

# Deck Spec Sheet

Address \_\_\_\_\_

Height of deck from grade, in inches. \_\_\_\_\_

Joist size, 2" x 8" minimum. \_\_\_\_\_

Actual joist span, longest span from  
Ledger-to-beam or beam-to-beam. \_\_\_\_\_

Is the joist to cantilever, yes or no? \_\_\_\_\_  
If yes, how far is the cantilever?  
Cantilever shall be 2' or less. \_\_\_\_\_

Spacing of floor joists, check one.

- 16" on-center
- 24" on center
- Other \_\_\_\_\_

Beam size \_\_\_\_\_

Beam span, longest span from  
post to post. \_\_\_\_\_

Beam is, check one:

- Double
- Triple

Check one:

- 6" x 6" Post
- 6" x 4" Post

Check one:

- Notched post
- Post cap connectors

If deck is attached to house/structure, footers must  
extend a minimum of 42" below grade.

Will deck be attached to the  
house/structure, yes or no? \_\_\_\_\_

Size of ledger board \_\_\_\_\_

Lag screw size \_\_\_\_\_

Lag screw spacing \_\_\_\_\_

Footer depth \_\_\_\_\_

Decking board to be used, check one.

- 5/4 P.T. decking board
- 2" x 6" decking board
- Composite decking, all types
- Other \_\_\_\_\_

If 30" or more above adjacent grade/surface, the  
deck shall have guardrails.

Minimum height of guardrail is 36 inches from the  
deck surface.

Height of deck guardrails, in inches. \_\_\_\_\_

Graspable handrail is required for all stairs that  
have a rise of more than 30 inches.

Closed risers are required on all stairs.

Will the deck have stairs, yes or no? \_\_\_\_\_

Graspable handrail height, 34" to 38"  
from tread rising? \_\_\_\_\_

Stairway width \_\_\_\_\_

Tread depth \_\_\_\_\_

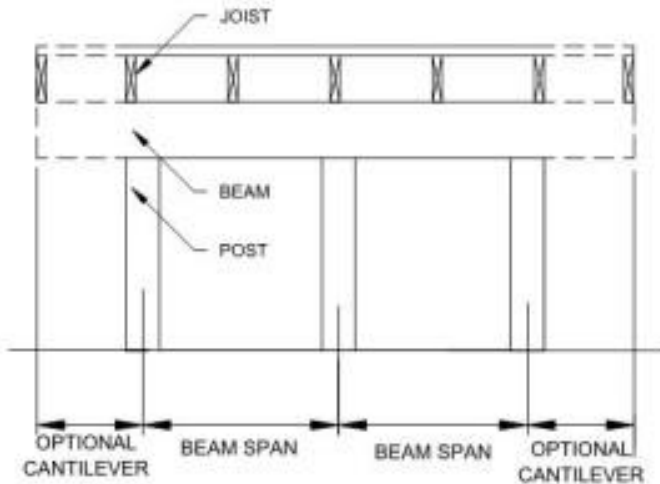
Riser height \_\_\_\_\_

**Village of Penn Yan  
Office of Zoning & Building Inspection**

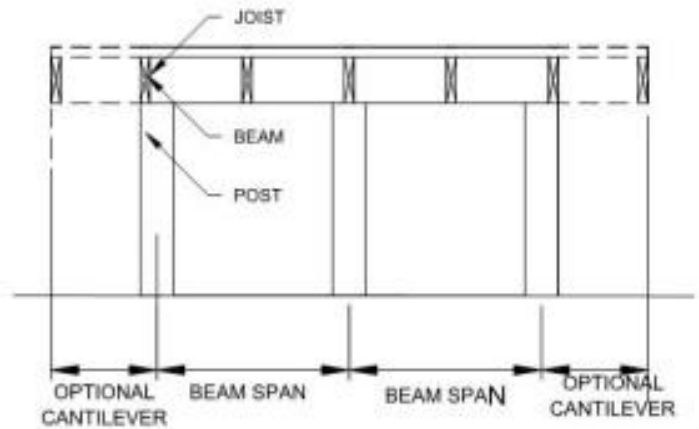
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DROPPED BEAM



FLUSH BEAM

TABLE R507.6  
DECK BEAM SPAN LENGTHS<sup>a, b</sup> (ft. - in.)

SPECIES <sup>c</sup>	SIZE <sup>d</sup>	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	2 - 2 × 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 - 2 × 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 - 2 × 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 - 2 × 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 - 2 × 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 - 2 × 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 - 2 × 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 - 2 × 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch <sup>e</sup> , hem-fir <sup>e</sup> , spruce-pine-fir <sup>e</sup> , redwood, western cedars, ponderosa pine <sup>f</sup> , red pine <sup>f</sup>	3 × 6 or 2 - 2 × 6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3 × 8 or 2 - 2 × 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 × 10 or 2 - 2 × 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 × 12 or 2 - 2 × 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 × 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 × 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 × 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 × 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 - 2 × 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 - 2 × 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 - 2 × 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 - 2 × 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied at the end.

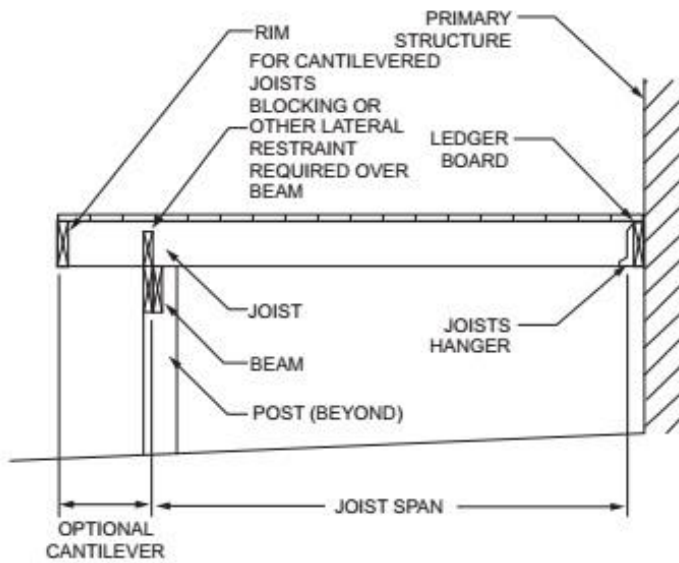
b. Beams supporting deck joists from one side only.

c. No. 2 grade, wet service factor.

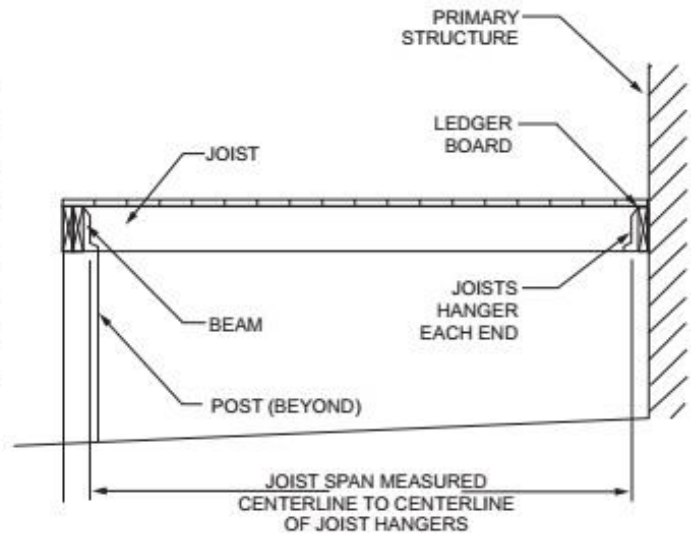
d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.

e. Includes incising factor.

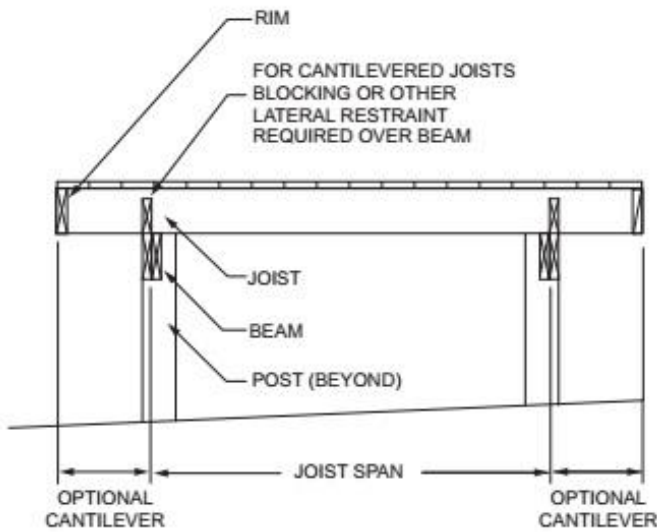
f. Northern species. Incising factor not included.



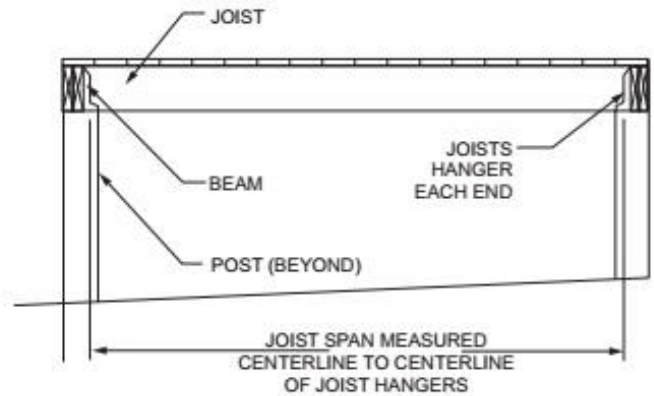
CANTILEVERED JOISTS WITH DROPPED BEAM



JOISTS WITH FLUSH BEAM



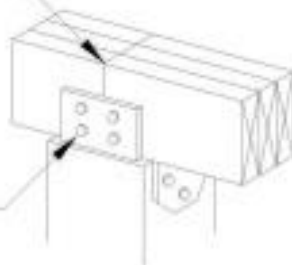
JOISTS ON FREE-STANDING DECK WITH DROPPED BEAM



JOISTS ON FREE-STANDING DECK WITH FLUSH BEAM

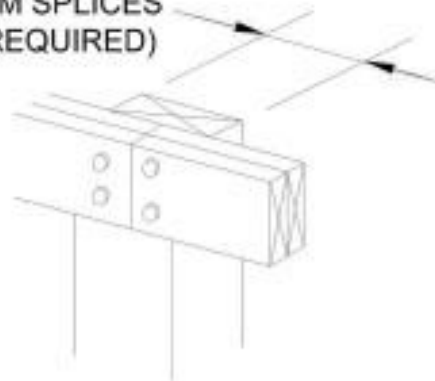
BEAM SPLICE (IF REQUIRED) MUST OCCUR OVER POST

APPROVED POST CAP

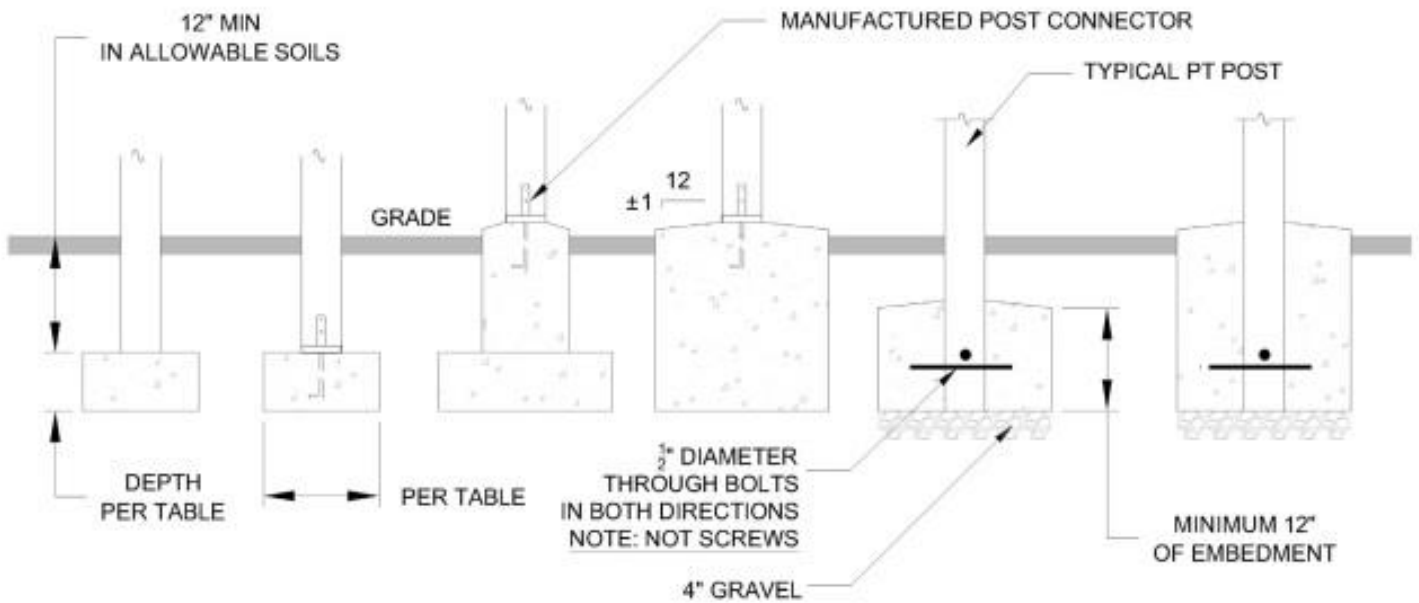
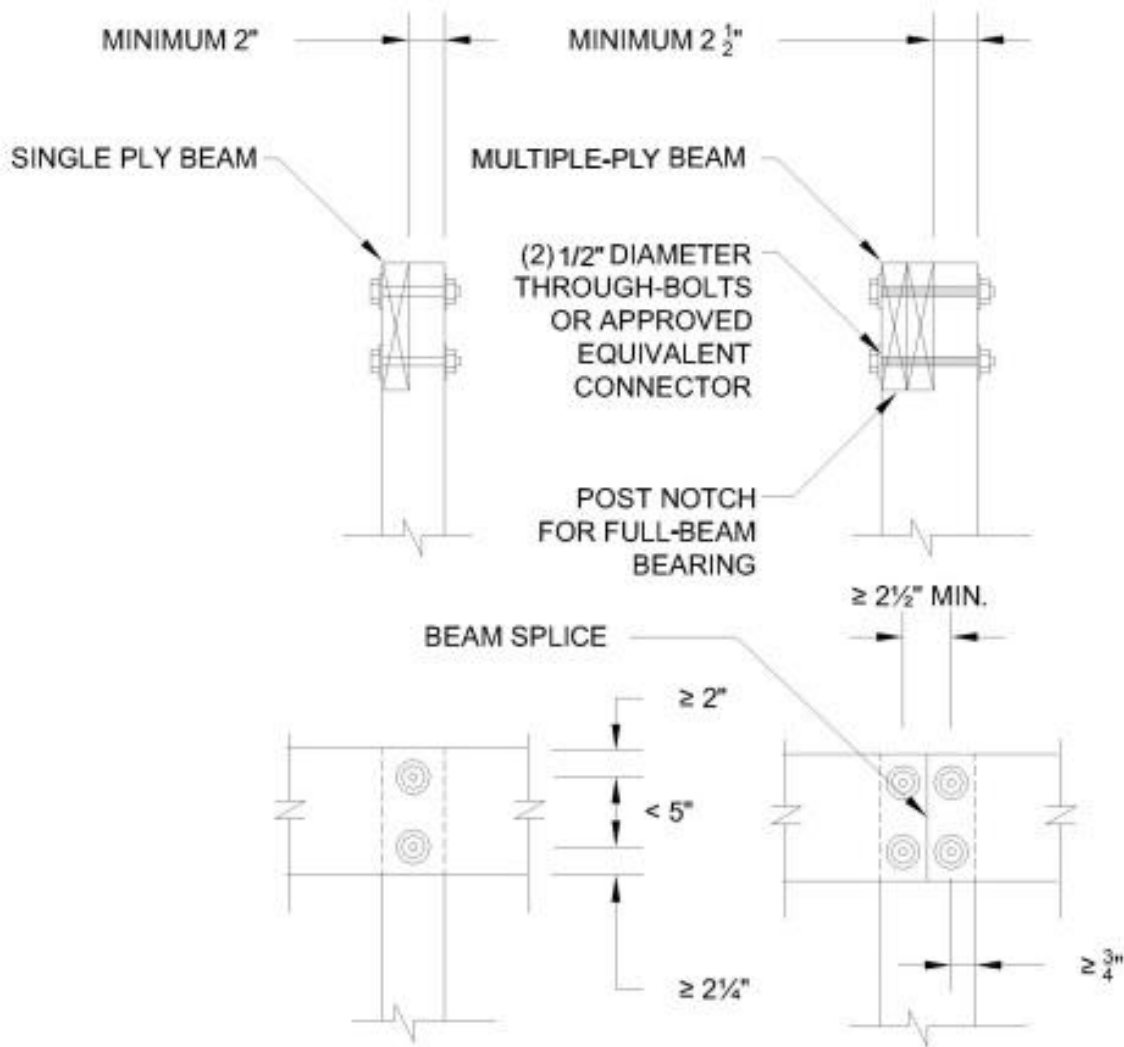


BEAM OVER POST CAP

5 1/2" MINIMUM FOR BEAM SPLICES (IF REQUIRED)



BEAM OVER POST



NOTE:  
POSTS MUST BE CENTERED ON OR IN FOOTING

**TABLE R507.5  
DECK JOIST SPANS FOR COMMON LUMBER SPECIES<sup>f</sup> (ft. - in.)**

SPECIES <sup>a</sup>	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER <sup>b</sup> (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS <sup>c</sup> (inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch <sup>d</sup> , hem-fir <sup>d</sup> , spruce-pine-fir <sup>d</sup>	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine <sup>e</sup> , red pine <sup>e</sup>	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

- a. No. 2 grade with wet service factor.
- b. Ground snow load, live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$ .
- c. Ground snow load, live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$  at main span,  $L/\Delta = 180$  at cantilever with a 220-pound point load applied to end.
- d. Includes incising factor.
- e. Northern species with no incising factor
- f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

**TABLE R507.4  
MAXIMUM JOIST SPACING**

MATERIAL TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	Perpendicular to joist	Diagonal to joist <sup>a</sup>
1 <sup>1</sup> / <sub>4</sub> -inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section R507.3	In accordance with Section R507.3

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

- a. Maximum angle of 45 degrees from perpendicular for wood deck boards

# Guidelines for Handrails and Guards

Handrails and guards are two different components.

- A handrail is a horizontal or sloping rail intended for grasping by the hand for guidance or support.
- A guardrail is a building component located at the open sides of elevated walking surfaces and stairs that minimize the possibility of a fall from the walking surface to the level below.

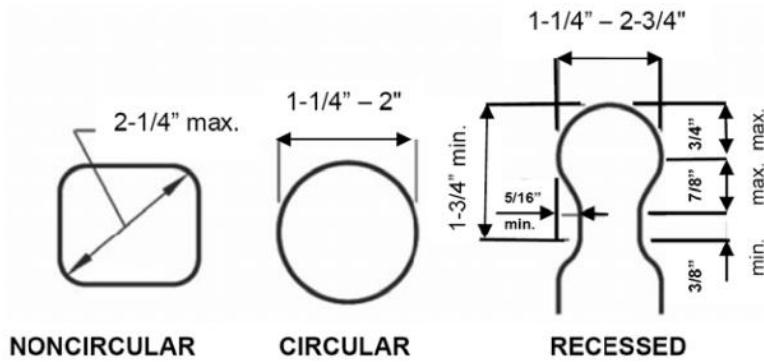
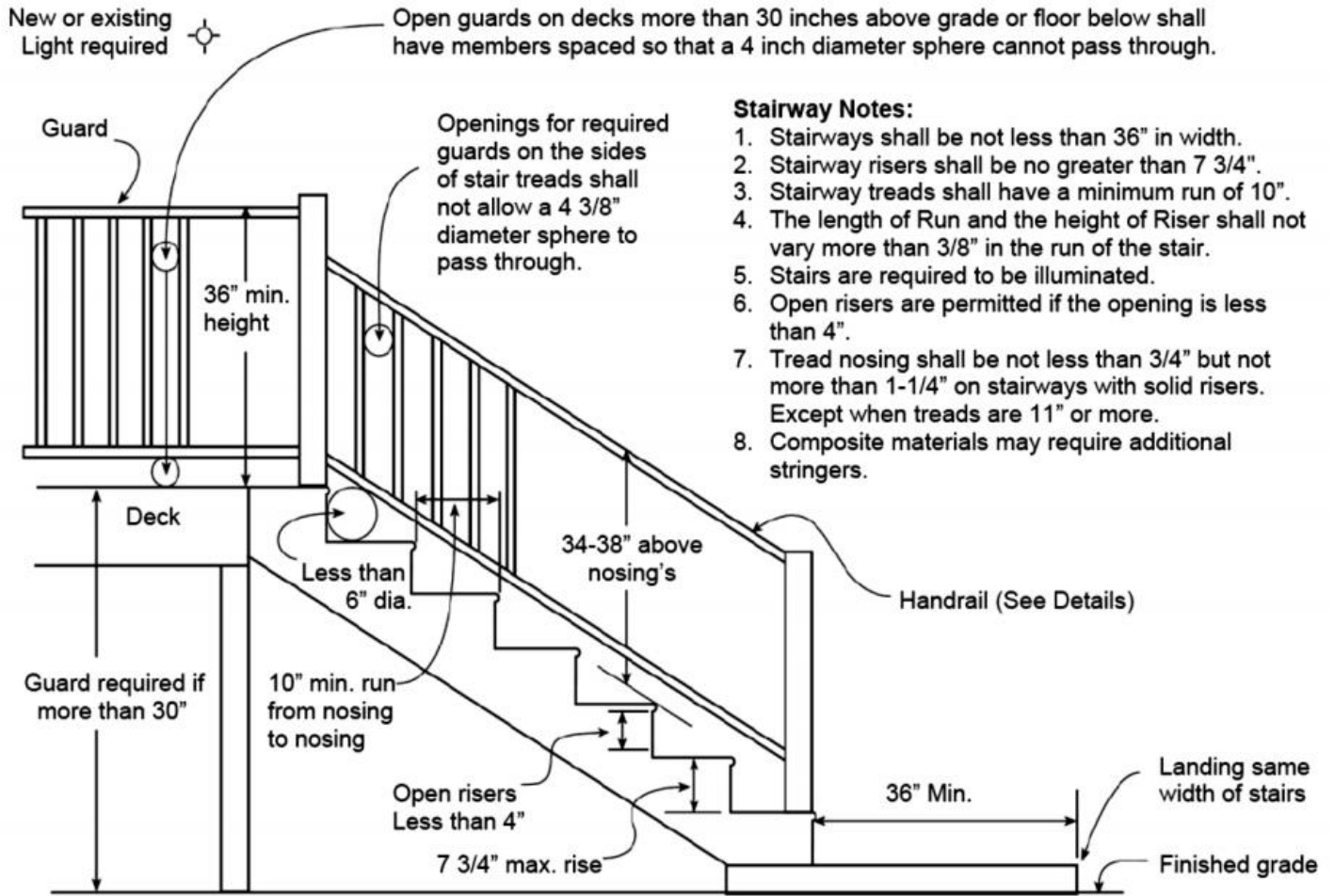
## Handrails

- Handrails shall be continuous on at least one side of each continuous run stairs with 4 or more risers.
- Top of handrails shall be placed no less than 34 inches or more than 38 inches above the stair nosing.
- Handrails must be continuous the entire length of the stairs, from a point directly above the top riser to a point directly above the lowest riser and return to a wall or post.
- Handrails shall be placed at least 1 ½ inches from any wall or other obstruction and cannot project more than 4 ½ inches from over the stairs.
- The handgrip area shall not be less than 1 ¼ inches or more than 2 ¾ inches in width.
  - Type I: Handrails with a circular cross section shall have an outside diameter of at least 1 ¼ inches and not greater than 2 inches. If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches and not greater than 6 ¼ inches with a maximum cross section dimension of 2 ¼ inches.
  - Type II: Handrails with a perimeter greater than 6 ¼ inches shall provide a graspable finger recess area on both sides of the rail. The finger recess shall begin within a distance of ¾ inch measured vertically from the tallest portion of the profile and have a depth of at least 5/16 inch within 7/8 inch below the widest portion of the profile. This required depth shall continue for at least 3/8 inch to a level that is not less than 1 ¾ inches below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 ¼ inches to a maximum of 2 ¾ inches. Edges shall have a minimum radius of 0.01 inch.

## Guards

- Decks, porches, balconies, ramps or raised floor surfaces located 30 inches or more above the floor or grade below shall have guards not less than 36 inches in height.
- Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches above the floor or grade below.
- Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads.
- The requirement for guards along open sides of stairs not only applies to the portion of a stairway that is more than 30 inches above the adjacent floor, but it also applies to any portion of a flight of stairs less than 30 inches above the floor.
- All guards shall have intermediate rails or ornamental closures that prohibit the passage of a sphere 4 inches or more in diameter. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a 6-inch sphere cannot pass through.
- When designed properly, the top rail of a guard can also serve as the required handrail.





**Type I** (perimeter dimensions 4"-6 1/4")

**Type II** (perimeter dimensions <6 1/4")

