

SIGNIFICANT CHANGES TO 2018 INTERNATIONAL CODES AND COMMON FAILURES

- Continuous footings required on interior braced walls on >50' buildings
- Block walls 2 #4 horizontal rebar within 12" top 4" from bottom.
- Floor openings require headers and beams on all 4 sides. See #1
- 2X4 studs 10' Max length. 2X6 studs 18' (16" centers) 20' (12" centers).
- VERY IMPORTANT: New span charts for lumber. See #2
- Gas pressure regulators installed with union fitting within 1'. #3
- Purple primer shall be used on all sizes pvc or cpvc.
- 50' max distance on hot water lines.
- Galvanized or aluminum metal pan under water heater.
- Dryer ducts shall be installed in 2X6 walls only.
- Furnace return cavities (Drywall) shall not convey air from more than 1 floor. 25% max crush on flex ducts.
- Pole barns 4" gravel bottom of hole, shall use bolts with nuts at top of pole for headers, 4X4 8' max height, 6X6, 8X8 14' max height, 8X8 required if header is three ply. 1/2" bolts drilled in bottom of pole set in concrete. All beam splices shall occur over post.
- Pole barns: All Load walls over 50' require continuous footings.
- Safety glass: <60" bottom step if not over 36" from floor.
- Site address 4" Numbers on house or mail box.
- Splash block or drain hose at bottom of gutter.
- Crawl space: 16"X24" outside or 18"X24" inside door required.
- Unvented crawl space sprayed wall insulation and condition air.

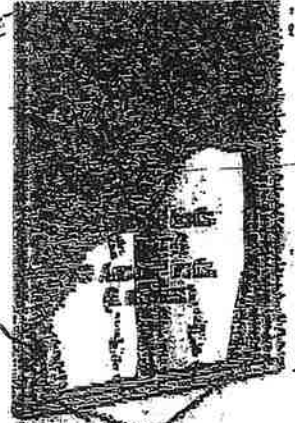
- All plumbing vents, noxious flue gas shall be 10' away or 3' above any opening in building. Watch continuous vent ridge installation.
- All basements over 200 sq. ft. require emergency escape.
- Solid or 20 min fire door garage to house. Leave sticker on till inspection for glass in door.
- Sheathing and strapping inspections required.
- R-38 attic insulation and insulation shield for chimneys required.
- 2Hr fire wall required for duplexes/ townhouse without sprinklers.
- Exterior air for all masonry/ factory built fireplaces with chimneys.
- Special braced wall panels for irregular shaped building.
- Energy efficient programmable thermostat on main unit.
- Recessed lighting shall be caulked to unheated areas.
- <2X10 require 1/2 drywall or 5/8 plywood for crawl/basement.
- If stairs curve or corner, 2 lights required.
- Pull down stairs: (weather strip). Panels (weather strip and insulate to R38).
- Insulate corners and headers to R3 or solid wood required.
- CSST shall be grounded within 75' by 6 AWG to electric service.
- Nail plates required 1 1/4" from framing edge.
- Nail plates (16ga) 2" above sole/sill plates & below top plates.
- 2" or smaller PVC or CPVC pipe require mid story guide brace.
- Single strapping and fire blocking required top plate. One nail plate for other board.
- Contractor/Owner responsible. The insulation installer shall sign, date and post the certification in a conspicuous location on the job site for polyurethane (icynene) and install per manufacturers brand for fresh air and fire barrier.
- Exterior wall joints shall be sealed: caulk sill plate.

- Freeze proof exterior hose bibs required to be installed in heated walls: cannot be installed in garage wall.
- 2 hold downs required for braced wall panel. Method BV-WSP.
- No double key deadbolts, Key for fireplace required for final, Air tight envelope (caulk doors and windows), Dishwasher hose to bottom of countertop, Paint steel lintels, Escutcheons required (under sinks, refrigerator water, washing machine box, fireplace key).
- Sediment traps for gas line supply furnace & water heater.
- Bedroom window chart enclosed in packet with childproof information. See your window salesman.
- Drip edges for asphalt shingles.
- Solid self closing doors to the garage.
- Window and door opening clips required
- 12" screw pattern on drywall: 7" nail pattern.
- Brick ties shall be installed 16"X18" max spacing.
- Stud Shoes required on over drilled, notched walls.
- Building Permit number required when calling office for

Inspections

1/2 PATTE

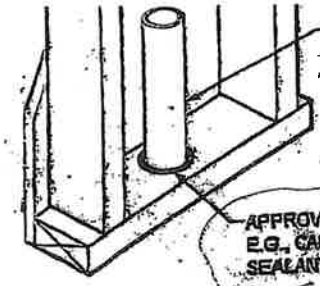
HD 10
HD 14
OR 4
TT 16



MENTARY



STUD SHOE
WHEN OVER DRILLED
BY 4090

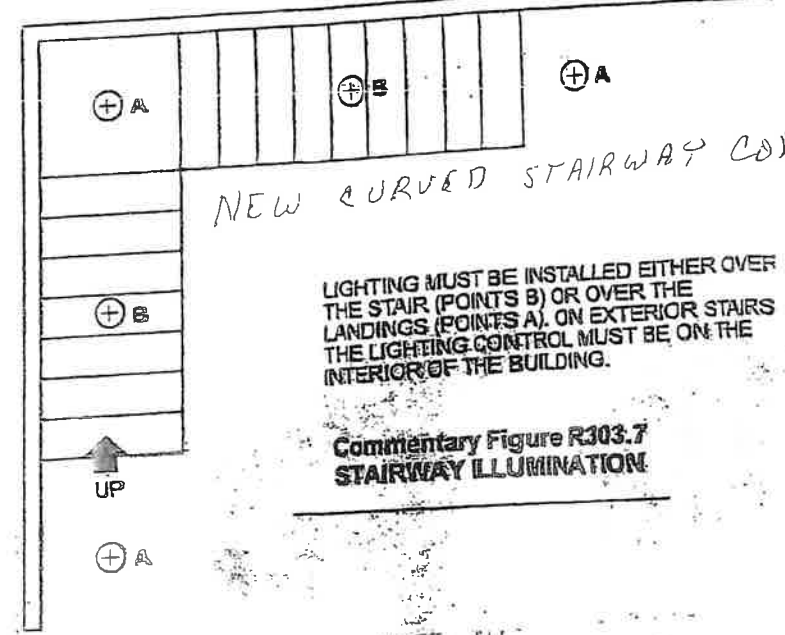


PIPE
2018 CODE

APPROVED FIREBLOCKING
E.G., CAULK, PUTTY OR
SEALANT

Commentary Figure R302.11(8)
FIREBLOCKING—AROUND PIPING

Method BV-WSP has tight nail spacing at 4 inches (100 mm) on center at panel ends and edges, and hold-downs are required at the ends of each braced wall panel in accordance with Table R602.10.4. The hold-downs are typically required to be nailed into two full-height studs at each end of the braced wall panel element. Designers used to working with the IBC will recognize that these bracing elements are similar to shear walls.

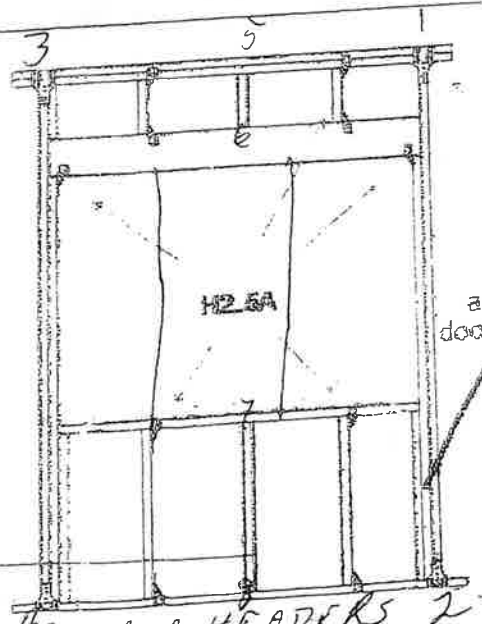


NEW CURVED STAIRWAY CODE

LIGHTING MUST BE INSTALLED EITHER OVER THE STAIR (POINTS B) OR OVER THE LANDINGS (POINTS A). ON EXTERIOR STAIRS THE LIGHTING CONTROL MUST BE ON THE INTERIOR OF THE BUILDING.

Commentary Figure R303.7
STAIRWAY ILLUMINATION

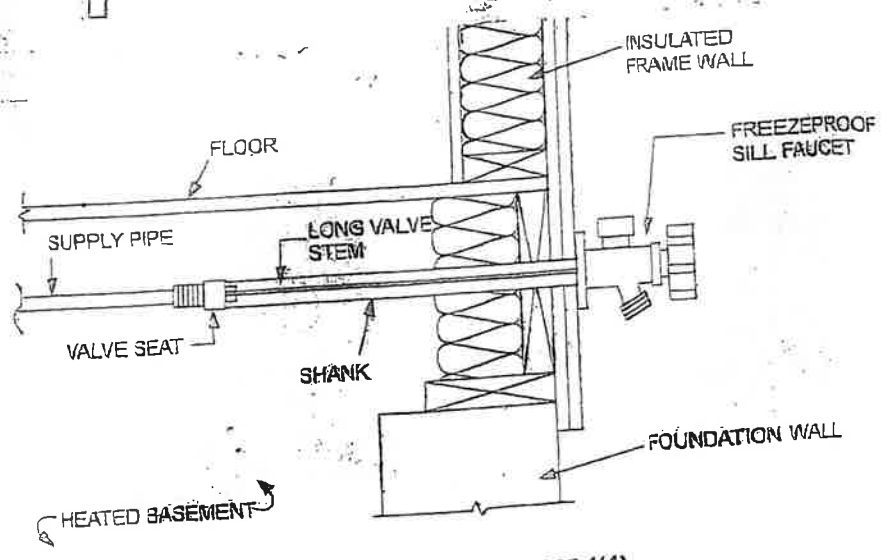
Window/Door Detail



SF2

area N/A door applic

SF1



INSULATED FRAME WALL

FREEZEPROOF SILL FAUCET

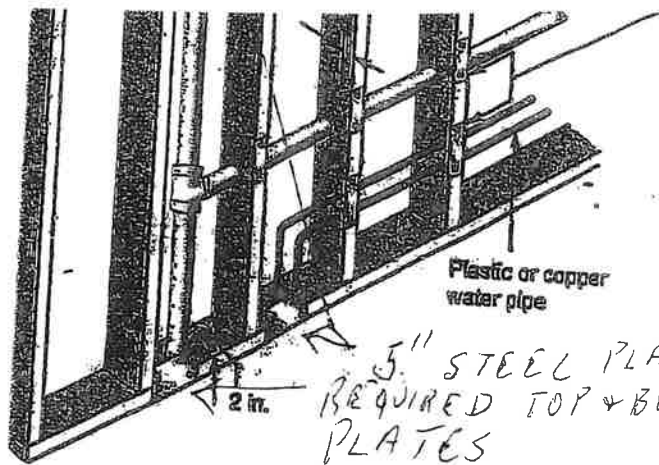
FOUNDATION WALL

HEATED BASEMENT

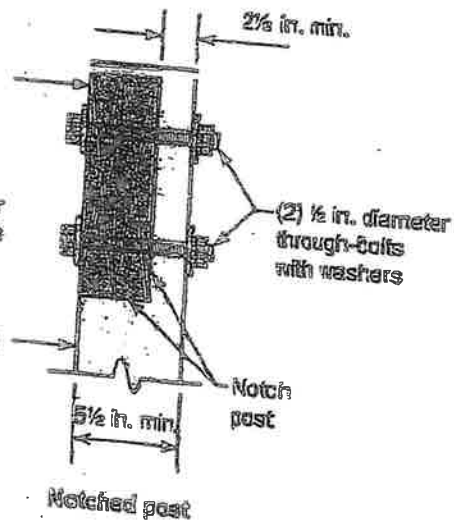
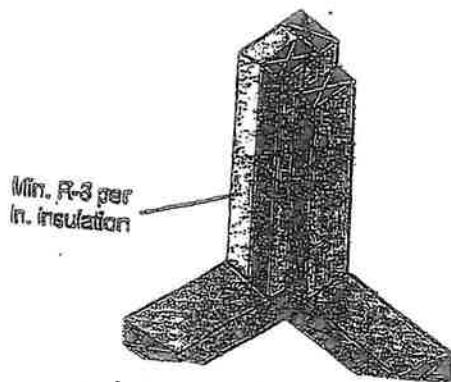
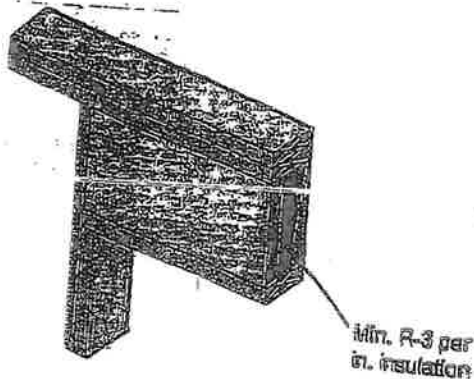
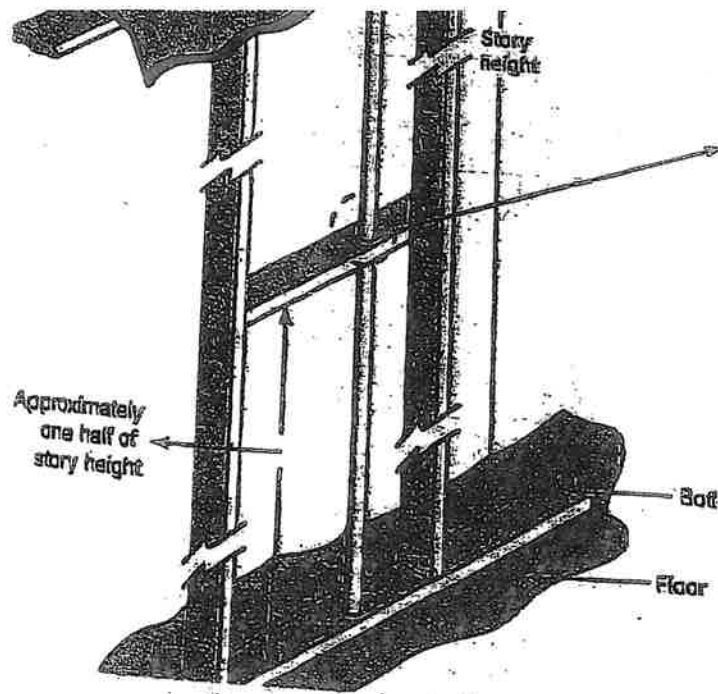
Commentary Figure 305.4(4)
TYPICAL FREEZEPROOF HOSE FAUCET INSTALLATION

ALL EXTERIOR HEADERS 2" SHALL BE STRAPPED
SINGLE REQUIRE 4 CLIPS
DOUBLE WINDOWS 8 CLIPS
RIPLE - SAME AS PICTURE

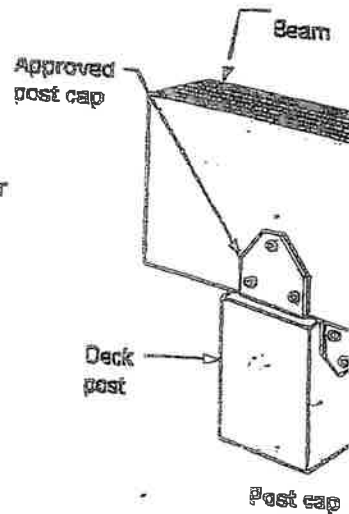
NO OUTSIDE FAUCETS IN GARAGE W
HEATED WALL BOTH SIDES REQUIRE



Physical protection of concealed piping



Connection of deck posts to deck beam



OUTSIDE CORNERS SHALL BE SOLID. NO 3x6 STUDS PER CORNER WITH AIR GAP

NEW POLE-BARN RULES

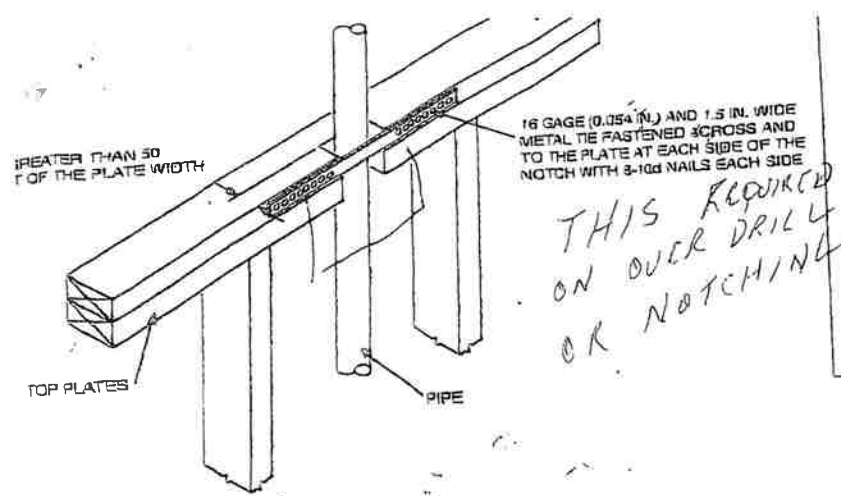
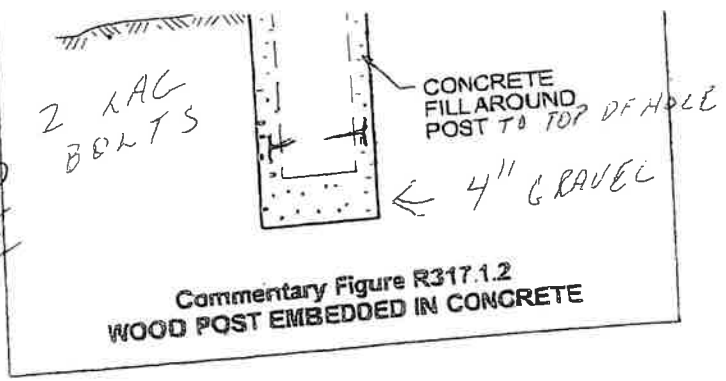
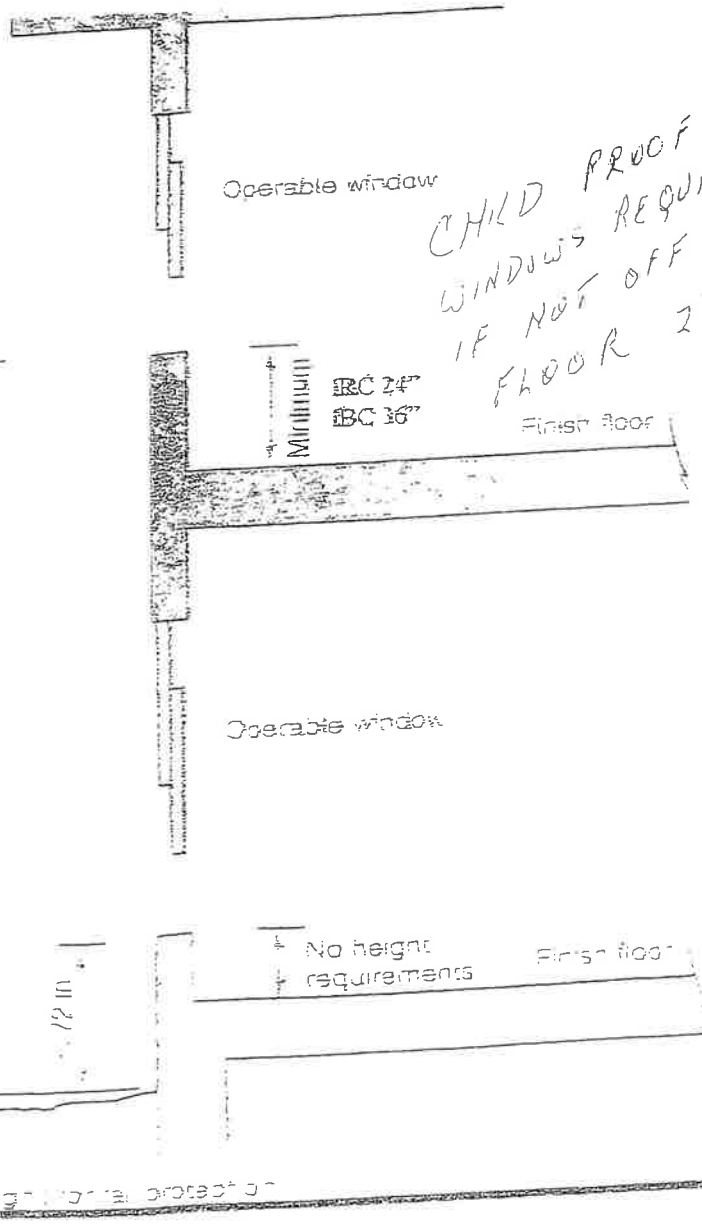


FIGURE R602.6.1
TOP PLATE FRAMING TO ACCOMMODATE PIPING



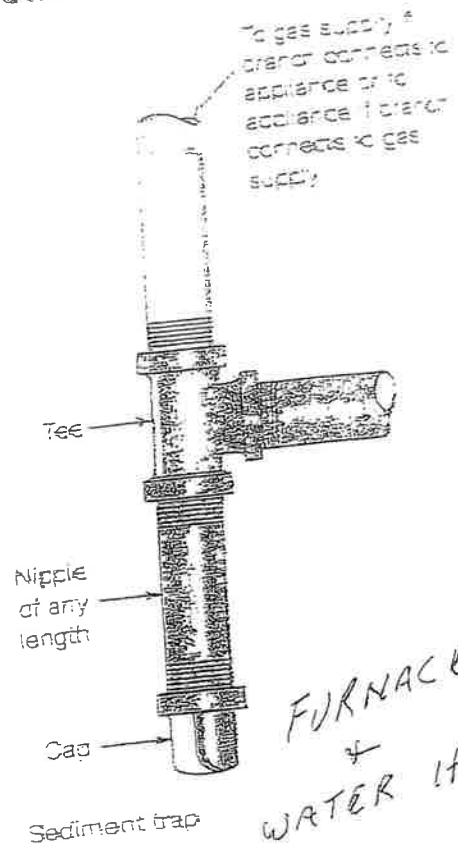
Commentary Figure R317.1.2
WOOD POST EMBEDDED IN CONCRETE



*CHILD PROOF
WINDOWS REQUIRED
IF NOT OFF
FLOOR 2'*

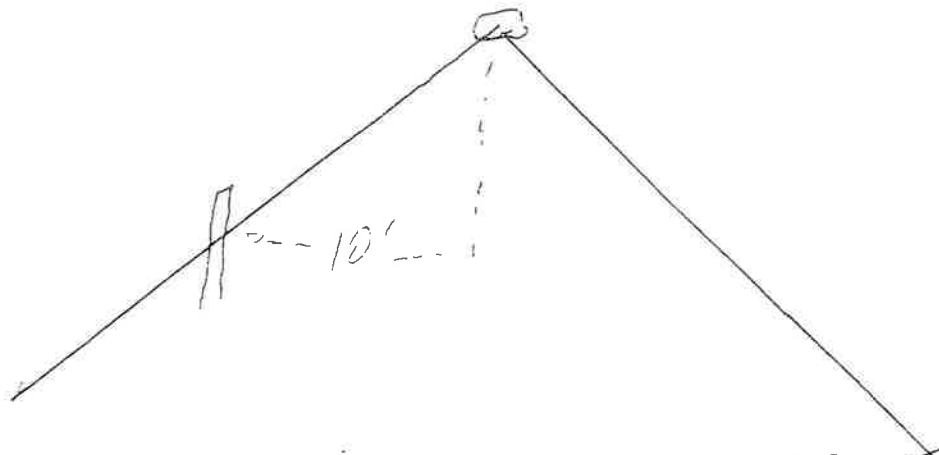
G2419.4 Sediment Trap 191

*G2419.4
Sediment Trap*

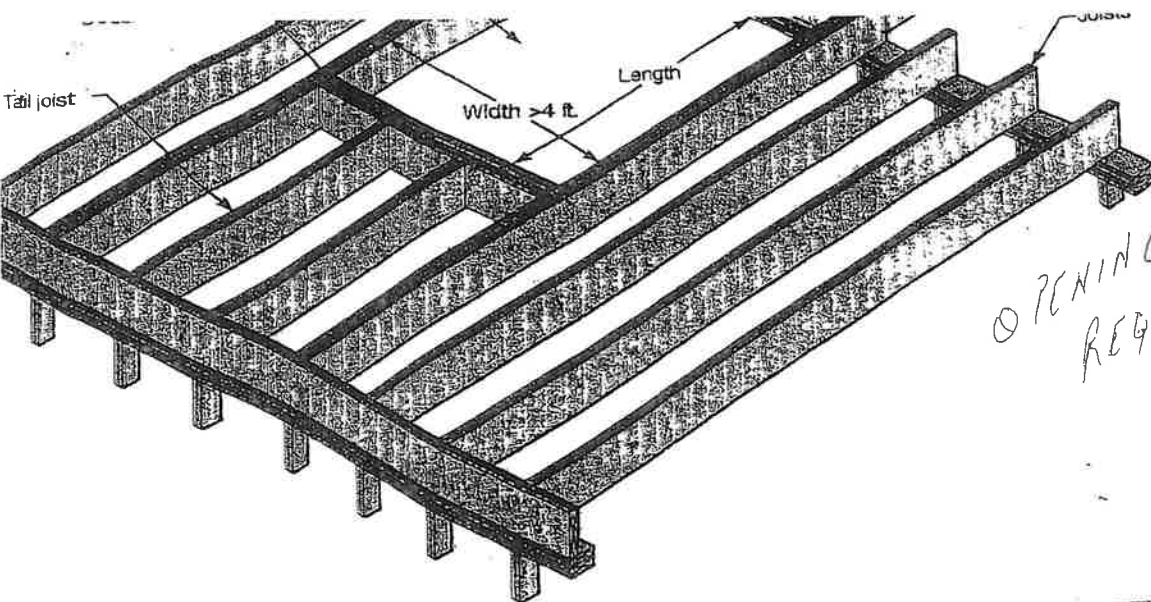


*FURNACE
&
WATER HEATER*

International Code Council®



FURNACE & WATER HEATER FLUE
PLUMBING DRAIN VENTS
MUST BE 10' AWAY OR 3' ABOVE
ALL OPENINGS.



OPENINGS
REQUIRE
HEADER

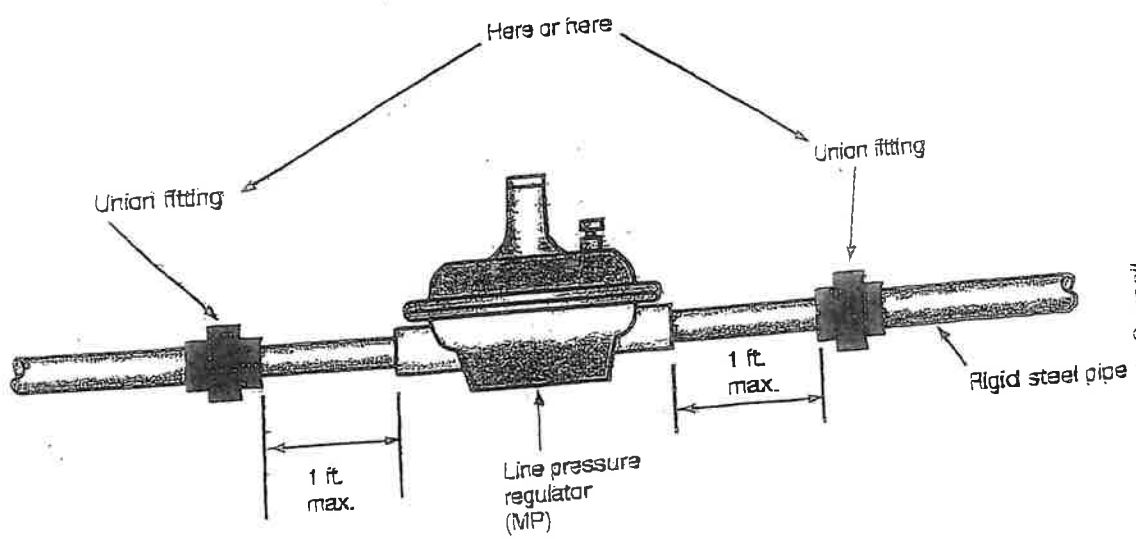
© International Code Council

ening in floor framing

Size & Spacing		No. 1		No. 2	
2x8		30	40	50	60
12	18	11-10	10-9	11-3	10-3
24	24	10-9	9-8	10-3	9-4
2x6		30	40	50	60
12	18	9-4	8-6	8-8	7-7
24	24	14-2	12-10	14-11	13-8
2x10		30	40	50	60
12	18	14-2	12-10	13-3	11-10
24	24	18-10	16-8	18-1	16-8
2x12		30	40	50	60
12	18	24-2	21-11	21-4	19-1
24	24	17-5	16-7	16-1	14-9

Size & Spacing		No. 1		No. 2	
2x8		10	20	10	20
12	18	19-8	15-8	18-8	13-11
24	24	17-8	14-0	18-11	12-0
2x6		10	20	10	20
12	18	15-6	11-5	13-11	9-10
24	24	25-8	20-6	24-7	17-7
2x10		10	20	10	20
12	18	28-0*	23-11	28-0*	20-11
24	24	20-6	17-8	21-7	15-3
2x12		10	20	10	20
12	18	28-0*	23-11	28-0*	20-11
24	24	23-11	18-11	20-11	14-9

Size & Spacing		No. 1		No. 2	
2x8		10	20	10	20
12	18	15-8	12-3	13-10	12-2
24	24	13-11	11-1	11-11	10-7
2x6		10	20	10	20
12	18	10-0	8-1	8-9	8-7
24	24	17-10	16-2	17-8	16-5
2x10		10	20	10	20
12	18	17-7	16-8	16-2	14-0
24	24	14-5	12-8	11-6	10-11
2x12		10	20	10	20
12	18	23-8	21-0	18-0	16-7
24	24	20-7	18-2	16-5	15-10
2x16		10	20	10	20
12	18	24-5	21-7	19-6	18-1
24	24	20-0	17-2	15-3	13-9



(Only one union is required and it may be placed either upstream or downstream of the regulator.)

Union required for Medium-Pressure (MP) regulator connected to rigid piping

RAFTERS 20 LIVE LOAD 16" CENTERS: 2X8=15'2" 2X10=18'0" 2X12=21'2"

Table 1 Floor Joists

30 or 40 psf live load; 10 psf dead load; $L/360$ deflection limit

Visual Grade	Size & Spacing	No. 1		No. 2			No. 3	
		Live Load		Live Load			Live Load	
		30	40	30	40	30	40	40
2x6	12	13-10	10-9	11-3	10-3	9-2	8-2	
	16	10-9	9-9	10-3	9-4	7-11	7-1	
	24	9-4	8-6	9-5	7-7	6-5	5-9	
2x8	12	15-7	14-2	14-11	13-6	11-8	10-3	
	16	14-2	12-10	13-3	11-10	10-0	8-11	
	24	12-4	11-3	10-10	9-8	8-2	7-3	
2x10	12	19-10	18-0	18-1	16-2	13-11	12-8	
	16	18-0	16-1	15-8	14-0	12-1	10-10	
	24	14-8	13-1	12-10	11-5	9-10	8-10	
2x12	12	24-2	21-11	21-4	19-1	16-8	14-9	
	16	21-4	19-1	18-6	16-6	14-4	12-10	
	24	17-5	15-7	15-1	13-6	11-8	10-5	

★ STAIRS TO ATTIC
USE 30 FLOOR

Table 2 Ceiling Joists - Drywall ceiling

10 psf live load; 5 psf dead load; $L/240$ deflection limit
20 psf live load; 10 psf dead load; $L/240$ deflection limit

Visual Grade	Size & Spacing	No. 1		No. 2			No. 3	
		Live Load		Live Load			Live Load	
		10	20	10	20	10	20	20
2x6	12	19-6	15-6	18-9	13-11	14-11	10-7	
	16	17-8	14-0	15-11	12-0	12-11	9-2	
	24	15-6	11-5	13-11	9-10	10-7	7-5	
2x8	12	25-8	20-5	24-7	17-7	18-9	13-3	
	16	23-4	17-9	21-7	15-3	16-3	11-6	
	24	20-5	16-8	17-7	12-6	13-3	9-5	
2x10	12	28-0	23-11	28-0	20-11	22-9	16-1	
	16	26-0	20-11	25-7	18-1	19-9	13-11	
	24	23-11	16-11	20-11	14-9	15-1	11-5	

WITHOUT STAIRS
TO ATTIC

Table 3 Rafters - Medium roofing; Drywall ceiling; Snow load

20, 30, or 40 psf live load; 15 psf dead load; $L/240$ deflection limit
Load duration factor = 1.15 for snowloads

Visual Grade	Size & Spacing	No. 1			No. 2			No. 3		
		Live Load			Live Load			Live Load		
		20	30	40	20	30	40	20	30	40
2x6	12	15-6	13-6	12-3	13-10	12-2	11-0	10-6	9-3	8-4
	16	13-11	12-3	11-1	11-0	10-7	9-6	8-1	7-3	7-3
	24	11-4	10-0	9-1	9-5	8-7	7-3	6-5	5-11	5-11
2x8	12	20-4	17-10	16-2	17-6	15-3	14-0	13-2	11-8	10-6
	16	17-1	15-6	14-1	15-2	13-4	12-1	11-5	9-1	8-1
	24	14-3	12-8	11-6	12-4	10-1	9-10	8-4	7-5	6-5
2x10	12	23-9	21-0	19-0	20-3	18-4	16-1	16-0	14-1	12-9
	16	20-7	18-2	16-5	18-0	16-0	14-4	13-10	12-3	11-4
	24	16-10	14-10	13-5	14-8	12-11	11-9	10-4	9-0	8-0
2x12	12	28-0	24-1	22-6	24-5	21-7	19-6	18-1	16-3	15-1
	16	24-5	21-7	19-6	21-2	19-8	18-1	16-5	14-6	13-1
	24	20-0	17-7	15-1	17-3	15-3	13-9	12-5	11-10	10-8

Table 4 Rafters - Drywall or No Finished ceiling; Construction load

20 psf live load; 10 psf dead load; $L/240$ or $L/360$ deflection limit
Load duration factor = 1.25 for construction loads

Visual Grade	Size & Spacing	No. 1		No. 2		No. 3	
		Deflection Limit		Deflection Limit		Deflection Limit	
		240	180	240	180	240	180
2x6	12	15-8	17-0	14-9	15-7	11-9	11-9
	16	14-1	15-6	13-5	13-6	10-2	10-2
	24	12-3	12-9	11-0	11-0	8-4	8-4
2x8	12	20-5	22-5	19-6	19-8	14-10	14-10
	16	18-6	19-10	17-1	17-1	12-0	12-0
	24	16-2	16-2	13-1	13-1	10-6	10-6
2x10	12	26-0	26-0	23-5	23-5	18-0	18-0
	16	23-2	23-2	20-3	20-3	15-7	15-7
	24	18-1	18-1	16-6	16-6	12-9	12-9

Copyright © 2013 Southern Forest Products Association

Emergency escape and rescue openings = FIRST FLOOR (GRADE LEVEL)
 Maximum height from floor. The emergency escape and rescue opening shall have a sill height of not more than 44 inches above the floor.

Minimum size. The minimum net clear opening height dimensions shall be 24 inches. The minimum net clear opening width shall be 20 inches. The minimum net clear opening area shall be 5.0 sq ft for ground floor openings:

The chart below is provided to facilitate determining whether or not the net clear opening dimensions of a required emergency escape and rescue window are such that the resulting area is not less than 5.0 square feet (720 square inches) for 1st FLOOR (GROUND LEVEL):

WIDTH (inches)	HEIGHT (inches)	WIDTH (inches)	HEIGHT (inches)	WIDTH (inches)	HEIGHT (inches)
			28.8	30.0	24.0
20.0	36.0	25.0	28.2		
20.5	35.1	25.5	27.7		
21.0	34.3	26.0	27.2		
21.5	33.5	26.5	26.7		
22.0	32.7	27.0	26.2		
22.5	32.0	27.5	25.7		
23.0	31.3	28.0	25.3		
23.5	30.6	28.5	24.8		
24.0	30.0	29.0	24.4		
24.5	29.4	29.5			

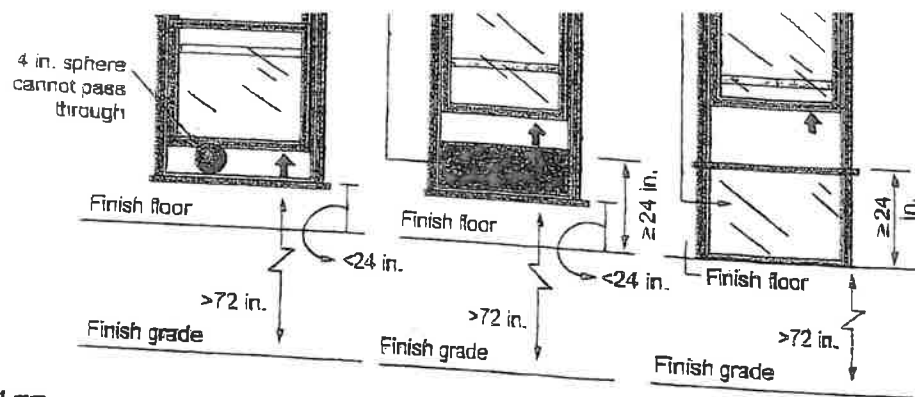
Emergency escape and rescue openings = SECOND FLOOR
 Maximum height from floor. The emergency escape and rescue opening shall have a sill height of not more than 44 inches (1118mm) above the floor.

Minimum size. The minimum net clear opening height dimensions shall be 24 inches. The minimum net clear opening width shall be 20 inches. The minimum net clear opening area shall be 5.7 sq ft for 2nd floor openings:

The chart below is provided to facilitate determining whether or not the net clear opening dimensions of a required emergency escape and rescue window are such that the resulting area is not less than 5.7 square feet (321 square inches) for 2nd FLOOR OPENINGS:

WIDTH (inches)	HEIGHT (inches)	WIDTH (inches)	HEIGHT (inches)	WIDTH (inches)	HEIGHT (inches)
			33	30.0	27.5
20.0	41.1	25.0	32.5		
20.5	40.0	25.5	31.5		
21.0	39.1	26.0	31		
21.5	38.2	26.5	30.5		
22.0	37.5	27.0	30		
22.5	36.5	27.5	29.5		
23.0	35.5	28.0	29		
23.5	35	28.5	28.5		
24.0	34.5	29.0	28		
24.5	33.5	29.5			

BEDROOM WINDOW CHART



For SI: 1 inch = 25.4 mm.

Amendments to the Standard Building Code for Fayette County: IBC AND IRC

- I. Framing member spacing in one and two family dwellings:
 - a. Members shall be placed no more than sixteen inches on center.

EXCEPTION:

1. Rafters may be placed 24 (twenty-four) inches on center provided that:
 - a. Roof sheathing is no less than 5/8 inch plywood with approved clips OR 3/4 inch nominal thickness boards.
 - b. Rafters not nailed directly to ceiling joist must be installed at the top plate with approved metal fastening straps.

- II. Lumber Grade.
 - a. Utility grade will not be allowed for wall construction.
 - b. Roof decking of 3/8 inch will not be allowed.

- III. Shelby County, City of Bartlett, and the City of Collierville Alternative Compliance Method may be accepted by building officials discretion if deemed equivalent or higher standard.

- IV. Toilet facilities shall be provided for construction workers and such facilities shall be maintained in a sanitary condition. Construction worker toilet facilities of the nonsewer type shall conform to ANSI Z4.3.

1.2.3 Bedroom Definition – Effective 07/03/2006:

Any space serviced by the HVAC system of a dwelling unit which is 100 square feet or great in size, which is located along an exterior wall, and meets fire exit minimums, but not including the following: hall; bathroom; kitchen; living room (max one per dwelling unit); family room/den (max one per dwelling unit); laundry room; closet/dressing room opening off of a bedroom or bath. The Building Commissioner or his/her designee may grant exceptions if a room, by its design, cannot function as a bedroom. Sewing rooms, studios, lofts, game rooms, and any other room serviced by HVAC along an exterior wall which is 100 square feet or greater in size will be considered to be bedrooms unless the room is specifically exempted. If a home office, library or similar room is proposed, it may be exempted from being considered a bedroom if there is no closet except as noted below and at least one of the following is present: a.) permanently built-in features that encumber a room in such a way that it cannot be used as a bedroom; b.) a minimum four foot opening, without doors, into another room or hall; c.) a half wall (four foot maximum height) between the room and another room or staircase; d.) no reasonable access to a bath/shower without going through another room or flight of stairs; e.) a closet with interior dimensions less than three feet wide and one and three-quarters feet deep; f.) does not meet fire code exit minimums. The provisions of Chapter 12-1-06, Section 07, Septic Tank Capacity of the "Rules of the Department of Environment and Conservation Division of Groundwater Protection of the State of Tennessee are incorporated into this definition by reference.