

NC 2012 Residential Code changes

(Highlights on changes between the 2009 and 2012 NC Residential Code)

Chapters 1 and 2: Administration and Definitions		
Code Section	Section Title	Change
101.2	Scope	A new exception allows a mix of residential & nonresidential Uses for live/work units.
R202	Definitions	<p>New definitions/modifications; New, Modified or Energy</p> <ul style="list-style-type: none"> • Accessible (E) • ACH50 (E) • Addition (E) • Adhered Stone or Masonry Veneer (new) • Air barrier material (E) • Air barrier system (E) • Anchored Stone or Masonry Veneer (new) • Aspect ratio (modified) • CFM25 (E) • CFM50 (E) • Attic (modified) • Attic, Habitable (modified) • Attic Storage (new) • Basement Wall (E) • BPI Envelope Professional (E) • Braced Wall Line (modified) • Braced Wall Line, Continuously Sheathed (New) • Braced Wall Panel (modified) • Building Thermal Envelope (modified) • Cap Plate (new) • Cement Plaster (new) • CFM25 (E) • CFM50 (E) • Code Official (new) • Conditioned Space (modified) • Core (new) • Escarpment (new) • Exterior Insulation and Finish Systems (EIFS) • Exterior Insulation and Finish Systems (EIFS) with Drainage

		<ul style="list-style-type: none"> • F-factor (E) • Facing • Fiber Cement Siding • Fire-retardant-treated Wood • Flight • Fully Enclosed Attic Floor System • Heated Slab (E) • Heat Trap (E) • HERS Rater (E) • High-Efficacy Lamps (E) • Hill • Humidistat • Infiltration • Labeled • Lamp • Naturally Durable Wood (modified) • Nosing • Panel Thickness • Precast Concrete Foundation Walls • Readily Accessible (E) • Ridge • Screw lamp Holders (E) • Semi-conditioned Space (E) • Service Water Heating (E) • Solar Heat Gain Coefficient (SHGC) (modified) • Spline • Stair • Stairway • Termite-resistant Material • Thermal Isolation (modified) • Wall, Above Grade (E) • Wall, Crawl Space • Zone (E)
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Chapters 3: Building Planning		
Code sections	Section Title	Change
R101.2	Scope	Live/work units complying with requirements of NCBC 419 shall be permitted to be built as 1-2 family dwellings or townhouses not more than 3 stories above grade plane. Fire suppression must be installed.
R301.1.1	Alternate Provisions	Added reference to <u>ICC-400 Standard on the Design and Construction of Log Structures.</u>
R301.2.1.1	Design criteria	Added supplement reference to <u>International Code Council (ICC) Standard for Residential Construction in High Wind Regions (ICC-600</u> and now recognizes structural insulated panel (SIP) construction for high wind areas
R301.2.1.2	Protection of Openings	Added windborne debris protection requirements for garage door glazed openings.
R301.2.1.2	Protection of Openings EXCEPTIONS	Wood structural panels provided for wind borne debris protection must be predrilled and mounting hardware must be permanently attached to the building. The prescriptive methods for attaching wood structural panels now require additional anchors with greater embedment depth & resistance.
R301.3	Story Height	Floor framing is now permitted to exceed 16 in. provided the story height does not exceed 11ft. 7 in. SIP bearing walls are limited to 10 ft. in height.
TABLE R301.5	Minimum Uniformly Distributed Live Loads	The definitions for deck and balcony have been removed & the minimum uniform live load for balconies has been lowered from 60 psf to 40 psf to be consistent with decks as both perform the same function. .
R302.1 and Table R302.1	Fire Resistant Construction at Exterior Walls	R302 has been renamed <i>Fire-Resistant Construction</i> . All fire-resistance provisions have been reorganized & placed into Section R302. Exterior walls requiring a 1 hour fire-resistance rating due to fire separation distance must now meet requirements of ASTM E 119 or UL 263.

Code Section	Section Title	Change
R302.2 & R302.3	Townhouses Two-family dwellings	The dwelling unit separation provisions have been relocated from Section R317 to R302.
R302.2	Townhouses	Sprinklers required if providing a 1-hour rated wall. Sprinklers not required if providing a 2-hour rated wall.
R302.2.2	Parapets	Townhouse parapets not required to extend above the roof if a fire-retardant wood for a distance of 4' is installed on each side of the separation wall. No openings, penetrations or dormers allowed in the 4' protected area.
R302.2.5	Townhouse eave protection	Projections extending into the fire separation distance shall have not less than 1 hour fire resistive construction on the underside. Soffit material beyond the fire separation distance shall be securely attached to framing members and shall be constructed using either noncombustible soffit material; fire-retardant-treated soffit material; vinyl soffit installed over 3/4-inch (19 mm) wood sheathing or 5/8-inch (16 mm) gypsum board; or aluminum soffit installed over 3/4-inch (19 mm) wood sheathing or 5/8-inch (16 mm) gypsum board.
R302.2.6	Townhouse eave projections	Overhang projections not exceeding 12 inches shall be allowed to extend beyond the property line in townhouse buildings provided listed conditions are met.

Code Section	Section Title	Change
R302.4	Dwelling unit rated penetrations	<p>The exception to Section R302.4.1 permits penetrating items of specified metal pipe or conduit in 2 instances in lieu of a listed assembly or penetration firestop system.</p> <ul style="list-style-type: none"> • In the 1st instance, firestopping materials may be concrete, grout, or masonry. • In the 2nd instance, the code now recognizes UL 263 as an equivalent test standard to ASTM E 119 for the material used to fill annular space.
R302.5	Dwelling/garage opening/penetration protection	<p>The dwelling/garage separation provisions in Sections R309.1 & R309.2 have been relocated to Section R302 with the other fire-resistant construction provisions.</p>
R302.6 and Table R302.6	Dwelling/garage fire separation	<p>The provisions requiring the application of gypsum board on the garage side of the separation from a dwelling have been placed in a new table.</p> <ul style="list-style-type: none"> • 5/8 Type X gypsum board required for all habitable rooms above garage.
R302.11	Fireblocking	<p>Penetration requirements reference the fireblocking provisions (previously R602.8) have been relocated to Section R302.11</p>
R305.1	Ceiling height	<p>Ceiling Height requirements have been reorganized for clarification.</p> <ul style="list-style-type: none"> • The 7 ft. ceiling height now specifically applies to habitable space as defined in Section R202, hallways, bathrooms, toilet rooms, and laundry rooms. • The exception allowing beams & girders to project below the required ceiling height has been removed. • Provisions for lower ceiling heights in portions of basement used for utility & storage have been moved to a separate subsection. (R305.1.1)

Code Section	Section Title	Change
Figure R307.1	Minimum fixture clearances	Has been revised to reflect minimum clearance in front of sink.
R308.4	Hazardous locations	<p>The 2012 code clarifies the application of the provisions by deleting repetitive or unnecessary language, organizing the material in logical manner, and moving exceptions to directly follow the rule to which they apply.</p> <p>The 11 rules of 2009 code have been reduced to 8 by merging the information related to safety glazing in doors.</p>
R310.1	Emergency escape and rescue required	Habitable attics are considered spaces for sleeping and require an emergency escape & rescue opening.
R311	Means of Egress	The means of egress provisions have been reorganized in a systematic order.
R311.2	Egress door	<p>The word 'egress' replaces the word 'exit' for the requirements of at least 1 egress door in Section 311.2.</p> <p>The code now specifies that the required net clear opening dimensions & the method for measuring when the door is opened to the 90 degree position.</p>
R311.3	Floors and landings at exterior doors	Landing at exterior door must be width of the door served and have a minimum dimension of 36 inches in the direction of travel.
R311.7.7.1	Height	When handrail fittings or bendings are used to provide continuity between flights, the transition from handrail height at the fittings or bendings shall be permitted to exceed the maximum height.
R311.7.9.3	Bowed tread stairways	New section
R312	Guards	The provisions for guards have been reorganized into 3 separate sections – required locations, height, and opening limitations.

Code Section	Section Title	Change
R312.1	Where required	Guards shall be located along open sided walking surfaces that are located more than 30 in. measured vertically to the floor or grade below at any point within 36 in. horizontally to the edge of the open side.
R312.2	Height	Guards must be not less than 36" vertically above fixed seating on decks, porches, balconies, landings, etc.
R313.1	Townhouse Automatic Sprinkler Systems	Automatic sprinkler systems required for townhouse construction with a 1-hour separation wall. Exception allows no sprinkler requirement if a two-hour wall is provided.
R313.1	Alterations, repairs and additions	Smoke detector interconnection required if attic, crawl space or basement is available. Can be battery operated.
R314.3	Location	Smoke alarms must be installed in locations listed with the exception of crawl spaces, unfinished attics and unfinished attic stories.
R315.1.1	Carbon Monoxide Alarms	Carbon monoxide alarms are required to be installed outside of each sleeping area in all new dwellings. Exceptions provided for exterior renovations, door and window replacement and deck and porch additions.
R319.1	Address numbers	Code now prescribes the minimum size of address numbers & requires a contrasting background for visibility.
R323	Storm Shelters	Storm shelters must be constructed in accordance with the new ICC/NSSA-500 Standard on the Design & Construction of Storm Shelters.

Chapters 4: Foundations

Code Section	Section Title	Change
R401.3	Surface Drainage	Where it is not feasible to provide the prescribed fall of 6 in. within the first 10 ft. away from a foundation, the code includes new performance language requiring drainage away from the foundation without prescribing a slope.
R404.1	Soil tests	The revised text requires that a determination be based on existing soil maps, test data records, or other documentation with quantifiable data that are based on accepted geotechnical methodologies. When the data exist, the code directs the building official to make a determination of whether to require soil testing or not.
TABLE R403.1	Minimum width of concrete or masonry footings	Footing widths have decreased for one and two story Conventional Wood Frame Construction, 4 inch Brick Veneer and 8 inch hollow masonry construction.
FIGURE R403.1	Concrete and Masonry Foundation Details	Note 1 has been revised to read that "foundations shall extend not less than 12 inches below finished grade and in no case less than the frost line depth."
R403.4	Precast Concrete Foundations	New section. Minimum specifications for materials used in the manufacture of precast concrete foundations have been added to the code.
R403.4.1	Crushed Stone Footings	New section. Prescriptive requirements for crushed stone footings supporting precast concrete foundations are now included in the code.
R403.4.2	Concrete footings	New section. Requirements for concrete footings supporting precast concrete foundation walls match those for masonry & cast-in-place concrete foundation walls.

Code Section	Section Title	Change
Tables R404.1(1) through R404.1(3)	Masonry Foundation Wall Tables	The prescriptive lateral restraints provisions for the top of concrete & masonry foundation walls based on soil type, height of wall, and unbalanced backfill height have been removed from the code.
R404.1	Concrete and Masonry Foundation Walls	The technical provisions for concrete foundation walls have been revised & are now separated from the masonry foundation provisions. ICF requirements have been integrated with the Concrete Foundation Wall requirements.
R404.5	Precast Concrete Foundation Walls	New section requires engineering & sets designs & labeling requirements for precast foundation walls.
R405.1.1	Precast Concrete Foundation	New section. Drainage pipe must be installed a minimum of 1 ft. beyond the edge of a wall to preserve the integrity of the effective bearing surface of the crushed stone footing.
R406.4	Precast Concrete Foundation System Dampproofing	New section. Precast concrete basement foundations require panel joints to be filled & sealed and the exterior below-grade surface to be dampproofed to prevent water intrusion into the below grade space.
R407.3	Steel Columns	Clarifies that steel columns must be fabricated or not less than 3 in. diameter Schedule 40 pipe.
R408.1.1	Foundation Vent Sizing	Change re-establishes a provision found in the 2003 NCRC for reducing the require net area of ventilation openings to 1/1500 of the underfloor area where the ground is covered with a vapor retarder.

Chapters 5: Floors		
Code Section	Section Title	Change
R502.7	Lateral Restrain for Wood Joists	New text clarifies that installation of engineered wood products including lateral support to prevent rotation is determined by the installation instructions of the manufacturer.

Chapters 6: Walls		
Code Section	Section Title	Change
Table 602.3(1)	Fastener Schedule for Structural Members	Table R602.3(1) has been reorganized & updated to reflect currently accepted industry standards & manufacturer's recommendations. Reprint of ESR-1539 with permission of ICC. Ceiling Joist and rafter tie connections have been removed and put into TABLE R802.5.1.9
R602.3 & Table R602.3(3)	Design and construction & Wood Structural Panel Wall Sheathing Used to Resist Wind Pressures	Wood structural panels used as exterior wall sheathing must comply with the new Table 602.3(3), which now establishes minimum requirements for fastening, panel thickness, span ratings & stud spacing based on designed wind speed & wind exposure category.
R602.6.1	Drilling & Notching Top Plate	When a metal tie is required across the opening of a notched or drilled top plate, the tie must now extend at least 6 in. beyond each side of the opening. Though a 10d nail is 3 in. long, the intent of this change is that 1 ½ in. long nails with a diameter equivalent to 10d common nails (.148 in.) provide adequate shear capacity & satisfy the requirement.
R602.10	Wall Bracing	<p>Significant Changes in Wall Bracing Requirements: Terminology – renamed sections and bracing methods. Braced wall line and braced wall panel have been redefined. Exterior and interior wall bracing are no longer treated differently. The code now also specifically allows mixing of methods between stories & from one wall line to the next.</p> <ol style="list-style-type: none"> 1. Wall bracing length based on length of perpendicular walls; not a percentage of actual wall line. (TABLE 602.10.1.2(1)) 2. Increased distance between wall lines from 50' to 60'. (TABLE 602.10.1.2(1)) 3. Adjustment factors to determine required bracing length. (TABLE R602.10.2(1)) 4. Reduced minimum braced wall panel lengths. 5. New section R602.10.1.3 allows angled wall segment to contribute to wall bracing 6. Horizontal joints in all braced wall sheathing must be blocked.

Code Section	Section Title	Change
R602.10.1.2	Length of Wall Bracing	<p>In the 2009 NCRBC The amount of bracing was expressed as a percentage of the braced wall line. The amount of bracing is now expressed as length in feet (TABLE R602.10.1.2 (1)).</p> <p>After all adjustments are made, the minimum total length of bracing in a braced wall line must be at least 48 in (TABLE R602.10.1.2 (3) or Section R602.10.1.4 BWP location requirements.</p> <p>R602.10.1.2 clarifies that for other than angled walls, only wall panels parallel to the braced wall line count in satisfying the amount of bracing requirements.</p> <p>Walls perpendicular to the braced wall line do not count toward the bracing amount required in the direction of the braced wall panels that are subjected to wind uplift.</p>
R602.10.13	Angled Corners	<p>Angled walls up to 8ft. long & no more than 45 degrees out of plane of the braced wall line are permitted to be included in the amount of required bracing.</p>
R602.10.1.4	Braced Wall Panel Location	<p>The location requirements for braced wall construction are now grouped together in a single section & adds several figures.</p> <p>The 2009 NCRBC permitted a maximum inset distance to 12.5 ft. from both ends of a braced wall line, provided the amount of bracing satisfied the percentage. The 2009 IRC limits the combined total inset distance to 12.5 ft. while still allowing flexibility to inset a panel a distance of 12.5 ft. from 1 end.</p> <p>New text clarifies that all of the braced wall panels are allowed to be offset 4 ft. from the line that establishes the braced wall line & the total out-to-out offset of brace wall panels is not more than 8 ft.</p>

Code Section	Section Title	Change
R602.10.2	Intermittent Brace Wall Panel Construction Methods	<p>The bracing methods of the 2009 NCRBC listed as types 1-8 and the 2 alternate braced wall panel methods have been grouped into 1 table & given a 2-3 letter abbreviation.</p> <p>The code now uses the term 'intermittent' to describe bracing methods utilizing isolated braced wall panels and to clearly differentiate these methods from continuous sheathing methods.</p> <p>The intermittent bracing methods are now placed in tabular format with a description, illustrative icon & connection criteria.</p>
R602.10.2.1	Intermittent brace wall panel interior finish	<p>Intermittent braced wall panels shall have gypsum wall board installed on the side of the wall opposite the bracing material. Gypsum wall board shall be not less than 1/2 in. in thickness & be fastened in accordance with Table R702.3.5 for interior gypsum wall board.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Wall panels that are braced in accordance with methods GB, ABW, PFG & PFH. 2. When an <i>approved</i> interior finish material with an in-plane shear resistance equivalent to gypsum board is installed. 3. For methods DWB, WSP, SFB, PBS, PCP & HPS, omitting gypsum wall board is permitted provided the length of bracing in Tables R602.10.1.2(1) & R602.10.1.2(2) is multiplied by a factor of 1.5
R602.10.3	Minimum Length of Brace Wall Panels	<p>The code now recognizes braced wall panels less than 48 in. but not less than 36in. in length in Seismic Design Categories A, B & C.</p> <p>The amount of bracing is now expressed as the minimum total length of braced wall panels measured in the direction of the braced wall line. In most cases, the length of the braced wall panel in the 2012 NCRBC is equal to the actual length of the braced wall panel in the horizontal direction provided it is not less than 48 inches.</p>

Code Section	Section Title	Change
R602.10.3.2	Method ABW – Alternate Braced Wall Panels	<p>A new figure replaces much of the text in this section to more clearly illustrate the construction details for alternate braced wall panels, now described as bracing method ABW.</p> <p>The construction details for minimum materials, concrete reinforcement, hold-downs, anchoring, fastening & splicing are more clearly illustrated in drawing form rather than detailed code language. Much of the text of this section has been deleted in favor of the new figure without making technical changes to the method of construction.</p>
R602.10.3.3	Method PFH – Portal Frame with Holds-Down	<p>The alternate bracing method for a braced wall panel adjacent to a door or window opening, typically used at large overhead garage door openings, is now known as portal frame with holds-down (Method PFH).</p> <p>The braced wall segments in Figure R602.10.6.2 are now labeled as 'portal frames,' a term that more accurately describes the configuration, prompting a change to designate this method of bracing as portal frame with holds-down (Method PFH). The text describing the materials and connection details has been deleted in favor of Figure R602.10.3.2 for illustrating this method of bracing construction. There is a minor revision which clarifies that 2 anchor bolts are required at the portal frame panel.</p>

Code Section	Section Title	Change
R602.10.4	Continuous sheathing	<p>The code now recognizes the practice of mixing intermittent bracing methods with the continuous sheathing method. The continuous sheathing method of bracing has undergone extensive revision and expansion to provide more flexibility in the design of & construction of dwellings.</p> <p>To clearly differentiate intermittent from continuous bracing methods, the continuous sheathing provisions are no longer tied to wood structural panel bracing method WSP (formerly method 3).</p> <p>Table R602.10.5 has been deleted & the minimum total length of braced wall panels for continuous sheathing appears in the applicable column of either Table R602.10.1.2(1), when wind controls, or Table R602.10.1.2(2), when seismic controls.</p> <p>The tabular value is no longer based on adjacent opening heights expressed as a percentage of wall heights.</p> <p>Amounts of required bracing are expressed as the length of braced wall panels in feet rather than a percentage of the braced wall line.</p> <p>Section 602.10.4 requires continuous wood structural panel sheathing on all sheathable surfaces on 1 side of braced wall lines of exterior walls. This change permits other bracing methods to be used at other braced wall lines at any story.</p> <p>The code clarifies the requirements for a minimum 24 in. wood structural panel on both sides of the corner at each end of the continuously sheathed braced wall line. A hold down device with a capacity of 800 lbs. installed on the corner stud of the end panel of the braced wall line that provides overturning restraint is permitted to substitute the 24in. corner return segment that is perpendicular to the braced wall line.</p>

Code Section	Section Title	Change
R602.10.8	Braced Wall Panel Joints	<p>The exception permitting horizontal joints without blocking in lower Seismic Design Categories has been deleted. The code now permits horizontal joints without blocking for panel sheathing except hardboard panel siding, provided the minimum required amount of bracing is doubled.</p> <p>Blocking is now required for the horizontal joints of braced wall panel sheathing in all Seismic Design Categories. This change also clarifies that blocking is required only for the prescribed braced wall panels, not the entire braced wall line.</p> <p>Blocking at horizontal joints shall not be required in wall segments that are not counted as <i>braced wall panels</i>. Where the bracing length provided is at least twice the minimum length required by Tables R602.10.1.2 (1) & R602.10.1.2 (2) blocking at horizontal joints shall not be required in <i>braced wall panels</i> constructed using Methods WSP, SFB, GB, PBS or HPS.</p> <p>Gypsum board braced wall panels (Method GB) applied horizontally do not require attachment to horizontal blocking at the joints.</p>
R602.10.9	Cripple Wall Bracing	<p>This section has been relocated & the terminology updated to be consistent with other changes to Section 602.10. Required bracing is now measured as length in feet rather than a percentage of the braced wall line and is determined from the wind or seismic table, whichever is greater value.</p>
R602.11	Wall Anchoring	<p>Section 602.11 now includes only those provisions related to anchorage of the braced wall line to concrete & masonry foundations.</p> <p>Braced wall panel connections to wood framing at interior & exterior wall locations have been consolidated in the appropriate connections provisions in Section 602.10.6.</p>
R606.3 & R606.4	Corbeled Masonry	<p>Section 606.3 has been divided into 3 subsections to clarify the masonry corbelling requirements. The code now specifically recognizes masonry units filled with mortar or grout as adequate for corbelling.</p>

Code Section	Section Title	Change
R606.12.2.1 and Table R606.12.2.1	Minimum Length of Masonry Walls Without Openings	New section adds prescriptive requirements for minimum lengths of masonry walls to provide wall bracing for townhouses in Seismic Design Category C.
R612.2	Window Sills	<p>Changes to Sections R612.2 through R612.4 clarify the child fall prevention alternatives to the minimum window sill height.</p> <p>In the 1st alternative, window fall prevention device replaces the term 'guard' as the barrier installed at operable windows with sills below 24 in.</p> <p>In the 2nd option, the code details the performance criteria for opening limiting devices, including provisions for emergency escape & rescue opening.</p>
R613	Structural Insulated Wall Panel Construction	<p>Prescriptive provisions for structural insulated panel (SIP) wall construction have been added to the code in a new Section R613.</p> <p>SIP wall construction in accordance with R613 is limited to 1-2 story buildings not greater than 40 ft. wide by 60 ft. long with 10ft. wall heights and sited in Seismic Design Categories A, B & C. Maximum design wind speed is 130 mph in Exposure C and maximum snow load is 70 psf.</p>

Chapters 7: Wall Covering		
Code sections	Section Title	Change
R703.7.3	Lintels	<p>Steel lintels supporting masonry veneer above openings now require a shop coat of rust-inhibitive primer or other protection against corrosion.</p> <p>Also provides an alternative prescriptive method for supporting veneer above measuring up to 18ft. 3 in. in length using a combination of a steel angle & masonry with horizontal reinforcing.</p> <p>Section R703.7.3 now specifically requires corrosion resistance for steel lintels to inhibit the development of rust & protect the integrity of the masonry veneer.</p> <p>R703.7.3.1 The allowable span shall not exceed the values set forth in Table R703.7.3.1.</p> <p>The new section R703.7.3.2 provides a cost effective alternative to the existing steel lintel table for spanning large masonry veneer openings such as occur at overhead garage doors. These prescriptive provisions combine a steel angle with masonry veneer & reinforcing above to form the noncombustible lintel.</p> <p>Shoring is required to support steel lintel & veneer for a period of 7 days to allow the mortar to gain sufficient strength for the lintel to support the dead load of the masonry above.</p>
R703.7.4	Masonry Veneer Anchorage	The code now prescribes a minimum embedment of 1 1/2 in. into the mortar or grout with not less than 5/8 in. cover on the face side of the veneer.
R703.11.2	Soffit	One-and Two-Family dwellings closer than 10' to the property line from the building face must have fire retardant, 23/32" wood sheathing or 5/8 gypsum underlayment material for vinyl or aluminum soffit material.
R703.11.2	Foam plastic sheathing	New provisions address installations of vinyl siding over foam plastic sheathing based on design wind speed & wind exposure category.

Chapters 8: Roof-Ceiling Construction		
Code Section	Section Title	Change
R802.3	Framing details	Sentence was added to section "Regularly spaced hip and valley rafters need not align."
R807.1	Attic access	<p>Changed language to require attic access to areas that exceed 400 square feet.</p> <p>Pull down stair treads, stringers, handrails and hardware may protrude into the net clear opening required.</p>

Chapters 11: Energy Efficiency		
Code Section	Section Title	Change
		SEE SEPARATE HANDOUT

Appendix		
Code sections	Section Title	Change
		APPENDIX M WOOD DECKS- rewritten

Appendix M

Wood Decks

(Entire section is a NC amended appendix)

Section AM101

General

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 may be accepted by the Code Enforcement Official.

Section AM102

Footers

AM102.1 Footers. Support post shall be supported by a minimum footing per Figure AM102 and Table AM102.1 Minimum footing depth shall be 12" below finished grade per R403.1.4. Tributary area is calculated per Figure AM102.1.

Section AM103

Flashing

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 deck band shall be constructed in contact with the brick veneer. Flashing shall be installed per Figure AM103.

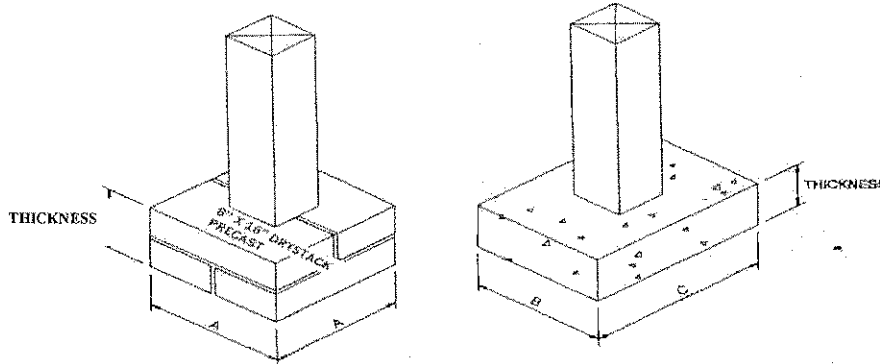


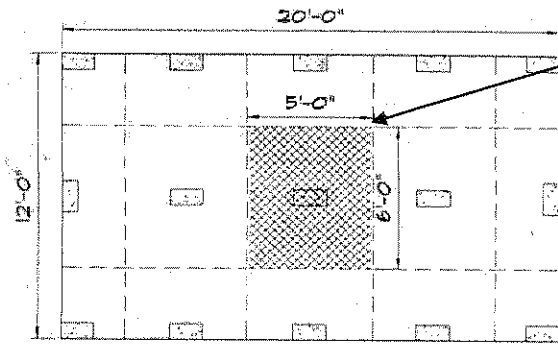
Figure AM102

Table AM102.1

Footing table^{a, b, c}

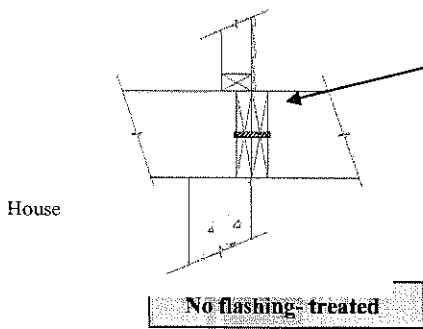
Size (inches)		Tributary Area (Sq. Ft.)	Thickness (inches)	
A x A	B x C		Precast	Cast-in-place
8 x 16	8 x 16	36	4"	6"
12 x 12	12 x 12	40	4"	6"
16 x 16	16 x 16	70	8"	8"
----	16 x 24	100	--	8"
	24 x 24	150	--	8"

- 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



Tributary area of shaded section on free standing deck shown is 5'x6'=30 sq. ft. Code will require a minimum footer of 8"x 16" per Table AM102.1

Figure AM102.1



Treated bands on both the house and deck can be in contact with no flashing

Deck

House

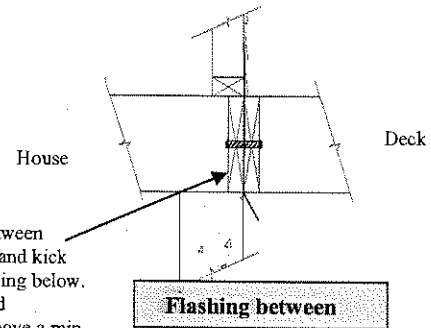
**Section AM104
Deck attachment**

AM104.1 Deck Attachment. When a deck is supported at the structure by attaching the deck to the structure, the following attachment schedules shall apply for attaching the deck band to the structure.

AM104.1.1 All Structures Except Brick veneer Structures:

Fasteners	8' Max Joist Span ^a	16' Max Joist Span ^a
5/8" Hot Dipped Galv. Bolts with nut and washer ^b	1 @ 3'-6" o.c.	<u>1 @ 1'-8" o.c.</u>
and	and	and
12d Common Hot Dipped Galv. Nails ^c	2 @ 8" o.c.	3 @ 6" o.c.

- a. Attachment interpolation between 8' & 16' joists span are allowed
- b. Minimum edge distance for bolts is 2 1/2 inches
- c. Nails must penetrate the supporting structure band a minimum of 1 1/2 inches



Flashing shall be between bands for full depth and kick out underneath if siding below. Flashing shall extend underneath siding above a min. 2"

Figure AM104.1

AM104.1.2 Brick Veneer Structures

Fasteners	8' Max Joist Span ^a	16' Max joist Span ^a
5/8" Hot Dipped Galv. Bolts with Nut and Washer ^b	1 @ 2'-4" o.c.	1 @ 1'-4" o.c.

- a. Attachment interpolation between 8' & 16' is allowed
- b. Minimum edge distance for bolts is 2 1/2 inches

AM104.1.3 Masonry Ledge Support

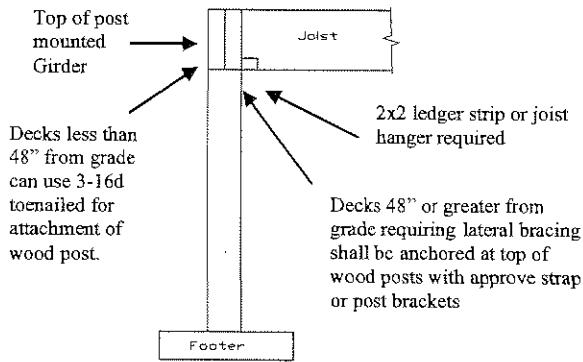
If the deck band is supported by a minimum of 1/2 inch masonry ledge along the foundation wall, 5/8 inch hot dipped galvanized bolts with washers spaced at 48 inches o.c. may be used for support.

AM104.1.4 Other means of support

Joist hangers or other means of attachment may be connected to house band and shall be properly flashed

Section AM105

AM105.1 Girder Support & 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 5/8 inch hot dipped galvanized bolts with nut and washer. Girder spans are per Table R502.5 (1&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" whichever is greater per Figure AM105.3.



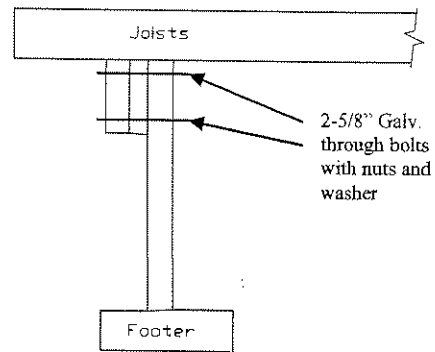
Top mount/flush
Figure AM105

Section AM106

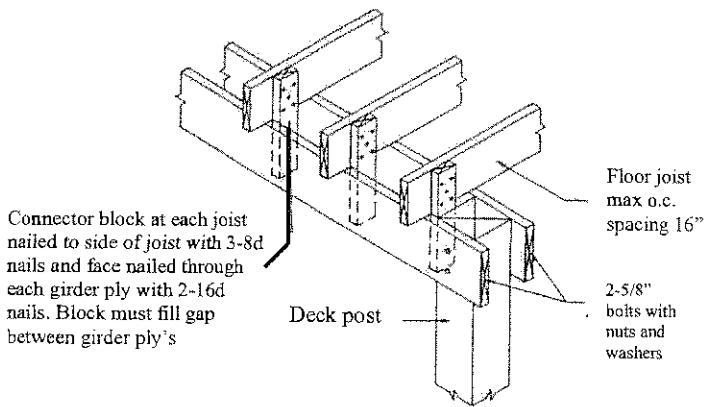
M106.1 Joist Spans & Cantilevers. Joists spans shall be based upon Table R502.3.1(2) with 40 lbs per sq. ft. live load and 10 lbs per sq. ft. dead load. Floor joists for exterior decks may be cantilevered per Table R502.3.3 (1).

Spacing	2x6	2x8	2x10	2x12
12"	10-9	14-2	18-0	21-9
16"	9-9	12-10	16-1	18-10
19.2"	9-2	12-1	14-8	17-2
24"	8-6	11-0	13-1	15-5

Partial reprint of Table R502.3.1(2), #2 SYP only joist spans

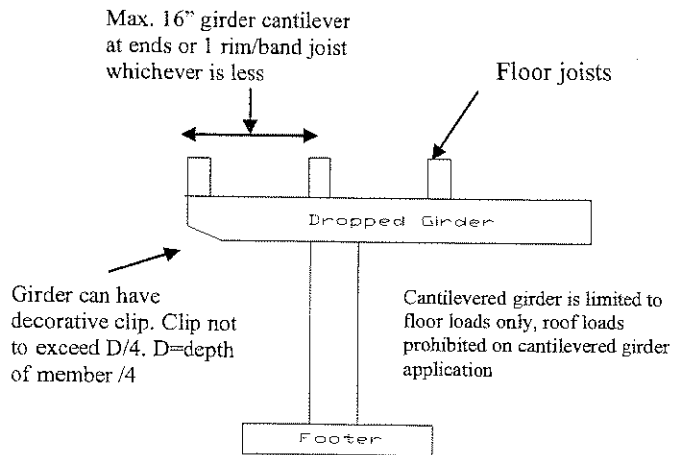


Side mount dropped girder
Figure AM105.1



Split girder limited to floor loads only and cantilever girder ends allowed per AM105.3

Split girder detail
Figure AM105.2

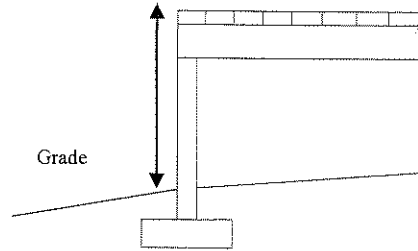


Cantilevered dropped girder detail
Figure AM105.3

Section AM107

AM107.1 Floor Decking. Floor decking shall be No. 2 grade treated Southern Pine or equivalent. The minimum floor decking thickness shall be as follows:

Joist Spacing	Decking (nominal)
12" o.c.	1" S4S
16" o.c.	1" T&G
19.2 o.c.	1-1/4" S4S
24"-36" o.c.	2" S4S



Less than 4' (decking to grade) and attached to structure no bracing required

Figure AM109

Section AM108

AM108.1 Post height. Maximum height of Deck support posts as follows:

Post size ^a	Max. Post Height ^{b,c}
4x4	8'-0"
6x6	20'-0"

- a. This table is based on No. 2 Southern Pine posts.
- b. From top of footing to bottom of girder
- c. Decks with post heights exceeding these requirements shall be designed by a registered design professional

Freestanding decks requiring bracing shall be installed in both directions off each post

Decks attached to structure require diagonal bracing only at outside girder line parallel with structure

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 horizontal. Knee braces shall be bolted to the post and the girder with one 5/8 inch hot dipped galvanized bolt with nut and washer at both ends of the brace per Figure AM109.1

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 and the following:

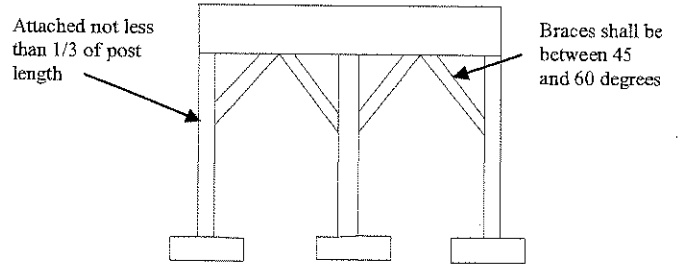


Figure AM109.1

Post size	Max. Tributary Area	Max. Post Height	Embedment Depth	Concrete Diameter
4x4	48 SF	4'-0"	2'-6"	1'-0"
6x6	120 SF	6'-0"	3'-6"	1'-8"

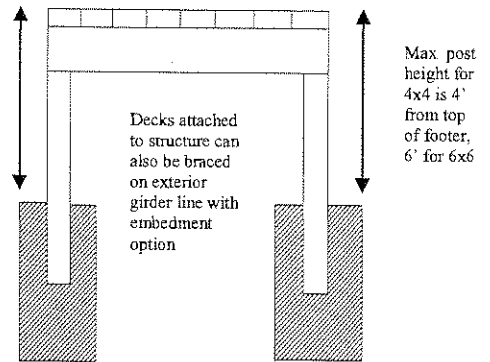


Figure AM109.2

AM109.1.4 2x6 diagonal vertical cross bracing may be 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 AM109.3.

If span between post is greater than 7' center blocking and 1-5/8" bolt with nut and washer required

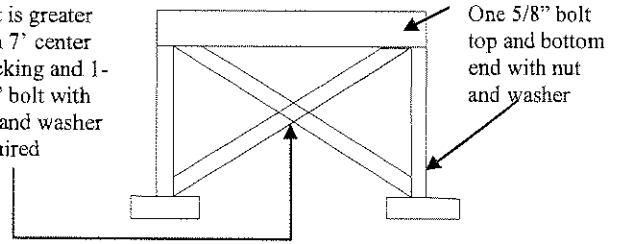


Figure AM109.3

AM109.1.5 For embedment of piles in Coastal Regions, see Chapter 45.

Section AM110

AM110.1 Stairs shall be constructed per Figure AM110. Stringer spans shall be no greater than 7' span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each Stringer shall have minimum 3 1/2" between step cut and back of stringer. All stringers supported at top on suspended headers that support stringers at the top shall be attached with 3/8" Galv bolts with nuts and washers.

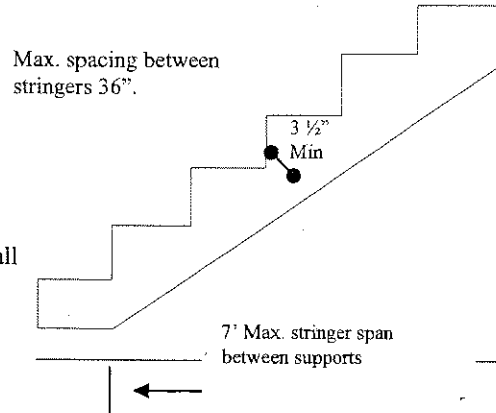


Figure AM110

Section AM111

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

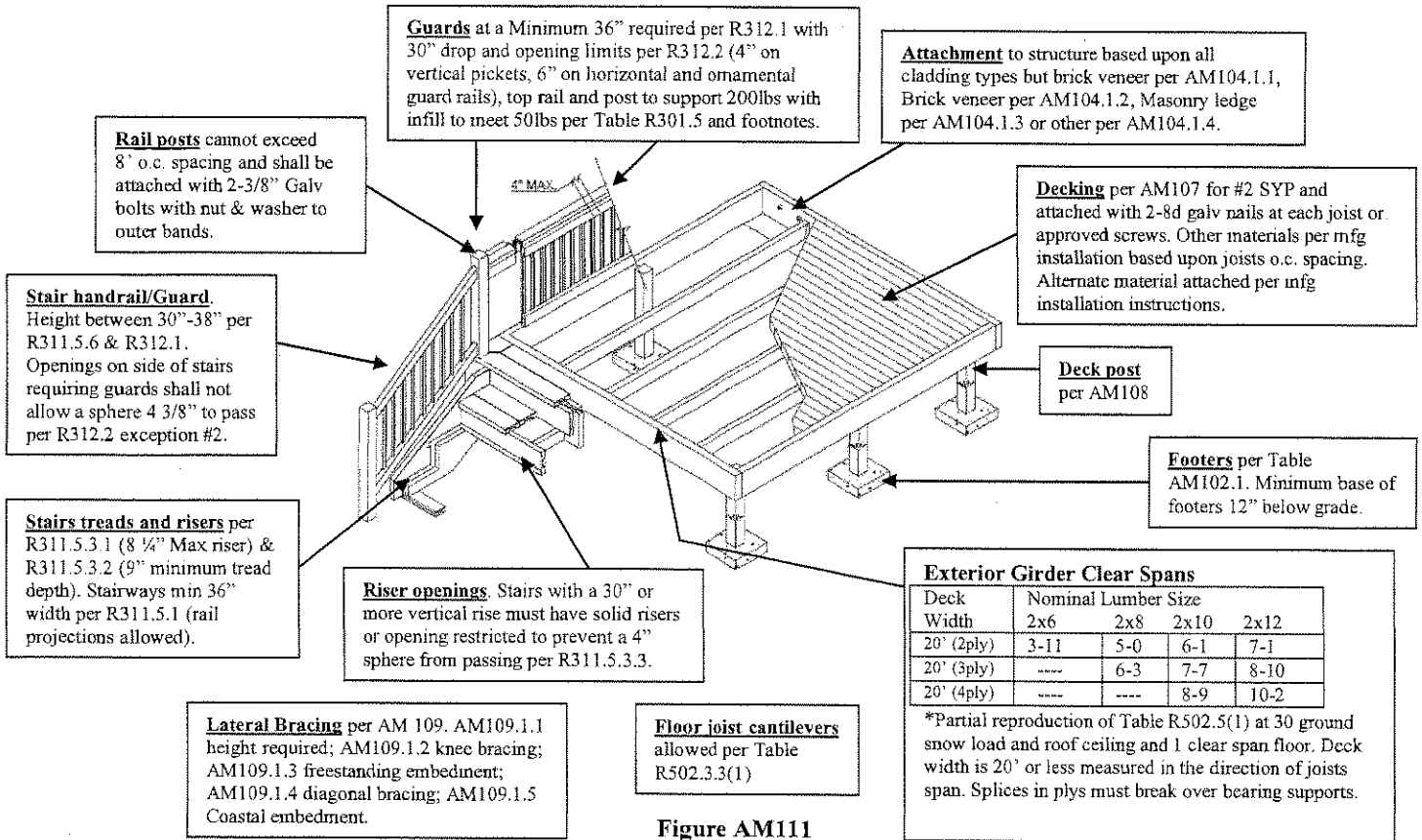
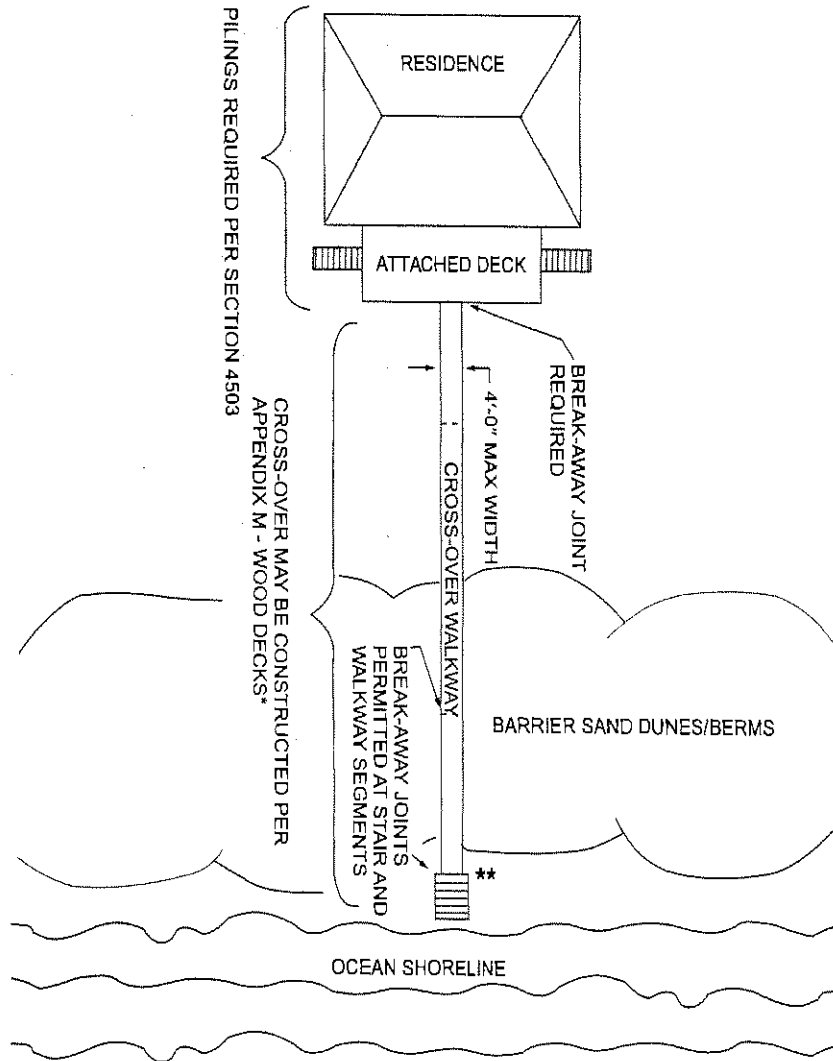


Figure AM111

Figure AM112

WALKWAYS OVER DUNES OR BERMS IN OCEAN HAZARD AREAS



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

* Posts for walkways over dunes or berms shall be embedded a minimum depth of 4'-0" and post heights shall be limited to 5'-0" above grade for 4 x 4 and 10'-0" above grade for 6 x 6. Walkways or portions of walkways over 4'-0" in width, shall comply with the requirements of Chapters 44 and 45. Maximum walkway surface height is 30" above grade without guard rails.

**Walkway stair runs can be greater than 12' without a landing.

Change reference to Chapters 45 and 46.