

Fremont

Building Official

Code Enforcement

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Framing Notes

Here is a quick check sheet for framing requirements. Sufficient fastening (nailing) as applicable is required in each instance. This is in no way intended to be a complete set of requirements. All spans are defined in the span tables within the building codes. These noted items would be considered a minimum requirement and construction practices in excess of these provisions are certainly allowed and in many instances considered minimum standard practices.

☐ Sill or bottom plate to foundation connection is to be with a minimum of ½ anchor bolts sunk a minimum depth of 7" into the foundation form. Anchor bolts are to be secured with washer and nut. Anchor bolts are to be located with 12 inches of corners and ends of lumber pieces and are to be spaced not more than 6 feet on center overall. Straps or other means of attachment are not approved. A sill sealer is required under the bottom plate. The bottom plate as attached to the concrete must be of pressure treated lumber.

☐ Bridging is required. Joist are to be supported laterally at the ends and at each support by solid blocking. Bridging would be required over the girder and/or main beam. Blocking can be omitted only where the ends are restrained by rim joist or hanger attachments to headers. On 2 x 12 or larger bridging is required every 8 feet.

☐ Joist shall be lapped a minimum of 3 inches at center support girder and/or beam.

☐ Holes bored in joist are not to be within 2 inches of the top or bottom and may not be larger than 1/3 the actual depth of the joist.

☐ Notches are not to be placed anywhere within the middle 1/3 of the joist. Depth of notches cannot be more than 1/6 the actual depth of the joist.

☐ Wood members with a thickness of over 4 inches should never be notched except at the ends – this includes build up girders. When notched on the ends this can never be more than ¼ the actual depth of the lumber. Engineered lumber should never be notched unless noted on engineering drawings.

☐ Where any opening spans are in excess of 4 feet, the header joist and trimmer joist must be doubled. The ends of header joist more than 6 feet in length are to be supported by hangers and the ends of tail joist greater than 12 feet are to be supported on hangers or on ledger strips not less than 2 inches.

☐ Joist shall have a minimum of 1 ½ inches of bearing on wood or metal and not less than 3" on masonry/concrete. Wood bearing on concrete shall be separated with pressure treated lumber. Standard lumber shall have no direct contact with concrete.

☐ Where floor joist support concentrated loads exceeding 300 pounds (ex. bath tub & laundry room areas) floor joist shall be doubled.

☐ Header studs (on which a header rest) are to be continuous from the header to the bottom plate. Cutting the header stud (jack stud) to support the sill is not allowed.

☐ Minimum width of narrow walls (i.e. those adjacent to garage door openings) is to be based on a 6:1 height-to-width ratio: (for example 16" minimum for 8' wall, 20" for a 10' wall, etc.). Provisions allowing for this require headers to extend to end walls and for solid sheathing to be applied to the corners. Minimum of two anchor bolts required. Top plate continuity is required.

☐ A minimum of 3 studs shall be provided at each corner of any exterior wall.

☐ Double top plates are required for all exterior stud walls. Double top plates shall overlap at corners and intersections. Spliced end joints shall bear directly on the wall stud.

☐ The number of jack studs required on a (2) 2 x 8 or greater header is generally a minimum of 2 jack studs. This varies depending on the span tables as provided by the code.

☐ Exterior walls and bearing interior walls studs may be cut or notched a maximum of 25% of actual width. Non bearing walls are allowed to be cut or notched a maximum of 40% .

☐ Bored holes in bearing studs cannot be greater than 40% of the actual width and not greater than 60% if a double stud is provided. For non-bearing studs 60% maximum is allowed. A bored hole cannot be located in the same section of the stud as a notch. Bored holes are not to be within 5/8 of an inch to the stud face.

☐ Collar ties are not to be spaced more than 4 feet.

☐ Ceiling joist or rafter ties shall be provided within the bottom 1/3 of the rafter height or a girder shall be provided at the ridge. Such girder shall be supported by an appropriate in wall column or post.

☐ Cantilever with load bearing walls shall not exceed the depth of the joist, shall be solid blocked at the support, and shall have a continuous band/trim joist. An exception is allowed for cantilever intended to support only a roof and single wall; in that the cantilever cannot exceed 4 times nominal depth of the lumber provided that the joists are a minimum of 2 x 10 spaced not more than 16 inches on center and the ratio of back span to cantilever is at least 2:1.

☐ Cantilever with non load bearing walls shall not be greater than the length of the joist divided by four (L/4). As with load bearing solid blocking is required at the support and a continuous band/trim joist is required.

☐ Load bearing walls are not to exceed 10 feet in height. Non-bearing walls may reach 20 foot maximum.

☐ Building length or width can not be greater than 80 feet. The aspect ration (L/W) cannot be less than 1:4 nor greater than 4:1. The maximum story height shall not be more than 10 feet for prescriptive codes and not more than 12 feet for engineered design elements.

☐ Fire blocking is to be provided to cut off all vertical and horizontal draft openings. Fire blocking is required in all concealed construction vertically at the ceiling and floor levels and horizontally at intervals not exceeding 10 feet. Fire blocking is required at all openings around vents, pipes, ducts and electrical (holes) penetrations. Fire blocking is required at the bath tub plumbing (trap) area, at dropped ceilings, chimneys at floor intersections, and concealed spaces between stair stringers at the top and bottom to list a few specific locations.

☐ Attic access, where required, shall not be constructed in closets. The rough framed opening is not to be less than 22 inches by 30 inches and shall be located in a hallway or other readily accessible location. A 30 inch unobstructed headroom above the opening is required.

☐ Narrow Wall Provision adjacent to door and window openings. Generally these are encountered most when framing the garage door areas. Generally the minimum wall width for standard construction adjacent to openings is 24" for an 8' wall. The building code does provide for a decreased width of up to a minimum of 16" IF certain framing practices are used. The header must extend to the far most full length stud, the wood structural panels must be continuous across the wall and the header, certain nailing patterns must be observed, and straps are to be placed on the inside face of the stud. Anchor bolts must be planned for these sections. A drawing is available.

☐ Deck framing is to be consistent with "Prescriptive Residential Wood Deck Construction Guide". This guide is available on the web and is posted on www.fremont.nh.gov for your convenience.