



## Parkville Residential Construction Guidelines

The following guidelines are provided to assist property owners, contractors and design professionals with the orderly construction of residential projects within the provisions of the adopted Parkville Building Codes, Zoning Ordinances and other City Ordinances. Please read them carefully and understand that they do not include all the code requirements but are summarized for this guideline.

### Current Adopted Codes

The Codes currently adopted by the City of Parkville are as follows:

- 2024 International Residential Code (IRC) with all Appendixes listed
- 2024 International Building Code (IBC) with all Appendixes listed
- 2024 International Plumbing Code (IPC)
- 2024 International Mechanical Code (IMC)
- 2024 International Fuel Gas Code (IFGC)
- 2024 International Fire Code (IFC)
- 2024 International Existing Building Code (IEBC)
- 2023 National Electrical Code (NEC)
- 2017 ANSI 117 of the Americans with Disability Act
- National Pollutants Discharge Elimination System (NPDESII)



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## Section One

# How to Apply Online

1. Visit the City of Parkville's website at [Parkvillemo.gov](http://Parkvillemo.gov)
2. Click 'Licenses and Permits'
3. Click 'Development Permits'
4. Scroll down and click on the appropriate permit application. This will take you to the online portal.
5. Create an account or login if you have an existing account
6. On the left-hand side of the screen, you can apply for a permit
7. Fill out the applicable form and information, and Parkville staff will review the application.



## Section Two

# Building Permits and Plan Review

## Building Permits

The following information is required to obtain a Building Permit:

- A completed Building Permit application.
- One pre-construction staked plot plans, sealed by a Missouri registered land surveyor. Please refer to the plot plan checklist in this section for all other requirements.
- A septic tank permit is required, from the Platte County Health Department. 816-858-2412.
- A sewer permits from Platte County Regional Sewer District. 816-858-2052.
- A full set of building plans sealed by a Missouri registered Architect or Engineer. Plans must show details as described in the attached minimum plan information for one- and two-family dwellings.
- The builder and subcontractors must have a current City of Parkville occupational license. Electrical and plumbing contractors must show proof of a master's license, proof of a passing score on an Experior test or furnish a copy of a license from a municipality in the metro area.
- If the structure is to be built in a neighborhood that is regulated by an architectural review board, that board prior to submittal to the City shall approve the plans.

The review of residential plans will take three (3) to five (5) working days.

Permit fees are based upon the valuation of work, labor and material. See Section 18 for permit fee schedule.

Addresses will be given out at permit issuance.

Duration of permit: Every permit issued shall expire one year from date of issuance. One six-month extension may be granted by the building official if the project is not in violation of any other city codes or ordinances.



## Minimum Building Plan Information for One- and Two-Family Dwellings

The following information is required to be shown on plans submitted for permit.

### General

- All floor plans shall be a minimum of ¼” scale and elevations a minimum of 1/8” scale.
- A minimum of one full set of plans will be required in a digital format. It will be the builder’s responsibility to have the approved copy on the site for utilization during the inspection.
- A registered design professional licensed in the state of Missouri shall seal the proposed plans. In lieu of sealed plans, the plans can be accompanied by a sealed affidavit from a registered design professional licensed in the state of Missouri indicating his/her review and compliance.
- If any changes or deviations from the plans are made during construction, the contractor shall notify the City of Parkville, Community Development Department. Changes may require revised drawings or calculations.
- The builder and subcontractors must have a current City of Parkville business license. Electrical, Plumbing and Mechanical contractors must have a contractor’s license with the city.

### Foundation Plan

This is a scale drawing of proposed building’s foundation including the following information:

- A plan view of the building foundation system.
- Required anchor bolts and any special hold-down anchor locations and types.
- Show or indicate by note that all footings meet, or exceed, a minimum frost depth of 36”.
- Unless indicated on plans, assumed allowable soil-bearing values will be 2000 psf.
- The footing dimensions and footing reinforcement details.
- Indicate foundation wall height, thickness and required reinforcement.
- Show or indicate by note, basement slab thickness and reinforcement.



### Floor Plan

These are scale drawings of the proposed building's floors including the following features/information:

- A plan view of each floor of the building, including the basement.
- Provide dimensions for each room and architectural features (hallways, stairs, etc.).
- Total square footage of each floor level and basement area.
- Note on plans; the use of each room (including basement).
- Show size and spacing of proposed floor and ceiling framing members, provide grade and species of lumber, or indicate minimum allowable extreme fiber stress (Fb.) and modulus of elasticity (E) to be used for framing members. Provide dimensions and/or specifications for other types of structural elements used (steel framing, LVL's, gluelams, etc.). Framing information may be shown on floor plans or on separate framing plans.
- Show types of fasteners, such as bolts, for fletched beams or beams using multiple 2x lumber.
- If pre-engineered wood trusses are used in floor framing, provide truss drawings, which identify member sizes to be used. Wood trusses shall be designed in accordance with approved engineering practice.
- For a structural reinforced concrete slab over a usable area, such as a garage floor located over storage area or basement floors on more than 24" of gravel back-fill, submit sealed engineered details and calculations.

### Roof Plan

This is a scale drawing of the proposed building's roof including the following information:

- A note that the roof is designed for 20-psf-roof snow load as a minimum.
- Show purlins, hips and valley bracing; bearing walls and point loads.
- Type of roof covering used.
- Show size and spacing of proposed roof framing members, provide grade and species of lumber or indicate minimum FB and E to be used for framing members. Provide dimensions and/or specifications for other types of structural elements used (steel framing, LVL's, gluelams, etc.).



### Details and Notes

These are drawings of portions of the building showing greater detail for specific areas. Notes are added to drawings and details clarifying how building code requirements are met in certain instances.

Details and notes are to address the following information:

- Windows: note where safety glazing is to be installed: size, location, and type of windows used to satisfy bedroom egress requirements.
- Smoke detectors and locations.
- Stairs: note rise, run, head clearance and width; provide details for special stairs e.g., spiral and winders.
- Garage separations: provide details or notes of proposed construction between attached garage and living space in the dwelling. No openings are allowed between bedrooms and garage.

### Structural Details

- Provide sufficient details and/or sections to show the transfer of roof, ceiling, and floor loads through the various structural elements in the building. Identify all load-bearing walls.
- Provide sufficient details to clearly demonstrate structural adequacy in such situations as offset bearing walls, cantilevered beams, vaulted ceilings, stairways and fireplace bays.
- Note on plans the size of all beams, headers and columns used.
- Required wall bracing construction details and locations.

### Energy Conservation

Note type and thickness of wall, crawl spaces and attic insulation to be used; include R-values for each.



## **Plot Plan Checklist**

### **Required information for plot plan approval for new construction**

- North Arrow and Scale
- Legend
- Plot plan is drawn, signed and sealed by a licensed surveyor, submitted on 12x18, 11x17, or 8.5x14 inch paper
- Legal description which includes plat or phase number, lot number and the street address
- Property boundary distances and bearings (as shown on the recorded plat)
- Erosion Control Measures (Silt Fence, Gutter Buddies, Ditch Checks)
- Front building line and dimensions to the front, side and rear of the building
- Deck location, with dimensions to the property lines
- Driveway width at property line
- Type of foundation
- Right-of-way with dimension
- Check adjacent plot plans/plats for continued features (sidewalks & drainage)
- Location and dimensions of easements
- Sidewalks with dimensions which include ADA ramps, check plat and engineering plans
- Existing and finished elevations at building footprint corners
- Existing and finished elevations at all property corners
- Top of curb elevations at the end of the driveway and at lot corners adjacent to the street
- Top of foundation elevation
- Garage floor elevation
- Basement floor elevation
- Drainage swales/berms (if applicable)
- 1' contours, spot elevations, and drainage flow arrows shall be provided on the lot OR 2' contours with drainage swale center line shown
- 100-year floodplain (where applicable)
- Show all manholes, water valve boxes, fire hydrants, sanitary sewer and stormwater structures
- A. Minimum Building Opening Elevation (MBOE) and location on the structure
- B. Basement egress location(s) and elevation of the lowest adjacent grade



## Section Three

# Storm water and Sediment Erosion Control

### Controlling Building Site Erosion and Sedimentation

The City of Parkville requires effective erosion control measures to be in place prior to footing inspection. The Department of Community Development will not pass any footing where erosion control measures are not in place.

All soil and stormwater runoff facilities and measures shall be maintained in accordance with Parkville codes and ordinances. No inspections will be performed unless effective erosion controls are in place. Please read the following and see attached sample details of effective erosion control measures.

#### Evaluate the site

- The best time to provide for adequate lot drainage is before construction begins; with proper planning, most drainage problems can be avoided.

#### Identify problem areas

- Identify the areas where sediment-laden runoff could leave the construction site.

#### Select perimeter controls

- Select perimeter controls to minimize the potential for off-site sedimentation, it is important that those perimeter controls are in place before construction begins. Acceptable practices are vegetation, silt fencing, gravel drives, and run off protection.

#### Install perimeter erosion and sediment controls

- Use silt fence along perimeter of the lots down-slope side(s) to trap sediment.
- Install gravel drives and restrict all lot access to this drive to prevent vehicles from tracking mud onto roadways.
- Protect storm sewer inlets by using stone filled geotextile bags.

#### Maintenance

- All soil and run-off control facilities and measures shall be maintained for the duration of the project.

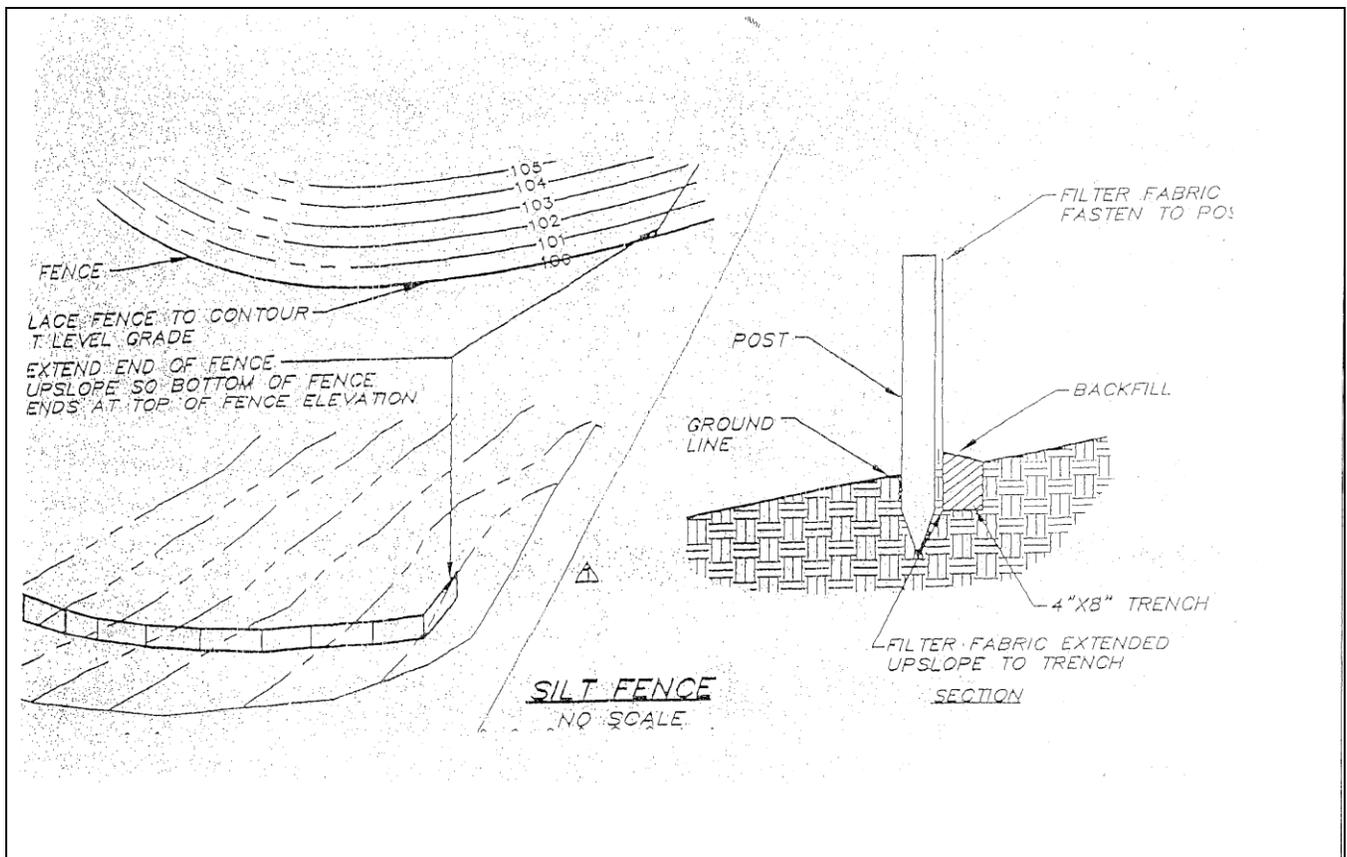
- All building sites should be inspected by builders or developers once a week and after each rainfall. When a problem is identified, repair or replace the facility immediately.
- Any sediment that is tracked onto public streets shall be scraped and deposited in a stable area. Do not flush sediment from streets with water.
- Avoid filling in existing drainage channels and roadside ditches that could result in water retention and other problems on adjacent property and/or damage to adjacent roadways.

Excavation of site

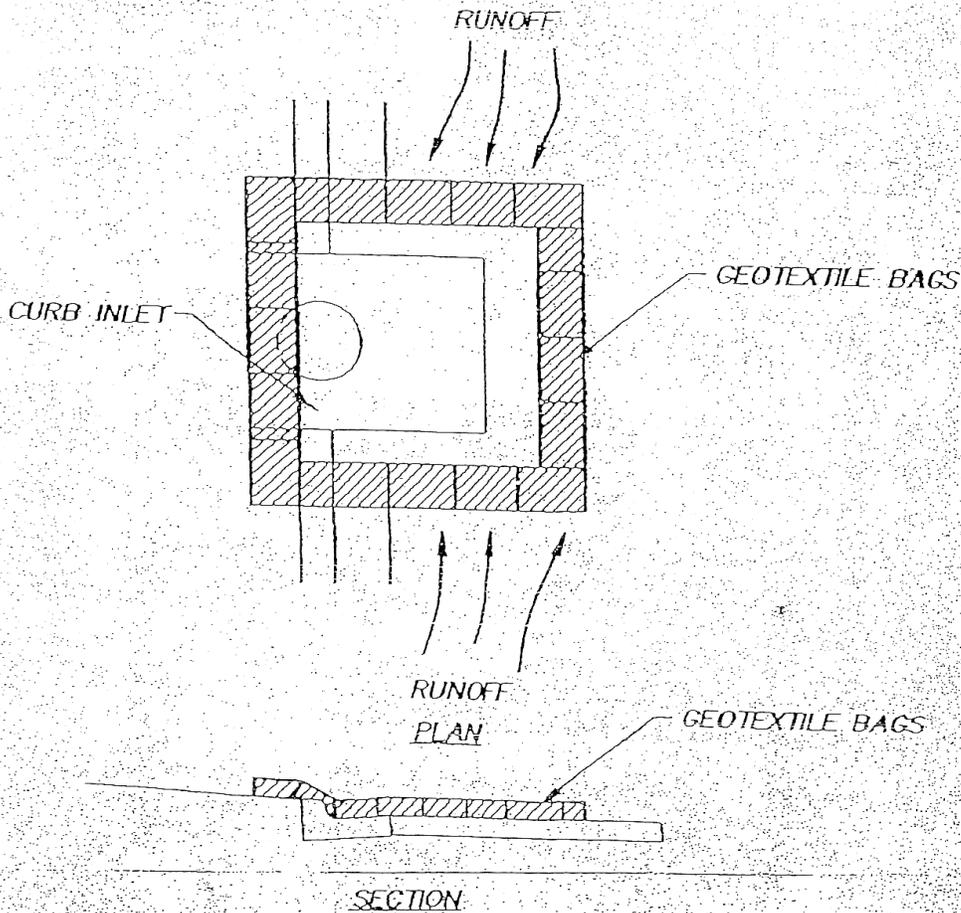
- Locate the excavation stockpiles away from any down-slope street, lake wetland, ditch, or drainage-way.
- Immediately after stockpiling, place sediment barriers around the perimeter of the piles.

Revegetating the building site

- The lot must be revegetated immediately after all outside construction activities are completed; stabilize the lot with sod, seed and/or mulch.
- Once the sod and/or vegetation are established, remove any remaining temporary erosion and sediment control practices unless ordered to leave such in place.



1. FILL GEOTEXTILE BAGS APPROXIMATELY HALF FULL WITH 2 TO 3 INCH STONE OR GRAVEL.
2. LAY TIGHTLY IN A ROW CURVING UPSLOPE FROM THE CURB AND AWAY FROM THE INLET.
3. OVERLAP BAGS ONTO THE CURB AND EXTEND A MINIMUM OF 3 FEET INTO THE STREET.
4. IF USING MORE THAN ONE LAYER OF BAGS, OVERLAP THE BAGS WITH ROW BENEATH, AND LEAVE A ONE BAG GAP IN THE MIDDLE ON THE TOP ROW TO SERVE AS A SPILLWAY.
5. INSTALL DOWNSLOPE OF THE LOT TO KEEP SEDIMENT FROM WASHING DOWN THE STREET.
6. PLACE BAGS IN AN ARC AROUND CURB INLETS THAT ARE IN A SUMP POSITION.
7. INSPECT AND REPAIR AS NEEDED, AND REMOVE ANY ACCUMULATED SEDIMENTS AFTER EVERY STORM.



**PROTECTING A SUMP POSITION  
CURB INLET (LOW POINT)**



## Section Four

# Inspections Required

Inspections are required to be done at certain phases of construction to check for compliance with the currently adopted codes. To arrange for an inspection, contact the Community Development Department at [inspections@parkvillemo.gov](mailto:inspections@parkvillemo.gov). Please have the **Construction Address, Permit Number and Permit Holders Name** available when you call. A minimum of twenty-four (24) hours' notice is needed to allow scheduling.

No inspections will be carried out until erosion controls are in place per Parkville Construction Guidelines.

## Inspections

### Excavation and Footing Inspection

- A footing inspection is required after all forms and reinforcement steel is in place and before concrete is placed.
- Engineer's soil test report and/or special design of footing may be required.
- Third party inspections are allowed by an approved design professional and in some cases may be required.

### Foundation Wall Inspection

- A foundation inspection is required after all forms and reinforcement steel is in place and before concrete is placed.
- Third party inspections are allowed by an approved design professional and in some cases may be required.

### Pre-backfill Inspection

- A pre-backfill inspection is required after all waterproofing is complete and drain tile is in place.
- Bracing or support requirements of *Section R404.1.7 Backfill Placement* of the 2018 IRC are met.



### Ground Rough Plumbing

- All underground or under slab plumbing must be inspected prior to covering.

### Water Inspection

- A water inspection is required after all underground piping; meter yoke, pit and lid are in place.
- Meter pit installation is required and inspected by Missouri American Water Company (816-741-2992).

### Sewer Inspection

- A sewer inspection is required when building sewer is connected to the sewer main and before backfilling.
- For inspections of sewers served by the City of Parkville call (816) 215-5690.
- For inspections of sewers served by Platte County Sewer District call (816) 858-2052.

### Structural Slab Inspection

- A structural slab inspection is required after all forms and reinforcement steel is in place and before concrete is placed.
- Third party inspections are allowed by an approved design professional and in some cases may be required.

### Framing Inspection

- Building framing must be inspected after all framing and furring is complete and before covering with insulation or drywall.

### Top Rough Plumbing

- All rough plumbing must be inspected when drain/waste/vents and water piping are roughed in and before covering with insulation or drywall.

### Electrical Rough Inspection

- The electrical wiring must be inspected after all wiring, boxes, and recessed fixtures are installed and before covering with insulation or drywall.
- Boxes should be made up, and home runs should be extended to the service location.



### Mechanical Rough Inspection

- Mechanical vents, ducts, and return air spaces require inspection and before covering with insulation or drywall.

### Gas Inspection

- All gas piping on the building side of the gas meter needs to be inspected after all piping is installed and before covering with insulation or drywall.
- Inspector shall approve a 10-psi air test, or 6-inch mercury test. A 60-psi air test is required for welded pipes.
- MGE will not install a gas meter until the inspection has passed and is cleared by the city.

### Driveway Approach Inspection

- A driveway approach inspection is required after all forms and reinforcement steel is in place and before concrete is placed.

### City Sidewalk Inspection

- A city sidewalk inspection is required after all forms and reinforcement steel is in place and before concrete is placed.

### Occupancy Inspection

- An occupancy inspection is required prior to any occupancy of a building or addition.
- Occupancy inspections should not be called for until all items on the occupancy checklist in Section 10 of these guidelines are met.



## Section Five

# Footings and Foundation

The following guidelines are provided to assist in meeting the requirements of the 2024 IRC (Chapter 4) for typical residential footing and foundations. Where guidelines are not specific, please contact the building inspector. A footing inspection is required after all steel is in place and before concrete is placed.

- The bottom of all footings must be a minimum of 36” below finished grade.
- For light frame construction, 2000psf soil bearing capacity, the minimum footing width shall be 12 inches for 1 story, 12 inches for 2 story and 17 inches for 3 story structures.
- For 4 inches brick veneer over light frame construction, 2000psf soil bearing capacity, the minimum footing width shall be 12 inches for 1 story, 16 inches for 2 story and 24 inches for 3 story structures.
- All footings must have two #4 (1/2 inch) bars continuous throughout the footing. Footings 24 inches wide require three #4 bars.
- Re-bar must be supported on risers, overlapped 18” and double-tied together.
- No less than 2,500 psi concrete may be used in footings, 5% air entrainment concrete is required if the concrete is exposed to freezing and thawing during construction.
- Pads under masonry fireplaces must be 12 inches thick.
- Foundation anchor bolts are required at six-foot spacing and within twelve inches of ends of each plate section. Anchor bolts are also required in slabs of walkout basements along the perimeter. Generally, a six-inch curb wall is needed to keep the siding 6 inches above grade.
- Where footings and foundations are stepped, the footing and foundation must be continuous (in plain view) without cantilevering of foundation walls.
- No less than 3,000 lb. air entrained concrete may be used for foundation walls.
- Perimeter drain tiles are required where floors or crawl spaces exist below finished grade. The drain tile shall drain by gravity to daylight or drain into sump hole, where a sump shall be placed to pump the water to the outside of the building.



## Section Six

### Flat Work

#### Driveways and Sidewalks

##### City Sidewalks

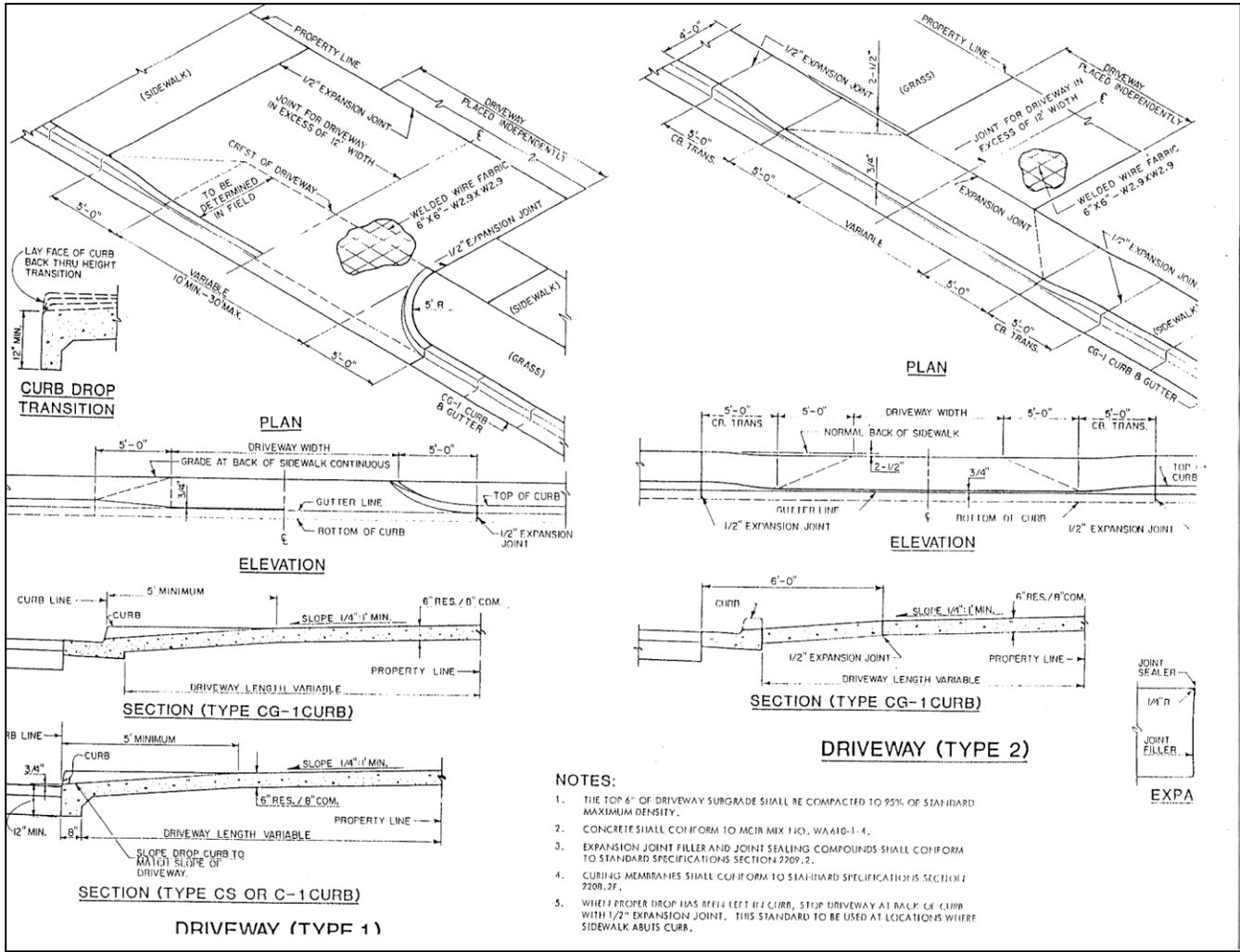
- All city sidewalks must be inspected.
- No less than 4,000 lb. air entrained concrete, or other appropriate mix, such as W-8610 may be used. 4" concrete depth minimum.
- Sidewalks will be poured on gravel base with two #4 rebar parallel throughout the length of the sidewalk, with an 18" overlap. Rebar must be chaired.
- Sidewalk slopes ¼" per foot minimum.
- Transverse contraction joints will be cut at a maximum interval of four feet.
- Expansion joints will be placed at all locations where sidewalk construction abuts existing sidewalks, structures and concrete driveways or at 50 feet, whichever is less.
- Sidewalks should be located no less that one foot (1') from the property line or the edge of the right-of-way within the right-of-way.
- All sidewalks will be installed according to the approved construction drawings for the project or plat.

##### Driveways

- All driveways on over-dig must be inspected.
- All driveways on over-dig must have a minimum of #4 bars, one foot on center each way, a minimum of ten (10) foot into over-dig, with a 50% tie. Rebar must be chaired.
- No less than 4,000 lb. air-entrained concrete or other appropriate mix may be used for concrete exposed to weather.

##### Driveway Approaches

- All driveway approaches must be inspected.
- All Type I, II, and Type III drives must conform to APWA specifications
- No less than 4,000 lb. air-entrained concrete or other appropriate mix may be used for concrete exposed to weather.
- Driveway approaches require a minimum of three-foot wings (preferred) and a maximum of 5-foot wings.



### Approach Detail

#### Stamped Concrete

- Stamped concrete is permitted on private drives, walks and patios.
- Stamped concrete on driveway approaches and city sidewalks is prohibited unless approved by the Public Works Director.

### Concrete Slabs

#### Garage Floors

- All garage floors on over-dig must be inspected
- All garage floors on fill will have a minimum of #4 rebar, 1-foot on center each way, doweled to foundation walls and tied to J bars, with 50% tie. Rebar must be chaired.



### Suspended Slabs

- All suspended slabs must be inspected.
- All suspended slabs are required to have engineered drawings submitted to the building inspection department before placement of concrete.

### Concrete Slabs

- All slabs on grade that are being poured on over-dig (fill) must be inspected.
- Slabs on over-dig must have a minimum of #4 bars, one foot on center each way, a minimum of ten (10) foot into over-dig, with a 50% tie. Rebar must be chaired.

## Concrete Placement

### Batching and Mixing

- Concrete shall be furnished by an acceptable ready mix concrete supplier and shall conform to ASTM C94.
- The consistency of concrete shall be suitable for placement conditions.
- Aggregates shall float uniformly throughout the mass, and the concrete shall flow sluggishly when vibrated or spaded.
- The slump shall be kept uniform.

### Placement

- The limits of each concrete pour shall be determined by the contractor and shall be acceptable to the engineer. All concrete within such limits shall be placed in one continuous operation.
- Before concrete is placed, forms, reinforcement, and embedment shall be rigidly secured in proper position and all dirt, mud, water and debris shall be removed from the space to be occupied by the concrete.
- Bonding surfaces shall be cleaned of all foreign material and shall be free from laitance. Concrete shall not be placed on frozen sub-grade or in excavations, which have not been dewatered.
- Placement of concrete shall conform to requirements of ACI-304.
- Concrete shall be placed within forty-five (45) minutes of mixing operations, with the exception that the engineer may extend the period to ninety (90) minutes (maximum) dependent upon weather conditions.
- Concrete shall not be placed in horizontal layers exceeding eighteen (18) inches.



- During and immediately after placement, concrete shall be thoroughly compacted and worked around all reinforcement and embedment and into the corners of the forms.
- The concrete shall be vibrated or spaded to produce a solid mass without honeycombs or surface bubbles.

### Cold Weather Concreting

- Unless authorized in writing by the engineer, mixing and concreting operations shall be discontinued when the descending air temperature in the shade and away from artificial heat reaches 40 degrees F° or when forecast to drop below 40 degrees F° within 24 hours of placement, and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35 degrees F°.
- When concrete work is authorized during cold weather, the aggregates may be heated by methods approved by the engineer prior to being placed in the mixer.
- No ingredient that is frozen or contains ice shall be placed in the mixer.
- The temperature of the concrete shall not be less than 60 degrees F° and not more than 80 degrees F° at the time of placement in the forms.
- Under no circumstances shall concrete operations continue when the air temperature is less than 20 degrees F°.
- No concrete shall be placed on frozen sub grade.
- Sudden cooling of concrete shall not be permitted.
- Concrete injured by frost action or freezing weather shall be removed and replaced at the contractor's expense.

### Hot Weather Concreting

The provisions of this section shall apply to all concrete work, which is done when the air temperature is above 80 degrees F° at the time of placement.

- The temperature of the concrete, when placed, shall not be high enough to cause excessive loss of slump, flash set or cold joints.
- In no case shall the temperature of concrete, when placed, exceed 90 degrees F°.
- Forms, reinforcing and sub grade surfaces against which the concrete is placed shall be wet immediately before placement.
- When the air temperature exceeds 90 degrees F° and as soon as practicable without causing damage to the surface, all exposed concrete shall be kept continuously moist by means of fog spray, wet burlap, cotton mats, or other means acceptable to the engineer. This cooling with water shall be in addition to the initial sealing by membrane curing compound.



## Section Seven

### Framing

The following guidelines are provided to assist in meeting the requirements of the 2024 IRC Building Code for typical residential buildings. Where the guidelines are not specific, please contact the Building Inspection Department. Framing inspections will be done along with the electrical, plumbing and mechanical inspections.

#### Floor Construction

- Six-inch separation is required between finished grade and any untreated wood, framing or siding.
- Treated wood is needed for plates, columns or posts on concrete foundations or floors, and for joists in crawl spaces with less than 18 inches of clearance to ground level.
- The maximum spans of floor joists shall comply with tables (R502.3.1(1) and R502.3.1(2))
- I-joist and Trusses shall be installed per manufactures installation instruction.
- Joists under parallel bearing partitions shall be of adequate size to support the load. (R502.4)
- The end of each joist, beam or girder shall have not less than 1.5 inches of bearing on wood or metal and not less than 3 inches on masonry or concrete except where supported by approved joist hangers.
- Notches in solid lumber joist, rafters and beams shall not exceed  $1/6^{\text{th}}$  of the depth of the member, shall not be longer than  $1/3^{\text{rd}}$  of the depth of the member and shall not be in the middle  $1/3^{\text{rd}}$  of the span. Notches at the ends of the members shall not exceed  $1/4^{\text{th}}$  the depth of the member. The tension side of members 4 inches or greater in nominal thickness shall not be notched except at the end of the member. The diameter of holes bored or cut into members shall not exceed  $1/3^{\text{rd}}$  the depth of the member. Holes shall not be closer than 2 inches to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches to the notch.
- Headers used to frame floor openings that exceed 4-foot long should be doubled.

#### Walls Construction

- Sill plate anchor bolts are required at six-foot spacing and within twelve inches of ends of each plate section. Anchor bolts are also required in slabs of walkout basements along the perimeter.
- The size, height and spacing of studs shall be in accordance with Table R602.3. (5).
- Double top plates shall overlap a minimum of 24" inches.
- Top plates cut for piping or ductwork shall be strapped with 16 gage X 1.5 inches wide metal ties with eight (8) 16d nails at each side.
- Any studs in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not



to exceed 40 percent of a single stud width. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no greater than 60 percent of the stud width, the edge of the hole is no closer than 5/8<sup>th</sup> inch to the edge of the stud and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall also be doubled with no more than two successive doubled studs bored.

- Exterior and interior walls shall be braced in accordance with 2024 IRC
- Fire blocking shall be provided to cut off all concealed draft openings.
  - a. In all concealed spaces of stud walls and partitions.
  - b. In furred spaces, vertically at ceiling and floor level and horizontally at 10-foot intervals.
  - c. At all interconnections between concealed vertical and horizontal spaces.
  - d. At all top and bottom plate penetrations.

### Roof Construction

- Access to each attic shall be provided by an opening not to be less than 22-inches by 30-inches and shall be in a hallway or other readily accessible location.
- The ridge board must be equal or greater in depth than the end cut of the rafter.
- Joist framing from opposite side of a beam shall overlap 3-inches or butt together with splice plate.
- Rafters shall be framed in accordance with Section R802.4.
- Purlins may be used to reduce the span of rafters. Purlins shall be sized no less than the rafters they support.
- Purlin struts, ridge and valley support shall only land on load bearing walls or members.
- The minimum slope of a purlin strut is 45 degrees.
- Ceiling joist and rafters' connections shall be made in accordance with Section R802.5.2

### Stairways

- The maximum riser heights shall be 7 ¾ inches and the minimum tread depth shall be 10 inches.
- Headroom in all parts of the stairway shall not be less than 6-feet 8-inches.
- Winders are permitted, provided that the width of the tread at a point not more than 12-inches from the side where the treads are narrower is not less than 10-inches and the minimum width of any tread is not less than 6-inches.
- Spiral stairways shall conform to Section R318.7.11.1



### Handrails

- Handrails are required for all stairs with four (4) or more risers.
- Handrails shall be continuous the full length of the stairs.
- Handrails shall have a minimum height of 34 inches and a maximum height of 38 inches.

### Guards

- Porches, balconies or raised floor surfaces located more than 30 inches above the floor or grade below shall have guards not less than 36 inches in height.
- Guards shall not allow the passage of a 4-inch sphere. Guards on stairways shall not allow the passage of a 4 3/8-inch sphere. Triangular openings made by steps and the bottom rail of a guard shall not allow the passage of a 6-inch sphere.

### Egress Windows

- All sleeping rooms and basements must have at least one operable door or window leading directly to the outside for emergency egress. Exception: Basements are used only to house mechanical equipment and not exceed a total floor area of 200 square feet.
- Windows must have at least 5.7 sq ft of open able space.
- The minimum net clear opening height shall be 24 inches.
- The minimum net clear opening width shall be 20 inches.
- The finished sill height shall be not more than 44 inches above the floor.

### Chimneys and Fireplaces

- Masonry chimneys and fireplaces shall be constructed, anchored, supported and reinforced as required in Chapter 10 of the 2024 IRC.
- Factory built fireplaces must be installed in strict accordance with manufactures installation instructions.

### Insulation

- Insulation shall be installed per Chapter 11 Energy Efficiency of the IRC.



## Section Eight

### Electrical

The following guidelines are provided to assist in meeting the requirements of the 2023 National Electrical Code and the 2024 IRC Chapters 34 to 42 for typical residential buildings. Where guidelines are not specific, please contact the Building Inspection Department.

#### Inspections

- A service inspection is performed with the all-trade inspections. The service panel, disconnect, service entrance conductors and grounding need to be complete. Please have the panel cover off, but nearby. The electrical service will not be released to the utility company until all rough-in inspections are complete.
- A rough-in inspection is performed with the all-trade inspections. All the wiring, boxes, and recessed fixtures need to be installed. The wiring should be made up and run to the service location.
- A final inspection is performed with the final inspection of the structure. All the electrical fixtures must be installed and complete. All cover plates must be installed. All electrical outlets, GFCI outlets and AFCI outlets will be tested.

#### Services

- 100-amp residential services shall have #4 copper or #2 aluminum service entrance conductors, with #6 copper grounding electrode conductors connected from the service neutral grounding bar to both an 8' ground rod and the water service where it enters the building.
- 200-amp residential services shall have 2/0 copper or 4/0 aluminum entrance conductors, with #4 copper grounding electrode conductors connected from the service neutral grounding bar to the water service where it enters the building and a #6 copper grounding electrode conductor from the neutral grounding bar to an 8' ground rod.
- Grounding conductors must be protected from physical damage.

#### Receptacle Outlets

- In every kitchen, family room, dining room, living room, parlor, library, den, sun room, bedroom, recreation room, guest room or other similar rooms of dwelling units, receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6' (six-foot), measured horizontally from an outlet in that space, including any wall space 2' (two-foot) or more in width. The fixed panel of a sliding door is considered as wall space.



- Wall Space - A wall space shall include the following:
  - Any space that is 2' (two-foot) or more in width, including space measured around corners and that is unbroken along floor line by doorways, fireplaces and similar openings.
  - The space is occupied by fixed panels in exterior walls, excluding sliding panels.
  - The space created by fixed room dividers such as railings and free-standing bar-type counters, shall be included in the 6' (six-foot) measurement. There should never be more than 12' (twelve feet) between each receptacle on a continuous wall space. Where floor receptacles are necessary, they shall be dust proof.

#### Kitchen Receptacle

- Receptacles installed in kitchen countertop spaces shall be supplied by not fewer than two small-appliance branch circuits.
- In kitchen and dining areas of dwelling units, a receptacle outlet shall be installed at each counter space wider than 12 inches. Counter tops separated by range tops, refrigerators or sinks shall be considered as separate counter space. Receptacles rendered inaccessible by appliances fastened in place or appliances occupying dedicated spaces shall not be considered as these required outlets.
- Countertop receptacles are required such, that no point of the countertop is more than 24" (inches) (horizontally) from a receptacle.
- Island counter spaces require one receptacle for each countertop 12 inches x 24 inches or greater.

#### Appliance Receptacle

- Appliance outlets installed for specific appliances, such as laundry equipment, shall be installed within 6' (six feet) of the intended location of the appliance.

#### Bathroom Receptacle

- At least one wall receptacle outlet shall be installed in bathrooms, and such outlet shall be located within 36" inches of the outside edge of each lavatory basin.
- The receptacle outlet shall be located on a wall that is adjacent to the lavatory basin location.
- Receptacle outlets shall not be installed in a face up position on the work surfaces or countertops in a bathroom basin location.

#### Outdoor Receptacle

- At least one receptacle outlet accessible at grade level and not more than 6' (six feet) 6" (six inches) above grade, shall be installed outdoors at the front and back of each dwelling unit having direct access to grade.



### Basement and Garage Receptacle

- At least one receptacle outlet, in addition to any provided for laundry equipment, shall be installed in each basement and garage that is provided with electrical power.
- Receptacles placed in garage shall be kept at least 18” above the floor surface.

### Laundry areas

- At least one receptacle outlet shall be installed to serve laundry appliances.
- The laundry area shall have a 20-amp circuit. This circuit shall be exclusively for the laundry receptacles and shall not be used for any lighting in this area.

### Hallways

- Hallways of 10’ (feet) or more in length shall have at least one receptacle outlet.

### Ground-Fault Protection

- Bathroom receptacles, all 125-volt, single phases, 15-amp or 20-amp receptacles installed in bathrooms shall have ground-fault circuit interrupter (GFCI) protection.
- Garage receptacles, all 125-volt, single phases, 15-amp or 20-amp receptacles installed in garage and grade level portions of unfinished accessory buildings used for storage or work shall have GFCI protection.
- Outdoor receptacles, all 125-volt, single phases, 15-amp or 20-amp receptacles installed outdoors shall have GFCI protection.
- Crawl space receptacles, where a crawl space is at or below grade level, all 125-volt, single phase, 15-amp or 20-amp receptacles installed in such spaces shall have GFCI protection.
- Unfinished Basement receptacles, all 125-volt, single phase, 15-amp or 20-amp receptacles installed in unfinished basements shall have ground-fault circuit interrupter (GFCI) protection.
- Kitchen receptacles, all 125-volt, single phases, 15-amp or 20-amp receptacles that serve countertop surfaces shall have GFCI protection.
- Bar sink receptacles, all 125-volt, single phases, 15-amp or 20-amp receptacles that serve countertop surfaces and are located within 6’ (six feet) of the outside edge of a wet bar sink shall have GFCI protection. Receptacle outlets shall not be installed in a face up position in the work surfaces or countertops.

### Arc-Fault Protection AFCI

- Bedroom outlets, all branch circuits that supply 125-volt, single phases, 15-amp or 20-amp outlets installed in dwelling unit bedrooms shall be protected by an arc-fault circuit interrupter listed, to provide protection of the entire branch circuit.



### Clothes Closets

- Surface-mounted incandescent luminaries in closets shall be installed with a minimum of 12” (twelve inches) clearance (measured horizontally) from the front of the shelf.
- Recessed fixtures with solid lenses, or florescent fixtures may be installed with a minimum clearance (measured horizontally) of 6” (six inches) from the front of the shelf.

### Smoke Detectors Location

- Smoke detectors should be installed in each sleeping room, outside of each sleeping room and at least one on every floor.
- Smoke detectors shall be hard wired and interconnected with battery backup.

### Carbon Monoxide Alarms

- Carbon Monoxide Alarms shall be installed Per Section R311



### General Installation Requirements

- At least one switch-controlled lighting outlet shall be installed in every habitable room, guest room, bathroom, stairways, hallways, garages and outdoor entrance.
- Switches are required at each floor level to control the lighting of stairways with six (6) or more risers.
- At least one (1) wall switch controlled lighting outlet shall be installed at the point of entrance to an attic, under floor space, utility room and basement where these spaces are used for storage or containing equipment that might require service. The light shall be located near the equipment requiring service.
- Conductors of different systems should not be run together in the same raceway unless all conductors are insulated with the maximum voltage of any conductor within the enclosure. Conductors of high voltage and low voltage systems shall not occupy same wiring enclosure.
- Communication circuits should be kept separate from other electrical circuits by 2" (two inches).
- All cables shall be protected from physical damage, where necessary, by conduit, pipe, guard strips or other means.
- Where wire is installed in bored holes, they should be placed at the approximate center of the stud so that the edge of the hole is not closer than 1¼ inches from the edge. If the wire is closer than 1¼ inches, the cable must be protected by a steel plate or bushing at least 1/16 inches thick.
- Staples, straps or similar fittings so designed and installed as not to damage the cable, shall secure non-metallic sheathed cable. Cables shall be secured in place at intervals not exceeding 4½ feet and within 12 inches of every cabinet, box or fitting.
- Cables in environmental air have a non-metallic covering passing through stud cavities and joist spaces used for air handling, such wiring shall pass through such spaces perpendicular to the long dimension of the space.
- All splices and connections are required to be made in junction boxes, or switch boxes. All wire in junction boxes (including grounding conductors) must be properly spliced with twist locks or other approved devices.
- At least 6 inches of conductor shall be left at each outlet and switch point for connection of fixtures and devices.
- All boxes should be adequate in size to allow the proper cubic inch area for the number or wires installed therein.
- Metallic boxes are required to be connected to the grounding system by connectors or clamps, and busing or clamp shall be used for the wire where it passes through the box.
- Outlet boxes used to support ceiling fans shall be listed for that purpose.
- Each circuit breaker shall be labeled to identify its purpose.



## Section Nine

### Plumbing

The following guidelines are provided to assist in meeting the requirements of 2024 IRC. Where the guidelines are not specific, please contact the Building Inspector.

#### Sewer Inspection

- A sewer inspection is required when building sewer is connected to the sewer main and before backfilling.
- Sewers served by the City of Parkville must conform to and be installed by APWA Standards
- For inspections of sewers owned by Platte County Sewer District call (816) 858-2052.

#### Water Inspection

- Underground exterior water piping must be 42" inches below grade.
- Backfills shall be free of rocks, construction materials and other debris.
- A water inspection is required after all underground piping, meter yoke, pit and lid are in place.
- Meter pit installation is required and inspected by Missouri American Water (816-741-2992).

#### Ground Rough Inspection

- Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before any backfill is put in place.

#### Top Rough Inspection

- Rough-in inspection shall be made after the rough-in, framing, fire blocks, fire stops, draft stops and bracing are in place and all sanitary, storm and water distribution piping are roughed in, and prior to the installation of wall or ceiling membranes.

#### General Information

- Water pressure regulators are required where the water pressure exceeds 80 psi.
- All plumbing piping shall be supported in accordance with 2024 IRC.
- An accessible shut-off valve is required where the water service enters a single-family dwelling, duplex unit, or apartment.
- Water piping shall be sized according to 2024 IRC.
- Air admittance valves must comply with 2024 IRC. The Building Official must approve air admittance valves before installation.
- Solder and fluxes with a lead content exceeding 0.2 % are prohibited.



## Gas Service

Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with Chapter 24 of the 2024 IRC.

## Gas Piping

- Corrugated stainless steel tubing (CSST) shall comply with 2024 IRC.
- Corrugated stainless steel tubing (CSST) shall be installed according to the manufacturer's installation instructions.
- Corrugated stainless steel tubing (CSST) shall be bonded by manufacturer's installation instructions.
- All appliances shall be listed and labeled.
- Interior gas piping must withstand a 15-minute mercury gauge pressure test with a 6" (six inch) column of mercury or a 15-minute air pressure test with no less than 10 PSI. Welded piping shall be 60 PSI for 30 minutes using air pressure only.
- Exterior buried gas piping shall be coated pipe, wrapped pipe, or approved PVC or PE pipe.
- Underground piping shall be installed 12" (twelve inches) below grade. Plastic piping requires a #18 copper trace wire attached to the piping and extended to grade.
- Gas piping shall not be installed in or through circulating air ducts, clothes chute, chimney or gas vent, ventilating duct, and dumbwaiter or elevator shafts.
- Drip legs are required for the collection of condensation ahead of all appliance connections where necessary.
- Accessible shut-off valves are required on the gas supply lines outside of each appliance, ahead of the union connection, and within 6' (six feet) of the appliance.



## Section Ten

### Final Inspection and Certificate of Occupancy

**NOTE:** Occupancy inspections should not be scheduled until all items on the occupancy checklist are complete.

**OCCUPANCY INSPECTION:** An occupancy inspection is required before permitting any occupancy of any building or addition.

**ISSUANCE OF CERTIFICATE:** After the building official inspects the building or structure and finds no violations of the adopted code or other laws that are enforced by the code enforcement agency, the building official shall issue a certificate of occupancy.

**TEMPORARY CERTIFICATE OF OCCUPANCY:** If the building official finds that no substantial hazard will result from occupancy of building or portion of the same building that has not yet been completed, a temporary certificate may be issued for the use of a portion or portions of a building or structure prior to the completion of the entire building or structure.

**POSTING:** The temporary certificate of occupancy shall be posted in a conspicuous place on the premises and shall not be removed except by the building official.

Prior to issuance of a TCO, a nonrefundable fee of \$50.00 must be paid along with any other applicable fees associated with determining building compliance for temporary occupancy.

A TCO is valid for 30 days, unless approved for a 30-day extension. Except for seasonal work, no TCO shall be extended for more than a total of 90 days. For seasonal work a TCO may be allowed for 180 days. Prior to issuance of any extension of said TCO, a nonrefundable \$25.00 issuance fee must be paid for each extension.



## OCCUPANCY CHECKLIST

- Does the final grade slope away from house 6 inches in 10 feet. (401.3) (Check if side yard swale is required.)
- Is all untreated exterior wood at least 6" (six inches) above final grade? (R317.1)
- Are all gutters, downspouts and splash-blocks in place?
- Are driveways, sidewalks and steps complete?
- Are all public streets, sanitary and storm sewers completed and in acceptable condition?
- Is the required separation between garage and dwelling intact and all holes filled? (R302.5.1)
- Is entrance door in garage 1 3/8" solid core? (R302.5.1)
- Are all stairs with 4 or more risers equipped with handrails? (311.7.8)
- Do all open stairwells have guardrails on two sides?
- Are address numbers posted and visible from the street, and a minimum 4" tall?
- Is electrical service complete, panel cover on, and all circuits identified?
- Are all covers and faceplates for electrical fixtures installed?
- Are all light fixtures complete and in working order?
- Are all receptacles, smoke detectors, arc fault and ground fault circuits working?
- Is air conditioner provided with fuse or breaker as required by nameplate?
- Are all plumbing fixtures properly connected, and in working order?
- Are all stubbed in plumbing fixtures capped off?
- Is the building sewer clean out accessible?
- Is the water service shut-off valve accessible?
- Do all fireplace chimneys (masonry or metal) extend two feet above any roof within ten feet?



\_\_\_ Are all chimney spark arrestors installed?

\_\_\_ Is all the paint and trim finished?

\_\_\_ Is grinder pump in working order and emergency switch in place with emergency number posted?

\_\_\_ Are all guardrails and handrails installed?

\_\_\_ Are all intermediate guardrails set so a 4" sphere cannot pass through?

\_\_\_ Are all deck joist hangers in place?



## Section Eleven

### Basement Finish

The following information is required to obtain a Building Permit for residential basement finishes.

#### Permit Information

- A completed Building Permit application.
- One set of construction plans or shop drawings.
- The builder and subcontractors must have a current City of Parkville business license. Electrical, Plumbing and Mechanical contractors must have a contractor's license with the city.

#### Minimum Plan Information

- Plans shall be drawn up so that the entire scope of work is shown.
- The use of all rooms is clearly labeled, such as storeroom, bedroom, bathroom, office, etc.
- Show ceiling heights.
- Show location of electrical panel.
- Show location of all smoke detectors.
- Show location of all lighting, ceiling fans, closets, wet bars, home theaters, etc.
- Show all exits.
- All existing constructions should be labeled existing.

#### General Requirements

- All plumbing clean-outs must be accessible.
- All gas valves must be accessible.
- All electrical junction boxes must be accessible.
- Smoke detectors should be installed in each sleeping room, outside of each sleeping room and at least one on every floor.
- Smoke detectors in existing buildings shall be installed as in new construction
- Smoke detectors will be hard-wired and interconnected with battery backup.
- All construction shall comply with the 2024 IRC and 2023 NEC.



## Section Twelve

# Swimming Pools and Hot Tubs

The following information is required to obtain a Building Permit for residential swimming pools and hot tubs. A Building Permit is required to install all swimming pools and hot tubs, which are twenty-four (24) inches or more in depth.

### Permit Information

- A completed Building Permit application.
- A minimum of one full set of plans will be required in a digital format, sealed by a Missouri registered land surveyor. The plot plan must meet the minimum requirements as previously outlined on page 8.
- A minimum of one full set of plans will be required in a digital format
- If the structure is to be built in a neighborhood that is regulated by an architectural review board that board prior to submittal to the City shall approve the plans.
- The builder and subcontractors must have a current City of Parkville business license. Electrical, Plumbing and Mechanical contractors must have a contractor's license with the city.

### Minimum Plan Information

- Show type and location of barriers enclosing the pool or hot tub
- Provide manufacturer's specifications, drawings and installation instructions.
- Indicate provisions for filling and draining the pool.

### General Requirements

- Pools and hot tubs shall be in rear yard and must maintain a minimum of 10' (ten feet) from property lines in R1, R2 and R3 Zoning.
- Pools and hot tubs shall be in rear yard and must maintain a minimum of 5' (five feet) from property lines in R4 Zoning.
- Only U.L. listed approved materials will be approved for use.
- A barrier as required by the 2018 IRC Appendix G must enclose pools and hot tubs.
- Barrier must be installed before the pool is filled.
- An electrical bonding inspection and final inspection are required on all pools.
- At least one electrical 120 volt, GFCI protected outlet must be provided between 10' (ten feet) and 20' (twenty feet) from the pool or hot tub.



## Section Thirteen

### Retaining Walls and Fences

#### Retaining Walls

- All walls retaining over 4' (four feet) of unbalanced fill require a building permit.
- All walls retaining over 4' (four feet) of unbalanced fill require engineering.
- Any wall constructed within 2' (two feet) of property line requires Board of Aldermen approval.
- Wood retaining walls shall use preservative treated wood.

#### Fences

- All fences over 6' (six feet) in height require a permit.
- Wood fences shall have the finished side facing out.
- Fences shall only be constructed within the property lines.
- All fences on the premises shall be structurally sound and constructed of metal, wood, masonry or other inert material.
- Fences shall be maintained so that they do not constitute a blighting influence, nor an element leading to the progressive deterioration and downgrading of neighborhood property values.

#### Swimming Pool Barriers

- All barriers for pools, spas, and hot tubs must be following the 2024 IRC Chapter 42.

#### Neighborhood Covenants

- If your property is regulated by neighborhood covenants, please contact the homeowner's association to see if they have any additional requirements or restrictions.



## Section Fourteen

### Decks

The following information is required to obtain a building permit to construct a deck. Permits are required for decks over 30” above grade.

#### Permit Information

- A completed Building Permit application.
- A minimum of one full set of plans will be required in a digital format, sealed by a Missouri registered land surveyor. The plot plan must meet the minimum requirements as previously outlined on page 8.
- A minimum of one full set of plans will be required in a digital format. Plans must show details outlined below.
- If the structure is to be built in a neighborhood that is regulated by an architectural review board that board prior to submittal to the City shall approve the plans.
- The builder and subcontractors must have a current City of Parkville business license. Electrical, Plumbing and Mechanical contractors must have a contractor’s license with the city.

#### Minimum Plan Information

- Pier locations, depth and size.
- Size and material of post, beams and joists.
- Size, height and spacing of guardrails and spindles.

#### General Requirements

- Deck cannot encroach within the required setbacks for the zoning district.
- Deck piers must extend 36” below grade and bear on undisturbed soil.
- Guards must be not less than 36” above the deck.
- Guards are required on all open sides of stairs and shall not be less than 34” above the nosing of treads.
- A graspable handrail shall be provided on all stairways of four (4) or more risers.



## Section Fifteen

# Accessory Structures

The following information is required to obtain a permit for an accessory building or structure. All accessory structures over 120 square feet need a permit.

### Permit Information

- A completed Building Permit application.
- A minimum of one full set of plans will be required in a digital format, sealed by a Missouri registered land surveyor. The plot plan must meet the minimum requirements as previously outlined on page 8.
- A minimum of one full set of plans will be required in a digital format. Plans must show details as described in the attached minimum plan information for one- and two-family dwellings.
- If the structure is to be built in a neighborhood that is regulated by an architectural review board, that board prior to submittal to the City shall approve the plans.
- The builder and subcontractors must have a current City of Parkville business license. Electrical, Plumbing and Mechanical contractors must have a contractor's license with the city.

### General Requirements

- Accessory buildings which are not a part of the main building although connected by an open breezeway, may be constructed in a rear yard, provided such accessory building does not occupy more than thirty percent (30%) of the area of the required rear yard and provided it is not located closer than 5' (five feet) to the rear lot line nor closer than 3' (three feet) to a side lot line.
  - No accessory building shall project beyond a required yard line along any street.



Section Sixteen

Building Permit Fees

Total Valuation	Fee
\$1 to \$500	\$24
\$ 501 to \$2,000	\$24 for the first \$500; plus \$3 for each additional \$100 or fraction thereof, to and including \$2,000
\$2,001 to \$40,000	\$69 for the first \$2,000; plus \$11 for each additional \$1,000 or fraction thereof, to and including \$40,000
\$40,001 to \$100,000	\$487 for the first \$40,000; plus \$9 for each additional \$1,000.00 or fraction thereof, to and including \$100,000
\$100,001 to \$500,000	\$1,027 for the first \$100,000; plus \$7 for each additional \$1,000 or fraction thereof, to and including \$500,000
\$500,001 to \$1,000,000	\$3,827 for the first \$500,000; plus \$5 for each additional \$1,000.00, or fraction thereof, to and including \$1,000,000
\$1,000,001 to \$5,000,000	\$6327 for the first \$1,000,000; plus \$3 for each additional \$1,000 or fraction thereof, to and including \$5,000,000
\$5,000,000 and over	\$18,327 for the first \$5,000,000; plus \$1 for each additional \$1,000 or fraction thereof

For any other permit fees please reference the [Schedule of Fees](#)



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CITY OF PARKVILLE • 8880 Clark Avenue • Parkville, MO 64152 • (816) 741-7676 • FAX (816) 741-0013

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## Section Seventeen

# Building Code Amendments 2024 IRC

You can find any 2024 Building Code Amendments [here](#).