

**Bear Creek Township**  
**Building Department**  
**373 N. Division Road**  
**Petoskey, Michigan 49770**  
**Phone (231) 347-3204 Fax (231) 347-0736**

**POLE BUILDING HANDOUT – 2009 MBC/MRC**  
**Guidelines for code compliance when constructing**  
**Unheated, Detached, Pole Style Residential Accessory Buildings**

Tables shown are based on: Smooth metal roof, slope = 4:12 minimum  
 Soil types of sand, silty sand or clayey sand  
 Ground Snow Load = 70 psf  
 Frost Footing depth = 42" minimum

Conditions other than those listed above void the applicability of these tables

Post Spacing	Grade (a)	20 Foot Wide Building		24 Foot Wide Building		28 Foot Wide Building		30 Foot Wide Building	
		Truss Carrier Beam	Footing Size & Load	Truss Carrier Beam	Footing Size	Truss Carrier Beam	Footing Size	Truss Carrier Beam	Footing Size
4 FEET	A	1.75" x 5.5"	15" dia.	1.75" x 5.5"	16" dia.	1.75" x 5.5"	18" dia.	1.75" x 5.5"	19" dia.
	B	2" x 10"	&	2" x 10"		2" x 10"		2" x 12"	
	C	2" x 8"	2,370#	2" x 8"		2" x 10"		2" x 12"	
6 FEET	A	1.75" x 7.25"	18" dia.	1.75" x 7.25"	20" dia.	1.75" x 9.25"	22" dia.	1.75" x 9.25"	23" dia.
	B	2 - 2" x 10"	&	2 - 2" x 10"		2 - 2" x 10"		2 - 2" x 12"	
	C	2 - 2" x 10"	3,560#	2 - 2" x 10"		2 - 2" x 10"		2 - 2" x 12"	
8 FEET	A	1.75" x 9.25"	21" dia.	1.75" x 9.25"	23" dia.	1.75" x 11.25"	25" dia.	1.75" x 11.25"	26" dia.
	B	2 - 2" x 12"	&	3 - 2" x 10"		3 - 2" x 12"		3 - 2" x 12"	
	C	2 - 2" x 12"	4,740#	3 - 2" x 10"		3 - 2" x 12"		3 - 2" x 12"	
10 FEET	A	1.75" x 11.25"	24" dia.	1.75" x 11.875"	26" dia.	2 - 1.75" x 9.5"	28" dia.	2 - 1.75" x 9.5"	29" dia.
	B	3 - 2" x 12"	&	4 - 2" x 12"		5 - 2" x 12"		5 - 2" x 12"	
	C	3 - 2" x 12"	5,930#	4 - 2" x 12"		4 - 2" x 12"		4 - 2" x 12"	
12 FEET	A	2 - 1.75" x 9.25"	26" dia.	2 - 1.75" x 11.25"	28" dia.	2 - 1.75" x 11.25"	31" dia.	2 - 1.75" x 11.25"	32" dia.
	B	5 - 2" x 12"	&	5 - 2" x 12"		6 - 2" x 12"		No	
	C	4 - 2" x 12"	7,110#	5 - 2" x 12"		5 - 2" x 12"		6 - 2" x 12"	
14 FEET	A	2 - 1.75" x 11.25"	28" dia.	2 - 1.75" x 11.875"	31" dia.	3 - 1.75" x 11.25"	33" dia.	3 - 1.75" x 11.25"	34" dia.
	B	6 - 2" x 12"	&	No		No		No	
	C	5 - 2" x 12"	8,290#	6 - 2" x 12"		No		No	
16 FEET	A	3 - 1.75" x 11.25"	30" dia.	3 - 1.75" x 11.25"	33" dia.	3 - 1.75" x 11.875"	35" dia.	4 - 1.75" x 11.25"	37" dia.
	B	No	&	No		No		No	
	C	No	9,480#	No		No		No	
18 FEET	A	3 - 1.75" x 11.25"	32" dia.	4 - 1.75" x 11.25"	35" dia.	4 - 1.75" x 11.875"	37" dia.	3 - 1.75" x 14"	39" dia.
	B	No	&	No		No		No	
	C	No	10,660#	No		No		No	

*Table and more information continued on reverse side*

## Lumber Grade Legend

A – Laminated Veneer Lumber, Fb = 2,600 psi, Fv = 285 psi, E = 1,900,000 psi

B – Hem-Fir #2 Grade or better, Fb = 850 psi, Fv = 150 psi, E = 1,300,000 psi

C – Southern Yellow Pine #2 or better, Fb = 975 psi, Fv = 175 psi, E = 1,600,000 psi

A 4"x 6" is typical post size, a 6"x 6" is post size for 8 ft on center spacing and above. Engineering is required for all walls that are 14 feet high or greater to insure proper wind bracing and pole size. Minimum thickness for pad footings is 6" for footings up to 16" diameter, 8" thick for footings over 16" and up to 22" diameter and 10" thick for footings over 22" diameter. To determine footing diameter size, use the post spacing that equals half of the total of the spacing on either side of the post.

Roof trusses for smooth metal roof covering can be installed on up to 48" on center if permitted by the truss manufacturer. Trusses for non-slippery shingle roof covering shall be no more than 24" on center as permitted by the truss manufacturer. Purlins are to be 2"x4" minimum and spaced a maximum of 24" on center.

Tables shown are based on:

- Smooth metal roof, slope = 4:12 minimum
- Soil types of sand, silty sand or clayey sand
- Ground Snow Load = 70 psf
- Frost Footing depth = 42" minimum

Updated 3/10/2011 U:\Handouts\2009 MBC - MRC\Word versions\POLE BUILDING HANDOUT.doc

		32 Foot Wide Building		36 Foot Wide Building		40 Foot Wide Building		50 Foot Wide Building	
Post Spacing	Grade	Truss Carrier Beam	Footing Size	Truss Carrier Beam	Footing Size	Truss Carrier Beam	Footing Size	Truss Carrier Beam	Footing Size
4 FEET	A	1.75" x 5.5"	19" dia.	1.75" x 7.25"	20" dia.	1.75" x 7.25"	21" dia.	1.75" x 7.25"	24" dia.
	B	2" x 12"		2" x 12"		2 - 2" x 10"		2 - 2" x 10"	
	C	2" x 12"		2" x 12"		2" x 12"		2 - 2" x 10"	
6 FEET	A	1.75" x 9.25"	23" dia.	1.75" x 9.25"	25" dia.	1.75" x 9.25"	26" dia.	1.75" x 11.25"	29" dia.
	B	2 - 2" x 12"		3 - 2" x 10"		3 - 2" x 10"		3 - 2" x 12"	
	C	2 - 2" x 12"		2 - 2" x 12"		3 - 2" x 10"		3 - 2" x 12"	
8 FEET	A	1.75" x 11.25"	27" dia.	1.75" x 11.875"	28" dia.	2 - 1.75" x 9.25"	30" dia.	2 - 1.75" x 11.25"	33" dia.
	B	3 - 2" x 12"		4 - 2" x 12"		4 - 2" x 12"		5 - 2" x 12"	
	C	3 - 2" x 12"		3 - 2" x 12"		4 - 2" x 12"		5 - 2" x 12"	
10 FEET	A	2 - 1.75" x 11.25"	30" dia.	2 - 1.75" x 11.25"	32" dia.	2 - 1.75" x 11.25"	33" dia.	3 - 1.75" x 11.25"	37" dia.
	B	5 - 2" x 12"		6 - 2" x 12"		6 - 2" x 12"		No	
	C	5 - 2" x 12"		5 - 2" x 12"		6 - 2" x 12"		No	
12 FEET	A	2 - 1.75" x 11.875"	33" dia.	3 - 1.75" x 11.25"	35" dia.	3 - 1.75" x 11.25"	37" dia.	4 - 1.75" x 11.25"	41" dia.
	B	No		No		No		No	
	C	6 - 2" x 12"		No		No		No	
14 FEET	A	3 - 1.75" x 11.25"	35" dia.	3 - 1.75" x 11.875"	37" dia.	4 - 1.75" x 11.25"	39" dia.	3 - 1.75" x 14"	44" dia.
	B	No		No		No		No	
	C	No		No		No		No	
16 FEET	A	4 - 1.75" x 11.25"	38" dia.	4 - 1.75" x 11.875"	40" dia.	4 - 1.75" x 14"	42" dia.	4 - 1.75" x 14"	47" dia.
	B	No		No		No		No	
	C	No		No		No		No	
18 FEET	A	4 - 1.75" x 14"	40" dia.	4 - 1.75" x 14"	42" dia.	4 - 1.75" x 14"	45" dia.	4 - 1.75" x 16"	50" dia.
	B	No		No		No		No	
	C	No		No		No		No	