

GUIDE TO DECK CONSTRUCTION

I. SUBMISSIONS

Provide two (2) copies of exhibits that will indicate the extent of the projection in relation to the existing structures and its compliance with the Zoning resolution and Building Code. The documents will provide a record for future reference. Submissions with alternate materials and/or methods of construction submitted by a N.Y. State-registered design professional, or referencing manufacturing standards will be considered.

II. STRUCTURAL CRITERIA

- a) If deck is supported by an existing structure, connection must be verified to be by a positive thru-bolt system or the deck must be free-standing. (Ref. R.502.2.1)
- b) Materials:
 - 1) Structural members shall be #2 grade or better, pressure-treated.
 - 2) Decking shall be 5/4 minimum thickness pressure-treated or a species of wood or a composite that is resistant to exposure to the elements.
 - 3) Fasteners exposed to the weather shall be Type 3161 S.S., or hot-dipped galvanized metal.
- c) Design Standards:
 - 1) Assumed dead-load (weight of deck): 10 lb/square foot
 - 2) Assumed live-load (superimposed weight): 40 lb/square foot
 - 3) Assumed bearing capacity of the soil is 2000 lb/square foot. If after inspection of the excavation for footings, the bearing capacity of the soil is in doubt, the Building Department will instruct modification.
 - 4) Footing will extend a minimum of 48" below the finished grade or bear on solid rock.
 - 5) Columns:
 - (a) Use 4" x 4" columns if unsupported length is 10'0" or less
 - (b) Use 6" x 6" columns if unsupported length is 16'0"

III. FOOTING DESIGN

- a) For free-standing deck:
 - 1) Area of deck: $L \times W = \text{Area}$
 - 2) Total load : $DL+LL \times \text{Area} = \text{Total Load}$
 - 3) Total load / (divided by) number of footings = Load per footing
 - 4) 2000 lbs (divided by) the load per footing = required area per footing
- b) Attached deck:
 - 1) Area of deck carrying load = $L \times W / (\text{divided by}) 2 = \text{Area}$
 - 2) Total load $DL+LL \times \text{area} = \text{total load}$
 - 3) Total load / (divided by) number of footings = load per footing
 - 4) 2000 lbs (divided by) the load per footing = required area per footing

See tables that follow

Reference Table for footing size (Bearing Area)

Round	Square	Big Foot
8”diameter = 50.26 sq in	8 in sq = 64 sq in	BF20 = 214sq in
10”diameter = 78.53 sq in	10 in sq = 100 sq in	BF 24 = 452 sq in
12”diameter = 113.03 sq in	12 in sq = 144 sq in	BF 28 = 615 sq in
14” diameter = 153.93 sq in	14 in sq = 196 sq in	BF36 = 1017sq in

IV Girder Spacing and Size; Spacing of Columns

span of beams bearing on girder	Span of Girder				
	6'	8'	10'	12'	14'
6'	2x6	2-2x6	2x8	2x10	2-2x10
8'	2-2x6	2-2x6	2x8	2x10	2-2x10
10'	2-2x6	2x8	2x8	2x10	2x12
12'	2-2x6	2x8	2-2x8	2-2x10	2-2x12
14'	2-2x8	2-2x8	2-2x8	2-2x10	2-2x12
16'	2x10	2-2x8	2-2x10	2x12	2-2x12

V. Joist Selection

spacing of beams	Span of Joist					
	6'	8'	10'	12'	14'	16'
14”	2x6	2x6	2x6	2x8	2x8	2x10
16”	2x6	2x6	2x8	2x8	2x10	2x10
18”	2x6	2x6	2x8	2x8	2x10	2x12
24”	2x8	2x8	2x10	2x10	2x12	2x12

Note: interpolation of Tables IV and V is permitted

VI. Cantilevers

Beams and floor joists may cantilever 2x the nominal depth of the member. Members that are doubled up (“sistered”) may cantilever 3x the nominal depth of the members. To extend cantilevers, submit calculations. -

VII. Guards and Railings

- a) Guards: if deck is 30” or more above the adjacent finished grade, a guard is required. It must be a minimum of 36” above the deck. Posts shall be 4” x 4” minimum, spaced a maximum of 6’-0” O.C. It will be connected to a structural member (Beam or Girder) with not less than 2-3/8” diameter through bolts and washers – no spacing will be greater than 4”.
- b) Railings will be provided for every staircase with four or more risers. Height will be between 34” and 38” above the nosing. Newel post shall be a minimum 4” x 4” anchored with 2-3/8” diameter – through-bolts with washers through the stringer.

This office is available to provide the applicant with further assistance.

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