APPENDIX M

WOOD DECKS

This appendix is a North Carolina addition to the 2009 International Residential Code. The provisions contained in this appendix are adopted as part of this code.)

SECTION AM101

AM101.1 General. A deck is an exposed exterior wood floor structure which may be attached to the structure or freestanding. Roofed porches (open or screened-in) may be constructed using these provisions.

AM101.2 Deck design. Computer deck design programs

SECTION AM102 **FOOTERS**

AM102.1 Footers. Support post shall be supported by a min-imum footing per Figure AM102 and Table AM102.1. Mini-mum footing depth shall be 12-inches below finished grade per Section R403.1.4. Tributary area is calculated per Figure AM102.1.

SECTION AM103

 $AM103.1\ Flashing.$ When attached to a structure, the structure to which attached shall have a treated wood band for the length of the deck, or corrosion-resistant flashing shall be used to prevent moisture from coming in contact with the untreated framing of the structure. Aluminum flashing shall not be used in conjunction with deck construction. The deck band and the structure band shall be constructed in contact with each other except on brick veneer structures and where plywood sheathing is required and properly flashed. Siding shall not be installed between the structure and the deck band. If attached to a brick structure, neither the flashing nor a treated band for brick structure is required. In addition, the treated deckband shall be constructed in contact with the $brick\ veneer.\ Flashing\ shall\ be\ installed\ per\ Figure\ AM103.$

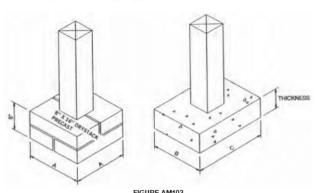
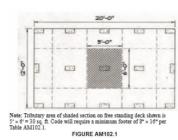


TABLE AM102.1

SIZE (inches)		TRIBUTARY AREA	THICKNESS (inches)	
AxA	BxC	(sq. ft.)	Precast	Cast-in-Place
8 × 16	8 × 16	36	4	6
12 × 12	12 × 12	40	4	6
16 × 16	16 × 16	70	8	8
212	16 × 24	100		8
_	24 × 24	150	3 /3	8

- For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m². a. Footing values are based on single floor and roof loads
- b. Support post must rest in center $^1/_3$ of footer c. Top of footer shall be level for full bearing support of post



SECTION AM DECK ATTACH

AM104.1 Deck attachment. When structure by attaching the deck to th attachment schedules shall apply for the structure.

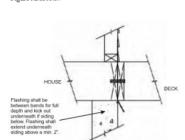
METHOD	FASTENERS	8' MAX JOIST SPAN"	16" MAX JOIST SPAN"	
1	5/4" Hot dipped galv. bolts with nut and washer ^b and 12d Common hot dipped galv. nails ^c	1 @ 3'-6" o.c. and 2 @ 8" o.c.	1 @ 1'-8" o.c. and 3 @ 6" o.c	
2	OR Self-drilling screw fastener	12" o.c	6" o.c	

AM104.1.2 Brick veneer structures FASTENERS 8' MAX JOIST SPAN" 16' MAX JOIST SPAN" 'Hot dipped galv. bolts 1@ 2'-4" o.c. 1@ 1'-4" o.c.

M104 HMENT	supported by a minimum of V_1 inch masonry ledge along the foundation wall, S_1 inch hot dipped galvanized bolts with washers spaced at 48 inches o.c. may be used for support.
n a deck is supported at the the structure, the following r attaching the deck band to	AMI04.1.4 Other means of support. Joist hangers or other means of attachment may be connected to house band and shall be properly flashed.
ot brick veneer structures.	

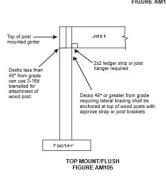
METHOD	FASTENERS	8' MAX JOIST SPAN"	16" MAX JOIST SPAN"
1	5/3" Hot dipped galv. bolts with nut and washerb and 12d Common hot dipped galv. nails*	1 @ 3'-6" o.c. and 2 @ 8" o.c.	1 @ 1'-8" o.c. and 3 @ 6" o.c
	<u>or</u>		
2	Self-drilling screw fastener	12" o.c staggered	6" o.c staggered

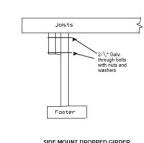
AM105.1 Girder support and span. Girders shall bear directly on support post with post attached at top to prevent lateral displacement or be connected to the side of posts with two "/i inch hot dipped galvanized bolts with nut and washer. Girder spans are per Tables R502.5(1) and (2). Girder support may be installed per Figure AM105 for top mount; Figure AM105.1 for side mount and Figure AM105.2 for split girder detail. Girders may also be cantilevered off ends of support post no more than 1 joist spacing or 16 inches, whichever is greater per Figure AM105.3.

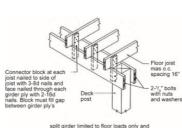


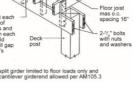
AMI04.1.3 Masonry ledge support. If the deck band is supported by a minimum of 1/, inch masonry ledge along the

SECTION AM105 GIRDER SUPPORT AND SPAN









SPLIT GIRDER DETAIL FIGURE AM105.2

SECTION AM106 JOIST SPANS AND CANTILEVERS

AM106.1 Joist spans and cantilevers. Joists spans shall be based upon Table R502.3.1(2) with 40 lbs per sq. ft. live load and 10 lbs per sq. ft. deal Good. Floor joists for exterior decks may be cantilevered per Table R502.3.3 (1).

CANTILEVERED DROPPED GIRDER DETAIL FIGURE AM105.3

AM107.1 Floor decking. Floor decking shall be No. 2 grade treated Southern Pine or equivalent. The minimum floor deckckness shall be as follows 16" o.c. 1" T&G 19.2" o.c. 11/4" S4S

SECTION AM108

AM108.1 Post he

Post s

b. From top of footing to bottom of girder.

Decks with post heights exceeding these requiregistered design professional.

	neight	POST SIZE	AREA	HEIGHT	DEPTH	
height. Maxi	mum height of deck support posts	4x4	48 SF	4'-0"	2'-6"	
size ^a	Max. Post Height ^{b,o}	6x6	120 SF	6'-0"	3'-6"	
4x4	8'-0"	AM109.1	1.4. 2x6 diag	gonal verti	cal cross brac	2

a. This table is based on No. 2 Southern Pine posts. rements shall be designed by a

SECTION AM109

AM109.1 Deck bracing. Decks shall be braced to provide lateral stability. The following are acceptable means to provide lateral stability

AM109.1.1. When the deck floor height is less than 4'-0" above finished grade per Figure AM109 and the deck is attached to the structure in accordance with Section AM104, lateral bracing is not required. AM109.1.2. 4x4 wood knee braces may be provided on each column in both directions. The knee braces shall

attach to each post at a point not less than 1/3 of the post length from the top of the post, and the braces shall be angled between 45 degrees and 60 degrees from the hori-zontal. Knee braces shall be bolted to the post and the girder/double band with one 5/8 inch hot dipped galvanized bolt with nut and washer at both ends of the brace per Fig.

AM109.1.3. For freestanding decks without knee braces or diagonal bracing, lateral stability may be provided by embedding the post in accordance with Figure AM109.2

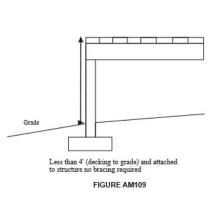
SIZE	MAXIMUM TRIBUTARY AREA	MAXIMUM POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER	
4	48 SF	4'-0"	2'-6"	1'-0"	
6	120 SF	6'-0"	3'-6"	1'-8"	

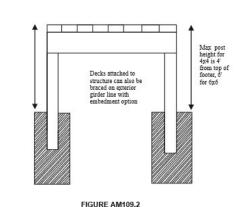
provided in two perpendicular directions for freestanding decks or parallel to the structure at the exterior column line for attached decks. The 2x6's shall be attached to the posts with one 5/8 inch hot dipped galvanized bolt with nut and washer at each end of each bracing member per Figure

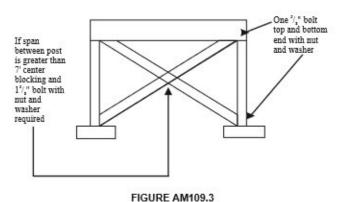
AM109.1.5. For embedment of piles in Coastal Regions,

requiring bracing shall be installed in	Decks attached to structure require diag onal bracing only at
both directions off	outside girder line
each post	parallel with structure

FIGURE AM109.1

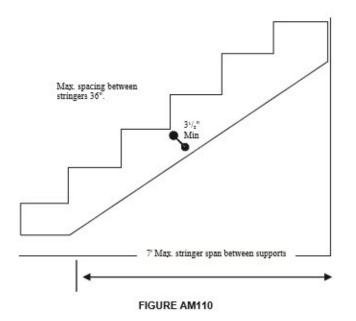






SECTION AM110 STAIRS

AM110.1 Stairs shall be constructed per Figure AM110. Stringer spans shall be no greater than 7 foot span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each Stringer shall have minimum 31/2 inches between step cut and back of stringer. If used, suspended headers shall shall be attached with 3/8 inch galvinized bolts with nuts and washers to securely support stringers at the top.



SECTION AM111 HANDRAILS, GUARDS AND GENERAL

AM111.1 Handrails, guards and general. Deck handrails, guards and general construction shall be per Figure AM111.

TABLE R507.5 DECK JOIST SPANS FOR COMMON LUMBER SPECIES' (ft. - in.)

SPECIES*	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEY (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS (inches)			
		12	16	24	12	16	24	
2.1	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	
Southern pine	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	
1,1,	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3	
Douglas fir-larchd,	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1	
hem-fir ^d spruce-pine-fir ^d	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1	
sprace pine in	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10	
Redwood.	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7	
western cedars.	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6	
ponderosa pine ^e ,	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7	
red pine ^e	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4	

No. 2 grade with wet service factor.

b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.

c. 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.

 Includes incising factor. e. Northern species with no incising factor

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

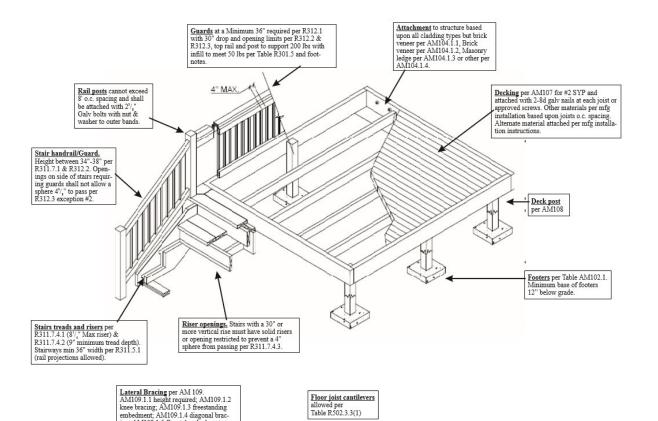


FIGURE AM111







AMERICAN INSTITUTE BUILDING DESIGN

Designs A Residential Design (910) 818-2413 mmm.frazierplans.co Frazier \Box

Sept.2021 DRAWN BY:

Deck Framing Details

SHEET

3