

**CITY OF WINNEMUCCA
RESIDENTIAL PLAN REVIEW CHECKSHEET
2012 INTERNATIONAL BUILDING CODE**

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It is the owner or contractor's responsibility to become familiar with the adopted code requirements of the City of Winnemucca. The owner or contractor shall become familiar with requesting the required inspections. We encourage you to ask questions and utilize available handouts. **These plans were checked for code/life safety and regulation compliance only.**

PERMIT INFORMATION: PLAN NUMBER: _____ ASSESSOR'S PARCEL NUMBER: _____ JOB ADDRESS: _____ OWNER: _____ MAILING ADDRESS: _____ CITY: _____ STATE: _____ PHONE NUMBER: _____ CONTRACTOR: _____ CONTRACTOR PHONE NUMBER: _____
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Referenced Codes: 2012 International Residential Code – For detached one & two family dwelling & multiply single family dwelling (townhouse) not more than 3 stories in height with separate egress.; 2012 Uniform Mechanical Code (UMC); 2012 Uniform Plumbing Code (UPC); 2011 National Electric Code (NEC); 2009 International Energy Conservation Code (IECC). Also see Ordinance for amendments
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Note: Plan review approval is based on submitted plans. Any changes require prior approval.
Note: Additional plan review comments, questions may be attached.

BUILDING PLANNING

1. _____ Irregular portions of structures shall be designed in accordance with accepted engineering practices. (R301.2.2.2.5) (See R301.2.2.2.5 for definition of irregular buildings & exceptions)
2. _____ Site location for exterior wall protection, opening protection, eave or other projections - 5' required (R302).
3. _____ Habitable rooms shall be provided with aggregate glazing area of not less than 8% of the floor area. The min. openable area to the outdoors shall be 4% of the floor area being ventilated. (R303.1)

- a. Required glazed openings may face into a roofed porch where the porch abuts a street, yard, or court and the longer side of the porch is at least 65% open & unobstructed & the ceiling height is not less than 7'. (R303.7.1)
4. _____ All unfinished residential basements shall be provided with natural light by means of exterior glazed openings with an area not less than five percent (1/20) of the total floor area. The unfinished basement shall be provided with emergency escape windows or doors complying with IRC Section R310.0. The unfinished basement shall also be provided with smoke detectors complying with IRC Section R313. All finished residential basements shall be provided with a minimum of one window in each habitable room. (WMC 15.04.060)
5. _____ Each dwelling unit shall have at least one habitable room that shall have not less than 120 square feet of gross floor area. Other habitable rooms except kitchens, shall have a floor area of not less than 70 square feet with no dimension less than 7'. (R 304.1, R304.2, R304.3)
6. _____ Habitable rooms, hallways, corridors, bathrooms, toilet rooms, laundry rooms & basements shall have a ceiling height of not less than 7'. (see exceptions) R305.1
7. _____ Garages less than 3 feet from dwelling requires a modified fire wall (R306)
8. _____ Generally, safety glass shall be provided at all hazardous locations, including doors, sidelights, glazing within 24" of a door in a closed position, panes larger than 9 s.f. within 18" of a walking surface, shower & bathtub enclosures, adjacent to stairs and landings, etc. Specific criteria applies to each condition. (R308.4).
9. _____ Openings for a private garage directly into a room used for sleeping purposes shall not be permitted. (R308.5.1)
10. _____ All garages shall be separated from the residence & it's attic area by not less than ½" gypsum board applied to the garage side. (R302.6 & Table R302.6)
A solid wood door not less than 1 3/8" in thickness, solid or honeycomb core steel door not less than 1 3/8" or 20-minute fire rated door with self closure is required. (R302.5.1)
Ducts in the garage & ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a min. No. 26 gage sheetmetal or other approved material & shall have no openings into the garage. (R302.5.2)
11. _____ A breezeway that separates a single-family dwelling and a garage, the interior wall and gable end wall of the garage adjacent to the dwelling shall be protected with one layer of ½" sheetrock from the floor to the underside of the roof sheathing. (WMC ordinance)
12. _____ Garages beneath habitable rooms shall be separated from all habitable rooms by not less than 5/8" Type X gypsum board or equivalent. Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than ½ inch gypsum board or equivalent. (R302.6 & Table R302.6)
13. _____ An occupancy separation need not be provided between a residence & a carport provided the carport is open on at least two sides. (R309.4)
14. _____ Basements & every sleeping room shall have at least one openable emergency escape & rescue opening. Where basements contain one or more sleeping rooms, emergency egress & rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. (R310)
Where emergency escape & rescue openings are provided they shall have a sill height of not more than 44" measured from the finished floor to the bottom of the clear opening. All emergency escape & rescue openings shall have a min. net clear opening of 5.7 square feet with a min. net clear opening height of 24" & a min. clear opening width of 20". Emergency escape & rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. (R310.1)
Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36" in height to a yard or court. (R310.5)
Rooms identified an office or den shall be considered a sleeping room if a closet is installed in the room and a door to provide privacy from the remainder of the house. (WMC)
15. _____ Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well. (R310.2)
a. The minimum horizontal area of the window well shall be 9 s.f. with a min. horizontal projection & width of 36". The area of the window well shall allow the emergency escape & rescue opening to be fully opened.

- b. Window wells with a vertical depth greater than 44" shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or rungs shall have an inside width of at least 12", shall project at least 3" from the wall & shall be spaced not more than 18" o.c. vertically for the full height of the window well. (R310.2.1)
 - c. Bars, grills, coves, screens, or similar devices are permitted to be placed over escape and rescue openings or window wells that serve such openings provided the min. net clear opening complies with Sections R310.1.1 to R310.1.3 & such devices shall be releasable without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape & rescue opening. (R310.4)
16. _____ Sleeping room definition per WMC – Any bedroom or other room that is intended to be or is ordinarily used for sleeping purposes. The term is deemed to include any room that contains a closet and provides for occupant privacy.
17. _____ The minimum width of a hallway shall not be less than 3'. (R311.6)
18. _____ Not less than one exit door, 3' in width and 6'8" in height, shall be provided for each dwelling unit. The required exit door shall provide for direct access from the habitable portions of the dwelling to the exterior or without requiring travel through a garage. All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or any special knowledge or effort. (R311.2)
19. _____ Exterior doors (including sliders) must have an exterior landing (min. 36" in length and width of the door) that is not more than 7 ¾" lower than the floor level. The floor or landing at the exterior door shall not be more than 1 ½" lower than the top of the threshold. The landing shall be permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal. Exception: A stairway with two or less risers (one tread between grade and house), which is not a required exit door (exterior door), a landing is not required for the exterior side of the door provided the door other than an exterior storm door or screen door does not swing over the doorway. (R311.3)
20. _____ Stairways
- a. Shall be a minimum clear width of 36". (R311.7)
 - b. The minimum headroom clearance shall not be less than 6'8". (R311.7.2)
 - c. The maximum riser height shall be 7 ¾". The greatest riser shall not exceed the smallest by more than 3/8". The minimum tread depth shall be 10". The greatest tread depth shall not exceed the smallest by more than 3/8". (R311.7.5.1 & R311.7.5.2)
 - d. There shall be a floor or landing at the top & bottom of each stairway. The width of the landing shall not be less than the stairway served. Every landing shall have a minimum dimension of 36" measured in the direction of travel. Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs. (R311.7.6)
 - e. A handrail is required for four or more risers. The top of the handrail shall be placed not less than 34" nor more than 38" above the nosing of the tread. Handgrip portions of the rail shall be min. 1 ¼" and max. of 2" or, if the perimeter is greater than 6 ¼" a graspable finger recess on both side must be provided. (A flat 2x4 is not acceptable). The handrail must be continuous for the full length of the flight, must extend from the top riser to the bottom riser, and must terminate in newel post, safety terminal, or have an end return. (R311.5)
21. _____ Guardrails are required on stairs with an open side over 30" above the floor or grade below. The guard shall be a min. of 34" above the nosing tread with a maximum opening between intermediate rails of 4" (R312.1.2). Guardrails are required on porches, balconies, raised floor surfaces located more than 30" above the floor. The guard shall be a min. of 36" with max. opening of 4". (R312.1.3)
22. _____ Operable windows that are located more than 72" above the finished grade or the surface below shall have the lowest part of the clear opening of the window a minimum of 24" above the finished floor. Glazing between the floor and 24" shall be fixed or have openings such that a 4" diameter sphere cannot pass through. (R312.2.1)
23. _____ Porches, balconies, ramps, or raised floor surfaces located more than 30" above the floor or grade below shall have guards not less than 36" in height. R312.1 Guards shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4" or more in diameter. (R312.2)
24. _____ Smoke alarms shall be installed in the following locations and be listed in accordance with UL 217. (R314.3)
- a. Each sleeping room
 - b. Outside each sleeping area in the immediate vicinity of the bedrooms
 - c. On each additional story of the dwelling, including basements

Smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. (R313.1) Smoke alarms shall be permanently wired with battery backup and must be placed on AFCI protected circuit.

25. _____ Carbon monoxide alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms within dwelling units in which fuel-fired appliances are installed and in dwelling units that have attached garages with a communicating opening (R315.1 & WMC)
26. _____ Approved numbers or address shall be provided in such a position as to be plainly visible and legible from the street or road fronting the property. Address to be a min. of 4" in height. (R319.1)

EXCAVATIONS, FOUNDATIONS AND SOILS

27. _____ Maintain 18" clearance under floor joists or the bottom of a wood structural floor; 12" under floor girders to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation. Field cut ends, notches, drilled holes of preservative treated wood shall be treated in the field in accordance with AWPAM4. (R317.1)
28. _____ Foundation sills and sleepers shall be pressure treated wood. (R317.1(5))
29. _____ Foundations supporting wood shall extend 6" above the adjacent finished grade. (R319.1(5))
30. _____ Building pads shall have a drainage gradient fall of a minimum of 6" within the first 10' (5%). Swales shall be sloped a minimum of 2% when located within 10' of the building foundation. (R401.3)
31. _____ Soil bearing capacity shall not exceed those listed in Table R401.4.1.
32. _____ Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practices. (R401.2 & R403.1) Results must be submitted to the Building Department.
33. _____ Concrete shall have compressive strength complying with Section R402.2 & Table R402.2.
34. _____ Footing dimensions shall be as listed in Table R403.1. Stemwalls shall comply with Section R404 & Table R404.1.1(1)
35. _____ Footings and foundations shall extend below the frost line. (R403.1.4.1)
36. _____ Interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade shall extend to the depth of not less than 12" below the top of the slab. (R403.1.4.2)
37. _____ Stepped footings are required when grade exceeds 1' in 10' horizontal (10% slope) shall conform with R403.1.5. Also refer to R602.11.3
38. _____ Foundation plates or sills (including cripple walls/pony walls) shall be bolted to the foundation or foundation wall with not less than ½" diameter and extend a minimum of 7" into masonry or concrete; spaced 6' o.c.; (2) bolts min. per piece, 12" from each end. Plate washers, a minimum of 0.229" x 3" x3" in size shall be provided between the foundation sill plate and the nut. The hole in the plate washer is permitted to be diagonally slotted with a width up to 3/16" and a slot length not to exceed 1 ¾" provided a standard cut washer is placed between the plate washer and the nut. (R403.1.6.1 & R602.11.1) Anchor bolts shall not be countersunk in to the mudsill.
39. _____ Foundation vents: When insulation is installed in the floor joists (in lieu of stemwall insulation) underfloor areas shall be ventilated by openings of 1 square foot for each 150 square feet of underfloor area (number of vents may be reduced to 1 sq. ft. for each 1500 sq. ft. if a Class 1 vapor retarder - 0.1 perm or less - is installed on the ground surface (visqueen). One such opening shall be within 3' of each corner of the building. Close with ¼" mesh. (**Note: if stemwall is insulated, do not install foundation vents. See item #95**)
40. _____ Provide 18"x24" foundation crawl space access. Through openings shall not be located under a door to the residence. (R408.4)
41. _____ A 6 mil polyethylene or approved vapor retarder with joints lapped not less than 6" shall be placed between the concrete slab and the base course or the prepared subgrade where no base course exists. Garage, utility buildings and unheated accessory structures are exempted. (R506.2.3)
42. _____ Rebar shall be lapped a min. 40 bar diameter (20").

43. _____ Tie down devices (type & location) for braced walls or alternate bracing.
44. _____ Masonry requirements (see additional plan review attached, if applicable)

FLOOR, WALL & ROOF CONSTRUCTION

45. _____ All materials used structurally shall be graded & identified by grade marks and/or certified by an approved agency. (502.1, R802.1 & R803.2.1)
46. _____ Floor joist to be sized per IRC or manufacturers span charts.
47. _____ The allowable spans of girders fabricated of dimensional lumber shall not exceed the values set forth in Tables R502.5(1) & R502.5(2).
48. _____ Spans for engineered floor joists shall not exceed those set down in the manufacturer's installations instructions and shall be in compliance with ASTM D 5055. Engineered floor joists shall be installed to the manufacturer's installations instructions. (R502.1.4)
49. _____ Rectangular rim board material for engineered floor joists shall be a minimum thickness of 1". Prefabricated wood I-joists used as a rim board shall have a minimum flange width of 1 1/2" (ICBO Acceptance Criteria 124), and/or per the manufacturers specifications.
50. _____ Lumber floor sheathing to comply with R503.1 & Table R503.1, wood structural panels to comply with R503.2 & Table R503.2.1(1), particle board to comply with R503.3 and Table R602.3(1)
51. _____ End joints in lumber used as subflooring shall occur over supports unless end-matched lumber is used, in which case each piece shall bear on at least two joists. (R503.1.1)
52. _____ Decks shall be constructed per Section R507. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal.
53. _____ Fireblocking and draftstopping are to comply with IRC 302.
54. _____ Fire Protection of Floors. Floor assemblies are to be provided with 1/2" gyp or 5/8" wood structural panel on the underside of the floor framing. Exception crawl spaces not intended for storage or fuel-fire appliances or wood floor assemblies 2" x 10" and larger.
55. _____ Wood stud height shall comply with R602.3.1.
56. _____ Exterior walls of wood frame construction shall be designed & constructed in accordance with Chapter 6 & Figures R602.3(1) & R602.3(2). Components of exterior walls shall be fastened in accordance with Table R602.3(1) through R602.3(4). Structural sheathing shall be fastened directly to the structural framing members. Interior load bearing walls shall be constructed, framed, and fireblocked as specified for exterior walls. (R602.4)
57. _____ Wall framing shall be in accordance with Table R602.3(5) for size, height, and spacing. Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners & intersections with bearing partitions. Plates shall be nominal 2" in depth and have a width of at least equal to the width of the studs. End joints shall be offset at least 24". Joints in plates need not occur over studs. Plates shall not be less than 2" nominal thickness and have a width at least equal to the width of the studs. (R602.3.2)
58. _____ When studs are spaced 24" o.c. trusses and joists shall bear within 5" of the studs underneath unless the top plates are two 2 x 6". (R602.3.3)
59. _____ Interior load bearing walls shall be constructed, framed and fireblocked as specified for exterior walls. (R602.4)
60. _____ Exterior & interior bearing walls require headers per Tables 502.5(1) & R502.5(2); or in accordance with manufacturers charts for engineered lumber products. Wood structural panel box headers shall be constructed in accordance with Figure R602.7.2 & Table R602.7.2 (R602.7 & R602.7.1) Single headers shall be framed with a single flat 2" nominal member or wall plate not less than the width of the wall studs on the top and bottom of the header in accordance with Figures R602.7.1(1) & R602.7.1(2). Spans for single headers shall be per Table R602.7.1.

61. _____ Load bearing headers are not required in interior or exterior nonbearing walls. A single flat 2x4 member may be used as a header in interior or exterior nonbearing walls for openings up to 8' in width if the vertical distance to the parallel nailing surface is not more than 24". For such nonbearing headers, no cripples or blocking are required above the header. (R602.7.3)
62. _____ Specifications for pre-engineered beams shall be submitted indicating load design, span information, etc.
63. _____ The portions of glue-laminated timbers that form the structural supports of a building or other structure and are exposed to weather and not properly protected by a roof, eave or similar covering shall be pressure treated with preservative, or be manufactured from naturally durable or preservative treated wood. (R317.1.5)
64. _____ Foundation cripple walls shall be framed of studs not less in size than the studding above. When exceeding 4' in height, such walls shall be framed of studs having the size required for an additional story. (R602.9)
- a. Cripple walls with a stud height less than 14" shall be continuously sheathed on at least one side with wood structural panels that is fastened on both the top and bottom plates in accordance with Table R602.3(1) or the cripple wall shall be constructed of solid blocking. Cripple walls shall be supported on a continuous foundation.
- b. Cripple walls shall be braced with an amount & type of bracing as required above in accordance with Tables R602.10.3(1) and R602.10.3(3) and the applicable adjustment factors in Table R602.10.3(2) or R602.3(4) with the following modifications: (R602.10.11)
1. Length of cripple wall bracing shall be multiplied by a factor of 1.15
 2. The distance with between adjacent edges of braced wall panels shall be reduced to 14' max.
65. _____ Structures shall be provided with exterior and interior braced lines in each story spaced not more than 25' o.c. **All braced wall lines shall be clearly indicated on the plans.** Braced walls with a length of 16" or less shall have a minimum of two braced wall panels of any length or one braced wall panel equal to 48" or more. Braced wall lines greater than 16' shall have a minimum of two braced wall panels. (R610.10.2.3). The required length of bracing along each braced wall line shall use the greater value determined from Table R602.10.3(1) or R602.10.3(3) and the applicable adjustment factors in Table R602.10.3(2) or R602.10.3(4) respectively. Braced wall lines that count as part of a braced wall line shall be in line, except that offsets out-of-plane of up to 4 feet shall be permitted provided that the total out-to-out offset dimension in any braced wall line is not more than 8 feet. (R602.10.2). Any portion of a wall along a braced wall line shall be permitted to angle out of plan for a maximum diagonal length of 8'. Where the angled wall occurs at a corner, the length of the braced wall line shall be measured from the projected corner as shown in Figure R602.10.1.4. Where the diagonal length is greater than 8' it shall be considered a separate braced wall line and shall be braced in accordance with Section R602.10.1.
66. _____ The minimum length of a braced wall panel shall comply with Table R602.10.5.
67. _____ A load path for lateral forces shall be provided between floor framing and braced wall panels located above or below a floor as specified in Section R602.10.8 & R602.10.8.1. Connections to roof framing shall be per R602.10.8.2.
68. _____ Vertical joints of panel sheathing shall occur over and be fastened to common studs. Horizontal joints in braced wall panels shall occur over and be fastened common blocking a minimum of 1 1/2" thick. (R602.10.10).
69. _____ Fastener schedule for structural members shall be per Table R602.3(1) (2).
70. _____ All nailing shall comply with Table R602.3(1)
71. _____ Attics utilized for limited storage or no storage shall comply with Tables R802.4(1) & R802.4(2).
72. _____ Rafters to comply with IRC requirements or manufacturers specifications.
73. _____ Truss design shall be stamped by a Nevada engineer. (R802.10.2 & R502.11)
74. _____ Trusses shall be braced to prevent rotation and provide lateral stability in accordance with the requirements specified in the construction documents for the building and on the individual truss design drawings. In absence of specific bracing requirements, trusses shall be braced in accordance with manufacturer's requirements. (R 502.11.2 & R802.10.3)

75. _____ Truss members shall not be cut, notched, drilled, spliced, or otherwise altered in any way without the approval of the Nevada engineer. Alterations resulting in the addition of load (e.g. HVAC equipment, water heater) that exceeds the design load for the truss shall not be permitted without verification that the truss is capable of supporting such additional load. (R 502.11.3 & R802.10.4)
76. _____ Trusses shall be attached to supporting wall assemblies by connections capable of resisting uplift forces as specified on the truss design drawings. Uplift forces shall be permitted to be determined as specified by Table R802.11, if applicable, or as determined by accepted engineering practice. (R802.11.1.2)
77. _____ Overbuilds where trusses are not provided must be identified on the plans. Rafters must attach/nail to a min. 2x laid flat on the roof and must have a minimum 1 ½" bearing on the 2x.
78. _____ Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Wood structural panel roof sheathing shall comply with the grades specified in Table R503.2.1.1(1). Wood structural panel roof sheathing spans shall not exceed the values set forth in Table R503.2.1.1(1).
79. _____ Notching & bore holes shall comply with R502.8 and Figure 502.8 for floor framing, R602.6 and Figure R602.6 for wall framing, 602.6.1 for top plate & R802.7 for roof-ceiling framing.
80. _____ Flashing shall be installed on roofs are required by R905.2.8.
81. _____ Roof coverings shall comply with Section R905.
82. _____ Provide attic ventilation of 1/150 of the space vented, or 1/300 if at least 40% and not more than 50% of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located no more than 3' below the ridge or highest point of the space, measured vertically, with the balance of the required ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3' below the ridge or highest point of the space shall be permitted. (R806.2)
83. _____ An attic access opening shall be provided to attic areas that exceed 30 square feet and have a vertical height of 30 inches or greater. The rough-framed opening shall not be less than 22" x 30" and shall be located in a hallway or other readily accessible location (not in closets over shelves) (R807)

WALL COVERINGS

84. _____ Siding, in addition to meeting bracing requirements, must comply with Chapter 7.
85. _____ Interior coverings or wall finishes shall comply with Section R702 & Tables R702.1(1), R702.1(2), R702.1(3) & Table R702.3.5.
86. _____ The size and spacing of fasteners to attach gypsum board shall comply with Table R702.3.5. Sheathing shall be attached to exterior walls in accordance with Table 602.3(1). Gypsum board shall be applied at right angles or parallel to framing members. All edges & ends shall occur on framing members except those edges & ends perpendicular to the framing members. Fasteners shall be applied in such a manner as not to fracture the face paper. Example of typical nail spacing: 7" apart on ceilings and fire walls, and 8" apart on walls. Screws: 12" apart on ceilings and walls framed 24" o.c. and 16" apart on walls framed 16" o.c.
87. _____ Enclosable accessible space under stairs shall have walls under stair surface & any soffits protected on the enclosed side with ½" gypsum board. (R302.7)
88. _____ Showers and bathtubs with showers shall have the wall finished with a nonabsorbent surface to a height of 6'. (R307.2) Gypsum green board is not permitted per Section R702.3.8.
89. _____ Exterior covering shall comply with Section R703. Minimum thickness shall be in accordance with Table R703.4 and shall be securely fastened in accordance with Table R703.4.
90. _____ The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer. (R703.1)

91. _____ One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 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". Where joints occur, felt shall be lapped not less than 6". 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. (R703.2)
92. _____ Stucco (R703.6) – All lath and lath attachments shall be of corrosion-resistant materials. Expanded metal or woven wire lath shall be attached with 1 ½" long, 11 gage nails having a 7/16" head, or 7/8" long, 16 gage staples, spaced at no more than 6", or as otherwise approved. A min. 26 sheet gage corrosion resistant, or plastic weep screed, with a min. attachment flange of 3 ½" shall be provided at or below the foundation plate, placed a min. of 4" above earth or 2" above paved areas. Water-resistive barriers shall be installed per IRC 703.2 and where applied over wood-based sheathing shall have the equivalent of two layers of Grade D paper with each layer installed independently so that each layer provides a separate continuous plane and any flashing intended to drain to the water-resistive barrier is directed between the layers.

ENERGY EFFICIENCY

93. _____ Insulation materials, including facings, such as vapor retarders or 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. (see exceptions) R302.10.1
94. _____ Every dwelling unit shall meet the following insulation requirements. (IECC Table 402.1.1)
- a. Ceiling – R-38
 - b. Walls – R-20
 - c. Floors – R-30 (or sufficient to fill the framing cavity, R-19 minimum)
 - d. Basement walls – R-10/13
 - e. Crawl space walls – R-10/13
 - f. Duct Insulation – R-6 (except attic duct insulation R-8)
95. _____ Stemwall insulation – Do not install foundation vents to the outside. The stemwall insulation must be attached to the stemwall with a method other than glue. Insulation is to extend downward from the floor to grade level and then vertically or horizontally an additional 24". A vapor retarder must cover exposed earth and extend 6" up the stemwall.& attached. All joints of the vapor retarder shall overlap by 6" and be taped or sealed. (IECC Section 402.2.9). One of the following is required: Continuously operated mechanical exhaust ventilation or a conditioned air supply – 1 cfm per 50 s.f. of crawlspace floor area, including an air pathway to the common area. Exterior crawlspace access holes are to be insulated.(IRC Section R408.3)
96. _____ Floor insulation – install underfloor vents per item #39. Wrap all ducts and waterlines below the insulation.
97. _____ A permanent certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominate R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration. The certificate shall list the types and efficiency of heating, cooling and service water heating equipment. (IECC Section 401.3)
98. _____ In all framed walls, floors and roof/ceilings comprising elements of the building thermal envelope, a vapor retarder shall be installed in the warm-in-winter side of the insulation. (R702.7)
99. _____ Attics & Crawl space doors (interior) shall be weatherstripped & insulated to a level equivalent to the insulation on the surrounding surfaces. Assess shall be provided to all equipment that prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into living space when attic access is opened & to provide permanent means of maintaining the installed R-value of the loose insulation. (IECC Section 402.2.3)
100. _____ Provide programmable thermostat capable of controlling heating & cooling system. (IECC Section 403.1.1)
101. _____ A min. of 50% of the lamps in permanently installed lighting fixtures shall be high efficiency lamps. (IECC Section 404.1)

ELECTRICAL

102. _____ Electrical wiring systems shall be installed in compliance with the product listing & the requirements of the 2011 National Electric Code.
103. _____ Calculation provided for residences over 2,500 square feet required. Services shall be sized per Section 220.82(B)(C).
104. _____ One & two family dwellings shall have conductors & connections per Section 310.5.
105. _____ Electrical plans shall include the locations of the main service disconnect & all subpanels.
106. _____ All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candles measure at the center of the treads and landings.
Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway.
Exterior stairways providing access to a basement from the outside grade level shall be provided with artificial light source located in the immediate vicinity of the bottom landing of the stairway. (R303.6)
107. _____ Maintain working space of not less than 36" in depth & 30" wide in front of electrical panel. The working space shall be clear & unobstructed from the floor to a height of 6 ½'. (NEC 110.26(a)(1)(2)(3). Access shall be provided to working space. (NEC 110.26(c)(1))
108. _____ Panelboards and overcurrent protection devices shall not be located in clothes closets or bathrooms. (NEC 240.24(D)(E)&230.70(A)(2))
109. _____ Artificial illumination shall be provided for all working spaces for service equipment and panelboards installed indoors & shall not be controlled by automatic means only. (NEC 110.26(D)) A lighting fixture controlled by a switch located at the required passageway opening and a receptacle outlet shall be provided at or near the appliance location in accordance with Chapter 38. (UMC Section 904.10.4)
110. _____ The main service disconnect shall be installed in a readily accessible exterior location, on or near the structure and adjacent to meter (NEC 230.70 & Ordinance)
111. _____ Electrical Service Clearances:
a. Clearances from building openings: Open conductors & multiconductor cables without an overall jacket shall have a clearance of not less than 3' from the sides of doors, porches, decks, stairs, ladders, fire escapes & balconies & from the sides & bottom of windows that open. (NEC 230.9(A))
b. Above Roofs: Conductions shall have a vertical clearance of not less than 8' above the roof surface. The vertical clearance shall be maintained for 3' in all directions from the edge of the roof. (NEC Figure 230.24(A)) (See exceptions)
c. From Grade
1. Service entrance – 10'
2. Residential property & driveways – 12'
3. Public streets, alleys, roads, or parking areas subject to truck traffic – 18'
112. _____ Metal piping systems, including gas piping systems, shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. The attachment of the bonding jumper(s) shall be accessible. (NEC 250.104(B))
113. _____ Minimum Branch Circuit Requirements
a. Central heating equipment other than fixed electric space heating shall be supplied by an individual branch circuit. (NEC 422.12)
b. 2-20 amp kitchen & dining branch circuits. The kitchen counter top receptacles shall be serviced by min. of (2) branch circuits. Either or both of which shall also be permitted to supply other receptacle outlets in the kitchen, pantry, breakfast & dining area including receptacle outlets for refrigeration appliances. (NEC 210.52(B)(1))
c. 1-20 amp laundry circuit. This circuit shall only serve receptacle outlets located in the laundry area. (NEC 210.23(a)Exception & 210.11(C)(2))

- d. 1-20 amp bathroom circuit. This circuit shall supply the bathroom receptacle outlets only. Such circuits shall have no other outlets. (NEC 210.11(C)(3))
 - e. Beyond the minimum number of required branch circuits, calculations shall be made using NEC Section 210 to determine the minimum number of general use receptacles and lighting branch circuits and any other equipment.
114. _____ All circuits & circuit modifications shall be legibly identified as to purpose or use; and a circuit directory shall be located on the face or inside the door or enclosure. Identification of circuits must be specific. (NEC 408.4)
115. _____ Receptacle location requirements.
- a. Convenience receptacles shall be installed so that no point along the floor line of any wall space is more than 6', measured horizontally, from an outlet in that space. Receptacles shall, insofar as practicable, be spaced equal distance apart. (NEC 210.52(A)(1)(2)) Wall space shall include any space more than 2 feet, including guardrail areas.
 - b. Wall Counter Space – a receptacle outlet shall be installed at each wall counter space 12" or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24" measured horizontally from a receptacle outlet in that space. Receptacle outlets shall be located not more than 20" above the countertop. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops unless the receptacle outlet assemblies are listed for the application.. (NEC 210.52(C)(1)(5))
Countertop spaces separated by rangetops, refrigerators, or sinks shall be considered as separate countertop spaces in applying the requirements of NEC 210.52(C)(1) & Figure 210.52(C)(1)
 - c. Island Counter Space – at least one receptacle outlet shall be installed at each island counter space with a long dimension of 24" or greater & a short dimension of 12" or greater. These receptacles shall not be mounted on the counter top in the face up position unless the receptacle outlet assemblies are listed for the application. Receptacles mounted no more than 12" below a counter top overhang of less than 6" are permitted. Where a rangetop or sink is installed and the width of the counter behind the range is less than 12" the rangetop or sink has divided the island into two separate counter spaces. (NEC 210.52(C)(5))
 - d. Peninsular Counter Space – at least one receptacle outlet shall be installed at each island counter space with a long dimension of 24" or greater & a short dimension of 12" or greater. These receptacles shall not be mounted on the counter top in the face up position unless the receptacle outlet assemblies are listed for the application. Receptacles mounted no more than 12" below a counter top overhang of less than 6" are permitted. A peninsular countertop is measured from the connecting edge. (NEC 210.52(C)(5))
 - e. Appliance Outlets – Appliance receptacle outlets installed for specific appliances, such as laundry equipment, shall be installed within 6' of the intended location of the appliance. (NEC 210.50(C)& 210.52(F))
 - f. Bathroom Receptacles – At least one wall receptacle outlet shall be installed in bathrooms & such outlets shall be located within 36" of the outside edge of each lavatory basin. The receptacle outlets shall be located on a wall that is adjacent to the lavatory basin. Receptacle outlets shall not be installed in a face-up position on the countertop unless the receptacle outlet assemblies are listed for the application. The receptacle shall not be required to be mounted on the wall or partition where it is installed on the face side or face of the basin cabinet not more than 12" below the countertop. (NEC 210.52(D))
 - g. Outdoor Outlets – At least one receptacle outlet accessible at grade level & not more than 6'6" above grade, shall be installed outdoors at the front & back of each dwelling unit. Outlets shall be GFCI, installed in a weather-tight box. (NEC 210.52(E)(1))
 - h. Basements & Garages – At least one receptacle, in addition to any provided for laundry equipment, shall be installed in each basement and in each attached garage, and in each detached garage that is provided with electrical power. Where a portion of the basement is finished into habitable room(s), the receptacle outlet required by this section shall be installed in the unfinished portion. (NEC 210.52(G))
 - i. Hallways – Hallways of 10' or more in length shall have at least one receptacle outlet. The hall length shall be considered the length measured along the centerline of the hall without passing through a doorway. (NEC 210.52(H))
 - j. Foyers – Foyers that are not part of a hallway in accordance with NEC 210.52(H) and that have an area that is greater than 60 s.f. shall have a receptacle(s) located in each wall space 3' or more in width and unbroken by doorways, floor-to-ceiling windows, and similar openings (NEC 210.52(I))
 - k. HVAC Outlet – A 125-volt, single-phase, 15 or 20 ampere-rated convenience receptacle shall be installed for the servicing of heating, air-conditioning and refrigeration equipment located in attics and crawl spaces. The receptacle shall be accessible and shall be located on the same level and within 25' of the heating, air-conditioning and refrigeration

equipment. The receptacle outlets shall not be connected to the load side of the HVAC equipment disconnecting means. (NEC 210.63)

116. _____ Ground Fault Circuit Interrupter Required. (NEC 210.8).
- a. All 15 & 20 amp receptacles installed in bathrooms
 - b. All 15 & 20 amp receptacles installed in garages & accessory buildings.
 - c. All 15 & 20 amp receptacles installed outdoors shall be installed in a weather-tight box (bubble cover) per NEC 406.8(B)(1).
 - d. All 15 & 20 amp receptacles installed in crawl spaces
 - e. All 15 & 20 amp receptacles installed in unfinished basements.
 - f. 15 & 20 amp receptacles installed in kitchen serving countertops.
 - g. 15 & 20 amp receptacles installed within 6' of the outside edge of any sink, including laundry, utility or wet bar sinks.
 - h. Hydromassage, or bathroom jetted tubs and their associated electrical components shall have all receptacles located with 6' (measured horizontally) from the inside wall of the tub) GFCI protected. (NEC 680.71)
 - i. GFCI protection shall be provided for electrically heated floors in bathrooms, and in hydromassage bathtub, spa, and hot tub locations.
117. _____ Arc-Fault Circuit Interrupter Protection Requirement. (NEC 210.12(A))
- a. All branch circuits that supply 120-volt, single phase 15 and 20 ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms sun rooms, recreation rooms, closets, hallways or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter, combination type, installed to provide protection of the branch circuit. All smoke detectors shall be on these branch circuits.
118. _____ Lighting Requirements.
- a. At least one wall switch-controlled lighting outlet shall be installed in every habitable room. (NEC 210.70(A)(1))
 - b. In other than kitchens & bathrooms, one or more receptacles controlled by a wall switch shall be considered equivalent to the required lighting outlet. (NEC 210.70(A)(1)) (exception)
 - c. Hallways shall have at least one wall switched light fixture. (NEC 210.70(A)(2)(a))
 - d. Stairways shall have at least one wall switched lighting fixture(s), and stairways more than six steps between levels shall have a switch at each level controlling the stairway light fixture(s). (NEC 210.70(A)(2)(C))
All interior & exterior stairways shall be provided with a means to illuminate the stairs, including landings & treads. (R303.6)
Interior stairs shall be provided with a light located in the immediate vicinity of each landing of the stairway. (R303.6)
Exterior stairways shall be provided with a light at the top landing of the stairway. (R303.6)
Exterior stairways providing access to a basement from the outside grade level shall be provided with a light located in the immediate vicinity of the bottom landing of the stairway. (R303.6)
The control for activation of the required interior stairway lighting shall be accessible at the top & bottom of each stairway without traversing any steps. The illumination of exterior stairways shall be controlled inside the dwelling unit. (R303.6.1)
 - e. Attached and detached garages shall have at least one wall switched light fixture capable of providing illumination inside and at the exterior entrance/exit door. Note: A vehicle door in a garage shall not be considered as an outdoor egress door. (NEC 210.70(A)(2)(b))
 - f. In attics, under-floor spaces, utility rooms & basements, at least one wall light switched light fixture or switched light fixture (ex: light fixture with pull chain style switch) shall be installed where these spaces are used for storage or contain equipment requiring service with the switch installed near the usual point of entrance into the space. The lighting outlet shall be provided at or near the equipment requiring servicing. (NEC 210.70(A)(3))
119. _____ Plaster, drywall and plaster board surfaces that are broken or incomplete shall be repaired so that there will not be gaps or open spaces greater than 1/8" at the edge of the cabinet or cut out box employing a flush-type cover. (NEC 312.4)
120. _____ A switch or circuit breaker located in a wet location or outside of a building shall be enclosed in a weatherproof enclosure or cabinet. Switches shall not be installed within wet locations in tub or shower assemblies. (NEC 404.4)
121. _____ Receptacles shall not be installed within or directly over a bathtub or shower stall. (406.9(C)) In damp or wet locations the enclosure for a receptacle installed in an outlet box flush mounted in a