

NEW RESIDENTIAL FORMS



**DOCUMENTS NEEDED FOR
COMPLETION
OR
CERTIFICATE OF OCCUPANCY**

Residential Construction Forms

Footing Form

Subcontractor List Form

Finished Floor Elevation Form

Finished Floor Elevation Drawings

Gypsum Board Installation Form

Gypsum Board Installation Form Code

Revision Letter

Memos

Manual J

Shingle

Trusses

Energy Efficiency Certificate Form

Construction Site Security Tips

City staff understands the need for tight scheduling for concrete pours. In the past, the City has required zoning review followed by building inspection *review of footings*. The City's new policy allows for concurrent review by the two departments, subject to the below stipulations:

By initialing and signing below, you acknowledge the following:

- _____ (1) A copy of your stamped/signed site plan is located in the permit box on site.

- _____ (2) The footing location meets all applicable setbacks as shown on your approved site plan.

- _____ (3) The footing must be inspected by both the Building Inspection Department (843) 740-2564 and the Planning and Zoning Department (843-740-2585 to be approved.

- _____ (4) Approval of your footing inspection by the Building Inspection Department does not constitute approval of the footing location by the Planning and Zoning Department.

- _____ (5) You may elect to proceed with pouring the footing prior to receiving approval of the Planning and Zoning Department; however, if you do so, you do so at your own risk. Prior to the vertical inspection, if your footing is not in compliance with the indicated setbacks, you understand that you will be required to demolish your footing, slab, polyolith, and/or new addition if the improvement is not in compliance with the City's Zoning Code of Ordinances.

Printed Contractor Name

Contractor Signature

Date

Building Official Signature

Date

Subcontractor List

Project Name: _____

Project Address: _____

General/Prime Contractor: _____

Mailing Address: _____

Contact Person: _____

Mailing Address: _____

Business Phone: _____

Cell Phone: _____

Business Address: _____

Email: _____

Total Contract Value: _____ Contract Start Date: _____

I certify that the following list contains all sub-contractors associated with this project. I will notify the Municipality/County of any changes that occur.

Signature

Date

If the work is being performed by employees of the General/Prime contractor, please indicate EMPLOYEES. Employees are defined as individuals for whom Social Security taxes and income taxes are withheld by the General/Prime contractor and a W-2 is issued to them. If a General Contractor (licensed with the SC State LLR's commercial contracting board) is overseeing this project, we will only need the state license information for the alarm system, plumbing, heating & A/C, electrical, gas, building sprinkler, asphalt paving, land surveying & mapping, and engineering & testing given that all other scope of trades fall under the license classification of the general contractor.

DESCRIPTION OF WORK	CONTRACTOR NAME	ADDRESS	BUSINESS LICENSE NUMBER	STATE LICENSE NUMBER	CONTRACT VALUE
LOT CLEARING/GRADING					N/A
LAYOUT, DIG & POUR FOUNDATION					
MASON - BLOCK					
MASON - VENEER					
PEST CONTROL CONTRACTOR					N/A
FRAME CARPENTER					
STEEL FRAMING					
ROOFER					
DOORS/LOCKSMITH					N/A
WINDOWS/GLASS					
MIRRORS				N/A	
CLOSET/PANTRY SHELVING					
FIREPLACE					
ALARM SYSTEM					
PLUMBING					
HEATING & AC					
ELECTRICAL					
GAS FITTER					
BUILDING SPRINKLER					
INSULATION					
SIDING (VINYL, BOARD, PLANK, STUCCO, ETC.)					
ELEVATOR				N/A	
DRYWALL INSTALLER					
DRYWALL FINISHER					
TRIM CARPENTER					
CABINET MAKER/INSTALLER					
PAINTER					
INTERIOR WALL COVERING					
WOOD FLOOR INSTALLER					
TILE FLOOR INSTALLER					
VINYL FLOOR INSTALLER					
CARPET INSTALLER					
GARAGE DOOR INSTALLER				N/A	
YARD SPRINKLER INSTALLER				N/A	
CONCRETE FINISHER				N/A	
LANDSCAPING				N/A	
ASPHALT/PAVING					
FENCE ISNTALLER				N/A	
CLEANING SERVICES				N/A	
SUPPLIER				N/A	
INSTALLER OF SUPPLIES					
ENGINEERING & TESTING (SOIL TEST, ETC.)					
LAND SURVEYOR/MAPPING					

ATTENTION: All Contractors
RE: Final Floor Elevation and Drawings
PERMIT #: _____

PROPERTY ADDRESS: _____

In accordance with the 2012 International Residential Code, Section R403.1.7.3 and the 2012 International Building Code, Section 1808.7.4. Effective July 1, 2013 prior to review of the construction documents, final floor elevation and draining information must be provided on the site plan. An approved, signed copy will be provided to the general contractor upon issuance of the construction permit. Final floor elevation and drainage document must be filled out and provided to the Building Inspections Department prior to issuance of the Certificate of Occupancy. We are requiring a signature of the engineer, surveyor, or contractor below. **Please sign and return to the Building Inspections Officer prior to the final building inspection being requested or a re-inspection fee of \$50.00 will be charged. Absolutely no exceptions will be made. (Please note that this can be signed by the surveyor, contractor, or approved agency that is responsible for the construction of the new building.)**

Sincerely,

Darbis L. Briggman
Chief Building Official

Final Floor Elevation

Surveyor Name - Print

Surveyor Signature

Date

Contractor Name - Print

Contractor Signature

Date

FOUNDATIONS

6. Where continuous wood foundations in accordance with Section R404.2 are used, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1 or the *braced wall panel* shall be connected to the wood foundations in accordance with the *braced wall panel*-to-floor fastening requirements of Table R602.3(1).

R403.1.7 Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than one unit vertical in three units horizontal (33.3-percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4.

R403.1.7.1 Building clearances from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided in Section R403.1.7.4 and Figure R403.1.7.1, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

R403.1.7.2 Footing setback from descending slope surfaces. Footings on or adjacent to slope surfaces shall be founded in material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in Section R403.1.7.4 and Figure R403.1.7.1, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the required setback shall be

measured from an imaginary plane 45 degrees (0.79 rad) to the horizontal, projected upward from the toe of the slope.

R403.1.7.3 Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an *approved* drainage device a minimum of 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the *building official*, provided it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

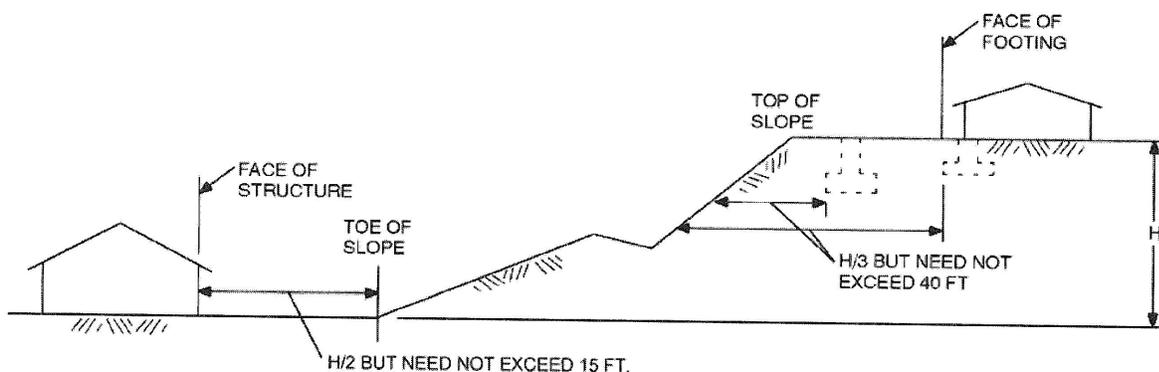
R403.1.7.4 Alternate setback and clearances. Alternate setbacks and clearances are permitted, subject to the approval of the *building official*. The *building official* is permitted to require an investigation and recommendation of a qualified engineer to demonstrate that the intent of this section has been satisfied. Such an investigation shall include consideration of material, height of slope, slope gradient, load intensity and erosion characteristics of slope material.

R403.1.8 Foundations on expansive soils. Foundation and floor slabs for buildings located on expansive soils shall be designed in accordance with Section 1808.6 of the *International Building Code*.

Exception: Slab-on-ground and other foundation systems which have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the *building official*.

R403.1.8.1 Expansive soils classifications. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity Index (PI) of 15 or greater, determined in accordance with ASTM D 4318.



For SI: 1 foot = 304.8 mm.

FIGURE R403.1.7.1
FOUNDATION CLEARANCE FROM SLOPES

other methods that account for soil-structure interaction, the deformed shape of the soil support, the plate or stiffened plate action of the slab as well as both center lift and edge lift conditions. Such alternative methods shall be rational and the basis for all aspects and parameters of the method shall be available for peer review.

1808.6.3 Removal of expansive soil. Where expansive soil is removed in lieu of designing foundations in accordance with Section 1808.6.1 or 1808.6.2, the soil shall be removed to a depth sufficient to ensure a constant moisture content in the remaining soil. Fill material shall not contain expansive soils and shall comply with Section 1804.5 or 1804.6.

Exception: Expansive soil need not be removed to the depth of constant moisture, provided the confining pressure in the expansive soil created by the fill and supported structure exceeds the swell pressure.

1808.6.4 Stabilization. Where the active zone of expansive soils is stabilized in lieu of designing foundations in accordance with Section 1808.6.1 or 1808.6.2, the soil shall be stabilized by chemical, dewatering, presaturation or equivalent techniques.

1808.7 Foundations on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than one unit vertical in three units horizontal (33.3-percent slope) shall comply with Sections 1808.7.1 through 1808.7.5.

1808.7.1 Building clearance from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided in Section 1808.7.5 and Figure 1808.7.1, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

1808.7.2 Foundation setback from descending slope surface. Foundations on or adjacent to slope surfaces shall be founded in firm material with an embedment and set back from the slope surface sufficient to provide vertical and lateral support for the foundation without detrimental settlement. Except as provided for in Section 1808.7.5 and Figure 1808.7.1, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than 1 unit vertical in 1 unit horizontal (100-percent slope), the required setback shall be measured from an imaginary plane 45 degrees (0.79 rad) to the horizontal, projected upward from the toe of the slope.

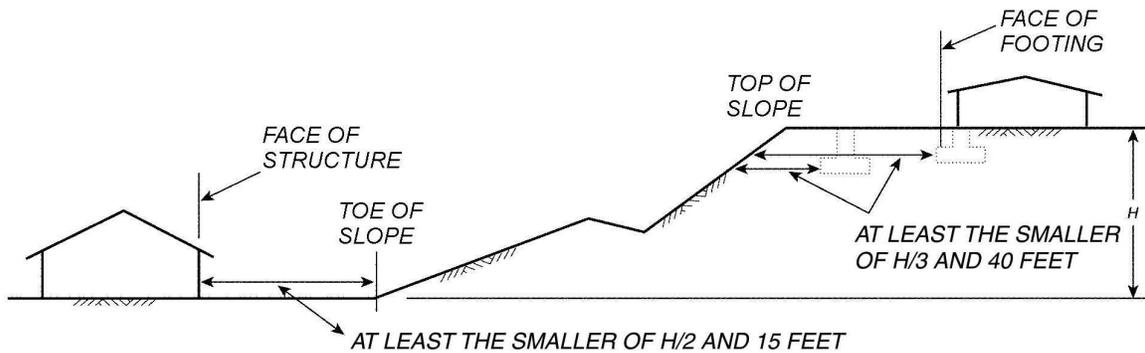
1808.7.3 Pools. The setback between pools regulated by this code and slopes shall be equal to one-half the building footing setback distance required by this section. That portion of the pool wall within a horizontal distance of 7 feet (2134 mm) from the top of the slope shall be capable of supporting the water in the pool without soil support.

1808.7.4 Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the *building official*, provided it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

1808.7.5 Alternate setback and clearance. Alternate setbacks and clearances are permitted, subject to the approval of the *building official*. The *building official* shall be permitted to require a geotechnical investigation as set forth in Section 1803.5.10.

1808.8 Concrete foundations. The design, materials and construction of concrete foundations shall comply with Sections 1808.8.1 through 1808.8.6 and the provisions of Chapter 19.

Exception: Where concrete footings supporting walls of light-frame construction are designed in accordance with Table 1809.7, a specific design in accordance with Chapter 19 is not required.



For SI: 1 foot = 304.8 mm.

FIGURE 1808.7.1
FOUNDATION CLEARANCES FROM SLOPES

TO: Residential Project Managers

FM: Darbis Briggman, Building Official

DATE: July 1, 2013

RE: Gypsum Board Installation

Effective immediately, per the Building Official, all Residential Project Managers will be required to inspect the installation of gypsum board in the wet locations as well as garages beneath the habitable rooms that pertain to 2012 IRC Sections 702.3.8-702.3.8.1, 702.4-702.4.1. and 302.6. This document must be signed by the Project Manager and submitted to the Building Inspections Department stating that the installation has been inspected in compliance with the 2012 IRC prior to the issuance of the Certificate of Occupancy/Completion.

Darbis L. Briggman
Building Official

Contractor Manager Signature

Date

and residence shall be equipped with solid wood doors not less than 1³/₈ inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1³/₈ inches (35 mm) thick, or 20-minute fire-rated doors, equipped with a self-closing device.

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the *dwelling* from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall have no openings into the garage.

R302.5.3 Other penetrations. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

R302.6 Dwelling/garage fire separation. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent *dwelling unit* wall.

R302.7 Under-stair protection. Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

R302.8 Foam plastics. For requirements for foam plastics see Section R316.

R302.9 Flame spread index and smoke-developed index for wall and ceiling finishes. Flame spread and smoke index for wall and ceiling finishes shall be in accordance with Sections R302.9.1 through R302.9.4.

R302.9.1 Flame spread index. Wall and ceiling finishes shall have a flame spread index of not greater than 200.

Exception: Flame spread index requirements for finishes shall not apply to trim defined as picture molds, chair rails, baseboards and handrails; to doors and windows or their frames; or to materials that are less than 1/28 inch (0.91 mm) in thickness cemented to the surface of walls or ceilings if these materials exhibit flame spread index values no greater than those of paper of this thickness cemented to a noncombustible backing.

R302.9.2 Smoke-developed index. Wall and ceiling finishes shall have a smoke-developed index of not greater than 450.

R302.9.3 Testing. Tests shall be made in accordance with ASTM E 84 or UL 723.

R302.9.4 Alternative test method. As an alternative to having a flame spread index of not greater than 200 and a smoke-developed index of not greater than 450 when tested in accordance with ASTM E 84 or UL 723, wall and ceiling finishes shall be permitted to be tested in accordance with NFPA 286. Materials tested in accordance with NFPA 286 shall meet the following criteria:

The interior finish shall comply with the following:

1. During the 40 kW exposure, flames shall not spread to the ceiling.
2. The flame shall not spread to the outer extremity of the sample on any wall or ceiling.
3. Flashover, as defined in NFPA 286, shall not occur.
4. The peak heat release rate throughout the test shall not exceed 800 kW.
5. The total smoke released throughout the test shall not exceed 1,000 m².

R302.10 Flame spread index and smoke-developed index for insulation. Flame spread and smoke-developed index for insulation shall be in accordance with Sections R302.10.1 through R302.10.5.

R302.10.1 Insulation. Insulation materials, including facings, such as vapor retarders and vapor-permeable membranes installed within floor/ceiling assemblies, roof/ceiling assemblies, wall assemblies, crawl spaces and *attics* shall have a flame spread index not to exceed 25 with an accompanying smoke-developed index not to exceed 450 when tested in accordance with ASTM E 84 or UL 723.

Exceptions:

1. When such materials are installed in concealed spaces, the flame spread index and smoke-developed index limitations do not apply to the facings, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.
2. Cellulose loose-fill insulation, which is not spray applied, complying with the requirements of Section R302.10.3, shall only be required to meet the smoke-developed index of not more than 450.
3. Foam plastic insulation shall comply with Section R316.

TABLE R302.6
DWELLING/GARAGE SEPARATION

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

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

WALL COVERING

steel not less than $\frac{3}{8}$ inch (9.5 mm). Screws for attaching gypsum board to cold-formed steel framing 0.033 inch to 0.112 inch (1 mm to 3 mm) thick shall be in accordance with ASTM C 954 or bugle head style in accordance with ASTM C 1513. Screws for attaching gypsum board to structural insulated panels shall penetrate the wood structural panel facing not less than $\frac{7}{16}$ inch (11 mm).

R702.3.7 Horizontal gypsum board diaphragm ceilings. Use of gypsum board shall be permitted on wood joists to create a horizontal *diaphragm* in accordance with Table R702.3.7. Gypsum board shall be installed perpendicular to ceiling framing members. End joints of adjacent courses of board shall not occur on the same joist. The maximum allowable *diaphragm* proportions shall be 1 $\frac{1}{2}$:1 between shear resisting elements. Rotation or cantilever conditions shall not be permitted. Gypsum board shall not be used in *diaphragm* ceilings to resist lateral forces imposed by masonry or concrete construction. All perimeter edges shall be blocked using wood members not less than 2-inch by 6-inch (51 mm by 152 mm) nominal dimension. Blocking material shall be installed flat over the top plate of the wall to provide a nailing surface not less than 2 inches (51 mm) in width for the attachment of the gypsum board.

R702.3.8 Water-resistant gypsum backing board. Gypsum board used as the base or backer for adhesive application of ceramic tile or other required nonabsorbent finish material shall conform to ASTM C 1396, C 1178 or C1278. Use of water-resistant gypsum backing board shall be permitted on ceilings where framing spacing does not exceed 12 inches (305 mm) on center for $\frac{1}{2}$ -inch-thick (12.7 mm) or 16 inches (406 mm) for $\frac{5}{8}$ -inch-thick (16 mm) gypsum board. Water-resistant gypsum board shall not be installed over a Class I or II vapor retarder in a shower or tub compartment. Cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer.

R702.3.8.1 Limitations. Water resistant gypsum backing board shall not be used where there will be direct exposure to water, or in areas subject to continuous high humidity.

R702.4 Ceramic tile.

R702.4.1 General. Ceramic tile surfaces shall be installed in accordance with ANSI A108.1, A108.4, A108.5, A108.6, A108.11, A118.1, A118.3, A136.1 and A137.1.

R702.4.2 Fiber-cement, fiber-mat reinforced cementitious backer units, glass mat gypsum backers and fiber-reinforced gypsum backers. Fiber-cement, fiber-mat reinforced cementitious backer units, glass mat gypsum backers or fiber-reinforced gypsum backers in compliance with ASTM C 1288, C 1325, C 1178 or C 1278, respectively, and installed in accordance with manufacturers' recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.

R702.5 Other finishes. Wood veneer paneling and hard-board paneling shall be placed on wood or cold-formed steel framing spaced not more than 16 inches (406 mm) on center. Wood veneer and hard board paneling less than $\frac{1}{4}$ -inch (6 mm) nominal thickness shall not have less than a $\frac{3}{8}$ -inch (10 mm) gypsum board backer. Wood veneer paneling not less than $\frac{1}{4}$ -inch (6 mm) nominal thickness shall conform to ANSI/HPVA HP-1. Hardboard paneling shall conform to CPA/ANSI A135.5.

R702.6 Wood shakes and shingles. Wood shakes and shingles shall conform to CSSB *Grading Rules for Wood Shakes and Shingles* and shall be permitted to be installed directly to the studs with maximum 24 inches (610 mm) on-center spacing.

R702.6.1 Attachment. Nails, staples or glue are permitted for attaching shakes or shingles to the wall, and attachment of the shakes or shingles directly to the surface shall be permitted provided the fasteners are appropriate for the type of wall surface material. When nails or staples are used, two fasteners shall be provided and shall be placed so that they are covered by the course above.

R702.6.2 Furring strips. Where furring strips are used, they shall be 1 inch by 2 inches or 1 inch by 3 inches (25 mm by 51 mm or 25 mm by 76 mm), spaced a distance on center equal to the desired exposure, and shall be attached to the wall by nailing through other wall material into the studs.

TABLE R702.3.7
SHEAR CAPACITY FOR HORIZONTAL WOOD-FRAMED GYPSUM BOARD DIAPHRAGM CEILING ASSEMBLIES

MATERIAL	THICKNESS OF MATERIAL (min.) (inch)	SPACING OF FRAMING MEMBERS (max.) (inch)	SHEAR VALUE ^{a,b} (plf of ceiling)	MINIMUM FASTENER SIZE ^{c,d}
Gypsum board	$\frac{1}{2}$	16 o.c.	90	5d cooler or wallboard nail; 1 $\frac{3}{8}$ -inch long; 0.086-inch shank; $\frac{15}{64}$ -inch head
Gypsum board	$\frac{1}{2}$	24 o.c.	70	5d cooler or wallboard nail; 1 $\frac{5}{8}$ -inch long; 0.086-inch shank; $\frac{15}{64}$ -inch head

For SI: 1 inch = 25.4 mm, 1 pound per linear foot = 1.488 kg/m.

- a. Values are not cumulative with other horizontal diaphragm values and are for short-term loading caused by wind or seismic loading. Values shall be reduced 25 percent for normal loading.
- b. Values shall be reduced 50 percent in Seismic Design Categories D₀, D₁, D₂ and E.
- c. 1 $\frac{1}{4}$ -inch, #6 Type S or W screws may be substituted for the listed nails.
- d. Fasteners shall be spaced not more than 7 inches on center at all supports, including perimeter blocking, and not less than $\frac{3}{8}$ inch from the edges and ends of the gypsum board.

** **R702.7 Vapor retarders.** Class I or II vapor retarders are required on the interior side of frame walls in Climate Zones 5, 6, 7, 8 and Marine 4.

Exceptions:

1. Basement walls.
2. Below grade portion of any wall.
3. Construction where moisture or its freezing will not damage the materials.

R702.7.1 Class III vapor retarders. Class III vapor retarders shall be permitted where any one of the conditions in Table R702.7.1 is met.

**TABLE R702.7.1
CLASS III VAPOR RETARDERS**

CLIMATE ZONE	CLASS III VAPOR RETARDERS PERMITTED FOR: ^a
Marine 4	Vented cladding over wood structural panels. Vented cladding over fiberboard. Vented cladding over gypsum. Insulated sheathing with <i>R</i> -value ≥ 2.5 over 2 × 4 wall. Insulated sheathing with <i>R</i> -value ≥ 3.75 over 2 × 6 wall.
5	Vented cladding over wood structural panels. Vented cladding over fiberboard. Vented cladding over gypsum. Insulated sheathing with <i>R</i> -value ≥ 5 over 2 × 4 wall. Insulated sheathing with <i>R</i> -value ≥ 7.5 over 2 × 6 wall.
6	Vented cladding over fiberboard. Vented cladding over gypsum. Insulated sheathing with <i>R</i> -value ≥ 7.5 over 2 × 4 wall. Insulated sheathing with <i>R</i> -value ≥ 11.25 over 2 × 6 wall.
7 and 8	Insulated sheathing with <i>R</i> -value ≥ 10 over 2 × 4 wall. Insulated sheathing with <i>R</i> -value ≥ 15 over 2 × 6 wall.

For SI: 1 pound per cubic foot = 16 kg/m³.

a. Spray foam with a minimum density of 2 lb/ft³ applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the insulating sheathing requirement where the spray foam *R*-value meets or exceeds the specified insulating sheathing *R*-value.

R702.7.2 Material vapor retarder class. The vapor retarder class shall be based on the manufacturer's certified testing or a tested assembly.

The following shall be deemed to meet the class specified:

Class I: Sheet polyethylene, unperforated aluminum foil.

Class II: Kraft-faced fiberglass batts.

Class III: Latex or enamel paint.

R702.7.3 Minimum clear air spaces and vented openings for vented cladding. For the purposes of this section, vented cladding shall include the following minimum

clear air spaces. Other openings with the equivalent vent area shall be permitted.

1. Vinyl lap or horizontal aluminum siding applied over a weather resistive barrier as specified in Table R703.4.
2. Brick veneer with a clear airspace as specified in Table R703.7.4.
3. Other approved vented claddings.

**SECTION R703
EXTERIOR COVERING**

R703.1 General. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.8.

R703.1.1 Water resistance. The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior veneer as required by Section R703.2 and a means of draining to the exterior water that enters the assembly. Protection against condensation in the exterior wall assembly shall be provided in accordance with Section R702.7 of this code.

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete or masonry walls designed in accordance with Chapter 6 and flashed according to Section R703.7 or R703.8.
2. Compliance with the requirements for a means of drainage, and the requirements of Sections R703.2 and R703.8, shall not be required for an exterior wall envelope that has been demonstrated to resist wind-driven rain through testing of the exterior wall envelope, including joints, penetrations and intersections with dissimilar materials, in accordance with ASTM E 331 under the following conditions:

- 2.1. Exterior wall envelope test assemblies shall include at least one opening, one control joint, one wall/eave interface and one wall sill. All tested openings and penetrations shall be representative of the intended end-use configuration.
- 2.2. Exterior wall envelope test assemblies shall be at least 4 feet by 8 feet (1219 mm by 2438 mm) in size.
- 2.3. Exterior wall assemblies shall be tested at a minimum differential pressure of 6.24 pounds per square foot (299 Pa).
- 2.4. Exterior wall envelope assemblies shall be subjected to the minimum test exposure for a minimum of 2 hours.

The exterior wall envelope design shall be considered to resist wind-driven rain where the

WALL COVERING

results of testing indicate that water did not penetrate control joints in the exterior wall envelope, joints at the perimeter of openings penetration or intersections of terminations with dissimilar materials.

R703.1.2 Wind resistance. Wall coverings, backing materials and their attachments shall be capable of resisting wind loads in accordance with Tables R301.2(2) and R301.2(3). Wind-pressure resistance of the siding and backing materials shall be determined by ASTM E 330 or other applicable standard test methods. Where wind-pressure resistance is determined by design analysis, data from approved design standards and analysis conforming to generally accepted engineering practice shall be used to evaluate the siding and backing material and its fastening. All applicable failure modes including bending rupture of siding, fastener withdrawal and fastener head pull-through shall be considered in the testing or design analysis. Where the wall covering and the backing material resist wind load as an assembly, use of the design capacity of the assembly shall be permitted.

R703.2 Water-resistive barrier. One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). The felt or other approved material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

Exception: Omission of the water-resistive barrier is permitted in the following situations:

1. In detached accessory buildings.
2. Under exterior wall finish materials as permitted in Table R703.4.
3. Under paperbacked stucco lath when the paper backing is an approved water-resistive barrier.

R703.3 Wood, hardboard and wood structural panel siding.

R703.3.1 Panel siding. Joints in wood, hardboard or wood structural panel siding shall be made as follows unless otherwise approved. Vertical joints in panel siding shall occur over framing members, unless wood or wood structural panel sheathing is used, and shall be shiplapped or covered with a batten. Horizontal joints in panel siding shall be lapped a minimum of 1 inch (25 mm) or shall be shiplapped or shall be flashed with Z-flashing and occur over solid blocking, wood or wood structural panel sheathing.

R703.3.2 Horizontal siding. Horizontal lap siding shall be installed in accordance with the manufacturer's recommendations. Where there are no recommendations the siding shall be lapped a minimum of 1 inch (25 mm), or $1/2$

inch (13 mm) if rabbeted, and shall have the ends caulked, covered with a batten or sealed and installed over a strip of flashing.

R703.4 Attachments. Unless specified otherwise, all wall coverings shall be securely fastened in accordance with Table R703.4 or with other *approved* aluminum, stainless steel, zinc-coated or other *approved* corrosion-resistive fasteners. Where the basic wind speed in accordance with Figure R301.2(4)A is 110 miles per hour (49 m/s) or higher, the attachment of wall coverings shall be designed to resist the component and cladding loads specified in Table R301.2(2), adjusted for height and exposure in accordance with Table R301.2(3).

R703.5 Wood shakes and shingles. Wood shakes and shingles shall conform to CSSB *Grading Rules for Wood Shakes and Shingles*.

R703.5.1 Application. Wood shakes or shingles shall be applied either single-course or double-course over nominal $1/2$ -inch (13 mm) wood-based sheathing or to furring strips over $1/2$ -inch (13 mm) nominal nonwood sheathing. A permeable water-resistive barrier shall be provided over all sheathing, with horizontal overlaps in the membrane of not less than 2 inches (51 mm) and vertical overlaps of not less than 6 inches (152 mm). Where furring strips are used, they shall be 1 inch by 3 inches or 1 inch by 4 inches (25 mm by 76 mm or 25 mm by 102 mm) and shall be fastened horizontally to the studs with 7d or 8d box nails and shall be spaced a distance on center equal to the actual weather exposure of the shakes or shingles, not to exceed the maximum exposure specified in Table R703.5.2. The spacing between adjacent shingles to allow for expansion shall not exceed $1/4$ inch (6 mm), and between adjacent shakes, it shall not exceed $1/2$ inch (13 mm). The offset spacing between joints in adjacent courses shall be a minimum of $1 1/2$ inches (38 mm).

R703.5.2 Weather exposure. The maximum weather exposure for shakes and shingles shall not exceed that specified in Table R703.5.2.

TABLE R703.5.2
MAXIMUM WEATHER EXPOSURE FOR WOOD SHAKES AND SHINGLES ON EXTERIOR WALLS^{a,b,c}
(Dimensions are in inches)

LENGTH	EXPOSURE FOR SINGLE COURSE	EXPOSURE FOR DOUBLE COURSE
Shingles ^a		
16	7 $1/2$	12 ^b
18	8 $1/2$	14 ^c
24	11 $1/2$	16
Shakes ^a		
18	8 $1/2$	14
24	11 $1/2$	18

For SI: 1 inch = 25.4 mm.

a. Dimensions given are for No. 1 grade.

b. A maximum 10-inch exposure is permitted for No. 2 grade.

c. A maximum 11-inch exposure is permitted for No. 2 grade.

**TABLE R703.4
WEATHER-RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS**

SIDING MATERIAL		NOMINAL THICKNESS ^a (inches)	JOINT TREATMENT	WATER-RESISTIVE BARRIER REQUIRED	TYPE OF SUPPORTS FOR THE SIDING MATERIAL AND FASTENERS ^{b, c, d}					
					Wood or wood structural panel sheathing into stud	Fiberboard sheathing into stud	Gypsum sheathing into stud	Foam plastic sheathing into stud	Direct to studs	Number or spacing of fasteners
Horizontal aluminum ^e	Without insulation	0.019 ^f 0.024	Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long	0.120 nail ^y	Not allowed	Same as stud spacing
			Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long	0.120 nail ^y	Not allowed	
	With insulation	0.019	Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2 1/2" long	0.120 nail 2 1/2" long	0.120 nail ^y	0.120 nail 1 1/2" long	
Anchored veneer: brick, concrete, masonry or stone		2	Section R703	Yes	See Section R703 and Figure R703.7 ^g					
Adhered veneer: concrete, stone or masonry ^w		—	Section R703	Yes Note w	See Section R703.6.1 ^g or in accordance with the manufacturer's instructions.					
Hardboard ^k Panel siding-vertical		7/16	—	Yes	Note m	Note m	Note m	Note m	Note m	6" panel edges 12" inter. sup. ⁿ
Hardboard ^k Lap-siding-horizontal		7/16	Note p	Yes	Note o	Note o	Note o	Note o	Note o	Same as stud spacing 2 per bearing
Steel ^h		29 ga.	Lap	Yes	0.113 nail 1 3/4" Staple- 1 3/4"	0.113 nail 2 1/2" Staple- 2 1/2"	0.113 nail 2 1/2" Staple- 2 1/4"	0.113 nail ^v Staple ^v	Not allowed	Same as stud spacing
Particleboard panels		3/8 - 1/2	—	Yes	6d box nail (2" x 0.099")	6d box nail (2" x 0.099")	6d box nail (2" x 0.099")	box nail ^v	6d box nail (2" x 0.099"), 3/8 not allowed	6" panel edge, 12" inter. sup.
		5/8	—	Yes	6d box nail (2" x 0.099")	8d box nail (2 1/2" x 0.113")	8d box nail (2 1/2" x 0.113")	box nail ^v	6d box nail (2" x 0.099")	
Wood structural panel ^l ANSI/APA-PRP 210 siding ⁱ (exterior grade)		3/8 - 1/2	Note p	Yes	0.099 nail-2"	0.113 nail- 2 1/2"	0.113 nail- 2 1/2"	0.113 nail ^v	0.099 nail-2"	6" panel edges, 12" inter. sup.
Wood structural panel lapsiding		3/8 - 1/2	Note p Note x	Yes	0.099 nail-2"	0.113 nail- 2 1/2"	0.113 nail- 2 1/2"	0.113 nail ^v	0.099 nail-2"	8" along bottom edge
Vinyl siding ^l		0.035	Lap	Yes	0.120 nail (shank) with a 0.313 head or 16-gage staple with 3/8 to 1/2-inch crown ^{x, z}	0.120 nail (shank) with a 0.313 head or 16-gage staple with 3/8 to 1/2-inch crown ^y	0.120 nail (shank) with a 0.313 head or 16-gage staple with 3/8 to 1/2-inch crown ^y	0.120 nail (shank) with a 0.313 head per Section R703.11.2	Not allowed	16 inches on center or specified by the manufacturer instructions or test report
Wood ^l rustic, drop	3/8 Min	Lap	Yes	Fastener penetration into stud-1"				0.113 nail-2 1/2" Staple-2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing	

(continued)

WALL COVERING

**TABLE R703.4—continued
WEATHER-RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS**

SIDING MATERIAL	NOMINAL THICKNESS ^a (inches)	JOINT TREATMENT	WATER-RESISTIVE BARRIER REQUIRED	TYPE OF SUPPORTS FOR THE SIDING MATERIAL AND FASTENERS ^{b, c, d}					
				Wood or wood structural panel sheathing into stud	Fiberboard sheathing into stud	Gypsum sheathing into stud	Foam plastic sheathing into stud	Direct to studs	Number or spacing of fasteners
Shiplap	¹⁹ / ₃₂ Average	Lap	Yes	Fastener penetration into stud-1"					
Bevel	⁷ / ₁₆								
Butt tip	³ / ₁₆	Lap	Yes						
Fiber cement panel siding ^q	⁵ / ₁₆	Note q	Yes Note u	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^{f, v}	4d common corrosion-resistant nail ^f	6" o.c. on edges, 12" o.c. on intermed. studs
Fiber cement lap siding ^s	⁵ / ₁₆	Note s	Yes Note u	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^f	6d common corrosion-resistant nail ^{f, v}	6d common corrosion-resistant nail or 11-gage roofing nail ^f	Note t

For SI: 1 inch = 25.4 mm.

- a. Based on stud spacing of 16 inches on center where studs are spaced 24 inches, siding shall be applied to sheathing approved for that spacing.
- b. Nail is a general description and shall be T-head, modified round head, or round head with smooth or deformed shanks.
- c. Staples shall have a minimum crown width of ⁷/₁₆-inch outside diameter and be manufactured of minimum 16-gage wire.
- d. Nails or staples shall be aluminum, galvanized, or rust-preventative coated and shall be driven into the studs where fiberboard, gypsum, or foam plastic sheathing backing is used. Where wood or wood structural panel sheathing is used, fasteners shall be driven into studs unless otherwise permitted to be driven into sheathing in accordance with the siding manufacturer's installation instructions.
- e. Aluminum nails shall be used to attach aluminum siding.
- f. Aluminum (0.019 inch) shall be unbacked only when the maximum panel width is 10 inches and the maximum flat area is 8 inches. The tolerance for aluminum siding shall be +0.002 inch of the nominal dimension.
- g. All attachments shall be coated with a corrosion-resistant coating.
- h. Shall be of approved type.
- i. Three-eighths-inch plywood shall not be applied directly to studs spaced more than 16 inches on center when long dimension is parallel to studs. Plywood ¹/₂-inch or thinner shall not be applied directly to studs spaced more than 24 inches on center. The stud spacing shall not exceed the panel span rating provided by the manufacturer unless the panels are installed with the face grain perpendicular to the studs or over sheathing approved for that stud spacing.
- j. Wood board sidings applied vertically shall be nailed to horizontal nailing strips or blocking set 24 inches on center. Nails shall penetrate 1 ¹/₂ inches into studs, studs and wood sheathing combined or blocking.
- k. Hardboard siding shall comply with CPA/ANSI A135.6.
- l. Vinyl siding shall comply with ASTM D 3679.
- m. Minimum shank diameter of 0.092 inch, minimum head diameter of 0.225 inch, and nail length must accommodate sheathing and penetrate framing 1 ¹/₂ inches.
- n. When used to resist shear forces, the spacing must be 4 inches at panel edges and 8 inches on interior supports.
- o. Minimum shank diameter of 0.099 inch, minimum head diameter of 0.240 inch, and nail length must accommodate sheathing and penetrate framing 1 ¹/₂ inches.
- p. Vertical end joints shall occur at studs and shall be covered with a joint cover or shall be caulked.
- q. See Section R703.10.1.
- r. Fasteners shall comply with the nominal dimensions in ASTM F 1667.
- s. See Section R703.10.2.
- t. Face nailing: one 6d common nail through the over lap ping planks at each stud. Concealed nailing: one 11 gage 1 ¹/₂ inch long galv. roofing nail through the top edge of each plank at each stud.
- u. See Section R703.2 exceptions.
- v. Minimum nail length must accommodate sheathing and penetrate framing 1 ¹/₂ inches.
- w. Adhered masonry veneer shall comply with the requirements of Section R703.6.3 and shall comply with the requirements in Sections 6.1 and 6.3 of TMS-402 ACI 530/ASCE 5.
- x. Vertical joints, if staggered shall be permitted to be away from studs if applied over wood structural panel sheathing.
- y. Minimum fastener length must accommodate sheathing and penetrate framing 0.75 inches or in accordance with the manufacturer's installation instructions.
- z. Where approved by the manufacturer's instructions or test report siding shall be permitted to be installed with fasteners penetrating not less than 0.75 inches through wood or wood structural sheathing with or without penetration into the framing.

Project Name: _____

Company Name: _____

Permit No.: _____

I, _____, the General Contractor of the above mentioned project, do hereby attest that a complete final set of drawings to include all revisions will be submitted electronically to the Building Inspections Department. All permit fees and business license fees for all contractors of said project will be adjusted to include all change orders to the original contract. I agree to these terms and understand that the Certificate of Occupancy will be rescinded if all submittals are not received and all adjustments to permits have been made.

Contractor Signature

Date

June 3, 2010

To: All Contractors

From: Darbis Briggman, Building Official

It is the consensus of all local municipalities and the Charleston Trident Homebuilders Association that the Manual J Residential Load Calculations be submitted with the drawings. A copy of these calculations must also be present on the job site throughout the duration of the project. No mechanical inspections will be conducted if these are not submitted.

Darbis L. Briggman,
Building Official

July 1, 2013

Attention: All Roofing Contractors and Residential Home Builders

Re: Shingle Installation Requirements

The 2012 IRC Section 905.2.6 installation requirements must be met per the standard for installing shingles. It is the builder and the subcontractor installing the shingles responsibility to ensure that the shingles have been installed per the manufacturer's recommendation. The manufacturer's recommendation must be in compliance with this section of the code. As of July 1, 2013, the "drip edge" must be installed per the 2012 IRC Section 903.2.1. The roofing letter must be faxed to 84.-745-1054 on or prior to the rough framing inspection.

Sincerely,

Darbis L. Briggman,
Building Official

May 24, 2012

Attention All Residential Home Builders:

As of this date, no Certificate of Occupancy (C/O) will be issued until a copy of the manufactured trusses has been delivered to the City of North Charleston Building Department. The copy may be sent as an email or on CD in PDF format.

We prefer to have the truss drawings delivered with the regular architect and engineered drawings. If any changes should occur before or during construction, a copy of the changes should be submitted.

With every copy of the truss drawings that are submitted please include the address of the construction site and, if possible, the permit number.

Sincerely,

Darbis L. Briggman,
Building Official

ENERGY EFFICIENCY CERTIFICATE

ADDRESS

PERMIT NUMBER

INSULATION RATINGS			R-VALUE
ROOF/CEILING	WTH ATTIC	R-	
	WITHOUT ATTIC	R-	
WALLS	FRAME	R-	
	MASS	R-	
	BASEMENT	R-	
	CRAWLSPACE	R-	
FLOORS	OVER UNCONDITIONED SPACE	R-	
	SLAB-DEDEGE (DEPTH)	R-	/ FT
DUCTS	OUTSIDE CONDITIONED	R-	

FENESTRATION RATING	NJRC U-FACTOR	NFRC SHGC
OPAQUE DOORS	U-	
WINDOWS	U-	
SKYLIGHTS	U-	

EFFICIENCY	
HEATING SYSTEMS	HSPF/AFUE
COOLING SYSTEMS	COP/SEER
WATER HEATER/BOILER	EF/Ec or E1

Builder/Developer _____

Certified By _____ Date _____

Adopted Code Edition _____

THIS CERTIFICATE SHALL BE PERMANENTLY POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL AS REQUIRED BY ENERGY/RESIDENTIAL CODES

In the United States, thefts from construction sites are valued at over a billion dollars each year. The North Charleston Police Department Crime Prevention Unit recommends that you make theft prevention a part of your construction site business plan.

Construction Site Security Tips:

- Have a written theft prevention employee responsibility policy.
- Consider an employee bonus system for sites that have zero thefts.
- Maintain an inventory/photo log of equipment to include serial numbers or owner applied identification numbers.
- Conduct an inventory audit of the job site at random times.
- Post No Trespassing and North Charleston Jurisdiction signs on the job site.
- "Light Up" your site - Lighting is the most cost effective crime prevention tool. Make sure your site is well lit at all times.
- Install wireless security cameras.
- Hire off duty police or security company to monitor your site after hours.

The North Charleston Police Department Crime Prevention Unit is available to visit your site to conduct a security survey. Please contact PFC Marie Leahy at 843-822-1086 or leahym@northcharleston.org.