



P: (908) 369-4313

TOWNSHIP OF HILLSBOROUGH

COUNTY OF SOMERSET
Hillsborough Township Municipal Complex
The Peter J. Biondi Building
379 South Branch Road
Hillsborough, NJ 08844



F: (908) 369-3954

Building Department

John Fiedler – Construction Official Ext. 7211

SAMPLE GUIDE FOR RESIDENTIAL DECKS

CALL BEFORE YOU DIG! –NJ ONE CALL. 1-800-272-1000

THIS GENERIC GUIDE IS NOT ALL INCLUSIVE AND DOES NOT ADDRESS ALL CONDITIONS

REQUIRED INSPECTIONS:

1. FOOTINGS- PRIOR TO PLACEMENT OF CONCRETE
2. FRAME- PRIOR TO INSTALLATION OF DECKING
3. ELECTRICAL IF APPLICABLE
4. FINAL INSPECTION

DOCUMENT FILING AND DESIGN INFORMATION:

1. SECURE ZONING APPROVAL
2. PROVIDE A PLOT PLAN SHOWING THE PROPOSED DECK IN RELATION TO THE HOUSE
3. COMPLETED APPLICATION FORMS, LISTING ALL COSTS FOR LABOR AND MATERIALS
4. TWO SETS OF SEALED DRAWINGS PREPARED BY A DESIGN PROFESSIONAL (**EXCEPTION FOR HOMEOWNERS WHO PREPARE THEIR OWN DRAWINGS FOR THEIR PRIMARY RESIDENCE**) SHOWING ENOUGH RELATIVE DETAILS TO DETERMINE CODE COMPLIANCE.
5. CODE BEING USED IN DESIGN **N.J.A.C 5:23 6-6 & 2021 IRC NJ Ed. section R507**
6. COMPOSITE DECKS REQUIRE TWO COPIES OF MANUFACTURER SPECIFICATIONS INCLUDING JOIST AND STRINGER SPACING

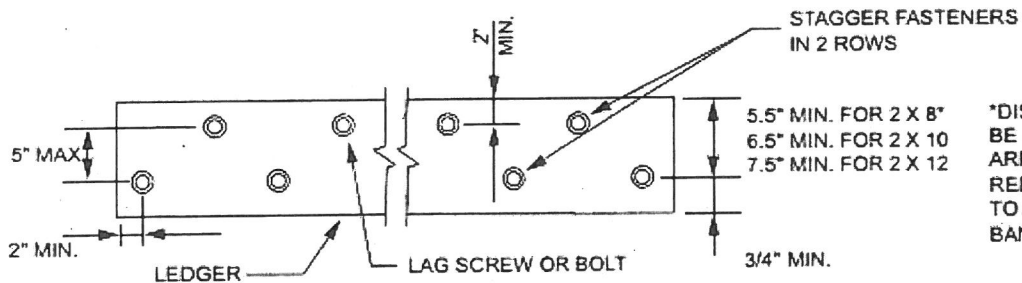
CONTRACTORS MAY NOT PREPARE PLANS

**PLEASE USE THE SECTIONS AND DIAGRAMS IN THIS HANDOUT, AS AN EXAMPLE OF SOME OF THE INFORMATION TO BE PROVIDED WITH YOUR APPLICATION, AS WELL AS Sec.R507 OF THE IRC NJ EDITION FOR THE FULL CODE SECTION ON EXTERIOR DECKS
THIS INFORMATION CAN ALSO BE FOUND AT THE WEBSITE BELOW**

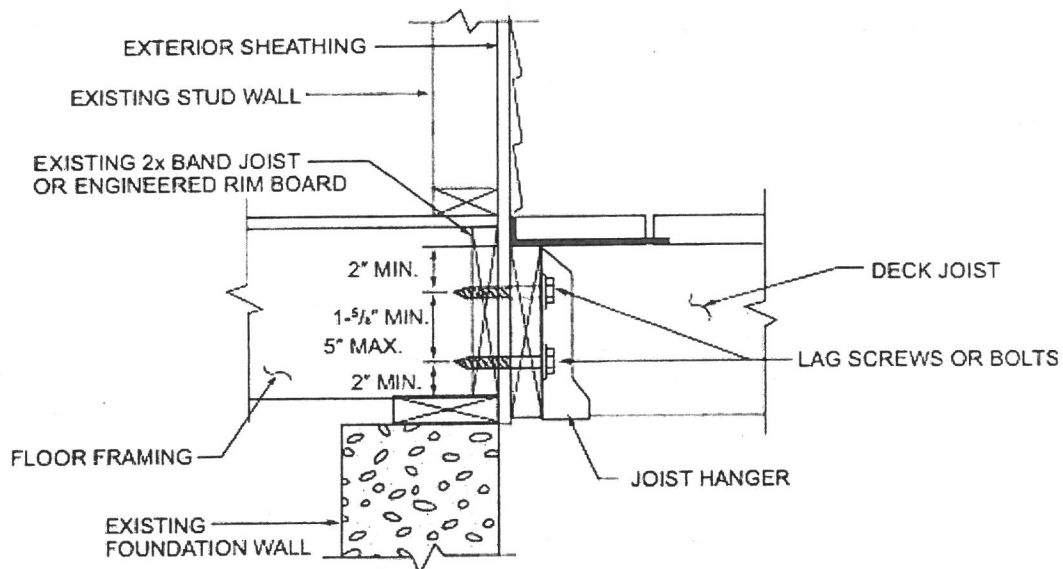
<https://www.nj.gov/dca/divisions/codes/codereg/>

LEDGER ATTACHMENT

CONNECTION DETAILS	JOIST SPAN						
	6' and less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
	On-center spacing of fasteners						
1/2-inch diameter lag screw with 1/2-inch maximum sheathing c, d	30	23	18	15	13	11	10
1/2-inch diameter bolt with 1/2-inch maximum sheathing d	36	36	34	29	24	21	19
1/2-inch diameter bolt with 1-inch maximum sheathing e	36	36	29	24	21	18	16



*DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 4.5" IF LAG SCREWS ARE USED OR BOLT SPACING IS REDUCED TO THAT OF LAG SCREWS TO ATTACH 2 X 8 LEDGERS TO 2 X 8 BAND JOISTS.



CHAPTER 5 FLOORS

TABLE R507.5(2)
MAXIMUM DECK BEAM SPAN—50 PSF GROUND SNOW LOAD^c

BEAM SPECIES ^d	BEAM SIZE ^e	EFFECTIVE DECK JOIST SPAN LENGTH (feet) ^{a, i, j}						
		6	8	10	12	14	16	18
		MAXIMUM DECK BEAM SPAN LENGTH (feet-inches) ^{a, b, f}						
Southern pine	1-2 x 6	4-6	3-11	3-6	3-2	2-11	2-9	2-7
	1-2 x 8	5-9	4-11	4-5	4-0	3-9	3-6	3-3
	1-2 x 10	6-9	5-10	5-3	4-9	4-5	4-2	3-11
	1-2 x 12	8-0	6-11	6-2	5-8	5-3	4-11	4-7
	2-2 x 6	6-8	5-9	5-2	4-9	4-4	4-1	3-10
	2-2 x 8	8-6	7-4	6-7	6-0	5-7	5-2	4-11
	2-2 x 10	10-1	8-9	7-10	7-1	6-7	6-2	5-10
	2-2 x 12	11-11	10-3	9-2	8-5	7-9	7-3	6-10
	3-2 x 6	7-11	7-2	6-6	5-11	5-6	5-1	4-10
	3-2 x 8	10-5	9-3	8-3	7-6	6-11	6-6	6-2
	3-2 x 10	12-8	10-11	9-9	8-11	8-3	7-9	7-3
	3-2 x 12	14-11	12-11	11-6	10-6	9-9	9-1	8-7
Douglas fir-larch ^g Hem-fir ^g Spruce-pine-fir ^g	1-2 x 6	4-0	3-5	2-11	2-7	2-4	2-2	2-0
	1-2 x 8	5-4	4-7	3-11	3-5	3-1	2-10	2-8
	1-2 x 10	6-7	5-8	4-11	4-5	4-0	3-8	3-5
	1-2 x 12	7-7	6-7	5-11	5-4	4-10	4-6	4-2
	2-2 x 6	6-0	5-2	4-7	4-2	3-10	3-5	3-2
	2-2 x 8	8-0	6-11	6-2	5-8	5-0	4-7	4-2
	2-2 x 10	9-9	8-5	7-7	6-11	6-4	5-10	5-4
	2-2 x 12	11-4	9-10	8-9	8-0	7-5	6-11	6-6
	3-2 x 6	7-6	6-6	5-9	5-3	4-11	4-7	4-4
	3-2 x 8	10-0	8-8	7-9	7-1	6-6	6-1	5-8
	3-2 x 10	12-3	10-7	9-6	8-8	8-0	7-6	7-0
	3-2 x 12	14-3	12-4	11-0	10-1	9-4	8-9	8-3
Redwood ^h Western cedar ^h Ponderosa pine ^h Red pine ^h	1-2 x 6	4-1	3-6	3-0	2-8	2-5	2-3	2-1
	1-2 x 8	5-2	4-6	4-0	3-6	3-2	2-11	2-9
	1-2 x 10	6-4	5-6	4-11	4-6	4-1	3-9	3-6
	1-2 x 12	7-4	6-4	5-8	5-2	4-10	4-6	4-3
	2-2 x 6	6-1	5-3	4-8	4-4	3-11	3-6	3-3
	2-2 x 8	7-8	6-8	5-11	5-5	5-0	4-8	4-3
	2-2 x 10	9-5	8-2	7-3	6-8	6-2	5-9	5-5
	2-2 x 12	10-11	9-5	8-5	7-8	7-2	6-8	6-3
	3-2 x 6	7-1	6-5	5-11	5-5	5-0	4-8	4-5
	3-2 x 8	9-4	8-4	7-5	6-10	6-0	5-11	5-7
	3-2 x 10	11-9	10-2	9-1	8-4	7-8	7-2	6-9
	3-2 x 12	13-8	11-10	10-7	9-8	8-11	8-4	7-10

CHAPTER 5 FLOORS

TABLE R507.6
MAXIMUM DECK JOIST SPANS

LOAD ^a (psf)	JOIST SPECIES ^b	JOIST SIZE	ALLOWABLE JOIST SPAN ^{b, c} (feet-inches)			MAXIMUM CANTILEVER ^{d, f} (feet-inches)							
			Joist spacing (inches)			Joist back span ^g (feet)							
			12	16	24	4	6	8	10	12	14	16	18
40 live load	Southern pine	2 x 6	9-11	9-0	7-7	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2 x 8	13-1	11-10	9-8	1-0	1-6	2-0	2-6	2-3	NP	NP	NP
		2 x 10	16-2	14-0	11-5	1-0	1-6	2-0	2-6	3-0	3-4	3-4	NP
		2 x 12	18-0	16-6	13-6	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-1
	Douglas fir-larch ^e Hem-fir ^e Spruce-pine-fir ^e	2 x 6	9-6	8-4	6-10	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2 x 8	12-6	11-1	9-1	1-0	1-6	2-0	2-3	2-0	NP	NP	NP
		2 x 10	15-8	13-7	11-1	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP
		2 x 12	18-0	15-9	12-10	1-0	1-6	2-0	2-6	3-0	3-6	3-11	3-11
	Redwood ^f Western cedars ^f Ponderosa pine ^f Red pine ^f	2 x 6	8-10	8-0	6-10	1-0	1-4	1-1	NP	NP	NP	NP	NP
		2 x 8	11-8	10-7	8-8	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2 x 10	14-11	13-0	10-7	1-0	1-6	2-0	2-6	3-0	2-9	NP	NP
		2 x 12	17-5	15-1	12-4	1-0	1-6	2-0	2-6	3-0	3-6	3-8	NP
50 ground snow load	Southern pine	2 x 6	9-2	8-4	7-4	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2 x 8	12-1	11-0	9-5	1-0	1-6	2-0	2-5	2-3	NP	NP	NP
		2 x 10	15-5	13-9	11-3	1-0	1-6	2-0	2-6	3-0	3-1	NP	NP
		2 x 12	18-0	16-2	13-2	1-0	1-6	2-0	2-6	3-0	3-6	3-10	3-10
	Douglas fir-larch ^e Hem-fir ^e Spruce-pine-fir ^e	2 x 6	8-10	8-0	6-8	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2 x 8	11-7	10-7	8-11	1-0	1-6	2-0	2-3	NP	NP	NP	NP
		2 x 10	14-10	13-3	10-10	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP
		2 x 12	17-9	15-5	12-7	1-0	1-6	2-0	2-6	3-0	3-6	3-8	NP
	Redwood ^f Western cedars ^f Ponderosa pine ^f Red pine ^f	2 x 6	8-3	7-6	6-6	1-0	1-4	1-1	NP	NP	NP	NP	NP
		2 x 8	10-10	9-10	8-6	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2 x 10	13-10	12-7	10-5	1-0	1-6	2-0	2-6	2-9	NP	NP	NP
		2 x 12	16-10	14-9	12-1	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
60 ground snow load	Southern pine	2 x 6	8-8	7-10	6-10	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2 x 8	11-5	10-4	8-9	1-0	1-6	2-0	2-4	NP	NP	NP	NP
		2 x 10	14-7	12-9	10-5	1-0	1-6	2-0	2-6	2-11	2-11	NP	NP
		2 x 12	17-3	15-0	12-3	1-0	1-6	2-0	2-6	3-0	3-6	3-7	NP
	Douglas fir-larch ^e Hem-fir ^e Spruce-pine-fir ^e	2 x 6	8-4	7-6	6-2	1-0	1-6	1-4	NP	NP	NP	NP	NP
		2 x 8	10-11	9-11	8-3	1-0	1-6	2-0	2-2	NP	NP	NP	NP
		2 x 10	13-11	12-4	10-0	1-0	1-6	2-0	2-6	2-10	NP	NP	NP
		2 x 12	16-6	14-3	11-8	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
	Redwood ^f Western cedars ^f Ponderosa pine ^f Red pine ^f	2 x 6	7-9	7-0	6-2	1-0	1-4	NP	NP	NP	NP	NP	NP
		2 x 8	10-2	9-3	7-11	1-0	1-6	2-0	1-11	NP	NP	NP	NP
		2 x 10	13-0	11-9	9-7	1-0	1-6	2-0	2-6	2-7	NP	NP	NP
		2 x 12	15-9	13-8	11-2	1-0	1-6	2-0	2-6	3-0	3-2	NP	NP
70 ground snow load	Southern pine	2 x 6	8-3	7-6	6-5	1-0	1-6	1-5	NP	NP	NP	NP	NP
		2 x 8	10-10	9-10	8-2	1-0	1-6	2-0	2-2	NP	NP	NP	NP
		2 x 10	13-9	11-11	9-9	1-0	1-6	2-0	2-6	2-9	NP	NP	NP
		2 x 12	16-2	14-0	11-5	1-0	1-6	2-0	2-6	3-0	3-5	3-5	NP
	Douglas fir-larch ^e Hem-fir ^e Spruce-pine-fir ^e	2 x 6	7-11	7-1	5-9	1-0	1-6	NP	NP	NP	NP	NP	NP
		2 x 8	10-5	9-5	7-8	1-0	1-6	2-0	2-1	NP	NP	NP	NP
		2 x 10	13-3	11-6	9-5	1-0	1-6	2-0	2-6	2-8	NP	NP	NP
		2 x 12	15-5	13-4	10-11	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP
	Redwood ^f Western cedars ^f Ponderosa pine ^f Red pine ^f	2 x 6	7-4	6-8	5-10	1-0	1-4	NP	NP	NP	NP	NP	NP
		2 x 8	9-8	8-10	7-4	1-0	1-6	1-11	NP	NP	NP	NP	NP
		2 x 10	12-4	11-0	9-0	1-0	1-6	2-0	2-6	2-6	NP	NP	NP
		2 x 12	14-9	12-9	10-5	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP

CHAPTER 5 FLOORS

R507.3.1 Minimum size.

The minimum size of concrete footings shall be in accordance with Table R507.3.1, based on the tributary area and allowable soil-bearing pressure in accordance with Table R401.4.1.

**TABLE R507.3.1
MINIMUM FOOTING SIZE FOR DECKS**

LIVE OR GROUND SNOW LOAD ^b (psf)	TRIBUTARY AREA (ft ²)	LOAD BEARING VALUE OF SOILS ^{a, c, d} (psf)								
		1,500 ^e			2,000 ^e			≥3,000 ^e		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches) ^f	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches) ^f
40	5	7	8	6	7	8	6	7	8	6
	20	10	12	6	9	9	6	7	8	6
	40	14	16	6	12	14	6	10	12	6
	60	17	19	6	15	17	6	12	14	6
	80	20	22	7	17	19	6	14	16	6
	100	22	25	8	19	21	6	15	17	6
	120	24	27	9	21	23	7	17	19	6
	140	26	29	10	22	25	8	18	21	6
	160	28	31	11	24	27	9	20	22	7
50	5	7	8	6	7	8	6	7	8	6
	20	11	13	6	10	11	6	8	9	6
	40	15	17	6	13	15	6	12	14	6
	60	19	21	6	16	18	6	13	15	6
	80	21	24	8	19	21	6	15	17	6
	100	24	27	9	21	23	7	17	19	6
	120	26	30	10	23	26	8	19	21	6
	140	28	32	11	25	28	9	20	23	7
	160	30	34	12	26	30	10	21	24	8
60	5	7	8	6	7	8	6	7	8	6
	20	12	14	6	11	12	6	9	10	6
	40	16	19	6	14	16	8	12	14	6
	60	20	23	7	17	20	6	14	16	6
	80	23	26	9	20	23	7	16	19	6
	100	26	29	10	22	25	8	18	21	6
	120	28	32	11	25	28	9	20	23	7
	140	31	35	12	27	30	10	22	24	8
	160	33	37	13	28	32	11	23	26	9
70	5	7	8	6	7	8	6	7	8	6
	20	12	14	6	11	13	6	9	10	6
	40	18	20	6	15	17	6	12	14	6
	60	21	24	8	19	21	6	15	17	6
	80	25	28	9	21	24	8	18	20	6
	100	28	31	11	24	27	9	20	22	7
	120	30	34	12	26	30	10	21	24	8
	140	33	37	13	28	32	11	23	26	9
	160	35	40	15	30	34	12	25	28	9

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m², 1 pound per square foot = 0.0479 kPa.

- a. Interpolation permitted, extrapolation not permitted.

DECK INFORMATION CHECKLIST

Below find a list of minimum items needed for a successful plan review
This is not an all-inclusive list, please refer to the deck hand sections for further details

YES	N/A	Please provide the following on the submitted plans
		Section A: DESIGN INFORMATION AND DOCUMENT FILING:
		Site address, block and lot, plot plan showing the deck location
		Code used in the design N.J.A.C. 5:23 6-6 Alteration 2021 IRC NJ edition
		Original seals and signatures from a design professional or the homeowner of the property
		Zoning permit, property association approval
		Floor plan with deck dimension and total square footage, elevation plan with details
		Completed application forms including the cost for all labor and material
		SECTION B: FOOTING AND FOUNDATION:
		Footing diameter / size and footing depth from grade
		Spacing between footings and spacing between footing rows. PSI of concrete (3000 lb)
		Type, length and diameter of footing anchor bolt and type of mechanical post attachment
		SECTION C: FRAME:
		Indicate the structural material type including the corrosion resistant compatible fasteners
		Size of main frame post and beam. In ground contact material as required
		Mechanical connection from main beam to main post, wind bracing as needed
		Distance from the home to the centerline of the beam and from beam to beam
		Floor joist size and spacing in the frame and staircase
		SECTION D: LEDGER BOARD AND ATTACHMENT:
		Size of ledger board (minimum of 2" x 8") Ledger attachment to sawn lumber or manufactured
		Type, length, diameter and spacing of approved fasteners. If other than 1/2" diameter bolts or lag screws with washer, provide the manufacturer specification sheets.
		SECTION E: FLASHING:
		Flashing material used (adhesive backed flashing must meet AAMA711) for intended use
		SECTION F: SURFACE MATERIAL:
		Type, grade and species of lumber. (1-2) page spec sheet on all composites
		SECTION G: GUARD, HANDRAIL AND STAIR:
		Height of all guardrail systems and handrails
		Handrail diameters with returned ends
		Spacing of guardrail post and spacing of guardrail balusters / infill material and other spacing
		Staircase width, stair riser max 8 1/4" and stair tread min 9"
		36" Landing in the direction of travel and material used