OREGON

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RESIDENTIAL CONSTRUCTION REQUIREMENTS CHECKLIST (Revised August 2008)

These regulations shall be incorporated into this project in addition to any requirements appearing on the construction plans. Circled regulations are of significant importance. The approval of plans and specifications does not permit the violation of any section of the building code or other city ordinance or state law. It shall be the duty of every person who performs work to comply with the applicable codes. References are to the 2008 Oregon Residential Specialty Code which is based on the 2006 IRC as adopted & amended April 1, 2008, unless noted otherwise. The code can be found on the internet at: www.cbs.state.or.us/bcd/codeprograms.html

BUILDING PLANNING

1. R106.3.1 Construction documents shall be approved in writing or by stamp, as "Reviewed for Code Compliance". (2008 ORSC). Approved plans, calculations, and other paper work shall be kept on the job-site at all times.

2. R109.1.6 - R110.1 A final inspection shall be requested by permit holder once all work and corrections have been made - prior to use or occupancy.

3. R105.2 and NEC Permits for all electrical work shall be obtained at city/county/state.

4. DOC-PS-20 All framing lumber is assumed #2 grade Douglas Fir or equivalent unless otherwise noted (except studs and plates). All siding and other manufactured wood products shall comply with the manufacturer's installation requirements and must be used only according to their listing. Inspector must be provided with installation instructions at time of framing and final inspection.

5. R303.1 Provide glazed area not less than 8% of the floor area of habitable rooms; 4% must be openable to outdoors.

6. R303.3 Toilet rooms and similar rooms without bathing facilities shall have minimum glazed area of 3 sq. ft ½ of which should be openable to outside. Those with bathing facilities shall have exhaust fan vented to the outside.

7. R304 Minimum room areas: Every dwelling shall have one habitable room not less than 120 sq. ft. Other habitable rooms except kitchens shall have a gross floor area of at least 70 sq. ft. and a horizontal dimension of at least 7'.

8. R305 Habitable rooms, hallways, bathrooms, laundry, and basements shall have a ceiling height of not less than 7'.

9. R307.1 Bathroom fixtures shall have the following clearances: Water Closet - 21" in front and 30" wide with a minimum 15" from center of water closet to sidewall or tub; Lavatory - 4" clear at side and 21" at front; Showers shall be a minimum of 30" x 30" with 24" minimum clearance in front; Tubs - minimum 21" clear at open side.

10. R308.4 Provide safety, tempered, or shatterproof glazing in specified hazardous locations. - (Consult inspector)

11. R309.1 Openings from a garage directly into a room used for sleeping purposes shall not be permitted.

12. R309.2 The garage shall be separated from the residence and its attic area by not less than ½-inch gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from such rooms above by not less than 5/8-inch 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. Door between garage & residence shall be solid wood or honeycomb steel 1 3/8" thick or 20-min. fire-rated.

13. R309.4 Carports shall be open on at least two sides - otherwise it shall be considered a garage.

14. R310 Sleeping rooms and basements with habitable space shall have at least one openable emergency escape and rescue opening. Egress windows shall have a maximum sill height of 44" above the floor; have a minimum net clear opening of 5.7 sq. ft. (5 sq. ft. at grade level); a minimum clear height of 24" and a minimum clear width of 20". - (Consult inspector for window well and below grade/basement situations.)

15. R311.4.3 There shall be a floor or landing at the top and bottom of each stairway. The required landing on the interior side of exterior doors shall not be more than 1½" below the threshold. The exterior landing at required exits shall be less than 8" below the threshold with a landing the width of the door or stairway and 36" in the travel direction. If the door swings out, the landing shall not be lower that 1½" below the threshold.

16. R311.5 Stairways shall be a minimum of 36" in width above the handrail and have a clear width of 31½" at and below the handrail. Handrails shall not project more than 4½" into the required width; headroom shall not be less than 6'-8"; max. riser height is 8" and the min. tread depth is 9"; the greatest riser height or tread depth shall not exceed the smallest by more than 3/8"; the greatest nosing projection shall not exceed the smallest by more than 3/8" including floors and landings; risers/steps shall not be less than 4". Enclosed useable space under stairs shall be sheathed with minimum ½" sheetrock.

17. R311.5.3.2, & 311.5.8.1 Winders, spirals and circular stairs have very specific requirements. - (Consult Inspector.)

18. R311.5.6.3 Handrails shall be mounted between 30" and 38" above the nosing of the treads on at least one side of all stairways with four or more risers. Handrails shall have a cross section not less than 1¼" nor more than 2 3/4" and shall be continuous the full length of stairways from a point directly above the top riser to a point directly above the lowest riser. Handrails shall have eased edges.

19. R312 Porches, balconies, ramps, or raised floors more than 30" above the floor or grade below shall have "guards" not less than 36" high. Open sides of stairs shall have a guard of not less than 34" high. Any ornamental pattern of guards shall not allow a sphere greater than 4" to pass - except on stairways, which may pass an object not greater than 5". Guards and handrails shall withstand a 200-pound load in any direction at any point per table 301.

20. R313 Smoke alarms shall be installed; in each sleeping room; immediately outside of each sleeping "area"; and on each floor, basement, or habitable attic. Multiple alarms shall be interconnected within individual units. Required smoke alarms shall not be installed in garage, kitchen, or area below 40° F. Ionization type alarms shall not be horizontally closer than 3 ' to a kitchen door, bathroom door containing a tub or shower, or the supply register of an HVAC system. - (Consult inspector regarding alterations, repairs, and additions per 313.1.1).

21. R317.1 & 317.2.1 Two-family dwelling units shall be completely separated by wall/floor assemblies of 1-hour fire-resistive construction including supporting construction. Fire-walls shall extend to the underside of roof sheathing. Sound transmission control shall be per appendix K.

22. R317.2 "Townhouses" shall be considered separate buildings and shall be separated by two 1-hour fire-rated wall assemblies (see Section 302) extending from the foundation to the underside of the roof sheathing. A common 2-hour fire-rated wall is permitted if it does not contain plumbing or mechanical equipment, ducts, or vents. (Consult inspector for other options.)

23. R317.3.2 Membrane penetrations of maximum 2-hour fire-walls shall be protected by an approved fire stop system. Steel electrical boxes not exceeding 16 sq. inches or 100 sq. inches in any 100 sq. ft. of wall shall be separated by a horizontal distance of not less than 24"; a distance not less than the depth of the wall cavity when filled with insulation; or molded fire blocking. 2-hour rated electrical boxes shall be installed per listing.

24. R319 Protection against decay shall be as follows: (A) Ensure minimum 18" and 12" to bottom of wood joists and girders respectfully; (B) Provide pressure treated wood at any areas or points of contact between wood and concrete or masonry where separated by approved impervious moisture barrier; (C) Sills and sleepers on concrete or masonry slabs in direct contact with the ground shall be pressure treated unless separate from slab by an approved impervious moisture barrier; (D) Ensure a minimum of ½" airspace at tops, sides, and ends of girders entering concrete or masonry walls; (E) Maintain a minimum of 6" clearance to grade for untreated siding, sheathing, or wall framing; (F) Wood structural members supporting concrete garage slabs shall be pressure treated unless separated with an impervious membrane.

25. R319.1.2 & R319.1.3 Posts and columns embedded in concrete or in contact with the ground shall be pressure treated and labeled for ground contact. Structural building supports, balconies, decks, and porches not adequately protected from the weather shall be pressure treated or wood naturally resistant to decay.

26. R319.3 All fasteners into pressure preservative and fire-retardant-treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze or copper and comply with ASTM A-153. Exception: One-half inch diameter or greater steel bolts.

27. R324 Comply with all flood resistant construction requirements. (Consult Inspector, FEMA & City Planner.)

FOUNDATIONS

28. R401.3 Slope grade away from the foundation a minimum of 6" within the 1st 10' - or other approved methods

29. R401.4 Areas likely to have expansive, compressible, shifting, or other unknown soil conditions may require a soils test by an approved agency. Recording and documenting shall be per ORS 455.440.

30. R403.1.1 & Table 403.1 Footings, and stem walls with a soil bearing value of 1500 psf, shall be as follows: 1-story = 12" wide 6" thick (6" thick foundation wall); 2-story = 15" wide 7" thick (8" thick foundation wall); 3-story = 18" wide 8" thick (10" thick foundation wall). The top surface of all continuous and isolated pad footings located outside the foundation wall shall begin at or below the frost line (12" minimum).

31. R403.1.7 Provide an uncoated #4 reinforcing bar not less than 3" from the bottom of footing and not less than 20' in length encased with a minimum of 2" of concrete and at least 12" above the floor plate line (UFER Ground).

32. R403.1.8 & R602.11 Install ½" diameter anchor bolts embedded a minimum of 7" into concrete or masonry at 6' on center maximum including interior braced wall lines. Two bolts are required for each plate and must be located between 3½"-12" from ends. 3' x 3' sq. x .229 thick plate washers are required. Anchor bolt spacing for 2-story structures in D_2 shall be at maximum 4' on center.

33. R405 An approved drainage system shall be provided around concrete or masonry foundations retaining earth and enclosing habitable or useable space.

34. R406 Foundations enclosing habitable or useable space shall be damp-proofed in an approved manner. Areas with a high water table or severe soil-water conditions shall be water-proofed.

35. R408 Provide underfloor ventilation at 1 sq. ft./ 150 sq. ft. of underfloor space. Minimum openings shall be within 3' of each corner and shall provide cross ventilation.

36. R408.3 Access to all underfloor spaces shall be provided by either a minimum 18" x 24" unobstructed access opening through the floor or 16" x 24" unobstructed perimeter foundation wall opening.

FLOORS

37. R502.4 Joists parallel and under bearing partitions shall be doubled - or provide a beam/girder of adequate size.

38. R502.6 Ends of joists, beams and girders shall have not less than 1½" bearing on wood or 3" bearing on concrete/masonry. Joists meeting over a bearing support shall lap 3" min. and be nailed together with three 10d nails.

39. R502.8 Drilling and notching of joists and beams shall not exceed code specifications. If questions arise, contact inspector. Engineered products shall not exceed manufacturer's limitations.

40. R506 Concrete slab-on-grade floors in conditioned areas shall be a min of 3½" thick, over 2" of sand and 6 mil black polyethylene sheeting, lapped 12" at joints (or an approved equal), placed on a min. 4" base course of sand or gravel. Insulation required. See Table 1101.1(1) & N1104.7. Consult inspector for exceptions.

WALL CONSTRUCTION

41. R602.3.2 Table 602.3(1) & 602.11.2 Double top plates shall be offset at splices a minimum of 24" and nailed with eight 16d nails (4 per side). Top plates in braced wall lines shall have minimum sixteen 16d (8 per side).

42 R602.6 Notching of exterior or bearing walls shall not exceed 25% of its width; non-bearing walls may be notched a maximum of 40%; drilled or bored holes in any stud may be a maximum of 40% of its width. The hole shall not be closer than 5/8" to edges.

43. R602.6.1 Notching of top plates in exterior or bearing walls greater than 50% requires a minimum 1½" 16 gauge steel splice across notch opening with six 16d nails at each side.

44. R602.8 & 602.8.1 Provide fire blocking as required. Materials may be 2" nominal solid wood; ¾" sheathing with joints backed with ¾" material or two thicknesses of 1" lumber with broken lap joints; 1/2" sheetrock; ¼" cement based millboard; or unfaced, securely packed insulation extending 8" above and below obstruction.

45. R602.9 Foundation cripple walls shall be framed of studs not smaller than the studding above. Cripple walls greater than 4' high or supporting up to 3 stories shall be 2 x 6 at 16" o.c. Cripple walls less than 14" at exterior walls or interior braced wall lines shall be sheathed on one side from top plate to bottom plate.

46. R602.10 Ensure adequate lateral wall bracing as depicted on plans or as required. Seismic design categories D_1, D_2 & high wind requirements shall also comply with sections R602.10.9, R602.10.11 and R602.11.

WALL COVERING

47. R703.2 Weather-resistant asphalt-saturated felt weighing not less than 15 lb/100 sq. ft. or other approved membrane materials, complying with ASTM D-226, free from holes and breaks, shall be applied over exterior wall studs or sheathing. Felt shall be applied horizontally. The upper layer lapped over lower layer a minimum of 2". End laps (vertical joints) shall be minimum 6".

48. R703.7.4 Masonry veneer shall be laid up with a continuous #9-gauge horizontal wire at 18" on center vertically in seismic categories D_1 & D_2. Additional ties shall be spaced at maximum 3' on center around openings greater than 16". Inspections are required for installations over 4' in height.

49. R703.8 Provide flashing above window & door openings, at horizontal to vertical intersections, and in compliance with manufacturer installation instructions.

ROOF-CEILING CONSTRUCTION

50. R802.10.1 Wood trusses shall be designed, manufactured, and installed, to comply with approved standards. Complete truss specifications shall be provided at time of delivery and remain on the job-site with the approved plan until final inspection. Approved truss tie-down devices shall be installed as required in Section (802.11). Brace gable ends at flat studs exceeding 6' high.

51. R806.1 Enclosed attics, to include rafter spaces at vaulted ceilings, shall have cross ventilation of a minimum of 1 sq. ft./150 sq. ft. of attic area. 1 sq. ft./300 sq. ft. is permitted with the installation of a vapor barrier or ridge and eave vents with an approximate ratio of 50/50, and not greater than 80%.

52. R807 For attic spaces more than 30 sq ft and 30" in height provide a minimum 22" x 30" attic access opening in a readily accessible location such as hallway. A minimum of 30" headroom is required at access opening.

53. R905.2.4 Install asphalt shingles in accordance with manufacturer's instructions and this section. ASTM D225 or D3462

54. R905.3 Install clay, concrete, or listed roofing products per manufacturers instructions - verify proper dead load.

55. R905.7 &905.8 Wood shingles/shakes shall be installed as approved. #1 grade is required except when taper sawn.

CHIMNEY/FIREPLACE

56. The owner/general contractor shall coordinate a pre-construction planning meeting with the mason and building inspector for the construction of new masonry fireplaces.

57. R1001.8, 1001.9 & 1005.1.1 Existing masonry fireplaces fitted with a listed/approved fuel-burning insert shall have the masonry chimney relined with materials compatible with the type of fuel utilized per manufacturers instructions.

58. R1002, 1004 Wood stoves and factory built chimneys and fireplaces shall be listed/approved and installed per manufactures instructions. Installation instructions shall be on job site.

59. R1005 Provide sufficient exterior air supply to ensure proper fuel combustion.

ENERGY

60. N1104 All heated areas shall comply with Table N1104.1(1) & Table N1101.1(2)..

61. N1104.2.1 & R806.3 Provide/install insulation baffles at eaves to maintain min. 1" clearance prior to framing insp.

62. N1104.2.6 Recessed light fixtures installed in cavities separating heated and unheated areas shall be IC rated. The trim piece shall be gasketed or caulked to prevent air leakage. The fixture shall also be rated "for no more than two cubic feet air movement per minute" or be installed within an airtight box - (Consult inspector)

63. N1104.7 Slab-on-grade floors shall be provided with rigid R-15 insulation down to a minimum of 24” or to bottom of slab then horizontally 24” under slab.

64. N1104.8.2 Caulk and seal all joints and penetrations in the exterior siding - including overdriven nails.

65. N1104.9.1 Approved vapor barriers shall be installed on the warm side of insulation as required.

66. N1104.9.2 Provide 6 mil black polyethylene ground cover lapped 12" at joints and extending 12" up foundation wall. Conditioned slabs shall have the same or equal.

67. N1105.2 Heating ducts outside of the bldg. envelope, including HVAC register boots, shall have min. R-8 insulation.

MECHANICAL

68. M1305.1 Appliances shall be accessible for inspection, service, and replacement without altering permanent construction. A 30" x 30" working space shall be provided at all sides of the equipment that require service. Attic or crawlspace installations shall be within 20' of access opening. Said opening shall be 22” x 30” or large enough to allow removal of the largest appliance component. A 24" wide catwalk shall be provided to the appliance as needed.

69. M1305.1.3.1 A light & electrical outlet shall be provided at each appliance with switch located at access opening.

70. M1307 Appliances shall be listed/labeled and installed per manufacturers instructions, which shall be on job site.

71. M1307.3 Appliances located in garages shall have all sources of ignition located not less than 18" above the floor.

72. M1307.3.1 Furnace and water heaters installed in a garage/carport shall be protected from automobile impact by the use of a minimum 2" dia. concrete filled steel pipe embedded 12" through the slab or equal.

73. M1401.4 &1403.2 HVAC equipment installed outdoors shall be listed for exterior applications and installed on an approved platform that conforms to manufacturer’s installation instructions. (“See OAR 340 Div. 262”)

74. M1411.3 Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

75. M1501 Clothes dryer ducts shall vent to the outdoors through rigid, smooth metal ducts with joints running in the direction of flow. Ducts shall be provided with a back draft damper. Max. length shall be 25'. Note that 2½' shall be subtracted from the max. length of 25' for each 45° elbow and 5' shall be subtracted for 90° elbows. Exhaust duct shall terminate not less than 3' in any direction from openings into building. Flex transition ducts may not exceed 8'.

76. M1503.1 & G2447.2 Range/exhaust hoods shall vent to the outdoors through a single wall, airtight duct installed with a backdraft damper. Commercial cooking appliances shall not be installed within dwelling units.

77. Chapter 17 Provide adequate combustion air for fuel burning equipment while maintaining the building envelope.

PLUMBING

78. OPSC 402, 402.2 & 402.3 The maximum water consumption used for new plumbing fixtures shall not exceed: Toilets - 1.6 gal./flush; Urinals - 1.0 gal./flush; Interior Faucets - 2.5 gal./min.; Showers - 2.5 gal./min.

79. OPSC 406.1 & 407.8 Ponds, aquaria, fountains, and similar constructions with water and/or waste connections shall be submitted for approval prior to installation and protected from back-siphonage.

80. OPSC 407.2 Fixtures in contact with walls or floors, shall have joint(s) made watertight with approved caulk.

81. OPSC 407.2 Shower stalls of any shape shall have a minimum finished interior of 1024 sq. in. and shall also be capable of encompassing a 30 inch diameter circle. Consult the building/plumbing inspector for requirements regarding site-built shower compartments.

82. OPSC414.1, 414.2 & 414.3 Whirlpool bathtubs shall have a removable panel to access the pump. The pump shall be located above the crown weir of the trap and the pump & circulation piping shall be self-draining.

83. OPSC 418 All shower heads/control valves shall be equipped with a pressure balance or thermostatic mixing control valve set or adjusted per the manufacturer's instructions for a maximum mixed water setting of 120 degrees.

84. OPSC 608.5 Water heaters shall be provided with a combination pressure/temperature relief valve. The discharge pipe shall not be smaller than the outlet, shall not be trapped or threaded, and shall terminate in an approved location.

85. OPSC 508.2, 508.4, & 505.1 Water heaters installed in seismic design category D_1 and D_2 shall be strapped to resist horizontal displacement. Straps shall be at 1/3 points with the lower strap a minimum of 4" above the controls. Fuel burning water heaters shall not be installed in sleeping rooms, bathrooms, closets or rooms opening into these areas unless listed & labeled as direct vent appliances.

86. OPSC 508.4 Water heaters located in attics or other location where damage may result from a leak, shall have a corrosion-resistant watertight pan installed beneath it with a minimum ¾" drain to an approved location.

87. OPSC 603.4.7 Hose bibbs shall be protected with a listed non-removable frost-proof backflow preventer.

88. OPSC 608.1 & 608.2 The minimum water pressure after allowing for friction and other pressure losses is 15 p.s.i. Approved pressure regulators shall be installed, with strainers, when the water pressure could exceed 80 p.s.i.

89. OPSC 707 & 719 Cleanouts shall be installed as required. - (Consult inspector.)

90. OPSC 908 Vertical wet venting is allowed under certain circumstances. - (Consult inspector.)

91. OPSC 909 Island venting shall be installed as required. - (Consult inspector.)

92. OPSC 1101.1.1 - 1101.5.3 Storm/rain drains shall be ABS Schedule 40, Schedule 40 PVC DWV, or other approved materials. They shall not interconnect with subsurface sewage systems, foundation drains, or footing drains. If rain drains are interconnected with underfloor drainage pipe, an accessible backwater valve shall be installed. The connection shall be located at midpoint of driveway or other pre-approved location. Pipe shall be properly bedded or supported, sloped a minimum ¼" per foot, and be installed with an 18 gauge continuous tracer wire.

RESIDENTIAL

Final Inspection Checklist

_____ Address shall be permanently posted on the home and visible from the street.

_____ Slope away from home a minimum of 6" within the first 10'.

_____ Seal all penetrations in the exterior siding such as gas line, cable wires, & overdriven fasteners.

_____ Ensure penetrations in the common wall between garage & residence or residence & residence are properly sealed.

_____ Ensure that vibration isolators located in the HVAC system installed in garages are a minimum of 18" from penetrations.

_____ Ensure all gas appliances are installed, pilot is lit, and they are ready for inspection.

_____ Temperature / pressure relief pipe from water heater shall terminate a minimum of 6" from grade or garage floor & be secured.

_____ All bathroom fixtures shall be caulked prior to final inspection.

_____ Ensure the 18" x 24" under-floor access is not obstructed by pipes or ducts.

_____ Crawl space must be clean of all vegetation & construction debris. No water should be detected in the crawl space.

_____ Under-floor insulation shall be dry, properly supported, & held up tight to the floor sheathing.

_____ Under-floor access is properly insulated.

_____ Under-floor HVAC ducts must be supported & required clearances maintained.

_____ Verify all heat ducts are connected to registers and have been properly insulated and cleaned.

_____ Provide a ladder on site for attic inspection and ensure that the 22" x 30" access is readily accessible.

_____ Water heater should be turned on and hot water available at time of inspection.

_____ Verify all stairs are constructed with proper rise & run.

_____ Ensure guardrails / handrails are properly installed and stairs have proper rise & run.

_____ Provide barrier to protect appliances from vehicular damage.

_____ Prior to calling for Building, Plumbing and Mechanical finals, ensure that Electrical and Right of Way permits have been approved and finaled.

THIS LIST IS A COMPILATION OF SOME OF THE MORE COMMON CORRECTIONS NOTED BY THE INSPECTION STAFF. IT IS INTENDED TO BE A CONVENIENT REFERENCE FOR PREPARATION OF THE FINAL INSPECTION APPROVAL. ENSURE HOME IS ACCESSIBLE FOR INSPECTION.