



CITY OF KINGSTON

Building Safety and Zoning Enforcement

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Residential Deck Permit Submission Checklist

- Completed Permit Application Form
- Deck Permit Fee
 - \$75 Base Fee Plus
 - \$0.30 / square foot
- Copy of Owner's Deed
- Contractor's Worker's Compensation Insurance Certificate NYS C105.2
- Contractor's Liability Insurance Certificate listing the City of Kingston as Certificate Holder.
- Licensed Electrician Contact Information – if Applicable.
- (2) Copies of a Plot Plan illustrating deck/stair locations, size and distance to property lines.
- (2) Copies of legible deck drawings. *(Please see attached Deck Requirements Package).*

Please make all checks out to: '**City of Kingston**' and note the Property Address on the check.

PLEASE NOTE: WORK CANNOT BE STARTED UNTIL THE BUILDING PERMIT NOTICE IS ISSUED AND POSTED ON THE PROPERTY.

Once Issued, a Building Permit is valid for **1 Year**. The Permit is NOT complete until the Final Inspection is deemed satisfactory by the Building Inspector and all Electrical work has passed Final Inspection, submitting a Certificate to the Department. The Final Inspection must be requested by the Owner and/or Owner's Representative. At that point, a copy of the Certificate of Occupancy will be available.

Open Expired Permits will result in Property Violations. To renew an Open Expired Permit, there is an Additional Fee.

Required Documentation for Deck Permit Applications

(For full code requirements see the 2020 Residential Code of New York State, Section R507)

All Construction Drawings must:

1. Be Legible
2. Drawn to Scale
3. List the Property Address
4. List the Tax Map number
5. Contact Information of the Permit Applicant

Please (2) copies of the following:

- Plot Plan Indicating:
 - Location of Deck and Stairs
 - Dimensions of Deck & Stairs and Distances from Property Lines.

- Construction Drawings:
 - Proposed Deck in relation to the Existing Structure noting location, dimensions and height above grade.
 - Pier Footing Type and Size, Footing Depth (48" Min.), Location and Distances between Piers and Connectors.
 - Beam Size & Species: spans between Beam & Structure and spans between Beams & Connectors.
 - Beam support Post size, spacing, species and connection to Posts, top & bottom.
 - Ledger Size, Species, Flashing Details and Lateral connection to house.
 - Size, Spacing, Species and Blocking of Deck Joists.
 - Lateral Bracing Detail.
 - Type, Size & Orientation of Decking & Fasteners.
 - Location of Stairs, Stringer Size & Spacing.
 - Stair Treads, Type, Size, Rise & Run.
 - Landing Materials & Dimensions.
 - Guard and Handrail height, spacing and connection detail.

Please include all items listed above and the applicant understands that incomplete submissions may delay review and issuance of a Building Permit.

2020 Residential Code of New York State

Section R507 Exterior Decks

R507.1 Decks

Wood-framed decks shall be in accordance with this section. For decks using materials and conditions not prescribed in this section, refer to [Section R301](#).

R507.2 Materials

Materials used for the construction of decks shall comply with this section.

R507.2.1 Wood Materials

Wood materials shall be No. 2 [grade](#) or better lumber, preservative-treated in accordance with [Section R317](#), or [approved](#), naturally durable lumber, and termite protected where required in accordance with [Section R318](#). Where design in accordance with [Section R301](#) is provided, wood structural members shall be designed using the wet service factor defined in AWC NDS. Cuts, notches and drilled holes of preservative-treated wood members shall be treated in accordance with [Section R317.1.1](#). All preservative-treated wood products in contact with the ground shall be [labeled](#) for such usage.

R507.2.1.1 Engineered Wood Products

Engineered wood products shall be in accordance with [Section R502](#).

R507.2.2 Plastic Composite Deck Boards, Stair Treads, Guards, or Handrails

[Plastic composite](#) exterior deck boards, [stair](#) treads, [guards](#) and [handrails](#) shall comply with the requirements of ASTM D7032 and this section.

R507.2.2.1 Labeling

[Plastic composite](#) deck boards and [stair](#) treads, or their packaging, shall bear a [label](#) that indicates compliance with ASTM D7032 and includes the allowable load and maximum allowable span determined in accordance with ASTM D7032. Plastic or composite [handrails](#) and [guards](#), or their packaging, shall bear a [label](#) that indicates compliance with ASTM D7032 and includes the maximum allowable span determined in accordance with ASTM D7032.

R507.2.2.2 Flame Spread Index

[Plastic composite](#) deck boards, [stair](#) treads, [guards](#), and [handrails](#) shall exhibit a [flame spread index](#) not exceeding 200 when tested in accordance with ASTM E84 or UL 723 with the test specimen remaining in place during the test.

Exception: [Plastic composites](#) determined to be noncombustible.

R507.2.2.3 Decay Resistance

[Plastic composite](#) deck boards, [stair](#) treads, [guards](#) and [handrails](#) containing wood, cellulosic or other biodegradable materials shall be [decay resistant](#) in accordance with ASTM D7032.

R507.2.2.4 Termite Resistance

Where required by Section 318, [plastic composite](#) deck boards, [stair](#) treads, [guards](#) and [handrails](#) containing wood, cellulosic or other biodegradable materials shall be [termite resistant](#) in accordance with ASTM D7032.

R507.2.2.5 Installation of Plastic Composites

[Plastic composite](#) deck boards, [stair](#) treads, [guards](#) and [handrails](#) shall be installed in accordance with this code and the manufacturer's instructions.

R507.2.3 Fasteners and Connectors

Metal fasteners and connectors used for all decks shall be in accordance with [Section R317.3](#) and Table R507.2.3.

[TABLE R507.2.3](#)
FASTENER AND CONNECTOR SPECIFICATIONS FOR DECKS^{a, b}

ITEM	MATERIAL	MINIMUM FINISH/COATING	ALTERNATE FINISH/COATING ^e
Nails and timber rivets	In accordance with ASTM F1667	Hot-dipped galvanized per ASTM A153	Stainless steel, silicon bronze or copper
Bolts ^c Lag screws ^d (including nuts and washers)	In accordance with ASTM A307 (bolts), ASTM A563 (nuts), ASTM F844 (washers)	Hot-dipped galvanized per ASTM A153, Class C (Class D for 3/8-inch diameter and less) or mechanically galvanized per ASTM B695, Class 55 or 410 stainless steel	Stainless steel, silicon bronze or copper
Metal connectors	Per manufacturer's specification	ASTM A653 type G185 zinc coated galvanized steel or post hot-dipped galvanized per ASTM A123 providing a minimum average coating weight of 2.0 oz./ft ² (total both sides)	Stainless steel

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

1. Equivalent materials, coatings and finishes shall be permitted.
2. Fasteners and connectors exposed to salt water or located within 300 feet of a salt water shoreline shall be stainless steel.
3. Holes for bolts shall be drilled a minimum 1/32 inch and a maximum 1/16 inch larger than the bolt.
4. Lag screws 1/2 inch and larger shall be predrilled to avoid wood splitting per the National Design Specification (NDS) for Wood Construction.
5. Stainless-steel-driven fasteners shall be in accordance with ASTM F1667.

R507.2.4 Flashing

Flashing shall be corrosion-resistant metal of nominal thickness not less than 0.019 inch (0.48 mm) or [approved](#) nonmetallic material that is compatible with the substrate of the structure and the decking materials.

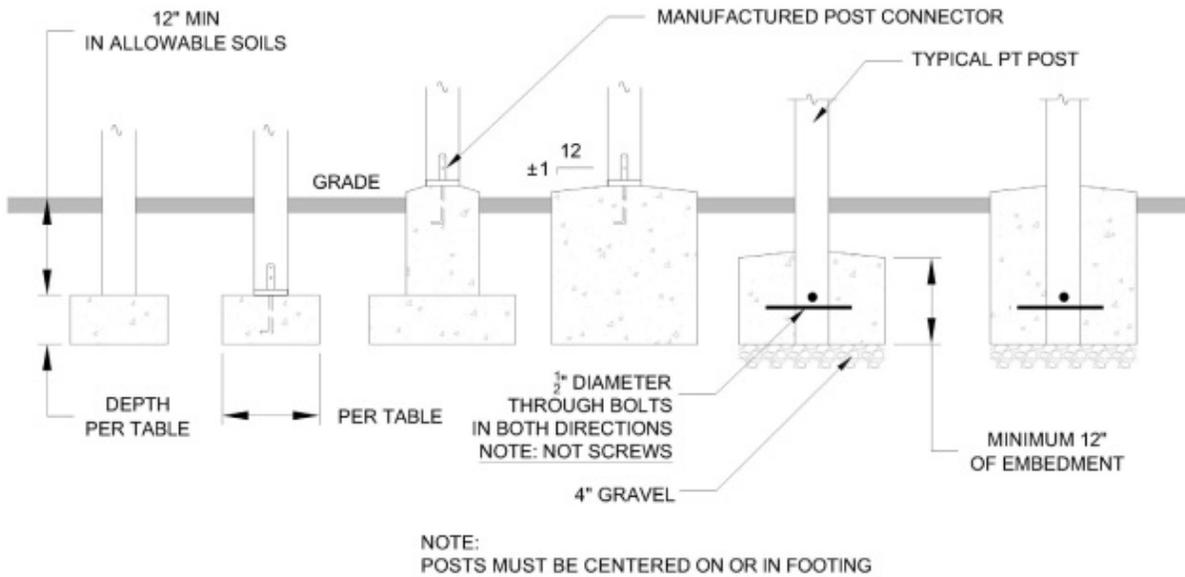
R507.2.5 Alternate Materials

Alternative materials, including [glass](#) and metals, shall be permitted.

R507.3 Footings

Decks shall be supported on [concrete](#) footings or other [approved](#) structural systems designed to accommodate all loads in accordance with [Section R301](#). Deck footings shall be sized to carry the imposed loads from the deck structure to the ground as shown in Figure R507.3. The footing depth shall be in accordance with [Section R403.1.4](#).

Exception: Free-standing decks consisting of joists directly supported on [grade](#) over their entire length.



For SI: 1 inch = 25.4 mm.

FIGURE R507.3
DECK POSTS TO DECK FOOTING CONNECTION

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 GROUNDB	SNOW LOAD ^b (psf)	TRIBUTARY AREA (sq. ft.)	LOAD BEARING VALUE OF SOILS ^{a, c, d} (psf)											
			1500 ^e			2000 ^e			2500 ^e			≥ 3000 ^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)	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)
40	20		12	14	6	12	14	6	12	14	6	12	14	6
	40		14	16	6	12	14	6	12	14	6	12	14	6
	60		17	19	6	15	17	6	13	15	6	12	14	6
	80		20	22	7	17	19	6	15	17	6	14	16	6
	100		22	25	8	19	21	6	17	19	6	15	17	6
	120		24	27	9	21	23	7	19	21	6	17	19	6
	140		26	29	10	22	25	8	20	23	7	18	21	6

DECK DESIGN GUIDELINES

	160	28	31	11	24	27	9	21	24	8	20	22	7
50	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	15	17	6	13	15	6	12	14	6	12	14	6
	60	19	21	6	16	18	6	14	16	6	13	15	6
	80	21	24	8	19	21	6	17	19	6	15	17	6
	100	24	27	9	21	23	7	19	21	6	17	19	6
	120	26	30	10	23	26	8	20	23	7	19	21	6
	140	28	32	11	25	28	9	22	25	8	20	23	7
	160	30	34	12	26	30	10	24	27	9	21	24	8
60	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	16	19	6	14	16	6	13	14	6	12	14	6
	60	20	23	7	17	20	6	16	18	6	14	16	6
	80	23	26	9	20	23	7	18	20	6	16	19	6
	100	26	29	10	22	25	8	20	23	7	18	21	6
	120	28	32	11	25	28	9	22	25	8	20	23	7
	140	31	35	12	27	30	10	24	27	9	22	24	8
	160	33	37	13	28	32	11	25	29	10	23	26	9
70	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	18	20	6	15	17	6	14	15	6	12	14	6
	60	21	24	8	19	21	6	17	19	6	15	17	6
	80	25	28	9	21	24	8	19	22	7	18	20	6
	100	28	31	11	24	27	9	21	24	8	20	22	7
	120	30	34	12	26	30	10	24	27	9	21	24	8
	140	33	37	13	28	32	11	25	29	10	23	26	9
	160	35	40	15	30	34	12	27	31	11	25	28	9

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

1. Interpolation permitted, extrapolation not permitted.
2. Based on highest load case: Dead + Live or Dead + Snow.
3. Assumes minimum square footing to be 12 inches x 12 inches x 6 inches for 6 x 6 post.
4. If the support is a brick or CMU pier, the footing shall have a minimum 2-inch projection on all sides.
5. Area, in square feet, of deck surface supported by post and footings.

R507.3.2 Minimum Depth

Deck footings shall extend below the frost line specified in [Table R301.2\(1\)](#) in accordance with [Section R403.1.4.1](#).

Exceptions:

1. Free-standing decks that meet all of the following criteria:
 - 1.1. The joists bear directly on [precast concrete](#) pier blocks at [grade](#) without support by beams or posts.
 - 1.2. The area of the deck does not exceed 200 square feet (18.9 m²).
 - 1.3. The walking surface is not more than 20 inches (616 mm) above [grade](#) at any point within 36 inches (914 mm) measured horizontally from the edge.
2. Free-standing decks need not be provided with footings that extend below the frost line.

R507.4 Deck Posts

For single-level wood-framed decks with beams sized in accordance with [Table R507.5](#), deck post size shall be in accordance with Table R507.4.

TABLE R507.4
DECK POST HEIGHT^a

DECK POST SIZE	MAXIMUM HEIGHT ^{a, b} (feet-inches)
4 × 4	6-9 ^c
4 × 6	8
6 × 6	14
8 × 8	14

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

1. Measured to the underside of the beam.
2. Based on 40 psf live load.
3. The maximum permitted height is 8 feet for one-ply and two-ply beams. The maximum permitted height for three-ply beams on post cap is 6 feet 9 inches.

R507.4.1 Deck Post to Deck Footing Connection

Where posts bear on [concrete](#) footings in accordance with [Section R403](#) and Figure R507.4.1, lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12 inches (305 mm) in surrounding soils or [concrete](#) piers. Other footing systems shall be permitted.

Exception: Where expansive, compressible, shifting or other questionable soils are present, surrounding soils shall not be relied on for lateral support.

R507.5 Deck Beams

Maximum allowable spans for wood deck beams, as shown in Figure R507.5, shall be in accordance with Table R507.5. Beam plies shall be fastened with two rows of 10d (3-inch × 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the allowable beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.

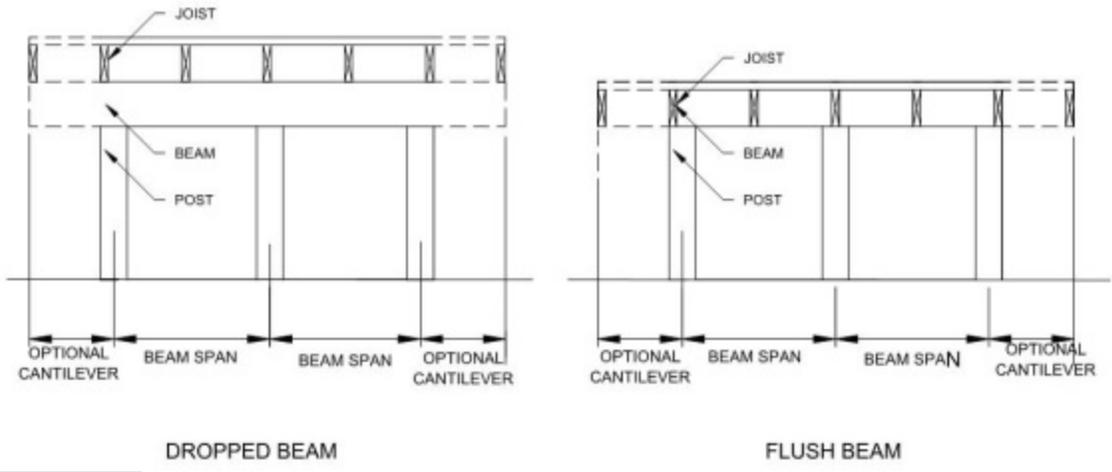


FIGURE R507.5
TYPICAL DECK JOIST SPANS

TABLE R507.5
DECK BEAM SPAN LENGTHS^{a, b, g} (feet - inches)

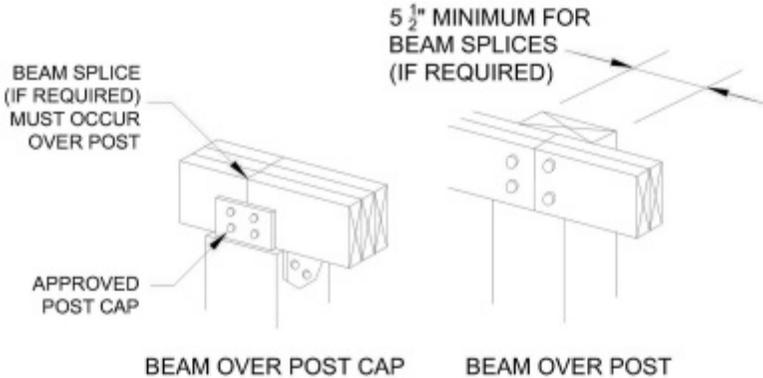
SPECIES ^c	SIZE ^d	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)							
		6	8	10	12	14	16	18	
Southern pine	1 — 2 × 6	4-11	4-0	3-7	3-3	3-0	2-10	2-8	
	1 — 2 × 8	5-11	5-1	4-7	4-2	2-10	3-7	3-5	
	1 — 2 × 10	7-0	6-0	5-5	4-11	4-7	4-3	4-0	
	1 — 2 × 12	8-3	7-1	6-4	5-10	5-5	5-0	4-9	
	2 — 2 × 6	6-11	5-11	5-4	4-10	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 ^e , hem-fir ^e , spruce-pine-fir ^e , redwood, western cedars, ponderosa pine ^f , red pine ^f	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.

1. 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 at the end.
2. Beams supporting deck joists from one side only.
3. No. 2 [grade](#), wet service factor.
4. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
5. Includes incising factor.
6. Northern species. Incising factor not included.
7. Beam cantilevers are limited to the adjacent beam's span divided by 4.

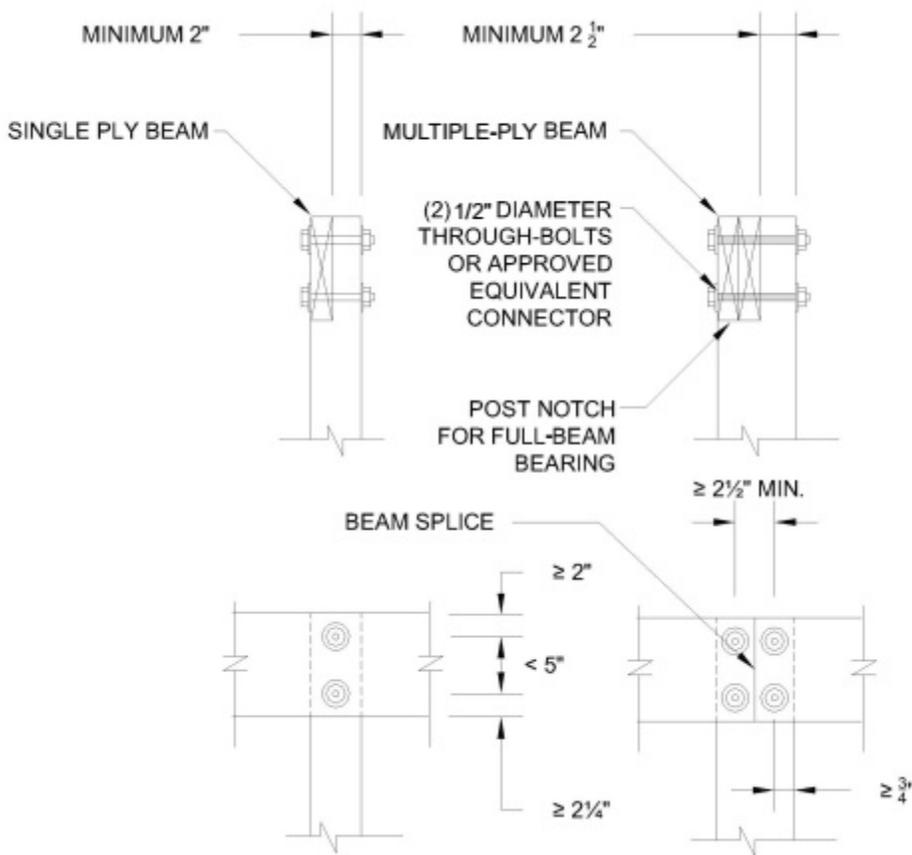
R507.5.1 Deck Beam Bearing

The ends of beams shall have not less than 1½ inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) of bearing on [concrete](#) or masonry for the entire width of the beam. Where multiple-span beams bear on intermediate posts, each ply must have full bearing on the post in accordance with Figures R507.5.1(1) and R507.5.1(2).



For SI: 1 inch = 25.4 mm.

[FIGURE R507.5.1\(1\)](#)
DECK BEAM TO DECK POST



For SI: 1 inch = 25.4 mm.

[FIGURE R507.5.1\(2\)](#)

NOTCHED POST-TO-BEAM CONNECTION

R507.5.2 Deck Beam Connection to Supports

Deck beams shall be attached to [supports](#) in a manner capable of transferring vertical loads and resisting horizontal displacement. Deck beam connections to wood posts shall be in accordance with [Figures R507.5.1\(1\)](#) and [R507.5.1\(2\)](#). Manufactured post-to-beam connectors shall be sized for the post and beam sizes. Bolts shall have washers under the head and nut.

R507.6 Deck Joists

Maximum allowable spans for wood deck joists, as shown in Figure R507.6, shall be in accordance with Table R507.6. The maximum joist spacing shall be limited by the decking materials in accordance with [Table R507.7](#). The maximum joist cantilever shall be limited to one-fourth of the joist span or the maximum cantilever length specified in Table R507.6, whichever is less.

DECK DESIGN GUIDELINES

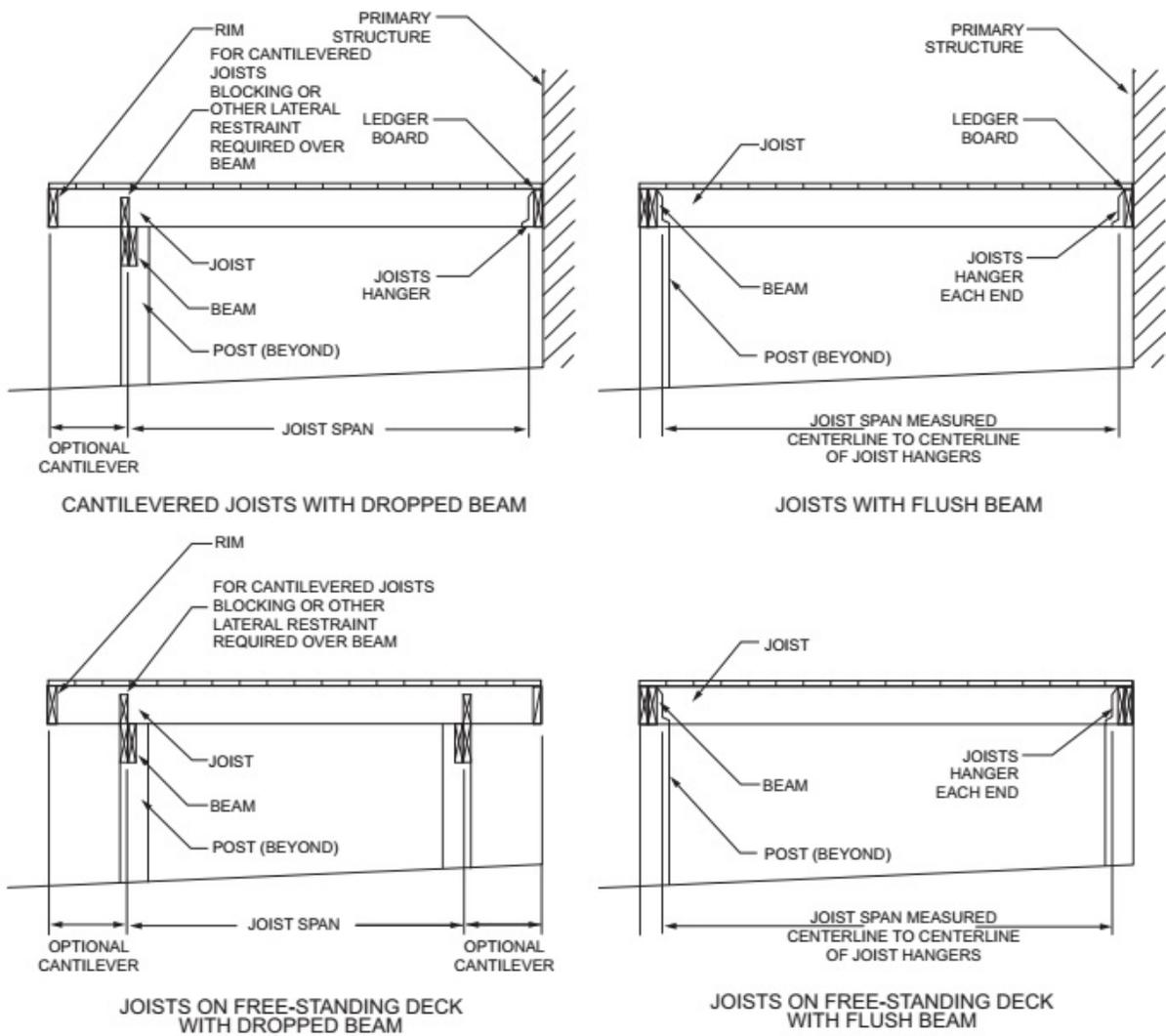


FIGURE R507.6
TYPICAL DECK JOIST SPANS

TABLE R507.6
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft. - in.)

SPECIES ^a	SIZE	ALLOWABLE JOIST SPAN ^b			MAXIMUM CANTILEVER ^{c, f}		
		SPACING OF DECK JOISTS (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (inches)		
		12	16	24	12	16	24
Southern pine	2 x 6	9-11	9-0	7-7	1-3	1-4	1-6
	2 x 8	13-1	11-10	9-8	2-1	2-3	2-5
	2 x 10	16-2	14-0	11-5	3-4	3-6	2-10
	2 x 12	18-0	16-6	13-6	4-6	4-2	3-4

Douglas fir-larch ^d ,	2 × 6	9-6	8-8	7-2	1-2	1-3	1-5
hem-fir ^d	2 × 8	12-6	11-1	9-1	1-11	2-1	2-3
spruce-pine-fir ^d ,	2 × 10	15-8	13-7	11-1	3-1	3-5	2-9
	2 × 12	18-0	15-9	12-10	4-6	3-11	3-3
Redwood, western cedars,	2 × 6	8-10	8-0	7-0	1-0	1-1	1-2
	2 × 8	11-8	10-7	8-8	1-8	1-10	2-0
ponderosa pine ^e ,	2 × 10	14-11	13-0	10-7	2-8	2-10	2-8
	2 × 12	17-5	15-1	12-4	3-10	3-9	3-1

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.

1. No. 2 [grade](#) with wet service factor.
2. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.
3. 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 to end.
4. Includes incising factor.
5. Northern species with no incising factor.
6. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

R507.6.1 Deck Joist Bearing

The ends of joists shall have not less than 1½ inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) of bearing on [concrete](#) or masonry over its entire width. Joists bearing on top of a multiple-ply beam or ledger shall be fastened in accordance with [Table R602.3\(1\)](#). Joists bearing on top of a single-ply beam or ledger shall be attached by a mechanical connector. Joist framing into the side of a beam or ledger board shall be supported by [approved](#) joist hangers.

R507.6.2 Deck Joist Lateral Restraint

Joist ends and bearing locations shall be provided with lateral resistance to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lateral restraint is provided by rim joists, they shall be secured to the end of each joist with not fewer than three 10d (3-inch by 0.128-inch) (76 mm by 3.3 mm) nails or three No. 10 x 3-inch (76 mm) long wood screws.

R507.7 Decking

Maximum allowable spacing for joists supporting decking shall be in accordance with Table R507.7. Wood decking shall be attached to each supporting member with not less than two 8d threaded nails or two No. 8 wood screws. Other [approved](#) decking or fastener systems shall be installed in accordance with the manufacturer's installation requirements.

[TABLE R507.7](#)
MAXIMUM JOIST SPACING FOR DECKING

DECKING MATERIAL TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	Decking perpendicular to joist	Decking diagonal to joist ^a
1 ¹ / ₄ -inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section R507.2	In accordance with Section R507.2

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

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

R507.8 Vertical and Lateral Supports

Where supported by attachment to an [exterior wall](#), decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. For decks with cantilevered framing members, connection to [exterior walls](#) or other framing members shall be designed and constructed to resist uplift resulting from the full live load specified in [Table R301.5](#) acting on the cantilevered portion of the deck. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.

R507.9 Vertical and Lateral Supports at Band Joist

Vertical and lateral [supports](#) for decks shall comply with this section.

R507.9.1 Vertical Supports

Vertical loads shall be transferred to band joists with ledgers in accordance with this section.

R507.9.1.1 Ledger Details

Deck ledgers shall be a minimum 2-inch by 8-inch (51 mm by 203 mm) nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or [approved](#), naturally durable, No. 2 [grade](#) or better lumber. Deck ledgers shall not support concentrated loads from beams or girders. Deck ledgers shall not be supported on stone or masonry veneer.

R507.9.1.2 Band Joist Details

Band joists supporting a ledger shall be a minimum 2-inch-nominal (51 mm), [solid](#)-sawn, spruce-pine-fir or better lumber or a minimum 1-inch by 9¹/₂-inch (25 mm × 241 mm) dimensional, Douglas fir or better, [laminated veneer lumber](#). Band joists shall bear fully on the primary structure capable of supporting all required loads.

R507.9.1.3 Ledger to Band Joist Details

Fasteners used in deck ledger connections in accordance with Table R507.9.1.3(1) shall be hot-dipped galvanized or stainless steel and shall be installed in accordance with Table R507.9.1.3(2) and Figures R507.9.1.3(1) and R507.9.1.3(2).

[TABLE R507.9.1.3\(1\)](#)

DECK LEDGER CONNECTION TO BAND JOIST^{a, b} (Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

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

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

2. Ledgers shall be flashed in accordance with [Section R703.4](#) to prevent water from contacting the house band joist.
3. Snow load shall not be assumed to act concurrently with live load.
4. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
5. Sheathing shall be [wood structural panel](#) or [solid](#) sawn lumber.
6. Sheathing shall be permitted to be [wood structural panel](#), [gypsum board](#), fiberboard, lumber or foam sheathing. Up to 1/2-inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with [wood structural panel](#) or lumber sheathing.

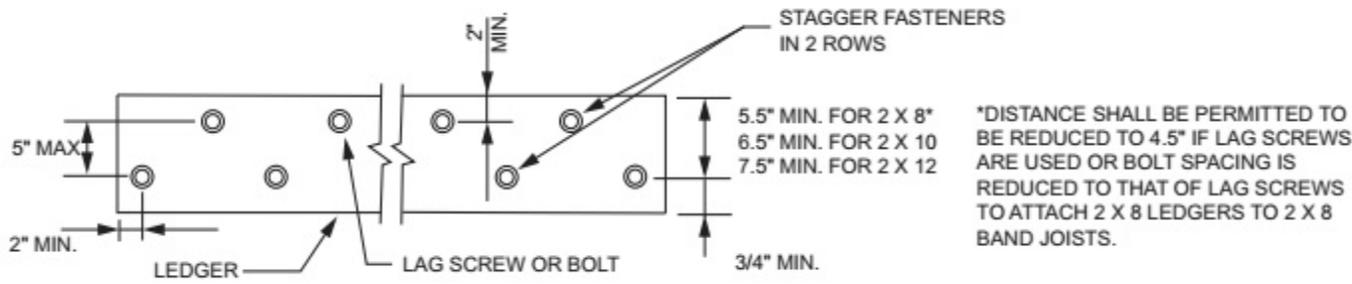
[TABLE R507.9.1.3\(2\)](#)

PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS

MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS				
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger ^a	2 inches ^d	3/4 inch	2 inches ^b	1 5/8 inches ^b
Band Joist ^c	3/4 inch	2 inches	2 inches ^b	1 5/8 inches ^b

For SI: 1 inch = 25.4 mm.

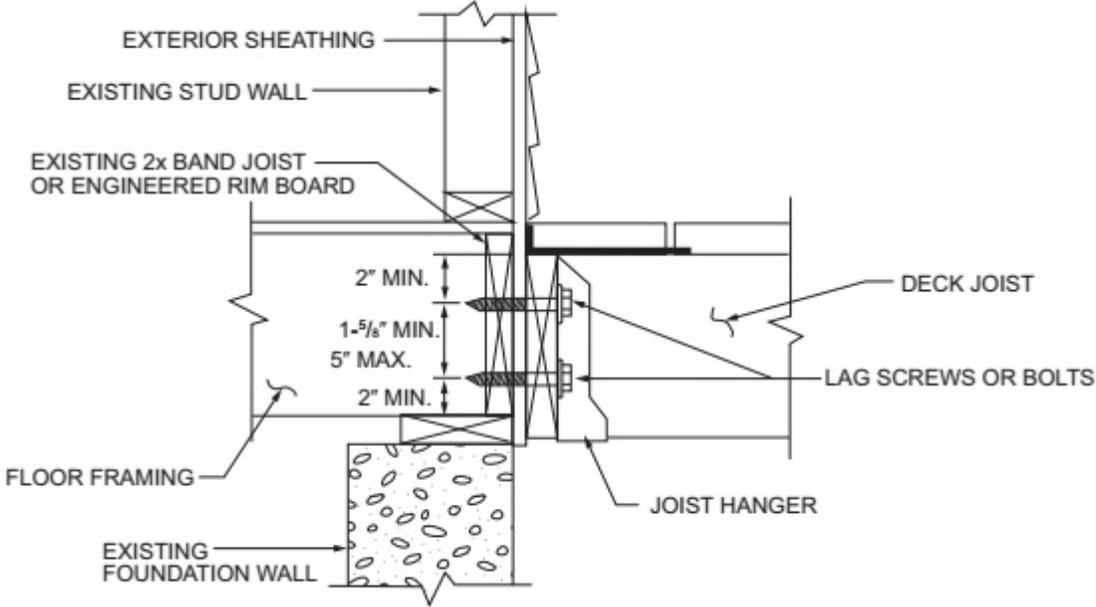
1. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.9.1.3(1).
2. Maximum 5 inches.
3. For engineered rim joists, the manufacturer's recommendations shall govern.
4. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.9.1.3(1).



For SI: 1 inch = 25.4 mm.

[FIGURE R507.9.1.3\(1\)](#)

PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS



For SI: 1 inch = 25.4 mm.

[FIGURE R507.9.1.3\(2\)](#)

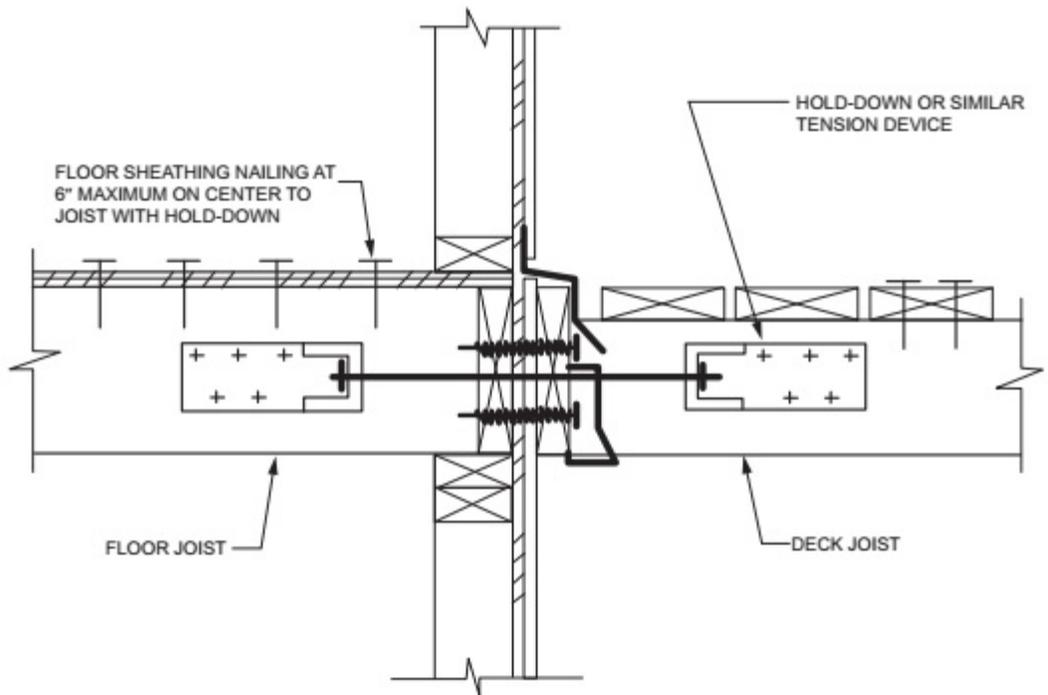
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

R507.9.1.4 Alternate Ledger Details

Alternate framing configurations supporting a ledger constructed to meet the load requirements of [Section R301.5](#) shall be permitted.

R507.9.2 Lateral Connection

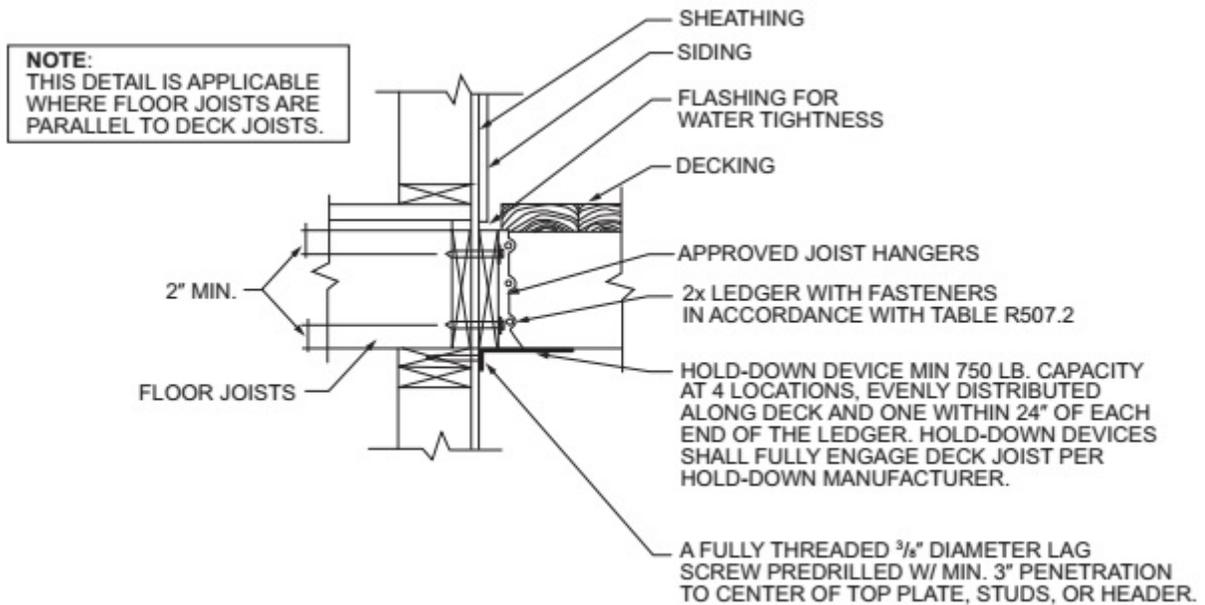
Lateral loads shall be transferred to the ground or to a structure capable of transmitting them to the ground. Where the lateral load connection is provided in accordance with Figure R507.9.2(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24 inches (610 mm) of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds (6672 N). Where the lateral load connections are provided in accordance with Figure R507.9.2(2), the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336 N).



For SI: 1 inch = 25.4 mm.

[FIGURE R507.9.2\(1\)](#)

DECK ATTACHMENT FOR LATERAL LOADS



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

[FIGURE R507.9.2\(2\)](#)

DECK ATTACHMENT FOR LATERAL LOADS



Wood Decks

This edition of the Code Outreach Program is intended to summarize the prescriptive provisions of the 2020 Residential Code of New York State (2020 RCNYS) applicable to wood decks.

Design

Wood decks are required to be designed and constructed in a manner that supports all loads imposed, including but not limited to live and dead loads, flood, snow, wind, and seismic loads as well as vertical and lateral loads. Design criteria can be found in Section R301 of the 2020 RCNYS. Section R301 includes several paths to compliance including a path using prescriptive provisions, an “alternative provisions”^{*} path (see Section R301.1.1), and an “engineered design” path (see Section R301.1.3). This edition will focus primarily on key prescriptive code-compliance provisions but is not intended to be an all-inclusive design guide or inspection tool.

Key Prescriptive Code-Compliance Provisions of the 2020 RCNYS

Ledger. Decks that are supported by the exterior wall of a building must be positively anchored to that wall. Where a positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. Lumber used for ledgers must be rated for exterior use, and a minimum nominal dimension of 2-inch by 8-inch. See Section R507.9.1.1.

Footings. Exterior footings shall be placed a minimum of 12 inches below undisturbed ground surface per Section R507.3.2. Footings of decks anchored to a building wall must also be frost-protected by one of the methods indicated in Section R403.1.4. Free standing decks are exempted from the requirement to be frost protected per exception 3 of Section R403.1.4.1 and exception 2 of Section R507.3.2. Regardless of depth, footings shall not bear on frozen soil.

Posts. Posts shall be connected to the beams per the requirements of Section R507.5.2 and restrained at the connection with the footing per Section R507.4.1.

Framing. Section R507 includes prescriptive tables to determine spans and spacing for deck joists and beams in areas with a ground snow load of 40 lbs per square foot or less. Also included in the deck joist table are allowable cantilevers similar to beams these are further limited to one forth the adjacent beam span. The ends of joists and beams shall have adequate bearing, but in no case not less than the entire width and a depth of one and a half inches on supports and shall also be fastened to them per Section R507.6.

Guards, Stairs. The requirements for guardrails of Section R312 are applicable to decks elevated 30-inches or more above the grade or floor below. The stair requirements of Section R311.7 are also applicable.

Materials. Lumber used for structural members, decking, and guard rails shall be approved for exterior use according to Section R317, with members in contact with the ground listed for ground contact. Cuts, notches, and drilled holes of preservative treated wood members shall be treated in accordance with Section R317.1.1. Fasteners and connectors must be protected from corrosion which are typically hot dipped galvanized or stainless-steel too meet this requirement. Table R507.2.3 provides the specific requirements for each type of fastener.

Composite Materials. Composite materials used for decking, stair treads, guards, and handrails shall bear a label indicating compliance with ASTM D 7032 and the allowable spans shall be determined by the same testing standard. Combustible composite deck materials shall also be decay and termite resistant and have a flame spread index of 200 or less, when tested according to ASTM E84. Biodegradable materials shall be decay and termite resistant in accordance with ASTM D 7032.

Additional information is available through the following free online training:

- Simpson Strong-Tie Online Training Courses provides two classes that cover decks <https://www.strongtie.com/resources/training>
- The International Code Council offers a free class found under the title “Deck Safety and the Codes” at <https://learn.iccsafe.org/> after an account has been created.

The provisions contained in this document are intended as a summary and not as a comprehensive checklist. Additional provisions apply to decks, in particular those constructed in seismic zones or floodplains.

**One of the standards listed under “alternative provisions” is the ‘Wood Frame Construction Manual for One- and Two-family Dwellings’ (WFCM). The 2018 version is incorporated by reference in the Uniform Code, and it is available from the [American Wood Council \(AWC\)](#). The AWC also publishes the ‘[Prescriptive Residential Wood Deck Construction Guide](#)’, which contains useful structural details including, but not limited to, lateral load connections. However, it is not enforceable and should only be used as a guide; compliance with the ‘Design Criteria,’ as put forth in Section R301 of the 2020 RCNYS, is still required.*

Please look for our next edition of the Code Outreach Program at the beginning of next month.

BUILDING SAFETY & ZONING ENFORCEMENT

APPLICATION FOR A

BUILDING PERMIT



NOTE: AN INCOMPLETE APPLICATION MAY DELAY THE TIMELY ISSUANCE OF YOUR PERMIT; PLEASE ENTER N/A IF A SECTION IS NOT APPLICABLE.

PART 1: GENERAL INFORMATION

1. Project Location and Information

Number and Street Address: _____

Tax Map Number: _____

Current use of the property / Building: _____

Proposed use of the property / Building: _____

2. Owner Identification

Applicants Name: _____ Relationship to Owner: _____

Owners Name: _____

Address of Owner: _____

City, State, Zip: _____

Phone - Owner: () _____ - _____ Applicant: () _____ - _____ Other: () _____ - _____

3. Type of Construction or Improvement

New Building — Proposed use is

Conversion — Current use is _____ Proposed use is

Addition

Alteration

Repair / Replacement

Relocation

Demolition

Miscellaneous Structure or Equipment

4. Description of Project: _____

5. Estimated Project Cost:

Contractors estimate for the work to be performed: \$ _____

If the work is to be performed by the homeowner: \$ _____

PART 2: DESIGNERS AND CONTRACTORS

1. Architect/Engineer: Name: _____

Address: _____

City, State, Zip: _____

Phone Number: _____

2. General Contractor: Name: _____

Phone Number: _____

3. Licensed Electrical Contractor: Name: _____

Phone Number: _____ License #: _____ Permit # _____

4. Licensed Plumbing Contractor: Name: _____

Phone Number: _____ License #: _____ Permit # _____

5. HVAC Contractor: Name: _____

Phone Number: _____

6. _____ Contractor: Name: _____

PART 3: PROJECT LOCATION AND DETAILS

Please attach a sketch or plot plan!

A sketch of the work to be performed must be made a part of this application. The sketch must include the following:

1. Location of the proposed structure or addition showing the number of stories and all exterior dimensions;
2. The distance of the proposal from all lot lines;
3. The distance of the proposal from any structure including neighboring structures;
4. The depth of the proposed foundation or footers;
5. The maximum percentage of the lot to be covered by building(s);
6. **Addition** will be used as: _____
7. **Basement:** Full; Partial; Crawl; Pier; Slab
1. **Garage:** Attached; Detached
2. **Deck/Porch:** Open; Covered; Enclosed; Screened; Other
3. **Utilities:** Electric; Gas; Other

PART 4: IMPORTANT NOTICES: READ BEFORE SIGNING

1. Work conducted pursuant to a building permit must be visually inspected by the Building Safety & Zoning Enforcement and must conform to the New York State Uniform Fire Prevention and Building Code, the Charter of the City of Kingston, and all other applicable codes, rules or regulations. The Owner/Occupant and/or Contractor is responsible for the removal of all construction and/or demolition debris from the jobsite. Contact the City of Kingston Department of Public Works at (845) 331-0682 during office hours.
2. It is the owner's responsibility to contact Building Safety & Zoning Enforcement at (845) 331-1217 (Mon. thru Fri. 8:30 a.m. to 4:30 p.m.) at least 24 hours before the owner wishes to have an inspection conducted. More than one inspection may be necessary. This is especially true for "internal work" which will eventually be covered from visual inspection by additional work (i.e. electrical work later to be covered by a wall).
3. OWNER HEREBY AGREES TO ALLOW BUILDING SAFETY & ZONING ENFORCEMENT TO INSPECT THE SUFFICIENCY OF THE WORK BEING DONE PURSUANT TO THIS PERMIT, PROVIDED HOWEVER, THAT SUCH INSPECTION(S) IS (ARE) LIMITED TO THE WORK BEING CONDUCTED PURSUANT TO THIS PERMIT AND ANY OTHER NON WORK-RELATED VIOLATIONS WHICH ARE READILY DISCERNIBLE FROM SUCH INSPECTION(S).
4. New York State law requires contractors to maintain Worker's Compensation and Disability Insurance for their employees. No permit will be issued unless currently valid Worker's Compensation and Disability Insurance certificates are attached to this application or are on file with Building Safety & Zoning Enforcement. If the contractor believes he/she is exempt from the requirements to provide Worker's Compensation and/or Disability Benefits, the contractor must complete form C-105.21, attached hereto.
5. If a Certificate of Occupancy is required, the structure shall not be occupied until said certificate has been issued.
6. Work undertaken pursuant to this permit is conditioned upon and subject to any state and federal regulations relating to asbestos material.
7. This permit does not include any privilege of encroachment in, over, under, or upon any city street or right-of-way.
8. The building permit card must be prominently displayed so as to be visible from the street nearest to the site of the work being conducted.

I, _____, the above-named applicant, hereby attest that I am the lawful owner of the property described within or am the lawful agent of said owner and affirm under the penalty of perjury that all statements made by me on this application are true.

(Signature) _____ Date: _____

DO NOT WRITE BELOW THIS LINE — OFFICIAL USE ONLY

APPROVALS: Zoning Board _____ Planning Board _____
 Historic Landmarks _____ Heritage Area _____
 Code Review _____ Other _____

SEQRA: Type I _____ Type II _____ Unlisted _____

PERMIT FEE: Negative Declaration Positive Declaration Lead Agency _____
 Base Fee \$ _____ + SQ. FT. _____ X _____ / SQ.FT. = \$ _____ Total Fee

REVIEWED BY: _____ TITLE: _____ DATE: _____