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**TOWN OF COLONIE
BUILDING DEPARTMENT**

**SPRUCE - PINE - FIR
NO 1 & 2 "E" 1,400,000
ALLOWABLE SPANS**

<u>FLOOR JOISTS</u>		<u>SPAN</u>	<u>CEILING JOISTS</u>		<u>SPAN</u>	<u>RAFTERS</u>		<u>SPAN</u>
		40 LB. LOAD			20 LB LOAD			
2 X 6	24" O.C.	8' 1"	2 X 4	24" O.C.	7' 2"	2 X 4	24" O.C.	4' 8"
	16" O.C.	9' 4"		16" O.C.	8' 7"		16" O.C.	5' 8"
	12" O.C.	10' 3"		12" O.C.	9' 5"		12" O.C.	6' 2"
2 X 8	24" O.C.	10' 3"	2 X 6	24" O.C.	10' 6"	2 X 6	24" O.C.	6' 11"
	16" O.C.	12' 3"		16" O.C.	12' 10"		16" O.C.	8' 5"
	12" O.C.	13' 6"		12" O.C.	14' 9"		12" O.C.	9' 9"
2 X 10	24" O.C.	12' 7"	2 X 8	24" O.C.	13' 3"	2 X 8	24" O.C.	8' 9"
	16" O.C.	15' 5"		16" O.C.	16' 3"		16" O.C.	10' 8"
	12" O.C.	17' 3"		12" O.C.	18' 9"		12" O.C.	12' 4"
2 X 12	24" O.C.	14' 7"	2 X 10	24" O.C.	16' 3"	2 X 10	24" O.C.	10' 8"
	16" O.C.	17' 10"		16" O.C.	19' 10"		16" O.C.	13' 1"
	12" O.C.	20' 7"		12" O.C.	22' 11"		12" O.C.	15' 1"
						2 X 12	24" O.C.	12' 4"
							16" O.C.	15' 2"
							12" O.C.	17' 6"

**TABLE R502.5(2)
GIRDER SPANS^a AND HEADER SPANS^a FOR INTERIOR BEARING WALLS
(Maximum header spans for douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b and required number of jack studs)**

HEADERS AND GIRDERS SUPPORTING	SIZE	BUILDING WIDTH ^c (feet)					
		20		28		36	
		Span	NJ ^d	Span	NJ ^d	Span	NJ ^d
One floor only	2-2x4	3-1	1	2-8	1	2-5	1
	2-2x6	4-6	1	3-11	1	3-6	1
	2-2x8	5-9	1	5-0	2	4-5	2
	2-2x10	7-0	2	6-1	2	5-5	2
	2-2x12	8-1	2	7-0	2	6-3	2
	3-2x8	7-2	1	6-3	1	5-7	2
	3-2x10	8-9	1	7-7	2	6-9	2
	3-2x12	10-2	2	8-10	2	7-10	2
	4-2x8	5-10	1	5-1	2	4-6	2
	4-2x10	10-1	1	8-9	1	7-10	2
	4-2x12	11-9	1	10-2	2	9-1	2
Two floors	2-2x4	2-2	1	1-10	1	1-7	1
	2-2x6	3-2	2	2-9	2	2-5	2
	2-2x8	4-1	2	3-6	2	3-2	2
	2-2x10	4-11	2	4-3	2	3-10	3
	2-2x12	5-9	2	5-0	3	4-5	3
	3-2x8	5-1	2	4-5	2	3-11	2
	3-2x10	6-2	2	5-4	2	4-10	2
	3-2x12	7-2	2	6-3	2	5-7	3
	4-2x8	4-2	2	3-7	2	3-2	2
	4-2x10	7-2	2	6-2	2	5-6	2
	4-2x12	8-4	2	7-2	2	6-5	2

TABLE 1504.3(1)

GIRDER SPANS^a AND HEADER SPANS^a FOR EXTERIOR BEARING WALLS(Maximum header spans for douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b and required number of jack studs)

HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf) ^c						HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf) ^c					
		5 0								5 0					
		Building width ^e (feet)								Building width ^e (feet)					
		2 0		2 8		3 6				2 0		2 8		3 6	
Span	NJ ^d	Span	NJ ^d	Span	NJ ^d	Span	NJ ^d	Span	NJ ^d	Span	NJ ^d	Span	NJ ^d		
Roof and ceiling	2-2x4	3-2	1	2-9	1	2-6	1	Roof, ceiling and one clear span floor	2-2x4	2-7	1	2-3	1	2-0	1
	2-2x6	4-8	1	4-1	1	3-8	2		2-2x6	3-10	2	3-4	2	3-0	2
	2-2x8	5-11	2	5-2	2	4-7	2		2-2x8	4-10	2	4-2	2	3-9	2
	2-2x10	7-3	2	6-3	2	5-7	2		2-2x10	5-11	2	5-1	2	4-7	3
	2-2x12	8-5	2	7-3	2	6-6	2		2-2x12	6-10	2	5-11	3	5-4	3
	3-2x8	7-5	1	6-5	2	5-9	2		3-2x8	6-1	2	5-3	2	4-8	2
	3-2x10	9-1	2	7-10	2	7-0	2		3-2x10	7-5	2	6-5	2	5-9	2
	3-2x12	10-7	2	9-2	2	8-2	2		3-2x12	8-7	2	7-5	2	6-8	2
	4-2x8	8-4	1	7-5	1	6-8	1		4-2x8	7-0	1	6-1	2	5-6	2
	4-2x10	10-6	1	9-1	2	8-2	2		4-2x10	8-7	2	7-5	2	6-7	2
4-2x12	12-2	2	10-7	2	9-5	2	4-2x12	9-11	2	8-7	2	7-8	2		
Roof, ceiling, and one center-bearing floor	2-2x4	2-9	1	2-5	1	2-2	1	Roof, ceiling, and two center-bearing floors	2-2x4	2-6	1	2-2	1	1-11	1
	2-2x6	4-1	1	3-7	2	3-3	2		2-2x6	3-8	2	3-2	2	2-10	2
	2-2x8	5-2	2	4-6	2	4-1	2		2-2x8	4-7	2	4-0	2	3-8	2
	2-2x10	6-4	2	5-6	2	5-0	2		2-2x10	5-8	2	4-11	2	4-5	3
	2-2x12	7-4	2	6-5	2	5-9	3		2-2x12	6-6	2	5-9	3	5-2	3
	3-2x8	6-5	2	5-8	2	5-1	2		3-2x8	5-9	2	5-1	2	4-7	2
	3-2x10	7-11	2	6-11	2	6-3	2		3-2x10	7-1	2	6-2	2	5-7	2
	3-2x12	9-2	2	8-0	2	7-3	2		3-2x12	8-2	2	7-2	2	6-5	3
	4-2x8	7-5	1	6-6	1	5-11	2		4-2x8	6-8	1	5-10	2	5-3	2
	4-2x10	9-1	2	8-0	2	7-2	2		4-2x10	8-2	2	7-2	2	6-5	2
4-2x12	10-7	2	9-3	2	8-4	2	4-2x12	9-5	2	8-3	2	7-5	2		

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kN/m².

a. Spans are given in feet and inches.

b. Tabulated values assume #2 grade lumber.

c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.

d. NJ - Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

e. Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf.

ALLOWABLE SPAN FOR GIRDERS SUPPORTING ONE FLOOR ONLY

SIZE OF WOOD GIRDER 2	FLOOR LIVE LOAD (PSF)	SPACING BETWEEN GIRDERS OR BETWEEN GIRDERS AND LOAD-BEARING WALLS 3							
		4 FEET	6 FEET	8 FEET	10 FEET	12 FEET	14 FEET	16 FEET	
4 X 4	30	5' - 6"	4' - 6"	3' - 6"	3' - 0"	2' - 6"	2' - 6"	2' - 6"	
	40	5' - 0"	4' - 0"	3' - 6"	3' - 0"	2' - 6"	2' - 6"	2' - 6"	
4 X 6	30	8' - 0"	6' - 6"	5' - 6"	5' - 0"	4' - 6"	4' - 6"	4' - 6"	
	40	7' - 6"	6' - 0"	5' - 6"	4' - 6"	4' - 0"	4' - 0"	4' - 0"	
4 X 8 6 X 6	30	11' - 0"	9' - 0"	8' - 0"	7' - 0"	6' - 6"	6' - 0"	5' - 6"	
	40	10' - 0"	8' - 6"	7' - 6"	6' - 6"	6' - 0"	5' - 6"	5' - 0"	
4 X 10 6 X 8	30	14' - 0"	11' - 0"	10' - 0"	8' - 6"	7' - 8"	6' - 10"	6' - 0"	
	40	13' - 0"	10' - 6"	9' - 6"	8' - 6"	7' - 6"	6' - 6"	5' - 6"	
4 X 12 6 X 10	30	16' - 6"	14' - 0"	12' - 0"	11' - 0"	10' - 4"	9' - 8"	9' - 0"	
	40	16' - 0"	12' - 6"	11' - 0"	10' - 0"	9' - 4"	8' - 8"	8' - 0"	

1. Allowable spans may be interpolated between tributary loads shown in table. Spans and girder sizes may be computed independently of the above table in accordance with acceptable engineering practice.

2. Spans are based on No. 2 lumber.

3. The spacing is the tributary load to the girder. It is found by adding the unsupported spans of the floor structure on each side which are supported by the girder and divided by 2.

HEADERS IN WALLS	
SIZE OF HEADER	NOT SUPPORTING FLOORS OR ROOFS
2 - 2 X 4	---
2 - 2 X 6	---
2 - 2 X 8	10'
2 - 2 X 10	12'
2 - 2 X 12	16'