

**RESIDENTIAL DECK, SCREEN and COVERED PORCH**  
BUILDING PERMIT INFORMATION  
FOR 1 & 2-FAMILY DWELLINGS

**Building permits are required for any attached or detached deck that has a walking surface 6" or more above grade.**

To obtain a building permit for a deck you **must** supply the following:

- ❖ Signed and completed building permit application form.
- ❖ Two (2) copies of a site plan, two (2) copies of a section/elevation and two (2) copies of a floor plan.

*See page 3 for examples of plans required*

Once the application and complete, correct plans are received by the Building Safety Department it can take up to 5-business days for plan review before the permit is issued. Please plan accordingly.

**Required inspections:**

- 1) **Footing Inspection** after the footings have been dug and before the placement of any concrete.
- 2) **Framing Inspection**  
**Screen or covered porches** (when framing is to be covered) after framing is completed but before framing is covered.  
**Decks** (if framing will not be visible at final inspection) after framing is completed but before placement of deck boards.
- 3) **Final Inspection** after deck is complete, including all steps, guardrails, handrails, etc.

Call 255-7239, 8 a.m. to 4:30 p.m., to arrange an inspection **at least one business day** in advance. Inspection appointments are scheduled on a first-come first-serve basis, and there is no guarantee that you can get an inspection within 24 hours of calling. Inspections are available 9:00 a.m. to 11:30 a.m. and 1:30 p.m. to 3:30 p.m. Monday through Friday.

An inspection is required at least every 6 months otherwise the permit will be closed and a new permit will be required to finish project. When needed, an extension may be requested in writing.

**Setbacks/placement on property**

- ❖ Setbacks from property lines varies depending on the lot, please contact the Building Safety Department at (320)255-7239 or the Planning Department at (320)255-7218 for specific requirements.
- ❖ Some properties have drainage and/or utility easements; structures are not allowed to be built in these easements. Contact the City Engineering Department at (320)255-7249 for information.
- ❖ All setbacks are measured to property lines.
  - Property lines are found by locating the property irons (buried in each corner of the lot) typically by using a metal detector. If the property irons cannot be found a surveyor can be hired to locate them. **The City of St. Cloud DOES NOT survey properties.** Sidewalks and fences are not necessarily on the property lines. The only way to find a property line is by finding the property irons.
- ❖ Any overhead power supply wires must be at least 10' above the surface of the deck or at least 3' away from the edge of the deck horizontally.
- ❖ Find out where the underground utility lines might be buried before you dig. Anyone digging in Minnesota must call before digging. This is a FREE service. Call Gopher State One 1-800-252-1166, at least 2-business days before you dig, office hours are 7 a.m. – 5 p.m., Monday through Friday.

**Footings**

- ❖ See page 4 & 5 for proper sizing of footings.
- ❖ Attached deck footings shall be designed and constructed below frost depth (42" minimum to bottom of footing).
- ❖ Detached decks are required to have code compliant footings, but they do not need to be below frost depth.
- ❖ Pre-cast footings (cookies) have a minimum 4" thickness.
- ❖ Cast-in-place concrete footings are a minimum 6" thickness.

## Guardrails, Stairways & Handrails

- ❖ See attached stairway handout for guardrail, stairway and handrail specifications.
  - Decks that are more than 30" above grade shall have a guardrail.
  - Stairs have a maximum rise of 7 ¾" and minimum tread run of 10".
  - Continuous, graspable handrail is required for stairways with 4 or more risers.

## Ledger board

- ❖ Ledger board must be the same size as the floor joists and attached to the dwelling with lag bolts/screws that penetrate into house rim or wall studs.
- ❖ All connections between the deck and dwelling shall be weatherproof. Any cuts in the exterior coverings of the house shall be properly flashed.
  - Make sure you are using the correct flashing and drip cap for treated lumber.

## Wood required

- ❖ Approved wood of natural resistance to decay or treated wood shall be used for all lumber that is exposed to weather.
  - Recent changes have been made in the chemicals used in the manufacture of pressure-treated wood. The fastener industry has indicated that some of the drip caps, hangers, fasteners, ect. currently on the market **may not perform with some of the new treatments**. Make sure you use the proper hardware, for the type of treatment of the lumber.

## Decking

- ❖ Some composite decking materials are approved for use; please contact the building department for a list of approved materials.
- ❖ Minimum decking thickness is 5/4" for decking running perpendicular to the joists.

## Beams

- ❖ The support beams cannot overhang (cantilever) the support posts by more than one foot unless special designs are accepted at the time of plan approval.
- ❖ When beams are 2-ply, the two wood members must be nailed or lag-bolted together (see sample plan for more info).
- ❖ Any splices in beams must be over a support.

## Joists

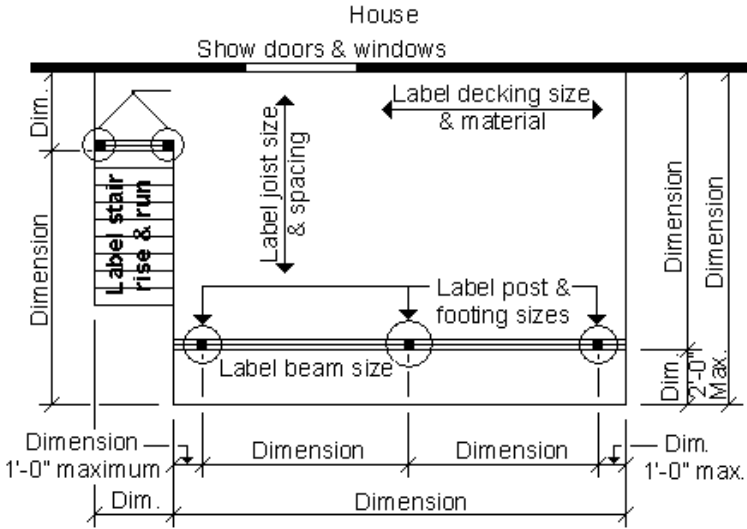
- ❖ Floor joists shall not overhang (cantilever) the support beams by more than 1'-0" for 2x6 joists or smaller, 2'-0" for over 2x6 joists.
- ❖ Joists that frame into ledgers or beams shall be supported by approved framing anchors such as joist hangers.

## Additional requirements for screen or covered porches

- ❖ Posts and beams must be at extremities unless structurally engineered.
  - Plans must be signed and stamped by a structural engineer to be accepted with cantilevers.
- ❖ Increase corner footing sizes listed in chart by 90%.
- ❖ Increase intermediate footing sizes listed in chart by 55%.
- ❖ Pre-cast footings (cookies) and cast-in-place concrete footings both have a minimum 6" thickness.

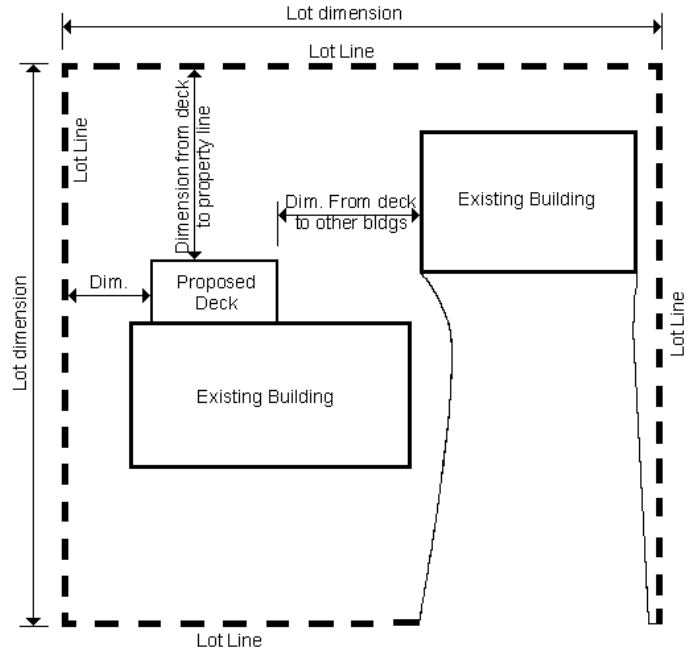
The information in this handout is just an overview.  
See the 2007 Minnesota State Building Code for complete information.

### Sample Floor Plan:

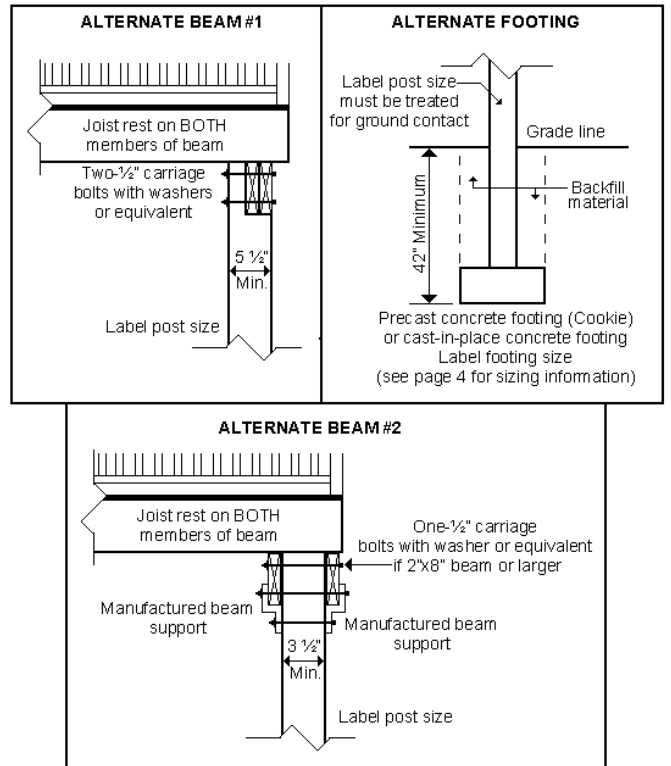
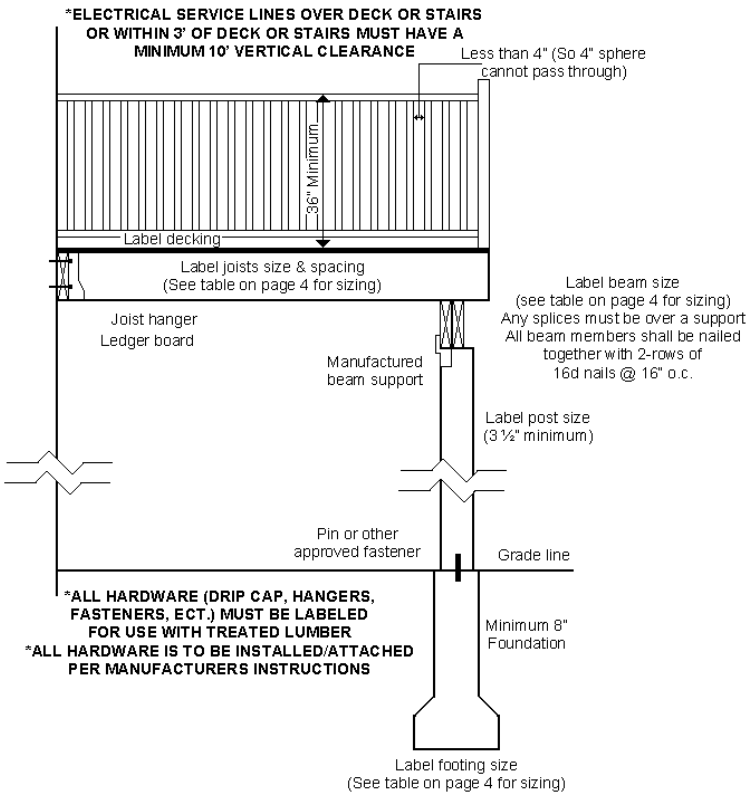


\*See pages 4 & 5 for sizing of beams & joists

### Sample Site Plan:



### Sample Section/Elevation Plan:



		POST SPACING (IN FEET)										
		4	5	6	7	8	9	10	11	12	13	
JOIST LENGTH (SEE NEXT PAGE FOR HOW TO FIGURE JOIST LENGTH)	6	BEAM	1 Ply 2x6	1 Ply 2x6	1 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x12	2 Ply 2x12
		CORNER FTG	8	8	8	8	8	8	9	9	10	10
		INTERMEDIATE	8	9	10	10	11	12	12	13	13	14
	7	BEAM	1 Ply 2x6	1 Ply 2x6	1 Ply 2x8	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x10	2 Ply 2x12	3 Ply 2x10
		CORNER FTG	8	8	8	8	9	9	9	10	10	11
		INTERMEDIATE	9	9	10	11	12	13	13	14	14	15
	8	BEAM	1 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x10	3 Ply 2x10	3 Ply 2x10
		CORNER FTG	8	8	8	9	9	10	10	11	11	11
		INTERMEDIATE	9	10	11	12	13	13	14	15	15	16
	9	BEAM	1 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x10	3 Ply 2x10	3 Ply 2x10	3 Ply 2x12
		CORNER FTG	8	8	8	9	10	10	11	11	12	12
		INTERMEDIATE	10	11	12	13	13	14	15	16	16	17
	10	BEAM	1 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x12	3 Ply 2x10	3 Ply 2x12	3 Ply 2x12
		CORNER FTG	8	8	9	9	10	11	11	12	12	13
		INTERMEDIATE	10	11	12	13	14	15	16	16	17	18
	11	BEAM	2 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x12	2 Ply 2x12	3 Ply 2x10	3 Ply 2x12	3 Ply 2x12
CORNER FTG		8	8	9	10	11	11	12	12	13	13	
INTERMEDIATE		11	12	13	14	15	16	16	17	18	19	
12	BEAM	2 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	2 Ply 2x12	2 Ply 2x12	3 Ply 2x12	3 Ply 2x12	Eng. Bm	
	CORNER FTG	8	9	10	10	11	12	12	13	13	14	
	INTERMEDIATE	11	12	13	14	15	16	17	18	19	19	
13	BEAM	2 Ply 2x6	2 Ply 2x6	2 Ply 2x8	2 Ply 2x10	2 Ply 2x12	2 Ply 2x12	2 Ply 2x12	3 Ply 2x12	3 Ply 2x12	Eng. Bm	
	CORNER FTG	8	9	10	11	11	12	13	13	14	14	
	INTERMEDIATE	11	13	14	15	16	17	18	19	19	20	
14	BEAM	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	2 Ply 2x12	3 Ply 2x10	3 Ply 2x12	3 Ply 2x12	Eng. Bm	Eng. Bm	
	CORNER FTG	9	9	10	11	12	13	13	14	14	15	
	INTERMEDIATE	12	13	14	15	17	17	18	19	20	21	
15	BEAM	2 Ply 2x6	2 Ply 2x8	2 Ply 2x8	2 Ply 2x10	3 Ply 2x10	3 Ply 2x10	3 Ply 2x12	3 Ply 2x12	Eng. Bm	Eng. Bm	
	CORNER FTG	9	10	11	11	12	13	14	14	15	15	
	INTERMEDIATE	12	14	15	16	17	18	19	20	21	22	
16	BEAM	2 Ply 2x6	2 Ply 2x8	2 Ply 2x10	2 Ply 2x10	3 Ply 2x10	3 Ply 2x10	3 Ply 2x12	3 Ply 2x12	Eng. Bm	Eng. Bm	
	CORNER FTG	9	10	11	12	13	13	14	15	15	16	
	INTERMEDIATE	13	14	15	17	18	19	20	21	21	22	

		JOIST SPANS		
		JOIST SPACING		
		12" O.C.	16" O.C.	24" O.C.
JOIST SIZE	2X6	9'-2"	8'-4"	7'-0"
	2X8	12'-1"	10'-10"	8'-10"
	2X10	15'-4"	13'-3"	10'-10"
	2X12	17'-9"	15'-5"	12'-7"

		RAFTER SPANS			
		RAFTER SPACING			
		12" O.C.	16" O.C.	19.2" O.C.	24" O.C.
RAFTER SIZE	2X4	7'-1"	6'-2"	5'-7"	5'-0"
	2X6	10'-5"	9'-0"	8'-3"	7'-4"
	2X8	13'-2"	11'-5"	10'-5"	9'-4"
	2X10	16'-1"	13'-11"	12'-9"	11'-5"
	2X12	18'-8"	16'-2"	14'-9"	13'-2"

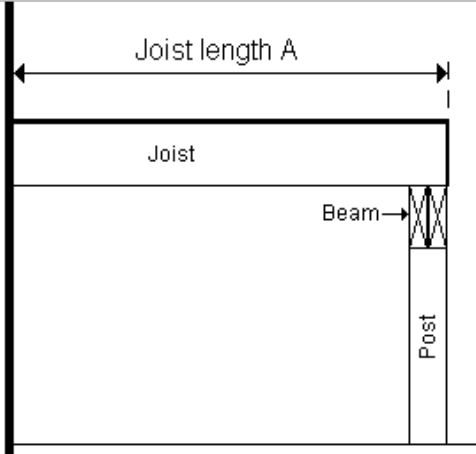
#### GENERAL NOTES

- \*Tables are for Ponderosa Pine species wood and cast-in-place concrete in clay soils.
- \*All footing sizes are for the diameter in inches
- \*When joist cantilevers (extends) beyond support beam by less than 18" add 1" to footing size
- \*When joist cantilevers (extends) beyond support beam by 18" or more add 2" to footing size
- \*Precast footings (cookies) are a minimum of 4" thick
- \*Cast-in-place footings are a minimum 6" Thick

#### NOTES FOR COVERED, SCREEN AND 3-SEASON PORCHES

- \*Increase corner footing sizes shown by 90%  
(a 12" minimum diameter footing becomes a minimum 23" diameter ftg.)
- \*Increase intermediate footing sizes shown by 55%  
(a 12" minimum diameter footing becomes a minimum 19" diameter ftg.)

## Case #1: Simple deck



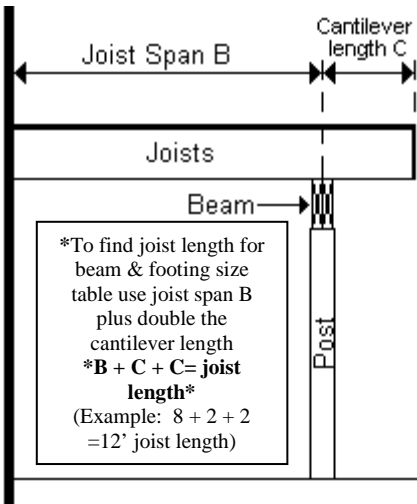
Example:

Joist length A=12-feet

Post spacing =8-feet

- ◆ Use the **joist span table and joist length A** to find the acceptable joist sizes for a 12-foot span:
  - 2x8 joists at 12-inches on-center spacing
  - or
  - 2x10 joists at 16-inches on-center spacing
  - or
  - 2x12 joists at 24-inches on-center spacing
- ◆ Use the **beam and footing sizes table and joist length A** to find the acceptable beam and footing sizes for deck with an 8-foot post spacing and 12-foot joist length.
  - Find the 8-foot post spacing column and the 12-foot joist length row: a 2x10 beam is required.
  - The corner footings have a minimum diameter of 11-inches, intermediate footings have a minimum diameter of 15-inches.

## Case #2: Deck with cantilever



Example:

Joist span B=8-feet

Cantilever length C=2-feet

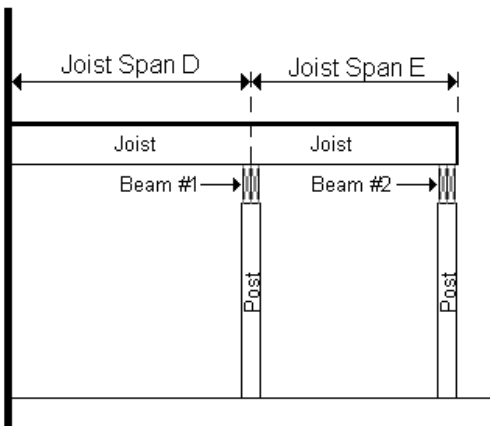
Post spacing =10-feet

- ◆ Use the **joist span table and joist span B** to find the acceptable joist sizes for an 8-foot span:
  - 2x6 joists at 16-inches on-center
  - or
  - 2x8 joists at 24-inches on-center
- ◆ Use the **beam and footing sizes table, joist span B, and cantilever length C** to find the acceptable beam and footing sizes for deck with and 10-foot post spacing and joist length of 12-feet.
 

**\*See box to left for information on finding joist length**

  - Find the 10-foot post spacing column and the 12-foot joist length row: a 2 ply 2x12 beam is required.
  - If cantilever is under 18-inches add 1-inch to footing diameters to get a minimum corner footing diameter of 13-inches and a minimum intermediate footing diameter of 17-inches.
  - If the cantilever is 18-inches or greater add 2-inches to the footing sizes to get a minimum corner footing diameter of 14-inches and a minimum intermediate footing diameter of 19-inches.

## Case #3: Deck with two beams



Example:

Joist span D = 6-feet

Joist span E = 7-feet

Post spacing = 9-feet

- ◆ Use the **joist span table and joist span D or E (whichever is greater)** to find the acceptable joist sizes for a 7-foot span:
  - 2x6 joists at 24-inches on-center
- ◆ Use the **beam and footing sizes table, joist span D plus joist span E** to find the acceptable beam and footing sizes beam #1, and the **beam and footing sizes table and joist span E** to find the acceptable beam and footing sizes beam #2.
  - Beam #1:
    - 6-feet + 7-feet =13-feet
    - Find the 9-foot post spacing column and the 13-foot joist length row: a 2 ply 2x12 beam is required.
    - The corner footings have a minimum diameter of 12-inches, intermediate footings have a minimum diameter of 17-inches.
  - Beam #2:
    - Find the 9-foot post spacing column and the 7-foot joist length row: a 2 ply 2x10 beam is required.
    - The corner footings have a minimum diameter of 9-inches, intermediate footings have a minimum diameter of 13-inches.