

Bristol Borough

TECHNICAL GUIDE FOR RESIDENTIAL WOOD DECKS

1. Please submit one plot plan showing deck location.
2. Please submit two sets of scaled drawings. All drawings should indicate owner's name, address of job site, block and lot number. To draw your own plans you must be owner and occupant of said property, if not you will need drawings by a Registered Architect or Professional Engineer.

Footings: Must comply with the 2006 International Residential Building Code.

The footing width shall be twelve (12) inches of concrete placed in the bottom of the 36" deep hole. The post would extend from the top of the concrete to the bottom of the girder. The backfill material must be well compacted around the post. The minimum strength of the concrete shall be 2500 psi.

The diameter of the footing shall be 8 inches larger than the largest dimension of the post.

Example: 4 x 4 post = 12" in diameter
4 x 6 post = 14" in diameter
6 x 6 post = 14" in diameter

Lumber:

All lumber used in the construction of the deck shall be pressure treated with .40 CCA or be of natural decay resistant wood (heartwood of redwood, blackwood, black locust or cedar). All carpentry work shall be in accordance with the adopted building codes.

Metal Connectors:

The following are the locations and model number of the metal connectors to be used. The examples shown are Simpson Connectors. Any approved metal connector can and may be used.

- >Post to Concrete Footing Simpson ABE44 or Equal
- >Post to Girder Simpson LPC4 or Equal
- >Joist to Girder Simpson H3 or Equal
- >Joist to Ledger Board Simpson LU210 or Equal

Girders: Joints in girders must be directly above the support columns. Split girders must be secured with 2 ½” galvanized bolts and supported by 2” nominal cleats.

Maximum Span for One Story		Greater than One Story
2-2” x 6”	5’ 0”	4’ 0”
3-2” x 6”	6’ 0”	5’ 2”
2-2” x 8”	6’ 4”	5’ 6”
3-2” x 8”	8’ 0”	7’ 0”
2-2” x 10”	8” 0”	7’ 0”
3-2” x 10”	9’ 0”	8’ 0”
2-2” x 12”	9’ 0”	8’ 0”

Note: 4 x 4 posts may not exceed 8’ in height.

<u>Floor Joists:</u>	40 lbs. Live Load (Treated SYP)	
Size	spacing – on center	max. clear span
2” x 6”	16”	8’ – 6”
	12”	9’ – 4”
2” x 8”	16”	11’ – 3”
	12”	12’ – 4”
2’ x 10”	16”	14” – 4”
	12”	15’ – 9”
2’ x 12”	16”	17’ – 5”
	12”	19’ – 0”

Cantilever:

Under floor joist, the maximum cantilever allowed by code is two (2) feet. For longer cantilevers, a set of calculations proving the code design limits and safety of the extended length are being met. These calculations

must be signed and sealed by an Architect or Professional Engineer. A cantilever attached to a house cantilever may not exceed four (4) feet.

Ledger:

A board against the house securely attached with ½” diameter galvanized lag bolts of sufficient length to bolt firmly to a rim joist. Lag bolts shall be space 16” on center in a staggered pattern. Provide galvanized washers between the bolt head and wood. Through bolting with a washer on the outside and a washer and nut on the inside of the building is also acceptable and required for houses with engineered wood construction.

Flashing:

Provide continuous corrosion resistant flashing along the ledger in such a manner as to prevent the passage of moisture into the wall, any untreated wood or siding.

Exception: Not required if against vinyl siding, metal siding (provided a shim is used) or masonry. Shims must not crush the siding when bolts are tightened.

Guardrails:

Required on all decks, porches, balconies or raised floors located more than 30” above finished grade.

Top of guardrails must be 36” above decking and have balusters with no more than a 4” spacing between any openings. Guardrails shall not have an ornamental pattern that would provide a ladder effect. Guardrails shall be constructed for a concentrated load of 200 lbs. Applied at any point and direction along the top railing member. The in-fill area of the guard system shall be constructed for a horizontal load of 200 lbs. Applied on a one sq. ft. area at any point.

A stairway with three or more risers is required to have guard-rails on both sides measuring 34” or more in height above the leading edge of the tread. Balusters must have two screws or nails at the top and bottom.

Stairways:

Minimum stairway width is 36”

Maximum riser height is 8 ¼”

Minimum tread is 9”. A nosing of ¾” to 1 ¼” is required if the tread width is less than 11”. Solid risers or risers permitting no more than a 4” sphere are required. **Dimensional uniformity:** There shall not be a variation exceeding 3/16” in the depth of adjacent treads or in the height of adjacent

risers. The tolerance between the largest and smallest riser or tread shall not exceed 3/8" in any flight of stairs.

Exception: Where the bottom riser adjoins a sloping walk or driveway that has an established grade and serves as a landing the variation in height of the bottom riser shall exceed 3 inches in every 3 feet of stairway width.

There shall be a floor or landing at the top and bottom of each stairway. The width of each landing shall not be less than the stairway served.

Handrails:

All stairways with four or more risers require continuous handrails and guardrails (on both sides). All handrails shall have a circular cross section with an outside of at least 1 1/4" and not greater than 2". Any other shape shall have a perimeter of at least 4" and not greater than 6 1/4" with the largest cross-sectional dimension not exceeding 2 1/4". Handrails to be smooth and free of any sharp edges or splinters. A handrail and any wall or any other surface adjacent to the handrail shall be free of any sharp or abrasive elements. The clear space between the handrail and adjacent wall or surface shall not be less than 1 1/2". Edges shall have a minimum radius of 1/8".

Handrails shall be continuous the full length of the stairs and both ends to be returned to posts. Handrails shall not be less than 34" nor more than 38", measured vertically, above the leading edge of the treads.

Lateral Bracing:

All detached decks, decks 8' above grade, or where situations warrant require diagonal bracing between girder and posts.

Connections:

All connectors, nails, screws, bolts, and related hardware shall be hot-dipped zinc coated (galvanized), stainless steel, silicon bronze, copper or other corrosion resistant materials suitable for the type of lumber being used.

Inspections:

1. The bottom of footings before placing concrete
2. Frame – before covering with decking
3. Final