

RESIDENTIAL BUILDING PLANS

The following information is intended as a guide, and is based on the 2015 Minnesota State Building Code and good building practice. Although every attempt has been made to ensure accuracy in the handout, no guarantees are made to its accuracy. As the 2015 Minnesota State Building Code includes over 500 pages of building requirements, this document cannot include all information that might be relevant to your project. Responsibility for compliance with applicable codes belongs to the permit holder. For specific questions regarding the code requirements, refer to the applicable codes or contact us.

Prior to the issuance of a building permit, the permit application and plans are submitted for plan review – also known as code compliance review. During the plan review process, a plans examiner will perform a comprehensive review of your plans to determine in advance that the proposed work complies with the various building codes.

COMPREHENSIVE PLAN REVIEW: We define this term as an in-depth examination of construction documents to the highest possible standard to verify that the entire project will be constructed properly, will meet code requirements, and will safeguard the public health and general welfare. We review structural strength, means of egress, stability, sanitation, light and ventilation, energy conservation, and safety to life and property.

This level of plan review not only helps the project run smoothly, but it will help avoid mistakes in the field that can quickly increase the cost of the project. When errors are caught at the plan review stage, corrections in the field are minimized - saving time and money!

You will submit two copies of your building plans, including a detailed scope of work. Both sets of plans will be marked with corrections and/or notes regarding important code guidance to help avoid common mistakes made during the building process. One set of plans will be returned to you and must be on site for all required inspections. The other set is added to the property file at the municipality office.

PLAN MARKINGS:

CAULK, FLASH, LAG BOLT LEDGER BOARD,
ATTACH LAG BOLTS 16" ON CENTER.

Red stamps like this are used to help prevent the most common errors made on specific projects. Handwritten red notations and check marks ✓ notify the applicant whether specific items meet the minimum code requirements. A checkmark indicates that it's ok. A notation with a "cloud" around it indicates something that is not code compliant or that needs attention. These simple marks inform the applicant of such things as: whether a header is sized adequately, that safety glazing is required in a window, that fire blocking needs to be installed, what the minimum insulation requirements are in certain areas, and other crucial requirements to meet. You should review all the markings on your plan before you begin building, in order to prevent making errors that the inspectors will require you to correct.

Plans should be to scale and dimensioned, and include information on use of rooms, wall and ceiling finishes, and lumber sizes and spacing. You can prepare your own plans, or your contractor or a drafting service can prepare them for you. 8½" x 11" sheets can be used for projects that aren't too large; 24x36" or larger are recommended for new homes and additions. Plans must be legible.

If your project is complex, you may find it advantageous to hire a professional designer. If your design involves complicated framing techniques or the use of steel I-beams, for example, you may be required to verify that the designs meet code as a part of the plan review process. A licensed engineer may be required to provide this verification.

MN Rules, Chapter 1300.0110 Subp. 13. "Alternative materials, design, and methods of construction and equipment. The code is not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by the code, provided that any alternative has been approved."

MN Rules, Chapter 1300.0130 Subp. 1: "The building official may require plans or other data be prepared according to the rules of the Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design, chapter 1800, and Minnesota Statutes, sections 326.02 to 326.15, and other state laws relating to plan and specification preparation by occupational licenses."

Once your plans are reviewed and approved, it is important that you do NOT change the design without prior approval of the Building Department. If you change the plans, you run the risk of code violations and negate the purpose of having the plans reviewed in the first place. Any change to an approved plan must be re-reviewed and approved before construction can continue. Additional fees apply.

SUBMISSION DOCUMENTS FOR RESIDENTIAL PERMITS:

- Completed Building Permit Application.
 - Two set of plans showing the proposed building design and specifications, including documentation of special inspection and structural observation programs, if applicable. Construction documents shall be dimensioned & drawn upon suitable material. Electronic media documents are permitted when approved by the building official.
 - Two copies of site plan drawn to scale, indicating:
 - ✓ The address of the property.
 - ✓ The orientation of the drawing (using a north arrow).
 - ✓ The size and location of new construction and existing structures on the site.
 - ✓ Distances from lot lines.
 - ✓ The established street grades and the proposed finished grades.
 - ✓ Construction to be demolished (if any) and the location and size of existing structures and construction that are to remain on the site or plot.
- Site plans shall be drawn according to an accurate boundary line survey. Check with your municipal office to see if a certified survey is required.
- Energy code calculations (if applicable).
 - When required by the building official, manufacturer's installation instructions for construction equipment and components regulated by the code shall be available on the job site at the time of inspections.
 - Any additional information as required by the plans examiner.

COMPLETE BUILDING PLANS SHALL INCLUDE:

- Footing/foundation plans, showing:
 - ✓ The orientation of the drawing (using a north arrow).
 - ✓ Foundation dimensions.
 - ✓ Dimensions (width and thickness) of continuous footings.
 - ✓ Foundation wall thickness and material (concrete, concrete masonry units, etc).
 - ✓ Pier/column footing size and locations.
 - ✓ Girder/beam size and type of material. Provide size for engineered wood products.
 - ✓ Dimensions (width and thickness) for any masonry chimney footings.
 - ✓ Pier/column size and height. Pier or column material and size.
 - ✓ Foundation anchor bolt size, location and spacing.
 - ✓ Location and size of any monolithic slab grade beams supporting load bearing walls.
 - ✓ Include dimensions and anchor bolt size and spacing.
 - ✓ Crawl space vent size and locations.
 - ✓ Crawl space access size and location. Note whether there will be any mechanical equipment installed in the crawl space.

- Elevations (front, rear, & side views), showing:
 - ✓ Window and door locations and exterior wall finishes.
 - ✓ Chimneys and chimney crickets.
 - ✓ Bedroom and basement emergency escape and rescue windows or doors (labeled).
 - ✓ Roof covering material (shingles, metal roofing, etc.) and ridge and/or gable vents.
 - ✓ Elevations of any decks or covered porches.
 - ✓ Garage header size and number of jack studs at each end.
- Floor plans (each level), showing:
 - ✓ Location of interior partitions.
 - ✓ Garage separation from dwelling unit by fire resistant construction and doors.
 - ✓ Design detail and reference to a U.L. tested assembly for any tenant separation walls, floors, or ceilings in 2-family construction.
 - ✓ Window and door location, size, and type.
 - ✓ Window and door header size, include garage and porch roof headers.
 - ✓ Labels on all rooms or spaces according to use ("kitchen," "bedroom," "storage," etc).
 - ✓ Bathroom fixture location and type ("sink", "shower," "whirlpool," etc).
 - ✓ Hallway width and door sizes.
 - ✓ Attic access location and size.
- Cross sections, showing:
 - ✓ Foundation wall height from footing to sill plate.
 - ✓ Slab perimeter insulation, base course material and thickness, vapor barrier, and concrete slab thickness.
 - ✓ Foundation unbalanced fill height (vertical distance from interior basement slab or crawl space ground elevation to the exterior finished grade).
 - ✓ Reinforcing steel size, grade (40 ksi, 60 ksi), spacing, and location for block or concrete walls and footings when required because of the amount of unbalanced fill.
 - ✓ Distance from crawl space ground level to floor joists or height of basement ceiling from slab.
 - ✓ Sill plate material and size. Anchor bolt diameter, length, and spacing.
 - ✓ Method and materials for water proofing of basement foundations.
 - ✓ Method and materials for foundation drainage system.
 - ✓ Wall framing stud size, spacing, and lateral bracing method.
 - ✓ Ceiling height for each floor level.
 - ✓ Attic soffit venting in the eaves.
 - ✓ Foundation, floor, wall, and ceiling insulation R-values.
 - ✓ Stairway section showing riser height and tread run dimensions, handrail dimension and height, stairway headroom clearance dimension.
- Window/door schedule, indicating the following:
 - ✓ Identification of each window/door relating to openings on the floor plans.
 - ✓ Quantities, types, sizes, manufacturer(s) and U-factor(s) of windows/doors.
 - ✓ Rough opening sizes.
 - ✓ Remarks (i.e., type of material window/door is constructed of).
- Floor framing (can be incorporated with foundation plan & individual floor plans), indicating:
 - ✓ Engineered floor truss layout, or floor joist size, spacing and direction. Include grade and lumber species. Floor system specifications must be on site at the framing inspection.
 - ✓ Girder/beam size and material. Include grade and lumber species.
 - ✓ Location of any interior bearing walls.
 - ✓ Location and materials for draft stopping in enclosed truss assemblies greater than 1000 ft².
 - ✓ Nailing schedules for built-up columns and multi-ply beams.

- Roof framing, indicating:
 - ✓ Ceiling joist size, spacing and direction. Include grade and lumber species.
 - ✓ Engineered roof truss layout, or rafter size, spacing and direction. Include grade and lumber species. Roof system specifications must be on site at the framing inspection.
 - ✓ Ridge board size.
 - ✓ Collar beam size and spacing.
 - ✓ Vaulted or sloped ceiling cross section showing rafter size, 1" air gap between insulation and roof decking, and size of the structural ridge beam.
 - ✓ Location of hip and valley rafter supports for hip roofs.
- Deck and porch framing, indicating:
 - ✓ Deck/porch footing depth below grade, and size of footings (width and thickness).
 - ✓ Type of decay-resistant lumber (pressure treated wood, cedar, etc).
 - ✓ Deck ledger board attachment to house – bolt and nail size, type, and spacing.
 - ✓ Deck ledger board flashing material.
 - ✓ Deck joist size, spacing, and direction.
 - ✓ Deck girder size and column support spacing.
 - ✓ Deck post size and method of connection to girder.
 - ✓ Height of deck above finished grade.
 - ✓ Type of lateral bracing method for deck.
 - ✓ Deck handrail and guardrail height and intermediate guardrail member spacing.
 - ✓ Deck/porch stairway rise and run, number and size of stringers, handrail dimensions.
 - ✓ Deck lateral load connections.
 - ✓ Joist hanger type and weight capacity at joist to ledger board connection.

Note: The State of Minnesota requires that all residential building contractors, remodelers, and roofers obtain a state license unless they qualify for a specific exemption from the licensing requirements. Any person claiming an exemption must provide a copy of a Certificate of Exemption from the Department of Labor & Industry to the Municipality before a permit can be issued.

Note: To determine whether a particular contractor is required to be licensed or to check on the licensing status of individual contractors, please call the Minnesota Department of Labor & Industry at 651-284-5065 or toll free 1-800-342-5354.