

## **Guidelines for Residential Accessory Structures and Room Additions**

**Planning and Development Services Department**

**[www.opkansas.org](http://www.opkansas.org)**

This covers the basic requirements for accessory structures and room additions for residential one- and two-family dwellings. This should not be considered as a complete list of code requirements. Complete information is available in the codes and ordinances adopted by the City. Code books are available for review at City Hall, the local public library and can be purchased at the ICC Book Store. Some materials and construction methods may require the use of an architect or other design professional.

### **PERMITS AND PLANS REQUIRED**

1. A permit is required for all additions to dwellings.
2. A permit is required for an accessory structure exceeding 200 square feet.
3. If the property is in a Planned Zoning District, special conditions may apply regarding accessory structures. Contact the Planner of the Day at (913) 895-6217.
4. Application form - The city residential permit application form is required.
5. Plot plan - Provide a plot plan showing streets, property lines, lot dimensions, setbacks, new and existing structures and drives (drawn to scale). Plot plans are available on file with the City.
6. Construction drawings - Provide elevations, floor plan, framing plan, foundation plan, use of each area or space (Drawings sealed by a Registered Design Professional are not generally required unless non-conventional construction is used or new loads are applied to existing structural members, sealed drawings may be required if unusual situations are identified at the time of the plan review. An example of when this is required is when a ridge beam is part of the design.)
7. Any electrical wiring to an accessory structure requires a permit regardless of the size.

### **NUMBER OF ACCESSORY STRUCTURES**

1. Maximum of two detached accessory structures permitted on any lot.
2. Maximum one detached garage or covered carport per one- or two- family dwellings.

### **HOME OCCUPATIONS**

Some business uses (known as home occupations) are permitted within dwellings with limitations; however, home occupations are never allowed in accessory buildings. Consult with the Planner of the Day at (913) 895-6217 prior to establishing any home occupation.

### **DETACHED ACCESSORY STRUCTURES - YARD AREAS, SETBACKS AND SIZE LIMITATIONS**

1. **Yard Areas and Setbacks** - Measured from the property lines
  - a) Accessory structures must comply with the setback requirements for the main structure.
  - b) Minimum 5 feet separation between the main structure and accessory structures.
  - c) No buildings are permitted within the required front yard or side yard.
  - d) Front yard setback – 20 feet, or 30 feet if the property was platted before January 1, 2010. In most cases, the front property line is approximately 11 feet behind the curb and/or 25 feet from the curb and/or 25 feet from the centerline of the street.

- e) Side yard setback - Interior side yards, minimum 7 feet. Side yards adjacent to the street, minimum 15 feet. The total of both side yards shall not be less than 20% of the width of the lot.
  - f) Rear yard setback – Detached accessory buildings cannot be located in any required front or side yard setback area, but can be located in the rear yard setback no closer than 3 feet, or 20 feet from any street right-of-way. Where part or all of the rear yard adjoins a street, the setback is the same as for side yards.
  - g) Unless stated otherwise in the Unified Development Ordinance, all accessory structures greater than 10 feet in height must be at least 1/3 its height from any side or rear property line.
  - h) A setback minimum of 1/3 the height shall be required for satellite dishes.
  - i) Eave overhangs - Eaves may project into the required setback a maximum of 30 inches.
  - j) Building over utility easements is not recommended without consulting the utility companies whose lines are involved. Landscape Easements - No accessory structure shall be built in a platted landscape easement.
2. **Building height** – Maximum one story in height. Total height cannot exceed the height of the main structure or 20 feet. Height is measured from grade to the average height between the plate line and the peak. A single-story wall cannot exceed 11 feet 7 inches unless it is masonry which cannot exceed 13 feet 7 inches. The wall below the peak can be as much as 8 feet taller to allow for the gable.
3. **Building area restrictions**
- a) The ground area of all detached accessory structures shall not exceed 30% of the total land area in the rear yard setback.
  - b) A maximum of 250 square feet of detached garage or carport space is permitted for each 3,000 square feet of lot area.
  - c) Not more than 50% of the dwelling area (includes attached garage area but does not include the basement area).
  - d) The maximum area that a detached garage or carport can be is 1,200 square feet.

## **ROOM ADDITIONS TO MAIN DWELLING - YARD AREAS, SETBACKS AND SIZE LIMITATIONS**

1. **Yard Areas and Setbacks** - must comply with the setback requirements for the main structure. Main dwelling setbacks below are for the R-1 and R-2 zoning districts only.
- a) Front yard setback – 20 feet, or 30 feet if the property was platted before January 1, 2010. In most cases, the front property line is approximately 11 feet behind the curb and/or 25 feet from the curb and/or 25 feet from the centerline of the street.
  - b) Side yard setback – minimum 7 feet; minimum 15 feet for yards adjacent to a street with exceptions. The total of both side yards shall not be less than 20% of the width of the lot.
  - c) Rear yard setback – 25 feet.
2. **Building height** – Total height cannot exceed two and one-half stories, or 35 feet. Height is measured from grade to the average height between the plate line and the peak. Each story cannot exceed 11 feet 7 inches unless it is masonry which cannot exceed 13 feet 7 inches. The wall below the peak can be as much as 8 feet taller to allow for the gable.
3. **Canopies and Covered Open Porches and Decks** - (without enclosed walls, glass or screens) having a roof area not exceeding 60 square feet may project a maximum of 6 feet into the required front or rear yard setback of the main structure. For deck requirements, see the “*Residential Decks*” handout.
4. **Patios** – At-grade patios, slabs, etc. shall have a minimum setback of 3 feet from property lines.

6. **Arbors** - Arbors (not attached to the main dwelling) shall comply with the setbacks for accessory structures.
7. **Driveways and approaches**
  - a) No driveway shall be located within 2 feet of an adjoining lot line except for a driveway serving two properties.
  - b) Paved parking areas and driveways shall not cover more than 35% of the minimum required front yard area with exceptions. In R-1 zoning districts the minimum required yard area is the area from the property line to the minimum front yard-zoning setback (30-foot setback).
  - c) The minimum driveway thickness shall be four inches (4") and shall have a constant slope so as to avoid ponding of water.
  - d) A right-of-way work permit is required for paving or re-paving in the city right-of-way. Call (913) 895-6189 for information.

## CONSTRUCTION STANDARDS

1. **Appearance** - Exterior appearance shall be compatible with residential construction. Pre-engineered metal buildings are not generally considered compatible with residential construction.
2. **Framing systems** - Framing plans shall be drawn to scale and identify all materials used in the construction as to size and grade. All floor and ceiling joists and rafters shall indicate the spacing. Spans shall be indicated for all horizontal members. See included span tables and bracing diagram.
3. **Exterior covering** - one layer of No. 15 asphalt felt free from holes and breaks must be applied over studs or sheathing of all exterior walls. Alternative water-resistive barriers are allowed. The felt must be installed horizontally, with at least 2 inches of overlap, and 6 inches of overlap at vertical joints. The barrier is not required if BOTH the detached accessory building is not a dwelling or a conditioned space.
4. **Foundation systems**
  - a) Basement foundations shall be in accordance with the IRC Section R401 or the Johnson County Foundation Standard.
  - b) Foundations shall extend below the frost line to a minimum of 36 inches below grade measured to the bottom of the footing.
    - Exception – Free-standing accessory Light Frame structures less than 600 square feet and a maximum eave height of 10 feet do not require frost protection.
  - c) Structures shall be bolted to the foundation with minimum 1/2-inch diameter anchor bolts embedded at least 7 inches into the concrete (10-inch long bolts) at 6 feet on-center.
    - Each wood sole plate will have a minimum of two bolts.
    - Bolts must be no more than 12 inches, and no less than seven bolt diameters, from the end of the wood sole plate they are placed in.
    - Bolts to be 4 feet on center for buildings over two stories.
    - Bolts to be 3 feet on center for basement walls.

### Span Tables:

Floor Joists – 30# LL & 10# DL SLEEPING AREAS			
Member	Species/grade	Spacing	Max. span
2x10	DF#2	16" O.C.	17' 5"
2x10	SPF#2	16" O.C.	17' 2"
2x10	HF#2	16" O.C.	16' 10"
2x10	DF#2	12" O.C.	19' 10"

Floor Joists – 40# LL & 10# DL LIVING AREAS			
Member	Species/grade	Spacing	Max. span
2x10	DF#2	16" O.C.	15' 7"
2x10	SPF#2	16" O.C.	15' 5"
2x10	HF#2	16" O.C.	15' 2"
2x10	DF#2	12" O.C.	18' 0"

Rafters – 20# LL & 10# DL CEILING ATTACHED TO RAFTERS 11 – 14” Minimum Joist Depth or Equivalent Required to Meet Minimum R-38 Ceiling			
Member	Species/grade	Spacing	Max. span
2x8	HF#2	16” O.C.	17’ 3”
2x8	HF#2	24” O.C.	14’ 8”
2x8	DF#2	16” O.C.	18’ 5”
2x8	DF#2	24” O.C.	15’ 1”
2x8	SPF#2	16” O.C.	17’ 9”
2x10	HF#2	16” O.C.	21’ 11”
2x10	HF#2	24” O.C.	17’ 10”
2x10	DF#2	24” O.C.	18’ 5”

Rafters – 20# LL & 10# DL CEILING NOT ATTACHED TO RAFTERS			
Member	Species/grade	Spacing	Max. span
2x6	HF#2	16” O.C.	14’ 2”
2x6	DF#2	16” O.C.	14’ 7”
	SPF #2		14’ 4”
2x6	DF#2	12” O.C.	16’ 10”
	SPF #2		16’ 7”
2x8	HF #2	16” O.C.	17’ 11”
2x8	DF#2	16” O.C.	18’ 5”
	SPF#2		18’ 2”
2x8	DF#2	12” O.C.	21’ 4”
	SPF#2		21’ 0”

Ceiling Joists - 10# LL & 5# DL UNINHABITABLE ATTICS WITHOUT STORAGE			
Member	Species/grade	Spacing	Max. span
2x6	HF#2	16” O.C.	16’ 6”
2x6	DF#2	16” O.C.	17’ 8”
2x8	HF#2	16” O.C.	21’ 9”
2x8	DF#2	16” O.C.	23’ 4”

Ceiling Joists - 20# LL & 10# DL UNINHABITABLE ATTICS WITH LIMITED STORAGE			
Member	Species/grade	Spacing	Max. span
2x6	HF#2	16” O.C.	12’ 8”
2x6	DF#2	16” O.C.	13’ 0”
	SPF#2		12’ 10”
2x8	HF#2	16” O.C.	16’ 0”
2x8	DF#2	16” O.C.	16’ 6”
	SPF#2		16’ 3”

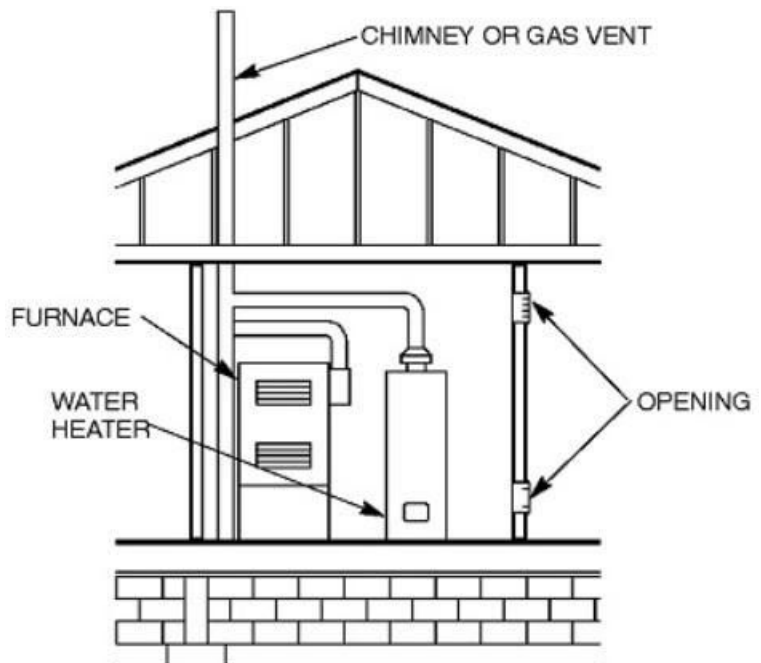
DF – Douglas Fir, DL - Dead Load, HF - Hem-Fir  
LL – Live load, O.C. - On Center, SPF - Spruce-pine-fir

## MECHANICAL SYSTEMS

Access must be maintained to unions in the ceiling or walls and to any gas valves such as valves to fireplaces on the first floor. Providing an identified access door or removable panel is acceptable. If walls are to be placed around the furnace and hot water heater areas, adequate combustion air must be maintained to the appliance for proper operation.

Factory-built fireplaces, masonry fireplaces, and solid-fuel appliances shall comply with Chapter 10 of the 2018 IRC. The combustion requirements for gas-fired appliances are summarized below.

- Indoor combustion air** - The space in the adjoining room plus the space in the equipment room must have a minimum volume equal to 50 cubic feet for each 1,000 Btu/hr of aggregate input rating of the appliances. Where the volume of the space in which fuel-burning appliances are installed is less than 50 cubic feet per 1,000Btu/hr of total Btu/hr input rating, two permanent openings to adjacent spaces shall be provided. Each opening shall have a free area equal to a minimum of 1 square inch per 1,000 Btu/hr input rating of all appliances installed within the space, but not less than 100 square inches. The net free opening shall be reduced by 25% where wood louvered covers are used and by 75% where metal louvered covers or grilles are used. One opening shall be within 12 inches (305 mm) of the top and one within 12 inches (305 mm) of the bottom of the space.



2. **Outdoor combustion air** - The opening area depends on the method used - consult the Plans Examiner of the Day at (913) 895-6225 for specific sizing information.

## **PLUMBING**

All plumbing fixtures shall be provided with approved drains and vents. All piping materials shall be labeled with the manufacturer's mark or name and the quality or grade of the product. Access must be maintained to plumbing drain clean-outs and floor drains. Approved water piping materials include chlorinated polyvinyl chloride (CPVC) plastic pipe, welded or seamless copper tubing (Type K, WK, L, WL, M or WM), cross-linked polyethylene (PEX) plastic tubing, polyethylene (PE), polypropylene (PP) plastic tubing, and other materials as listed in the 2018 IRC Tables P2906.4 and P2906.5.

Underground building drain and vent piping may be acrylonitrile butadiene styrene (ABS) plastic pipe, polyvinyl chloride (PVC) plastic pipe, and other materials as listed in the code.

Above ground sanitary drains and vent piping may be acrylonitrile butadiene styrene (ABS) plastic pipe, polyvinyl chloride (PVC) plastic pipe, and other materials as listed in the code.

Approved gas piping includes copper (Type K or L), ductile iron water pipe, galvanized steel pipe, stainless steel pipe, and other materials as listed in the code.

## **ELECTRICAL**

All electrical work shall comply with the 2017 National Electrical Code (NEC). All junction boxes shall remain accessible and shall not be concealed within walls or ceilings. Receptacles shall be provided for all unbroken wall spaces over 2 feet wide. Receptacles shall be located so that no point on the floor line is more than 6 feet measured horizontally from an outlet. All receptacles shall be of the grounding type. Receptacles in bathrooms or within 6 feet of sinks shall be GFCI protected. At least one wall switch controlled lighting outlet shall be provided in each finished room and hallway. All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit bedrooms shall be protected by a listed arc-fault circuit interrupter, combination type installed to provide protection of the branch circuit.

## **SMOKE DETECTORS**

Smoke detectors are required in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms, on each additional story of the dwelling, including basements and habitable attics (and not including crawl spaces or uninhabitable attics), and installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless that distance isn't feasible.

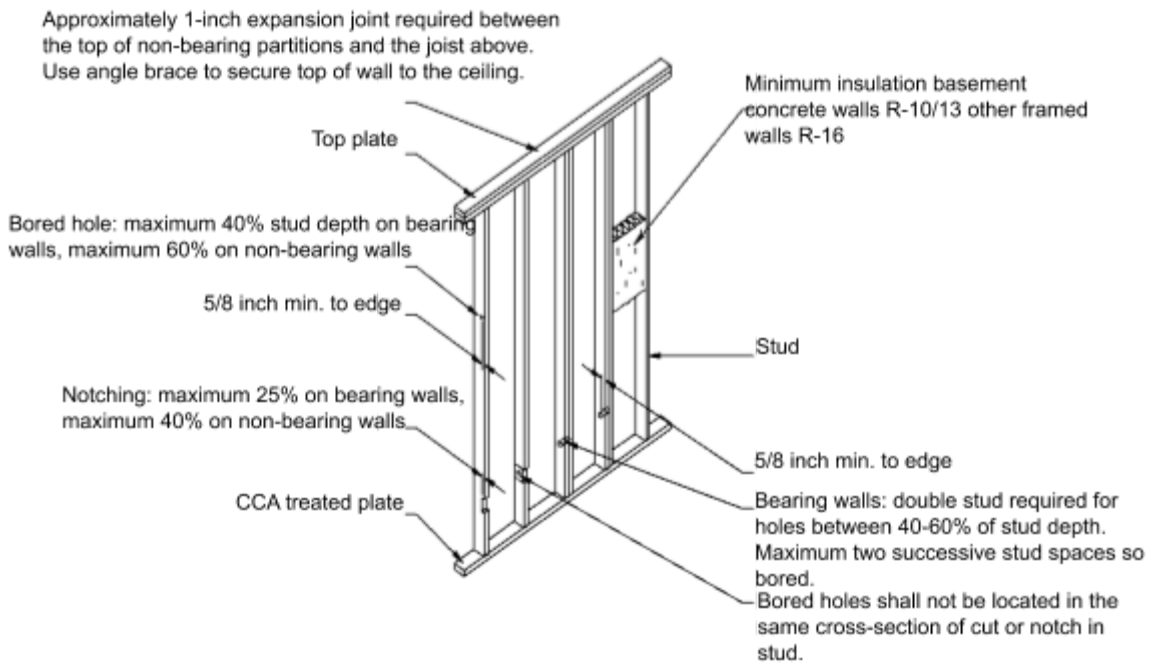
All smoke detectors should be interconnected within each individual dwelling, such that the actuation of one alarm will activate all the alarms. Detectors shall receive their primary power from the building wiring and shall be provided with battery backup.

## **CARBON MONOXIDE ALARMS**

For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms, and in dwelling units within which fuel-fired appliances are installed, and in dwelling units that have attached garages.

All carbon monoxide detectors should be interconnected within each individual dwelling, such that the actuation of one alarm will activate all the alarms. Detectors shall receive their primary power from the building wiring and shall be provided with battery backup.

## NOTCHING AND BORED HOLE LIMITATIONS



## FRAMING AND FINISHING

All stud wall bottom plates in contact with the floor slab shall be chromated copper arsenate (CCA) or alkaline copper quaternary (ACQ) treated or another wood approved for ground contact. Notching and boring in studs of bearing and non-bearing walls shall not exceed the limitations noted in the diagram above. Non-bearing walls, except for the perimeter walls, shall not be constructed tight between the slab and the floor framing. An expansion joint of approximately 1 inch shall be provided to allow for possible movement of the floor slab due to expansion and contraction of the supporting soil over time. Hallways shall have a minimum clear width of 3 feet. Enclosed usable space under stairways shall be protected by ½ inch gypsum board on the enclosed side.

**Local Prescriptive Requirements Table N112.1  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>**

FENESTRATION U-FACTOR	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b,c</sup>	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE <sup>e</sup>	FLOOR R-VALUE	BASEMENT WALL R-VALUE & DEPTH	SLAB <sup>d</sup> R-VALUE & DEPTH	CRAWL SPACE <sup>e</sup> WALL R-VALUE
0.34	0.55	0.31	R-49	R-13	8/13	30	R-10/11, 3ft BELOW GRADE LINE	10,2 ft	10/13

## WALL BRACING

Walls shall be braced to resist wind and seismic forces. Bracing shall be done in accordance with **IRC Section R602.10 Wall Bracing** or **Section R602.12 Simplified Wall Bracing** or by **Section R301.1.3 Engineered Design**

Some accepted bracing methods include but are not limited to the following:

1. Let-in-bracing (LIB): nominal 1x4 bracing with an angle from the horizontal of between 45 and 60 degrees with 2-8d nails at each plate and stud (not permitted in the first story of two- or three-story structure).
2. Wood structural panel (WSB): Minimum 48 inch structural panels, 3/8 inches thick, from the sill plate to the top plate with minimum 6d weather resistant common nails at 6 inches on-center (O.C.) at edges and 12 inches on-center at interior supports (4x8 and 4x9 panels shall be applied vertically).
3. Wood structural panels with stone or masonry veneer (BV-WSP): Minimum 48-inch hardboard panels, 7/16 inches thick, installed vertically with edges blocked. Minimum 6d weather resistant common nails at 4 inches on-center (O.C.) at edges and 12 inches on-center at interior supports.

Where the braced wall length at corners is less than 48 inches in width (such as at next to windows or garage doors) an alternate braced wall panel design or portal frame design can be used as is described in IRC Section R602.10.6.

## **EMERGENCY ESCAPE AND RESCUE OPENING**

Basements, habitable attics, and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, and directed to a public way.

In new single-family dwellings and basement finishes in existing single-family dwellings, a secondary means of egress from the basement will be required. The secondary egress may be a door or a window meeting the minimum requirements for a bedroom egress window:

*Note: On existing homes built prior to January 1, 2001, Overland Park does not require the emergency escape/egress opening unless a bedroom is currently in place or being constructed in the basement. The basement bedroom would be required to have the emergency egress opening. See OPMC 16.110.R310.1.*

1. A minimum 5.7 square feet of openable area with a minimum width of 20 inches and a minimum height of 24 inches. Where a window well is provided it shall comply with the requirements noted below.
2. Basement finishes adjacent to engineered swales or the FEMA floodplain may require a water-resistant window well. Refer to the Guideline for Window Wells handout.

Contact the Engineer of the Day at (913) 895-6223 to determine if your lot must comply with these criteria

***The City of Overland Park does not warrant the accuracy, completeness, or timeliness of the information contained in this handout. To verify the city requirements please refer to the official version of the Municipal Code.***