

**CITY OF BELGRADE BUILDING DEPARTMENT
BUILDING PERMIT GUIDELINES**

**ONE AND TWO FAMILY DWELLINGS
TOWNHOUSES
PRIVATE GARAGES**

The purpose of these guidelines is to assist the public in completing the building permit process for the City of Belgrade. The following are items the Building Department looks for on a building permit plan submittal. Every project is unique; some of the items listed below may not apply to your project, and in some cases, additional information will be required by the Building Department.

APPLICABLE CODES

One and two family dwellings and townhouses are required to be built in accordance with the 2003 International Residential Code (IRC). The IRC and other applicable codes and standards are available through the International Code Council website (www.iccsafe.org) or by calling the ICC at 1-800-786-4452.

City plumbing permits are required. The City utilizes the State form for all plumbing permits. All plumbing work must be in conformance with the 2003 Uniform Plumbing Code and State law. Plumbing work must be done by a licensed plumber, except when doing plumbing work on your own residence.

The Electrical and Mechanical Codes are enforced within the City by State of Montana Building Codes Bureau inspectors.

For more information about all building related codes adopted and enforced in Montana, and to obtain information about electrical and mechanical permits, contact the State of Montana Building Codes Bureau at 406-841-2040 or log onto the Building Codes Bureau website at (http://www.state.mt.us/dli/bsd/bc/bc_programs.htm).

BUILDING PERMIT APPLICATION AND PLAN SUBMITTAL

A completed City building permit application form (available at City Hall) must accompany your building plans. Contact the Building Department if you would like a building permit form mailed to you or you can print a copy of the form off the City's website (<http://www.ci.belgrade.mt.us>).

1. One complete set of plans for most residential buildings is required. Additional copies of all or part of the plans may be required on a case-by-case basis.

LAND USE-FULL DIMENSIONAL PLOT PLAN (site plan)

Before you decide to build a particular structure in Belgrade, you must insure that the use of the proposed structure is in compliance with the City of Belgrade Zoning Ordinance. Copies of the zoning ordinance are available at City Hall for \$15.00. The zoning ordinance can also be read or printed from the City's website: (http://www.ci.belgrade.mt.us/zoning_ord_2003.htm).

Most building permit applications must include a plot plan or site plan, containing (but not limited to) the following information:

1. Specify lot and building dimensions.
2. Show location of building on lot and distance between all buildings on the lot. Calculate the percentage of the lot occupied by buildings (area of all buildings on the lot divided by the total lot area) Maximum lot coverage by buildings in R-1 and R-2 zoning districts=25%; R-2M=30%; R-2D, R-3, and R-4 districts=40%.
3. Show required minimum yard setbacks: Residential: Front=25ft; Sides=8ft; Rear=20ft, or 10ft for accessory structure; residential corner lot side yard=12.5 ft. B-2 Highway Business District lot setbacks: Front=25ft; sides=8ft; rear=10ft; corner lot side yard=25ft (for setbacks in other zoning districts, consult the zoning ordinance or contact the Planner/Building Inspector).
4. Show required paved off-street parking. For most residential uses require 2 spaces per dwelling unit with one required space per dwelling unit allowed in the driveway. No required parking spaces are permitted in the side yard setback area.
5. Consideration must be given to storm water drainage.
6. Show location of water and sewer service lines serving the building.
7. Show location of all easements (access, utility, ditch maintenance, etc) on the property.

BUILDING PLANS

In addition to a full dimensional plot plan (see above), building plan submittals should contain a floor plan; front, back, and side exterior elevations; an exterior wall section, including a cross-section of the foundation, floor/ceiling assemblies, walls, and roof framing.

1. The floor plan should show the interior and exterior walls, opening location and size, operating windows, door swings, door hardware, room or area uses, exit sign and emergency lighting locations, and handicapped toilet rooms.
2. Wall section drawings should show a cross section of the building from the bottom of the footing to the roof. Cross-section drawings should also show attachment of the building to the foundation, attachment of the roof to the walls, and any other attachments that may be used in the building. Construction materials, including size and spacing used, should be shown on the cross-section drawing.

3. Elevation drawings show the height of the building and all exterior details such as overhangs. The elevation drawings for symmetrical buildings may be two simple views (front and side). However, more complicated structures may require all four views.
4. Plans must be drawn straight line and to scale and be submitted on substantial paper. Also, please indicate “north” on all drawings submitted for a plan review. Plans submitted for a building permit must contain sufficient detail as to allow construction of the structure using only the submitted documents and be sufficient to determine compliance with the building code. The following details may be required depending on the type of project:
 - stairs
 - handrails and guardrails
 - door and window schedules
 - door hardware details
 - electrical and plumbing layout
 - location of water and sewer service lines
 - appliances including water heater, HVAC
 - roof drains and gutters
 - smoke alarms/fire alarm system
 - exit signs and emergency lighting
 - fire suppression system plans (sprinkler systems)
 - draft stop details
 - insulation (show R values for walls, roof, and floor and crawl space insulation)
 - roof truss engineering/snow load and wind load information
 - any additional information as required by the City

PLAN REVIEW ITEMS:

The following are some of the more common plan review items that the building department will require to be addressed on a set of plans for single-family, duplex units, and townhouses. Code references are from the International Residential Code (IRC) unless otherwise noted. For more detail on a particular requirement contact the building department or consult the building code for possible exceptions or alternatives.

FLOOR PLAN

1. Show building and room dimensions for each floor.
2. Window area equal to 8% of floor area in all habitable rooms. The minimum openable area to the outdoors shall be 4% of the floor area being ventilated (R303.1).
3. An emergency egress window is required in each bedroom. Maximum sill height of emergency window is 44 inches above the floor. Minimum opening height is 24 inches

and minimum opening width is 20 inches. Window wells shall provide a net clear area of 9 square feet with a minimum horizontal projection and width of 36 inches. Window wells deeper than 44 inches shall have a permanent ladder or steps (R310).

4. Exhaust fans or openable windows are required in bathrooms. Fans and clothes dryers must be exhausted directly to the outside. Concealed flexible ductwork is prohibited and a maximum of 6 feet of flexible duct is allowed for dryer vents (R303.3) (also see the Mechanical Code as adopted by the State).
5. Show the location of stairs, including width, tread and riser dimensions, handrails, and guardrails. Stairways shall not be less than 36 inches in clear width above the handrail height. Minimum headroom in all parts of the stairway is not less than 6 feet 8 inches. Maximum riser height of 7 ³/₄ inches and minimum tread depth of 10 inches is required on all interior and exterior stairs covered by the IRC. Handrails having minimum and maximum heights of 34 and 38 inches (864 mm and 965 mm), respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of stairways. All required handrails shall be continuous the full length of the stairs with three or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1.5 inches (38 mm) between the wall and the handrail (R311.5).
6. Stairways shall be provided with illumination. Light switches are required at the top and bottom of every stairway (R303.6).
7. Show location of all heating and cooling appliances (water heaters, furnaces, etc).
8. Smoke detectors are required in each bedroom, outside each bedroom area in the immediate vicinity of the bedrooms, on each additional story of the dwelling (including unfinished basements and cellars), but not required in crawl spaces or uninhabitable attics. Smoke alarms shall be interconnected so that if one alarm activates, all alarms in the dwelling unit will activate (R313).
9. Ground Fault Circuit Interrupter (GFCI) protection is required for all bathrooms, kitchens, all exterior outlets, crawl spaces, and garage receptacles (consult the State electrical inspector for details).
10. Show location of plumbing fixtures on the plans.
11. Crawl space access must be provided with a minimum opening of 18 inches by 24 inches or large enough to permit removal of any appliance installed in the crawl space (R408.3).
12. Attic access must be provided for attics that exceed 30 square feet and have a vertical height of 30 inches or greater. Attic access opening shall be at least 22 inches by 30 inches (rough framed opening) and shall be located in a hallway or other readily accessible location (R807).

EXTERIOR ELEVATIONS

1. Show building height measured from the front of the building to the mean height between the eaves and the ridge for gable, hip, and gambrel roofs (Chapter 11.02(13) Belgrade Zoning Ordinance). The maximum building height in R-1, R-2, R-2M, and R-2D Districts is 24 ft. Maximum height in R-3 and R-4 Districts is 32 ft.
2. The building address must be displayed in such a position as to be plainly visible and legible from the street or road fronting the property (R321.1).
3. Show roof covering materials (R905).
4. Specify an approved flashing for exterior openings, wall and roof intersections, whenever there is a change in roof slope or direction, and around roof openings (R903.2).
5. Attic ventilation is required in the amount of 1 to 150 of the area of the space to be ventilated or 1 to 300 of the area to be ventilated with 50% and not more than 80% of the ventilated area to be located in the upper portion of space to ventilated (R806).
6. Chimneys shall extend at least 2 feet higher than any portion of a building within 10 feet, but shall not be less than 3 feet above the point where the chimney passes through the roof (R1001.6).
7. Specify type of exterior wall covering. Provide specific cross-section for masonry veneer (R703).
8. Show all exterior stairs. See item number 5 in the above Floor Plan section for stair and handrail requirements.
9. Guardrails (Guards) are required on porches, balconies, or raised floor surfaces located more than 30 inches above the floor or grade below. Guards shall not be less than 36 inches in height and 34 inches on stairs with a total rise of more than 30 inches. Guards on open sides must have intermediate rails (spindles) that do not allow passage of a sphere 4 inches in diameter (R312).

FOUNDATION/BUILDING CROSS-SECTION

1. In most cases, the top of the foundation is required to be a minimum of 12 inches higher than the crown (center) of the adjacent street. Lots shall be graded so as to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of 6 inches within the first 10 feet (R401.3, R403.1.7.3).
2. The depth of the top of footings shall be at least 3 feet below finished grade (403.1.4).

3. Footings are required to have reinforcement. Footings in Belgrade are typically 8"x 16" with two parallel strands of #4 bar running continuously within the footing. The bar shall be located a minimum of 3 inches from the bottom of the footing. Vertical reinforcement is also required. Vertical #4 bar may be placed up to 18", but not more than 4 feet on center. The vertical bar shall extend to 3 inches clear of the bottom of the footing, have standard hook, and extend a minimum of 14" into stem wall. (R403.1.3).
4. Foundation walls are required to have reinforcement. A typical crawl space wall in Belgrade supporting one floor is 6 inches thick with vertical and horizontal #4 bar. The top horizontal bar must be located in the top 12 inches of the wall. Basement walls and walls supporting two floors are typically 8 inches thick with vertical and horizontal #4 bar with the top horizontal bar in the top 12 inches of the wall (R404.1.4, IBC Table 1805.4.2).
5. Crawl space vents are required. Vents shall be installed at a rate equal to 1 square foot of vent per 150 square feet of floor area with one opening within 3 feet of each corner (R408.1).
6. Anchor bolts, at least 1/2" in diameter, are required to be embedded 7 inches into masonry or concrete foundation not more than 6 feet apart and within 12 inches from the ends of each plate section (R403.1.6).
7. Foundation walls enclosing habitable or useable spaces below grade shall be damp proofed from the top of the footing to finished grade (R406.1).

FRAMING/BUILDING CROSS-SECTION

1. For floor framing details see Figure R502.2 in the IRC. Show spans for floor joists in accordance with applicable AF&PA Span Tables for Joists and Rafters.
2. The ends 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. Joists framing into the side of a wood girder shall be supported by approved framing anchors (R502.6) (R502.6.2).
3. Joists under parallel bearing partitions shall be doubled or a beam of adequate size shall be provided to support the load (R502.4).
4. Decks shall be positively anchored to the primary structure. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal (R502.2.1).
5. Studs shall be a minimum of No. 3, standard or stud grade lumber (602.2).
6. Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and intersections with bearing partitions. End joints in top plates shall be offset at least 24 inches (R602.3.2).

7. Show size of headers in bearing walls (R602.7).
8. Submit a roof-framing plan or submit roof truss engineering designed for Belgrade's 37 psf snow load. It is advisable to use manufactured roof trusses where possible (R802).
9. In most cases hurricane clips attaching each roof truss to the top plate will be required (consult roof truss design drawings for connection requirements).
10. Show party wall or floor ceiling detail between dwelling units in duplexes on the plans. The wall or floor ceiling assembly shall be of 1-hour fire resistive rating. The 1-hour wall shall extend to the underside of the roof sheathing (R317.1).
11. Specify insulation. Insulation must conform to the 2003 International Energy Conservation Code (2003 IECC) with Montana amendments. Copies of the statewide energy code are available from the Building Department or on web at www.deq.mt.gov/Energy/index.asp Simplified prescriptive path requirements of the IECC include R-49 above the ceiling, R21 in the walls, R-21 in floors over unheated spaces (i.e. garages, crawl spaces), or R-20 on the walls in crawl spaces. Additional prescriptive paths are based on window-to-wall ratio area. Builders may also use a less restrictive REScheck™ computer analysis (a free download at www.energycodes.gov to show compliance.) The statewide energy code requires builders to place accurate information on energy efficient components in all new houses via the Energy Efficiency Components Label.

TOWNHOUSES

In addition to the items above, townhouses have other unique requirements:

1. Each townhouse shall be considered a separate building. Each townhouse shall have its own wall with a one-hour fire resistive rating, therefore a typical townhouse party wall will consist of two separate one-hour walls standing next to each other and each individual townhouse unit will be structurally independent (R302.1, R317.2).
2. In lieu of the above, a common 2-hour fire resistance-rated wall is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall (R317.2 Exception).
3. The common wall for townhouses shall be continuous from the foundation to the underside of the roof sheathing (R317.2.1).
4. Parapets, extending 30 inches above the roof, are required where roof surfaces for adjacent townhouses are at the same elevation or see exceptions: The most commonly used exception to parapets is one layer of 5/8-inch Type X gypsum board installed directly beneath the roof decking or sheathing for a distance of 4 feet on each side of the common walls (R317.2.2).

5. Structures containing four or more townhouse units must comply with the accessibility requirements of Chapter 11 of the International Building Code-see also the Federal Fair Housing Amendments Act of 1988 (R317.1). Single story townhouse units must be a compliant Type B dwelling unit as defined in the ICC/ANSI A117.1 standard. Type B dwelling units are wheelchair accessible, prescribe space in the unit so an individual in a wheelchair can maneuver about the unit-including bathroom and kitchen specifications, prescribe reinforcements in bathroom walls for later installation of grab bars, etc. See the Building Department for specific details (IBC 1107.5.4).

PRIVATE GARAGES/ACCESSORY BUILDINGS

The following requirements apply to private garages and other accessory buildings (storage sheds, tool sheds, shops, playhouses, etc) in residential areas that are over 120 square feet-also see the above foundation and framing lists for items that apply:

1. The foundation of a typical attached garage must go below the frost line (see above foundation requirements) or match the foundation of the building it is being attached to.
2. In attached garages, the wall adjacent to the house and its attic area shall have not less than ½ inch gypsum board applied to the garage side (R309.2).
3. Doors between a house and attached garage must be 1 3/8 inch thick solid wood, solid or honeycomb core steel doors not less than 1 3/8 inch thick, or 20 minute fire-rated doors. Unprotected glass window openings, either in the wall or the door, between the house and garage are prohibited (R309.1).
4. A garage/accessory building located less than 6 feet from a dwelling is considered an attached garage for building code purposes. Therefore if the garage is less than 6 feet from the house, the inside garage wall is required to be sheet rocked and doors between the house and garage are the same requirements for attached garages. Window openings are prohibited in the garage wall adjacent to the dwelling (see above items No. 2 and 3) (IBC 503.1.3, IBC Table 601 exception b).
5. Unheated detached garages and accessory buildings may be constructed on a monolithic slab. A typical monolithic slab in Belgrade is 16 inches thick around the perimeter with 2 strands of #4 bar running continuous within the perimeter of the foundation, 12 inches wide at the base of the thickened edge, and tapers up to a 4 to 6 inch thick slab (IBC 1805.8.2) (See the above foundation list for anchor bolt requirements).
6. Buildings over 400 square feet must have a foundation in compliance with the provisions of IBC Section 1805 (IBC 1805.2.1, IBC 1805.8.2).
7. In most garages, hurricane clips will be required to attach each roof truss to the top plate (see roof truss diagram supplied with roof trusses).

8. Specify the size of header over the garage door and verify compliance with span requirements for type of header used (R602.7.1).