

# INSPECTION SERVICES OF CENTRAL MINNESOTA, INC.



Phone (320) 532-3629

## DETACHED GARAGES

### REQUIRE INFORMATION WHEN APPLYING FOR A BUILDING PERMIT

1. Submit **2** copies of drawings showing proposed designs and materials. Drawings shall be drawn to scale and shall include the following information:
  - Two copies of floor plan(s) including:
    - Proposed size
    - Window and door openings
    - Header sizes over openings
    - Size, spacing and direction of rafters
  - Cross section including:
    - Footing and floor design
    - Wall and roof construction, including materials used
  - Elevations, front and side view indicating height of structure.

### BUILDING CODE REQUIREMENTS

1. FOUNDATION (see attached slab design)
  - Footings must extend to frost depth for all attached garages. Footing depth for structures in Zone I is minimum 60" (five foot depth) below grade. Structures in Zone II is 42" (three feet six inches) minimum below grade, See map at [www.dli.mn.gov/cld/pdf/bc\\_map\\_frost\\_depth.pdf](http://www.dli.mn.gov/cld/pdf/bc_map_frost_depth.pdf).
  - A "floating slab" may be used for foundation support of a detached garage on all soils except peat and muck up to 1000 square feet. Slabs larger than 1000 square feet will need to be designed by a Minnesota licensed structural engineer.
  - Slabs-on-ground cast monolithically with footing, one #5 bar or two #4 bar shall be located in the middle third of the footing depth. All exterior footings shall be placed at least 12 inches below the undisturbed ground surface. The minimum slab thickness shall be 3 ½ inches and reinforcement is recommended. The minimum concrete strength shall be at least 3,500 lbs. per square inch (28 day strength). Protect concrete from freezing until cured. One course of concrete block will be required to meet the minimum separation from final grade to the structure.

## 2. SILL BOLTS

- **Section R404.1** The wood sill plate should be anchored to the foundation with anchor bolts spaced a maximum of 6 feet on center. When vertical reinforcing is required, the anchor bolts or straps should align with the reinforcing. *Note: Not all bolts or straps need to be placed at core fills.* Anchor bolts should also be located within 12 inches from the ends of each plate section. *Note: Where longer walls require multiple sill plate sections, consider installing an additional bolt at anticipated joint locations.* Bolts should be at least ½ inch in diameter and should extend a minimum of 7 inches into masonry or concrete. *Foundation anchor straps may be used when spaced as required to provide equivalent anchorage to 1/2 -inch diameter (12.7 mm) anchor bolts. When vertical reinforcing is required by other sections of this code, the foundation anchor straps should align with the reinforcing.*

## 3. SILL PLATES

- The bottom plate shall be a minimum of 2" x 4" and it shall be treated, redwood or other decay resistant wood.

## 4. WALL FRAMING

- Wood studs shall be minimum 2" x 4" with three studs provided at all corners.
- 6 inch minimum separation from structure to finished grade is required.

## 5. TOP PLATE

- The top plate shall be minimum 2" x 4", overlapped and doubled. End joints in double top plate must be offset by at least 24 inches.

## 6. WALL SHEATHING

- Fasten approved wall sheathing according to the manufacturer's specifications (sheathing shall be approved for 16 inch or 24 inch on center stud spacing). EXTERIOR WALL COVERING shall be approved siding (rustic, drop siding, shiplap, bevel, etc.), 3/8 inch exterior plywood, shingles or shakes. Fasten according to manufacturer's specifications.

## 7. ROOF CONSTRUCTION

- Roof snow load in Zone I is 42 psf and 60 psf ground snow load and Zone II is 35 psf snow load and 50 psf ground snow load. See map at [www.dli.mn.gov/ccld/pdf/bc\\_map\\_snowload.pdf](http://www.dli.mn.gov/ccld/pdf/bc_map_snowload.pdf).
- If engineered roof trusses are used - documentation is required at framing inspection.

## 8. ROOF COVERING

- Nail approved roof sheathing according to manufacturer's specifications (sheathing shall be approved for 16" or 24" on center rafter or truss spacing). Shingles shall be asphalt or equivalent, applied over 15# felt paper according to manufacturer's specifications. Structural sheathing when used on roofs requires clips or the required spacing.

## 9. FIRE WALL

- Garages within 3 feet of a dwelling shall be protected with materials approved for fire resistive construction, ½ inch minimum sheetrock. Doors shall be of approved solid wood at least 1 3/8" in thickness or have a rating of not less than 20 minutes.