



Deck Requirements

IN ORDER TO BUILD A DECK IN THE CITY OF PLEASANT HILL, YOU MUST OBTAIN: A PERMIT, PASS INSPECTIONS, AND LOCATE PROPERTY LINES.

OBTAINING A PERMIT

To obtain a permit, you will need the following information:

- Permit application
- Permit cost determined by sq.ft.
- Site plan showing location and easements and measurements of rear & side yard, and lot lines
- One cut-away drawing (see back page)

PROPERTY LINES

The City of Pleasant Hill does not locate property lines.

The Building Department can provide you with a plat map showing a property's dimensions.

The Building Department can be reached at (515) 309-9461.

INSPECTIONS

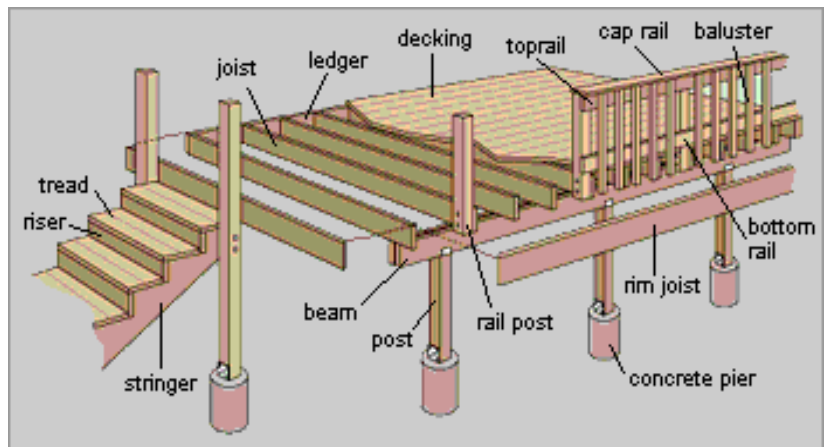
An inspection is required for footings and once the structure is complete.

Inspections require 24hr notice. To schedule an inspection M-F 8a-4p, call the Community Development Clerk at (515) 309-9461.



GENERAL GUIDELINES

1. An exterior floor system supported on at least two opposing sides by an adjoining structure and/or posts, piers, or other independent supports.
2. All decks require a building permit from the Building Department, 5160 Maple Dr, located in the lower level.
3. A deck is NOT permitted to encroach over or otherwise impede an easement on file with the applicable county recorder.
4. If Restrictive Covenants for your plat are on file with the applicable county recorder, some additional requirements may apply.
5. A guardrail is required if deck height is 30" or more above grade.
6. If guardrail and stair railings are required, they shall have intermediate railings or an ornamental pattern such that a sphere 4" in diameter cannot pass through.
7. Stairs with 4 (four) or more risers require grip-able handrails that shall be not less than 34 inches and not more than 38 inches.
8. Minimum 10" run and maximum 7 3/4" rise required for stairs.
9. Pounds per square foot must be increased for hot tubs.



City of Pleasant Hill
Building Department
5160 Maple Dr. Ste. A
Pleasant Hill, IA 50327-8440
Ph: (515) 309-9461
Fax: (515) 309-9458
www.pleasanthilliowa.org



Call Before You Dig!
1-800-292-8989

Notification service for locating underground

Step 1: Design and Plan Your Deck

If you do not have a ready-made design you'll have to design a plan yourself.

First, draw a simple sketch of the deck—decking, rails, footing, posts and beams, then insert the dimension. To save money, stick to standard lumber sizes and lengths.

Use treated lumber and rated fasteners.

Step 2: Find the Footing Size

To find the footing size, use the equations below to calculate the load on the corner posts (equation 1) and on the intermediate posts (equation 2). Neither equation is designed for hot tub loads.

Equation 1

$$(1/2 \text{ PS } 1) \times (1/2 \text{ span}) = \text{Load Area} \times (50 \text{ psf}) = \text{Load (psf)}$$


$$\text{_____} \times \text{_____} = \text{_____} \times 50 = \text{_____}$$

Equation 2

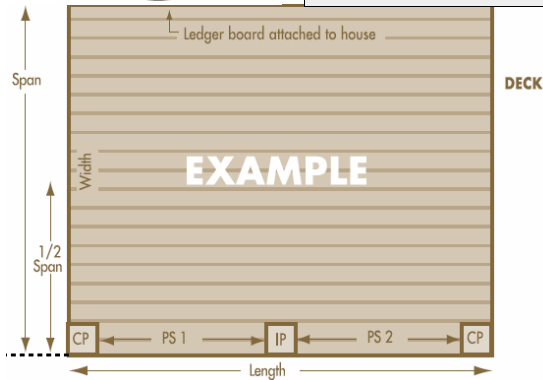
$$(1/2 \text{ PS } 1 + 1/2 \text{ PS } 2) \times (1/2 \text{ span}) = \text{Load Area} \times (50 \text{ psf}) = \text{Load (psf)}$$

$$(\text{_____} + \text{_____}) \times \text{_____} = \text{_____} \times 50 = \text{_____}$$

Using Equation 1 and Equation 2, refer to the chart to determine the footing size for each post.



Load (psf)	Posthole Diameter
500 or less	8 inches
501 to 1000	10 inches
1001 to 1500	12 inches
1501 to 2000	14 inches
2001 to 2500	16 inches



- CP = Corner Posts
- IP = Intermediate Posts
- PS = Measurement between centers of posts
- Span = Outside width of deck
- psf = Pounds per square foot
- Total Loads = Live Load + Dead load
- Total Loads = 50 psf
- Cantilever = Where joist and decking extend over posts

Step 3: Find the Post Size

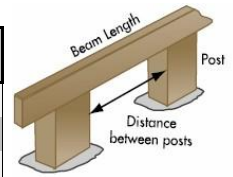
To find the appropriate post size, use the chart below for each post. Embed the post in the concrete footing or attach with approved connectors.

Height in Feet	Load area supported by post				
	48 sf	72 sf	96 sf	120 sf	144 sf
Up to 6	4 x 4	4 x 4	6 x 6	6 x 6	6 x 6
Up to 8	6 x 6	6 x 6	6 x 6	6 x 6	6 x 6

Step 4: Find the Beam Size

To find the beam size on which to rest the joint, refer to the chart below.

If the distance between posts:	Use:
is less than or equal to 4 feet	(2) 2 x 6
is more than 4' or less than 6'	(2) 2 x 8
is more than 6' or less than 8'	(2) 2 x 10
is more than 8' or less than 10'	(2) 2 x 12
is greater than 10 feet	Consult Designer



Step 5: Find the Joist Span

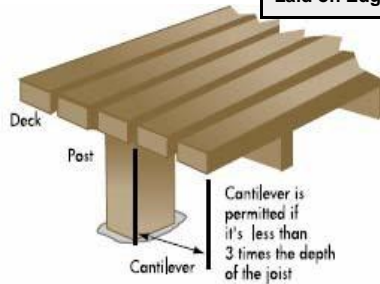
To find the joist size and span, use the chart below. Notice that the span allowed by different joist sizes is dependent on 16 inch or 24 inch spacing between joists. Attach each joist to the ledger board that is attached to the house and rest the other end on the beam.

Joist Size in Inches	Max Joist Spacing		Your Deck Span
	16" o/c	24" o/c	
2 x 6	9 ft. 4 in.	8 ft. 2 in.	
2 x 8	12 ft. 3 in.	10 ft. 9 in.	
2 x 10	15 ft. 8 in.	13 ft. 8 in.	
2 x 12	19 ft. 1 in.	16 ft. 8 in.	

Step 6: Find the Decking Material Span

Next you need to determine the appropriate deck surface material. Shrinkage will occur when treated materials dry out. To ensure the spacing will be no more than 1/4" between boards AFTER the material dries out, install deck surface boards tightly together—with no more than 1/8" spacing.

Laid Flat	Material Size	Joist Spacing
	5/4 x 4	16"
	5/4 x 6	16/24"
	2 x 4	16/24"
	2 x 6	16/24"
Laid on Edge	2 x 4	48"



Step 7: Design the Railing

The last step is to design the railing. A guard railing is required if the decking surface is more than 30 inches off the ground. A 4" sphere shall not be able to pass through any openings and the rails shall be arranged so that a ladder effect is not created.

Distance Between Posts	Post Size	Cap Size
2 ft. to 3 ft.	2 x 4	2 x 4
3 ft. to 4 ft.	2 x 4, 4 x 4	2 x 4, 2 x 6
4 ft. to 6 ft.	2 x 6, 4 x 4	2 x 6