitable rooms, **except for kitchens**, are a minimum of 70 square feet. (IRC 304.1)

[] Habitable rooms shall not be less than 7 feet in any horizontal dimension. (IRC 304.2)

[] The minimum width of any hallway is 3'. (IRC 311.6)

[] Habitable rooms, hallways, corridors, bathrooms, toilet rooms and laundry rooms and basements have a minimum ceiling height of not less than 7' feet measured from the finished floor to the lowest projection of the ceiling. (IRC 305.1)

Exception #1: The height from finished floor to the finished bottom of beams, girders, ducts or other obstructions shall not be less than 6'-4".

Exception #2: Basements without habitable spaces are permitted to have a ceiling height of 6'-8" from the finished floor to the lowest projection of the ceiling.

Exception #3: Bathrooms in basements shall have a minimum ceiling height of 6'-8" from the finished floor to the lowest projection of the ceiling.

Comments:

Natural Light & Ventilation

[] Basements is provided with window area totaling no less than 1% of the square footage of the

basement area for adequate light and ventilation. At least one of these windows is an emergency

escape window meeting the requirements of IRC 310.1.

[] Habitable rooms (living, sleeping, eating or cooking rooms) have an aggregate glazing area (windows, doors, louvers) of not less than 8 percent of the floor area of the individual room to allow for adequate natural light. The minimum openable area to the outdoors is 4 percent of the floor area being ventilated to allow for adequate natural ventilation. (IRC 303.1)

Exception #1: The glazed areas need not be openable where an emergency escape and rescue opening is not required and an approved mechanical ventilation system capable of producing .35 air change per hour is installed or a whole house mechanical ventilation system is installed.

capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) per occupant. on the basis of two occupants for the first bedroom and one occupant for each bedroom.

Exception #2: The glazed areas need not be in rooms where Exception #1 above is satisfied, and artificial light is provided capable of producing an average illumination of 6 foot candles over the area of the room at a height of 30" above the floor level.

[] Unless a mechanical ventilation system with a minimum ventilation rate of 50 cubic feet per minute is provided, bathrooms shall have an aggregate glazing area of not less than 3 square feet. *****The minimum openable area to the outdoors shall be 1 ½ square feet.*** (IRC 303.3)

Comments:

Smoke Alarms & Carbon Dioxide Detectors

[] Interconnected smoke alarms with battery back-ups are provided in all sleeping rooms and within

15 feet of all sleeping rooms and kitchen, including at least one per floor. (IRC 314)

[] A carbon monoxide (CO) alarm is provided within 15 feet of every sleeping room. The CO alarm

may be battery powered, plug in to a wall receptacle (with battery backup) or be wired directly to the electrical service (with battery backup). (IRC 315) (Illinois Public Act 094-0741)

****Note:** Combination smoke and carbon monoxide alarms are permitted.

Comments:

Means of Egress

1. General:

[] Dwelling has not less than one exit door and the required exit door that is side-hinged and not less than 3 feet in width and 6 feet 8 inches in height. (IRC 311.2)

[] There is a floor or landing on each side of an exterior door. The width of the landing is not less than the width of the door served, and the depth is a minimum of 36" measured in the direction of travel. (IRC 311.3)

Exception #1: Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required provided the door, other than an exterior storm or screen door, does not swing over the stairway.

Exception #2: Exterior landing at doorway is not more than 7 ¾" below the top of the threshold, and the door other than an exterior storm or screen door, does not swing over the landing.

Comments:

2. Basements:

[] Basements shall have at least one operable emergency escape and rescue opening. (IRC 310.1)

Exception: Basements used only to house mechanical equipment and not exceeding a total floor area of 200 square feet.

[] The minimum open area is 5.7 square feet (820 square inches) for openings below grade and 5 square feet (720 square inches) for openings at grade level. (IRC 310.2.1)

[] The minimum clear opening width is 20 inches and the minimum clear opening height is 24 inches. ****Sash removal is not allowed.** (IRC 310 & 310.2.1)

[] The sill height of the emergency escape and rescue opening is 44" maximum. (IRC 310.2.2)

[] Where a basement contains one or more sleeping rooms, operable emergency escape and rescue

windows shall be required in each sleeping room. (IRC 310.1)

[] Window wells have a minimum horizontal area of 9 square feet and a minimum horizontal projection and width of 36". Ladders are permitted to encroach a maximum of 6" into the required dimensions of the window well. (IRC 310.2.3)

Comments:

3. Sleeping Rooms:

- [] Sleeping rooms shall have at least one operable emergency escape/rescue opening. (IRC 310.1)
- [] The minimum open area shall be 5 square feet (720 square inches) for grade floor openings and 5.7 square feet (820 square inches) for openings above grade floor. (IRC 310.2.1)
- [] The minimum clear opening width shall be 20 inches and the minimum clear opening height shall be 24 inches. ****Sash removal is not allowed.** (IRC 310)
- [] The minimum sill height of an emergency escape and rescue opening located more than 72" above grade is 24" to the finished floor. (IRC 312.2.1)
- [] The maximum sill height of an emergency escape and rescue opening shall be 44" to the finished floor (IRC 310.2.2).

Comments:

4. Stairways

- [] Interior stairways are provided with an artificial light source located in the immediate vicinity of each landing of the stairway **or** directly over each stairway section. (IRC 303.6)
- [] Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outside shall be provided with an artificial light source located in the immediate vicinity of the landing at the bottom of the stairs. (IRC 303.6)
- [] Stairways are not less than 36" wide at all points above the handrail height, 31" where a handrail is installed on one side and 27" where a handrail is installed on both sides. (IRC 311.5)
- [] There is a floor or landing at the top and bottom of each set of stairs. The width of the landing is not less than the width of the stairway served. Every landing has a minimum dimension of 36" measured in the direction of travel. (311.5.4)

Exception: Landing is not required at the top of interior stairs provided a door does not swing over the stairs.

- [] The maximum riser height is 7 ¾" and the minimum tread depth is 10". (IRC 311.5.3)
- [] Winder treads have a minimum tread depth of 6" measured at a point 12" in from the narrowest point and shall have a minimum tread depth of 6" measured at any point. (IRC 311.5.3)
- [] Handrails are provided on at least one side of each continuous run of treads with four or more risers. (IRC 311.5.6)
- [] Guards are provided for stairs or raised floor surfaces with a total rise of more than 30" above the floor or grade below. (IRC 312.1)

Comments:

Footings, Foundations, Concrete Floors & Retaining Walls

- [] Footings are 8 inches thick and 16 inches wide for wood frame walls above or 10 inches thick and 18 inches wide for wood frame wall with brick veneer above. (IRC 403.1.1)

[] Perimeter tile are placed on both sides of the basement footing with not less than 8 inches of gravel above the exterior tile. Window wells are tiled, tie into the footing tile and filled with gravel. (IRC 405)

[] Foundations are 8 inches thick for wood frame walls above or 10 inches thick for wood frame walls with brick veneer above. ****All foundations require Horizontal (1) #4 rebar within the top 12 inches of the wall and (1) #4 rebar located mid-way of balance.**

[] Vertical rebar required: **Every 36" for 8'0 or 9'0 poured wall. (IRC Table 404.1.2/3)**

[] Under-floor crawlspaces are ventilated per Section 408.1 of the IRC or meet the criteria for unvented crawlspaces per Section 408.3.

[NA] Access is provided to under-floor crawlspaces through minimum 18"x24" access opening IRC 408.4

Comments:

Floor Construction

[] Floor joists are sized to support a minimum 30 pounds per square foot (psf) live load and 20 psf dead load in sleeping areas and habitable attics or a maximum 40 psf live load and 20 psf dead load in all other areas of the building. (IRC 502.3.1 & IRC 502.3.2)

[] Double joists or blocking every 4 feet on center is provided under all bearing walls parallel with floor joists. (IRC 502.4)

Comments:

Ceiling & Roof Construction

[] Ceiling joists are sized to support a maximum 10 pounds per square foot (psf) live load in attics

without storage or a maximum 20 psf live load in attics with storage. (IRC 802.4)

[] Roof rafters are sized to support a maximum 25 pounds per square foot (psf) live load and a maximum 15 psf dead load. (IRC 802.5)

[] Manufacturer's truss design specifications bearing the seal of an Illinois licensed architect or structural engineer will be provided to the City of DeKalb Building Department before roof construction begins. (IRC 106)

Comments:

Plumbing Fixtures & Sanitation

[] Per Article 9 Chapter 24 of DeKalb Municipal Code Section 890.121 softener loop required.

[] Every dwelling unit is provided with a water closet, lavatory and a bathtub or shower. (IRC 306.1)

[] Water closets shall have a minimum of 15" clear space on each side measured from the centerline of the water closet and 21" clear in front. (IRC 307)

[] Shower stalls and bathtubs have a minimum of 24" clear space in front of the entrance. (IRC 307)

[] Interior dimensions of shower stalls are a minimum of 30"x 30". (IRC 307)

[] Sump pumps discharge into a storm drain line that runs from the house to the storm sewer stub and includes the installation of a sealed cover.

[] Valves and unions for gas and water lines are accessible. (IRC Appendix F, AF 103.4.4)

- [] A passive 3-inch radon vent with a tee is provided from the interior perimeter tile through roof.
(IRC, Appendix F)

Comments:

Electrical

- [] **Per NEC 2014 as amended in City of DeKalb Municipal Code Chapter 24 Article 8 Section 230.70 (A)(1) Readily accessible location. Amended as follows: The service disconnecting means shall be installed at a readily accessible location, at or near the meter enclosure, outside of a building or structure.**
- [] **Per City Chapter 24 Article 8 NEC amendments – 250.52 Grounding Electrodes – a concrete-encased electrode that complies with 205-53 (A)(3) will be required in all new construction.**
- [] Dwelling unit receptacle outlets are provided in accordance with the National Electric Code (NEC 210.52)
- [] Dwelling unit lighting outlets are provided in accordance with the (NEC 210.70)
- [] All electrical services have two ground rods spaced a minimum 6 feet apart and a water service ground.
- [] All electrical power supplied to family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms or areas is protected with Arc-Fault protected circuits. (NEC 210.12b)
- [] All areas specified in Article 210.52 of the NEC, all 125 volt, 15 and 20 ampere receptacles are listed tamper-resistant receptacles. (NEC 406.11)

Comments:

NEC 2023 WILL APPLY TO APPLICATIONS RECEIVED AFTER 6/30/2024

Mechanical

- [] Heating and cooling equipment is sized based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. (IMC 1401.3)
- [] Where the primary heating system is a forced-air furnace, at least one thermostat is capable of controlling the heating and cooling system on a daily schedule to maintain different set points at different times of the day. (IECC 403.1.1)
- [] Bathroom exhaust and clothes dryer exhaust systems terminate on the outside of the building.
(IMC 1502.2 & IMC 1507.2)

Comments

2021 IMC AND IFGC WILL APPLY TO APPLICATIONS RECEIVED AFTER 6/30/2024

Energy Efficiency

- [] Buildings shall comply with the insulation and fenestration requirements listed in the table below (IECC Table R402.1.1):

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CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE
5	0.32 (See A below)	0.55 (See A below)	NO REQUIREMENT (See A below)	49 (See B below)	R-20 or 13+5 (See C below)
MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE	CRAWLSPACE R-VALUE	
13/17 (See D below)	30 (See E below)	15/19 (See F below)	10, 2 ft. (See G below)	15/19 (See F below)	

A: The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

B: Where R-49 is required in the ceiling, R-38 shall be deemed to satisfy the requirement for R-49 where the full height of uncompressed R-38 insulation extends over the wall top plate at the ends.

C: 13 + 5 means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 40% or less of the exterior, the continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain consistent total sheathing thickness.

D: The second R-value applies when more than one half of the insulation is on the exterior of the mass wall.

E: Or insulation sufficient to fill the framing cavity, R-19 minimum,

F: 15/19 means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall.

G: R-5 shall be added to the required slab edge R-values for heated slabs.

Comments:

Fireplaces

[] The fireplace chase is fire stopped at each floor/ceiling level or lined with type X dry wall to provide fire separation from the living areas. Additionally, all spaces behind the dry wall shall be insulated to prevent cold air penetration. *****A fireplace chase/insulation inspection is required prior to the application of dry wall.*** (IRC 1003.19)

Comments: