

DECKS

Information Sheet

BUILDING PERMITS - Are required for all decks.

PLAN REQUIREMENTS – Two copies of deck plan. Plans must indicate the following:

- > Existing house and method of connection
- > size of the deck
- > joist size & spacing
- > size of decking material
- > post size and spacing
- beam size
- > footing size and depth
- Plan must indicate lot size, size of existing structures, and setbacks from property lines.

*PLEASE NOTE - INCOMPLETE PLANS WILL BE RETURNED – CHANGES MADE TO PLANS AFTER SUBMITTAL WILL RESULT IN AN ADDITIONAL PLAN REVIEW FEE OF \$25.00

SETBACKS - Decks in *most* residential areas must be 6 feet from the side and rear lot lines (please check your survey or call the City). Decks can not be built on or encroach into an easement. Total square feet of structures can not exceed the percentage identified in that particular zoning district.

FROST FOOTINGS - Are required for all decks attached to a structure with frost footings. Footings shall be a minimum of 42 inches deep and 12 inches across the bottom.

GUARDRAILS - All decks 30 inches or more above grade must have a guardrail at least 36 inches in height and intermediate rail spacing or pattern so that a 4 inch sphere cannot pass through. Guardrails must withstand a 200 pound lateral force.

OVERHANGING DECKS - Joists shall not extend pass the beams by more than 2 feet, nor shall the beams overhang the post by more than 12 inches unless a special design is approved.

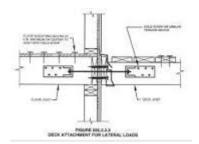
BEAMS - Splices in beam members shall occur over posts. Post to beam connection shall be achieved with shoulder cut and bolts or lags or approved brackets.

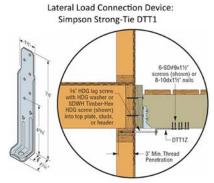
FLASHING – All penetrations to the exterior finish of the house shall be flashed and sealed to be made waterproof.

LEDGER BOARDS – 3/8" lag bolts 2 every 16 inches. 1/2" lag bolts or greater, staggered every 16 inches. Always 2 lag bolts at ends of ledger(s).

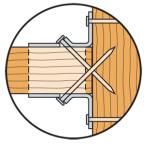
WOOD - All exposed wood shall be approved of natural resistance to decay (redwood, cedar, etc.) or approved treated.

LATERAL LOAD DEVICES REQUIRED BY CODE -





JOIST HANGERS - Joists framing into the side of a wood beam or house ledger shall be supported by joist hangers. Only joist hanger nails may be used in joist hangers with all holes filled (roofing nails and screws are **PROHIBITED**). Galvanized common nails, 2 ½" minimum lengths shall be used in double shear nail holes. Double and Triple hangers are required on Double and Triple members respectively. **DO NOT MODIFY HANGERS.** Use concealed flange hangers at the ends of the ledger. **ANGLE BRACKETS NOT ALLOWED.**



Double Shear Hanger

STAIRWAYS - A stairway with 4 or more risers and less than 30 inches above grade requires a handrail on one side only. Stairways that are more than 30 inches above grade must have guardrails on both sides and at least one handrail. The guardrails shall have intermediate rail spacing or patter so that a 4 inch sphere cannot pass through.

The handgrip portion of the handrail shall be placed not less than 34 inches nor more than 38 inches above the nosing of the stair treads. The handrail shall not be less than 1 ¼ inches not more than 2 inches in cross section and shall be continuous from a point directly above the top riser to a point directly above the lowest riser of the flight dimension. All handrails shall return or terminate to the newel post or safety terminals.

Concealed Flange Hanger

All risers shall be the same height, including top and bottom risers. The height of the risers can be between 4 inches and 7 3/4 inches high. Minimum tread depth is 10 inches.

All stairways shall be a minimum width of 36 inches.

LIGHTING - All exterior stairways shall be provided with a means to illuminate stairs landing and treads. An artificial light source located in the direct vicinity of the top landing of the stairway is required. As an alternate, the light source may be provided directly over each stairway section.

A solid pad must support stair stringers located at grade.

USE ONLY APPROVED FASTENERS IN METAL CONNECTORS

POST INSPECTION CARD IN A PROMINENT PLACE.
PERMIT & APPROVED PLANS MUST BE ON SITE AT TIME
OF INSPECTION OR INSPECTION WILL NOT BE COMPLETED.

Footings for decks must be inspected and approved **before** any placement of concrete.

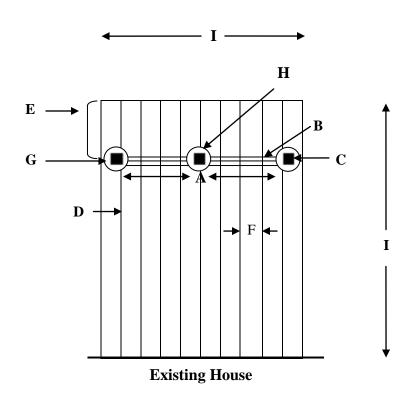
Framing inspection required for decks under 48" (4 feet) above grade.

A final inspection must be completed before the deck can be used. All stairways, handrails and guardrails must be completed before the final inspection will be approved.

Inspection hours are 9:00 AM to 3:00PM weekdays. All inspections require a minimum of a 24 hour notice to the Building Inspection Department. Call 651-280-6830 to schedule inspection.

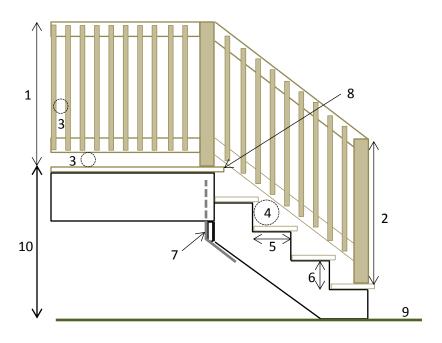
DECK WORKSHEET

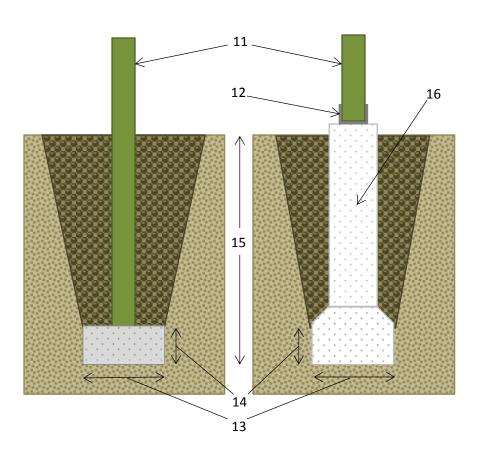
Please submit with your deck plans



Please Fill in the Blanks

A. Spacing in between posts	
B. Beam Size (2-2x10, etc.)	
C. Post Size (6X6 – 8X8, etc.)	
D. Joist Length & Size	
E. Joist Overhang (2 ft. max.)	
F. Spacing Between Joists(12", 16" O.C.)	
G. Corner Footing Size	
H. Intermediate Footing Size	-
I. Overall Deck Size	-
J. Height Above Ground	
K. Dimension of Decking (5/4x6 – 2x6, etc.)	_
L. Indicate Type of Decking: Treated Cedar	Other
Composite (list Manufacturer and Product line)	
M. Railing Materials and Design	_





- 1. Decks 30" or more above grade require a guard rail not less than 36" measured from the deck surface.
- Guards on the side of stairs shall not be less than 34" measured vertically from a line connecting the leading edge of the treads. Where the guard also serves as a hand rail it shall not be more than 38".
- 3. Openings in the guard shall not allow the passage of a 4" diameter sphere.
- 4. The triangle formed by the riser, tread, and the bottom rail shall not allow the passage of a 6" diameter sphere.
- 5. The minimum depth tread shall be 10". The greatest depth shall not exceed the smallest by more than 3/8".
- 6. The maximum riser height shall be $7^3/4^{\circ}$. The greatest height shall not exceed the smallest by more than $3/8^{\circ}$.
- Stair stringers shall be attached by metal straps, hangers, and or structural screws.
- 8. A nosing of not less than $\frac{3}{4}$ " or more than $\frac{1}{4}$ " shall be provided on stairways.
- 9. There shall be a landing at the top and bottom of a stairway not less than the width of the stairs and 36" in the direction of travel.
- 10. Decks more than 30" above grade require a guard.
- 11. Columns shall be approved pressure preservative treated wood suitable for ground contact.
- 12. Fasteners shall be approved for use with treated wood.
- 13. Diameter of footing based on deck load (min. 12") see chart.
- 14. Minimum thickness of footings is 8" for footings up to 16"in diameter and 12" thick for footings over 16" in diameter.
- 15. Footings shall be poured on dry undisturbed soil a minimum of 42" below grade.
- Cardboard forms shall be held up to allow for bell/flare thickness and diameter.
 12"diameter min. recommended for 6x6 posts.

BEAM & FOOTING SIZES

Based on No.2 or better Ponderosa Pine and Southern Pine (Treated for weather and/or ground exposure)

Post Spacing

	i ou opuomg												
			4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
		Southern Pine B	1 - 2x6	1 - 2x6	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x10
	6'	Ponderosa Pine	1 - 2x6	1 - 2x6	1 - 2x8	2 - 2x8	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10
	١	Corner Footing	6 5 4	7 6 5	7 6 5	8 7 6	9 7 6	9 7 6	10 8 7	10 8 7	10 9 7	11 9 8	11 9 8
		Intermediate Foo	987	10 8 7	10 9 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11	16 13 11
		Southern Pine B	1 - 2x6	1 - 2x6	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x10	2 - 2x12
	7'	Ponderosa Pine	1 - 2x6	1 - 2x6	1 - 2x8	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x10	2 - 2x12	3 - 2x10	3 - 2x10
	l '	Corner Footing	7 5 5	7 6 5	8 7 6	9 7 6	987	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	12 10 9
		Intermediate Foo	987	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	15 13 11	16 13 11	17 14 12	17 14 12
		Southern Pine B	1 - 2x6	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	2 -2x12
	8'	Ponderosa Pine	1 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x10	3 - 2x10	3 - 2x10	3 - 2x12
	ľ	Corner Footing	7 6 5	8 6 6	9 7 6	987	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	13 10 9	13 11 9
		Intermediate For	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	16 13 12	16 13 12	17 14 12	18 15 13	18 15 13
		Southern Pine B	1 - 2x6	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10
	9'	Ponderosa Pine	1 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x10	3 - 2x10	3 - 2x10	3 - 2x12	3 - 2x12
		Corner Footing	7 6 5	8 7 6	9 7 6	10 8 7	10 9 7	11 9 8	12 10 8	12 10 9	13 10 9	13 11 9	14 11 10
		Intermediate For	10 9 7	12 10 8	13 10 9	14 11 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 15 13	20 16 14
		Southern Pine B	1 - 2x6	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10	3 - 2x10
	10'	Ponderosa Pine	1 - 2x6	1 - 2x6	2 - 2x8	2- 2x8	2 - 2x10	2 - 2x10	2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x12	Eng Bm
I		Corner Footing	8 6 6	9 7 6	10 8 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11	16 13 11
LENGTH		Intermediate For	11 9 8	12 10 9	14 11 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 16 14	20 16 14	21 17 15
		Southern Pine B	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10	3 - 2x12
	11'	Ponderosa Pine	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x12	Eng Bm
		Corner Footing	8 7 6	9 7 6	10 8 7	11 9 8	12 9 8	12 10 9	13 11 9	14 11 10	14 12 10	15 12 10	15 13 11
JOIST		Intermediate For	12 9 8	13 11 9	14 12 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 16 14	20 16 14	21 17 15
19		Southern Pine B	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	3-2x10	3 - 2x10	3 - 2x12
	12'	Ponderosa Pine	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x12	3 - 2x12	Eng Bm	Eng Bm
		Corner Footing	9 7 6	10 8 7	10 9 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11 22 18 15	16 13 11
		Intermediate For	12 10 9	14 11 10 2 - 2x6	15 12 10 2 - 2x6	16 13 11 2 - 2x8	17 14 12 2 - 2x8	18 15 13 2 - 2x10	19 16 14 2 - 2x10	20 16 14 2 - 2x12	21 17 15 3 - 2x10	3 - 2x12	23 18 16
		Southern Pine B	1 - 2x6 2 - 2x6	2 - 2x6 2 - 2x6	2 - 2x8	2 - 2x0 2 - 2x10	2 - 2x0 2 - 2x12	2 - 2x10 2 - 2x12	2 - 2x10 2 - 2x12	3 - 2x12	3 - 2x10		3 - 2x12 Eng Bm
	13'	Ponderosa Pine	9 7 6	10 8 7	11 9 8	12 10 8	13 10 9	13 11 9	14 12 10	15 12 10	15 13 11	Eng Bm 16 13 11	17 14 12
		Corner Footing Intermediate For	13 10 9	14 12 10	15 13 11	17 14 12	18 15 13	19 15 13	20 16 14	21 17 15	22 18 15	23 19 16	24 19 17
		Southern Pine B	1 - 2x6	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x10	2 - 2x10	2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x12	3 - 2x12
			2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x0 2 - 2x10	2 - 2x10 2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x10	Eng Bm	Eng Bm	Eng Bm
	14'	Ponderosa Pine Corner Footing	9 8 7	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	15 13 11	16 13 11	17 14 12	17 14 12
		Intermediate For	13 11 9	15 12 10	16 13 11	17 14 12	18 15 13	20 16 14	21 17 15	22 18 15	23 18 16	24 19 17	24 20 17
		Southern Pine B	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x12	Eng Bm
		Ponderosa Pine	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	3 - 2x10	3 - 2x10	3 - 2x12	3 - 2x10	Eng Bm	Eng Bm	Eng Bm
	15'	Corner Footing	10 8 7	11 9 8	12 10 8	13 10 9	14 11 10	14 12 10	15 12 11	16 13 11	17 14 12	17 14 12	18 15 13
		Intermediate For	14 11 10	15 12 11	17 14 12	18 15 13	19 16 14	20 17 14	21 17 15	22 18 16	23 19 17	24 20 17	25 21 18
		Southern Pine B	2 - 2x6	2 - 2x6	2 - 2x8	2 - 2x8	2 - 2x10	2 - 2x12	2 - 2x12	3 - 2x10	3 - 2x12	3 - 2x12	Eng Bm
		Ponderosa Pine	2 - 2x6	2 - 2x8	2 - 2x10	2 - 2x10	3 - 2x10	3 - 2x10	3 - 2x12	3 - 2x12	Eng Bm	Eng Bm	Eng Bm
	16'	Corner Footing	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	16 13 11	16 13 12	17 14 12	18 15 13	18 15 13
		Intermediate For	14 11 10	16 13 11	17 14 12	18 15 13	20 16 14	21 17 15	22 18 16	23 19 16	24 20 17	25 21 18	26 21 18
								: :: :5					

Notes:

- 1. Joist Length is total length of joist, including any cantilevers.
- 2. When Joist extends (cantilevers) beyond support beam by 18" or more, add 1" to footing dimensions shown.
- 3. Requirements for a future 3 season or screen porches:
- a. Increase corner footing size shown by 90%
- b. Increase center footing size by 55%

Locate all footings at extremities of deck (no cantilevers)

d. Beam sizes indicated need not be altered.

4. All footing sizes above are base diameters (in inches) and are listed for THREE SOIL TYPES:

	Clay	<u>Sand</u>	<u>Gravel</u>
Corner Footing	10	8	7
Intermediate Footing	14	11	10

Footings up to 16" - Min. 8" thick Footings over 16" - Min. 12" thick

Joist Span

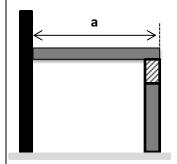
Based on No.2 or better wood grades.

(Design Load = 40#LL + 10#DL, Deflection = L/360)

	Ponderosa Pine		Southern Pine			Western Cedar			
	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC
2 X 6	9-2	8-4	7-0	10-9	9-9	8-6	9-2	8-4	7-3
2 X 8	12-1	10-10	8-10	14-2	12-10	11-0	12-1	11-0	9-2
2 X 10	15-4	13-3	10-10	18-0	16-1	13-5	15-5	13-9	11-3
2 X 12	17-9	15-5	12-7	21-9	19-0	15-4	18-5	16-0	13-0

Sample Calculations for Using Joist Span, Beam Size and Footing Size Tables

Case 1 Solution:



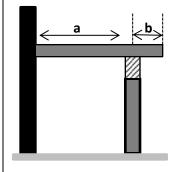
Refer to tables for joist, beam and footing size requirements.

Example: a=12'; Post Spacing = 8'

Use the **Joist Span** table to find the acceptable joist size for a 12' span, 2x8's at 12" O.C., 2X10's at 16" O.C. or 2x12's at 24" O.C.

Use the **Beam and Footing Sizes** table and find the 8' post spacing column. With a 12' deck span, the beam may be either two 2x8's or two 2x10's, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 12", 10" or 9" for the corner post and 17", 14" or 12" for all intermediate posts.

Case 2 Solution:



Use "a" to determine joist size and "a" + "2b" to determine beam and footing sizes. The length of "b" is restricted by both the length of "a" and the size of the joists.

Example: a = 8', b = 2', Post Spacing = 10'

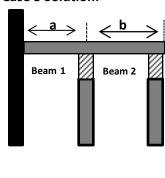
Refer to **Joist Span** table. For an 8' joist span, either 2 x 8's at 24" O.C. or 2 x 6's at 16" O.C. are acceptable.

For sizing the beam, use a joist length of 12' (8' + 4') and a post spacing of 10'. The **Beam and Footing Sizes** table indicates that the beam may be either two $2 \times 10'$ s or two $2 \times 12'$ s, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 15'', 12'' or 11'' for the corner post and 20'', 17'' or 15'' for all intermediate posts. Note that because of the 2' cantilever all footing sizes were increased by 1'' as required by footnote 2 at the end of the table.

Use "a" or "b", whichever is greater, to determine joist size. Use "a" + "b" to determine the size of Beam 1 and the post footing size for the posts supporting Beam 1. Use joist

length "b" to determine both the size of Beam 2 and the post footing size for the posts

Case 3 Solution:

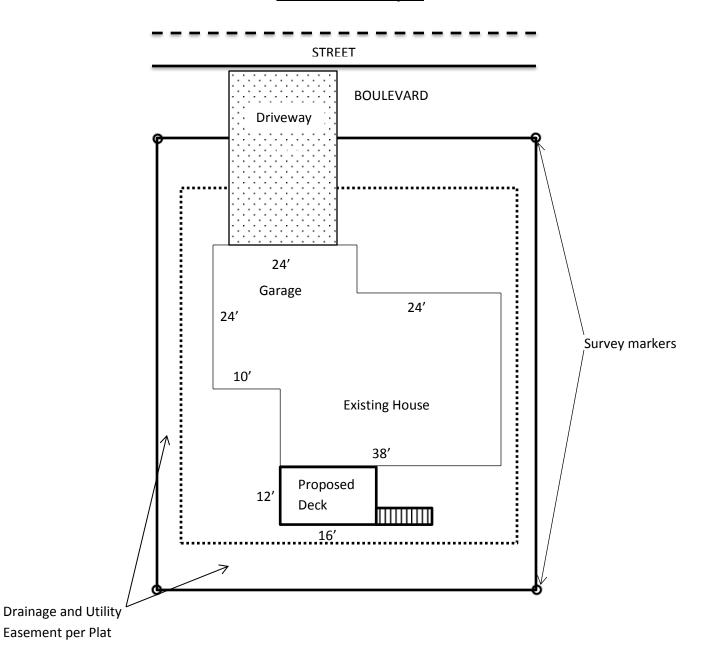


supporting Beam 2. Example: a=6', b=7', Post spacing = 9'

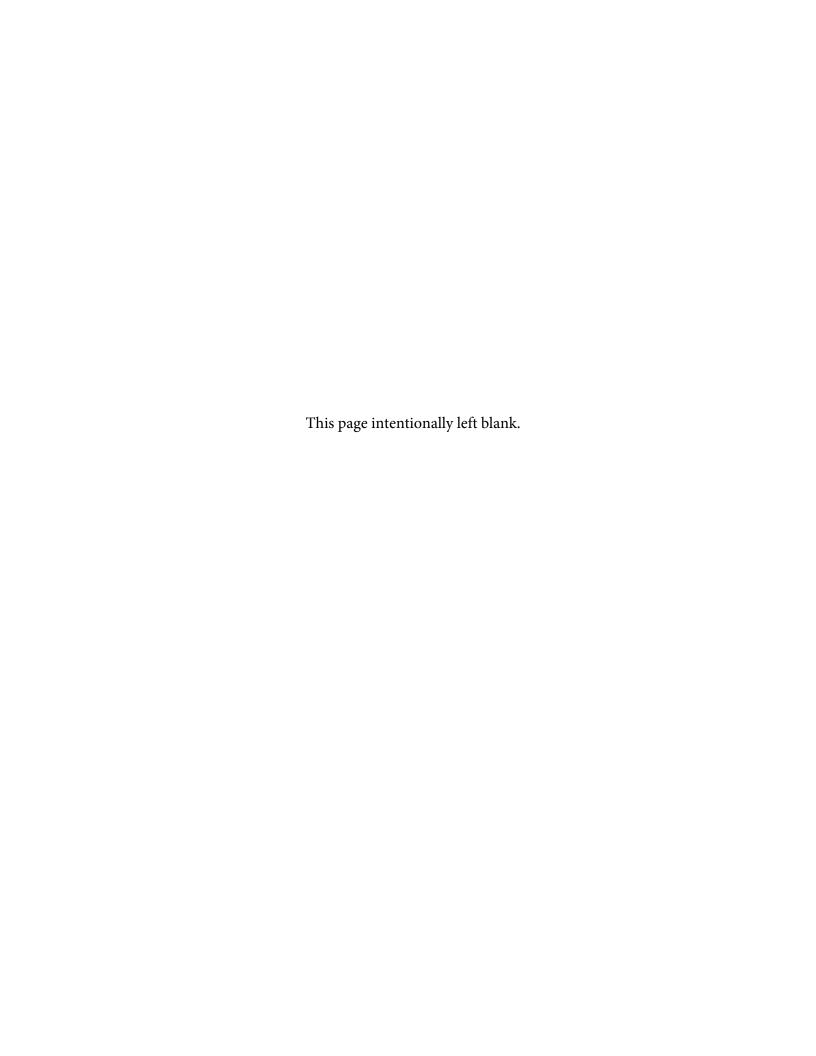
Joist size is determined by using the longest span joist (7'). The **Joist Span** table indicates that 2×6 s at 24'' O.C. would be adequate for this span.

For Beam 1 and footings, use a joist length of 13' (6'+7') and a post spacing of 9'. The **Beam and Footing Sizes** table indicates that the beam may be two 2x10s or two 2x12s, depending on the wood used. Depending on the type of soil, the footing diameters for Beam 1 posts shall be 13", 11" or 9" for the corner (outside) posts and 19", 15" or 13" for all intermediate posts. For Beam 2 and footings use a joist length of 7' and post spacing of 9'. The beam may be two 2x8s or two 2x10s, depending on wood used. The footing diameters for Beam 2 shall be 10", 8" or 7" for the corner posts and 14", 11" or 10", for all intermediate posts.

Site Plan Sample



Before you dig, call <u>Gopher State One Call</u> <u>651-454-0002</u>



City of Farmington

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Application For Building Permit

430 Third St., Farmington , MN 55024 651-280-6830 Fax 651-280-6839

	Date		Permit No	
Site Address Legal Description	Lot Block			
Property Owner				
	City		State Zip _	
Contractor	Company		Phone No	0
		o.:	•	
			_	
Description of Proj				
		nalties of the law, for the purpo		nington to the action herein City of Farmington and the State
Applicants Signature_			Date	_
Bldg Permit Type:	☐ - SFD ☐ - Duplex ☐ - Res. Multi. ☐ - Commercial ☐ - Industrial ☐ - Institutional	☐ - Public ☐ - Garage ☐ - Pool ☐ - Move ☐ - Other Structure ☐ - Deck	☐ - Porch ☐ - Demo. Res. ☐ - Demo. Non.Res. ☐ - Interior Finish ☐ - Roof ☐ - Siding	□ - Other
Work Type:	☐ - New ☐ - Remodel/Alt.	☐ - Addition ☐ - Repair/Replace	☐ - Interior. Finish☐ - Masonry Veneer	☐ - Reside ☐ - Reroof

This permit shall be null and void if authorized work is not started within 180 days or if work is suspended or abandoned for 180 days or more after work is started.

OFFICE USE ONLY

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Office Use	☐ - Footing	☐ - Sheet Roo	ck	
	☐ - Foundation	□ - Final □ - Re-Roof		_
Required	☐ - Framing ☐ - Insulation	□ - Ke-K001		
Inspections				
Office Use	New ☐ 101 - 1 Fam. Res.	New ☐ 214 - Other She	New elter □ 324 - Office/Bank	☐ 434 - Alt./Add/ Res. ☐ 437 - Alt./Add. Nonres.
Census Code:	□ 102 - 1 Fam. Attac	ched 318 - Amusemo	ent/Rec. □ 325 - Utilities	☐ 438 - Alt./Add. Res. Gar.
Census Code:	☐ 103 - 2 Fam. (Dup ☐ 104 - 3&4 Family	olex) □ 319 - Place of V □ 320 - Industrial		□ 645 - Demo 1-Fam. □ 646 - Demo 2-Fam.
	□ 105 - 5 or more Fa	mily □ 321 - Non Res.	. Garage 328 - Other Nonres.	☐ 647 - Demo 3&4 Fam.
	□ 213 - Hotel/Motel	☐ 322 - Service S ☐ 323 - Hosp./Ins		☐ 648 - Demo 5 or more ☐ 649 - Demo Other
	□ 213 - Hotel/Motel	□ 323 - 110sp./1lls	Sitution	🗀 049 - Demo Other
Description	Cost	t per Square Foot	Square Feet	Valuation
1 st Floor				
2 nd Floor				
Basement – Finishe	d			
Basement - Unfinish	hed			
Dasement Orginisi	ica			
Garage				
Garage				
D 1				
Deck				
Other				
	l l			
			TOTAL	
Application Approved	By:			
		-	Date	
City Planner/Zoning				
Permit Approved:				
D.::141: O.CC : 1.1/I		-	Date	
Building Official/Inspec	ног			
Grading Plan Approve	ed:			
9FF-011				
		=	Date	
Engineering				
Eine Cada Carrella				
Fire Code Compliance	'•			
			Date	
Fire Marshal			2400	