



**GENERAL REQUIREMENTS**

- \_\_\_ 1. Items listed on this checklist are typically required for one- and two-family dwellings and their accessory structures as applicable. ALL ITEMS CHECKED ON THIS PLAN CORRECTION SHEET MUST BE SHOWN OR OTHERWISE NOTED ON THE PLANS AND INCORPORATED INTO THE WORK. All code references refer to the California Residential Code unless otherwise noted. To expedite the plan review, please provide a written response to all corrections and cloud or note the location of where the revisions are made on the plans. Where a reference is made to the Bldg. Dept. website go to: <http://www.sonomacity.org/Government/Departmental-Offices/Building.aspx>
- \_\_\_ 2. To expedite the recheck of the plans, it is recommended that all applicable City of Sonoma One- & Two-Family Dwelling Basic Plan Notes be added to the plans. The notes can be downloaded from the Helpful Information section of the Bldg. Dept. website.
- \_\_\_ 3. Plans must be drawn to scale on not less than 17" x 11" sheets and all sheets oriented and readable in landscape orientation. Plans shall be neat and clearly legible and must utilize standard drafting conventions, technique and symbols. Plans must clearly identify the scope of work. The plans must have adequate contrast and the size of all plan text shall be not less than 9-point (Arial) type or equal to 1/8" minimum printed hand lettering height. LEGIBILITY, drafting technique, plan size, text size, use of standardized symbols or plan quality must be improved. (See Informational Handout No 47 for more information.)
- \_\_\_ 4. The OMISSION of applicable submittal documents or outside agency approvals will result in a delay in plan checking and the return of plans due to insufficient information.
- \_\_\_ 5. DESIGN CRITERIA for the City of Sonoma is as follows and must be utilized for structural design purposes: (CRC - R301)
  - Wind: Speed is 110 mph. Most sites will be exposure C except as otherwise justified.
  - Seismic: Seismic Design Category is site specific and will typically be D<sub>2</sub> or E.
  - Allowable soil-bearing pressure for sites not requiring a geotechnical (soils) report is 1500 psf (Table R401.4.1).
  - Prescriptive construction shall not be used for irregular structures (R301.2.2.6).
- \_\_\_ 6. When a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. Please provide ENGINEERING BY A CALIFORNIA LICENSED ARCHITECT OR ENGINEER (R301.1.3).
- \_\_\_ 7. Buildings exceeding two stories and floor, wall or roof-ceiling structural elements in dwellings designed of COLD-FORMED STEEL, CONCRETE, MASONRY OR STRUCTURAL INSULATED PANELS shall be designed and stamped by a California licensed architect or engineer (R301.1.3.2 & 3).
- \_\_\_ 8. STRUCTURAL CALCULATIONS: Structural calculations, prepared by a licensed engineer or architect, are required for all structures or portions thereof which do not comply with the prescribed structural requirements of the California Residential Code.
- \_\_\_ 9. Provide roof TRUSS DESIGN calculations and description, truss connection details and a truss layout plan. The truss layout plan must correspond with the truss design information and must show the location and identification number of each different type of truss. Truss to truss connections must be specified.
- \_\_\_ 10. SOILS & GEOLOGICAL INVESTIGATION: A preliminary soils report is required for new dwellings (R401.4.1.1).

- \_\_\_ 11. ENERGY DOCUMENTATION: Energy documentation, including Certificates of Compliance (CF1R) forms, are required for new buildings, additions and alterations where the building contains lighting, water heating or space conditioning systems.
- \_\_\_ 12. CALGREEN CHECKLIST: New buildings, additions and some alterations (excluding repairs) with an increase in conditioned floor area, volume or size must comply with the requirements of CALGreen. Required CALGreen checklists are available on the CALGreen section of the Bldg. Dept. website Verification of CALGreen compliance is performed by a CALGreen special inspector listed by the City of Sonoma and hired by the property owner or applicant.
- \_\_\_ 13. All new LANDSCAPE PROJECTS and rehabilitated landscape projects as defined by SMC Chapter 14.32 must meet Water Efficient Landscaping Ordinance (WELO) requirements. Where landscaping is made a part of this permit, plans and calculations for Water Efficient Landscaping shall be provided as required by the Planning Department.
- \_\_\_ 14. STATEMENT OF SPECIAL INSPECTIONS: A Statement of Special Inspections must be completed and signed by the engineer or architect, the contractor and the owner when special inspection is required pursuant to Chapter 17 of the California Building Code. The form must identify the special inspections and special inspection companies for the project. A Statement of Special Inspection form is available in the Forms section of the Bldg. Dept. website at <http://www.sonomacity.org/Government/Departmental-Offices/Building.aspx>.
- \_\_\_ 15. An AUTOMATIC FIRE SPRINKLER SYSTEM shall be installed in all new buildings for which a building permit is required and in existing buildings upon a remodel or addition to a building with a valuation exceeding a permit valuation of \$100,000. [See exceptions in SMC 14.10.045 - 903.2.] Provide fire sprinkler plan or specify that the plan will be submitted and approved under a separate permit prior to installation. Specify the domestic/fire sprinkler water service pipe size to be used. Fire sprinkler plans shall show and specify size, type and location for all sprinkler piping, sprinkler heads, controllers, valves, alarms and other sprinkler equipment and shall provide pipe sizing calculations.
- \_\_\_ 16. FLOOD ELEVATION CERTIFICATE: A flood elevation certificate is required if an addition or new building is proposed for a parcel adjacent to a creek or within the 100-year flood boundary. Certificate forms are available at City Hall or on the Forms section of the Bldg. Dept. website.
- \_\_\_ 17. Provide a LETTER OF VERIFICATION OF GRADING ELEVATION from a licensed engineer when an engineered grading plan has been developed and following establishment of the rough grading for the project.
- \_\_\_ 18. Provide a LETTER OF VERIFICATION OF SOIL COMPACTION from a licensed geotechnical engineer when recommendations in the project soils report require soil compaction. This letter verifies that the design compaction for the project has been established and reviewed.

**TITLE PAGE**

- \_\_\_ 19. TITLE PAGE. Specify the following on the cover page of the plans:
  - Job title and an index of the drawings included;
  - Job street address;
  - Owner's name and address;
  - Name, address, telephone number and e-mail address of person who prepared the plans;
  - The assessor's parcel number for the site and the flood zone for the property;
  - Project narrative with a complete and detailed description of the scope of work;
  - Specify site area square footage and new and existing floor area square footage totals for the dwelling, garage or accessory structures and carport, porch and deck areas.
- \_\_\_ 20. Provide a note on the title page of the plans stating that all work shall conform to the following codes as applicable and as amended by the Sonoma Municipal Code:
  - 2019 California Residential Code (CRC)
  - 2019 California Building Code (CBC) (*only where applicable - such as special structural design*)
  - 2019 California Mechanical Code (CMC)
  - 2019 California Electrical Code (CEC)
  - 2019 California Plumbing Code (CPC)
  - 2019 California Energy Code (Energy)
  - 2019 California Green Building Code (CGBC)
  - Title 14 of the Sonoma Municipal Code (SMC)
- \_\_\_ 21. DEFERRED SUBMITTAL items, if allowed by the Plans Examiner, must be clearly indicated on the title page of the plans. A statement should be provided indicating that **"No work shall be performed on deferred submittal items until the submittal has been approved by the Building Department."**

**SITE PLAN:**

- \_\_\_ 22. SITE PLAN: Show locations of all buildings, property lines, creeks, easements and improvements on the site. Dimension front, side and rear distances to property lines and between structures. Indicate finished and existing ground slope grades. Show size and location sewer, water, fire sprinkler, irrigation, cable TV, electric, gas and other utility service and service piping locations. Provide site drainage information. Show other information such as driveways, wells, septic systems, and source of water supply and access. Show north arrow and indicate the drawing scale.
- \_\_\_ 23. Provide one 10 ft. x 20 ft. (clear) COVERED PARKING space for each dwelling unit (SMC 19.48.040 & 19.48.070.B.).
- \_\_\_ 24. Provide minimum SETBACK distances in accordance with the City's Zoning ordinance (SMC Chapter 19).
- \_\_\_ 25. For new buildings, calculate and illustrate how 20% of the total uncovered parking, walking and patio surfaces are permeable (CGBC A4.106.4).

- \_\_\_ 26. Provide FIRE-RESISTANT CONSTRUCTION detailing to show compliance with the requirements of CRC R302. Please address all items checked below:
  - EXTERIOR WALLS: Walls, projections, openings in exterior walls and penetrations (R302.1).
  - TOWNHOUSES and two family dwellings (R302.2, 3 & 4).

**GRADING, EROSION CONTROL AND STORM WATER POLLUTION PREVENTION PLAN:**

- \_\_\_ 27. Show all natural and artificial SITE DRAINAGE courses and flow lines surrounding structures to show how property will drain. Show grading and drainage improvements for the property including swales, grade elevations and other site improvements. Specify any applicable CALGreen measures. (CRC R300.2).
- \_\_\_ 28. The ground adjacent to the foundation shall be sloped so that the GRADE SHALL FALL a minimum of 6 inches within the first 10 feet. Impervious surfaces shall be sloped 2% min. (CRC R401.3).
- \_\_\_ 29. For NEW BUILDINGS where grading or soil-disturbing activities will occur, provide EROSION & SEDIMENT CONTROL PLAN to show how erosion and storm water pollution will be prevented during construction. (See Informational Handout No.46).
- \_\_\_ 30. When the full extent of soil disturbing activities is limited to trenching for utilities, footings, demolitions, swimming pools, or foundations for residential ADDITIONS OR ALTERATIONS, Non-Site-Specific and Typical Erosion and Sediment Control Best Management Practices shall be met as applicable. (See Informational Handout No.46) (SMC 14.20.205).

**FLOOR PLAN:**

- \_\_\_ 31. FLOOR PLAN: Show size, type and location of all walls, doors, windows, rooms, cabinets, plumbing fixtures, water heaters, stairways, posts, equipment, access panels, handrails, materials, etc., to clearly indicate the layout of the structure. Indicate all new and existing elements and fully dimension the plan. Indicate all changes in floor elevation. Show and specify all mechanical equipment, register locations, plumbing and electrical fixtures, switching, receptacles, appliances and other items if not otherwise shown on separate sheets. Designate all emergency escape windows from sleeping rooms. Provide schedules and general code notations on the floor plan sheet.
- \_\_\_ 32. Provide a WALL LEGEND to differentiate existing walls to remain, walls to be demolished and for new walls. Provide different wall line designations (hatching) for each type.
- \_\_\_ 33. Provide a DOOR SCHEDULE AND WINDOW SCHEDULE to indicate the type and size of each specific new and existing door and window. Specify the U-value and SHGC for all fenestration.
- \_\_\_ 34. Required WINDOW AREA for light shall be not less than 8 percent of the floor area of the room served; the minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated (R303.1).
- \_\_\_ 35. MINIMUM ROOM SIZES: All habitable rooms except kitchens shall be at least 70 square feet in area and no horizontal habitable dimension may be less than 7 feet. (R304/R305) The minimum ceiling height shall be 7 feet. (CRC R305.1) See CRC R304 and R305 for exceptions.
- \_\_\_ 36. Provide at least one EGRESS DOOR which is side hinged and has a minimum net clear width of 32 inches and a minimum height of 78 inches (R311.2).
- \_\_\_ 37. Show minimum 22" x 30" ATTIC ACCESS opening for attics that exceed 30 sq. ft. and have a vertical height of 30 inches or greater (R807.1). In attics where an appliance is installed, an opening and passageway at least as large as the largest component of the appliance shall be required (CMC 304.4).

- \_\_\_ 38. Every sleeping room and any basement must have at least one operable window or door approved for EMERGENCY RESCUE with a minimum net clear opening of 5.7 square feet, except the windows at the grade floor shall have a minimum net area of 5.0 square feet. The minimum net vertical opening dimension shall be 24". The minimum net clear opening width dimension shall be 20". The bottom of the clear opening shall be no more than 44" from the floor (R 310.1 & 2).
- \_\_\_ 39. SAFETY GLAZING shall be identified on the plans and on each pane of glazing in all hazardous locations as follows (CRC R308).
- Glazing in all fixed and operable panels of swinging, sliding and bi-fold doors. [see exceptions]
  - Glazing adjacent to a door where the nearest vertical edge is within a 24-inch arc of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface. [see exceptions]
  - Glazing that meets all of the following conditions: [see exceptions]
    - The exposed area of an individual pane is larger than 9 square; and
    - The bottom edge of the glazing is less than 18 inches above the floor; and
    - The top edge of the glazing is more than 36 inches above the floor; and
    - One or more walking surfaces are within 36 inches measured horizontally and in a straight line, of the glazing.
  - Glazing in guards and railings regardless of area or height above a walking surface. Included are structural baluster panels and nonstructural infill panels.
  - Glazing in walls, enclosures or fences facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs and showers and indoor and outdoor swimming pools where the bottom exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface. [see exception]
  - Glazing adjacent to stairways, landings and ramps within 36 inches above the plane of the adjacent walking surface when the exposed surface of the glazing is less than 60 inches above the plane of the adjacent walking surface. [see exceptions]
  - Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within 60 inches horizontally of the bottom tread nosing. [See exception and Figure R308.4.7]
- \_\_\_ 40. SHOWER COMPARTMENTS and walls above bathtubs with shower heads installed shall be finished with a nonabsorbent surface to a height of not less than 6 feet above the floor (CRC R307.2.). Shower floor area shall be not less than 1024 sq. inches and not less than 30 inches dia. A curb, dam or threshold is required and shall be at least 2 inches above the shower drain (CPC 408.5). Provide curtain rod or approved enclosure.
- \_\_\_ 41. SHOWER CONTROL VALVES and showerheads shall be arranged so that the bather can adjust the valves prior to stepping into the shower spray. (CPC 408.9)
- \_\_\_ 42. A LEVEL LANDING or floor shall be provided at each exterior egress door. Exterior landings may be sloped not more than 2% for drainage. The landings shall be at least as wide as the door served and 36 inches min. length measured in the direction of travel. The landing or floor at required egress doors shall not exceed 1-1/2 inches below the top of the door threshold, except that the landing or floor on the exterior side of an exterior egress door may be 7-3/4 inches below the top of the threshold, provided that the exterior egress door does not swing over the landing or floor. [see exceptions – for other doors] (R311.3).
- \_\_\_ 43. There shall be a FLOOR OR LANDING at the top and bottom of each stairway. Width and length of landings shall be not less than the width of the stairway and shall be at least 36 inches in the direction of travel. 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). [See exception.]
- \_\_\_ 44. Enclosed accessible SPACE UNDER STAIRS shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2" gypsum board (R302.7).
- \_\_\_ 45. STAIRWAY TREAD RISER shall be 7-3/4 inches max. Open risers more than 30 inches above the floor shall not allow the passage of a 4-inch sphere. TREAD DEPTH shall be 10 inches min. HEADROOM shall be 80 inches min. WIDTH shall be 36 inches min. (R311.7). [See special requirements for winder and spiral treads. (R311.7.5.2.1 and R311.7.10)]
- \_\_\_ 46. NOSINGS. The radius of curvature at the tread nosing shall be no greater than 9/16 inch. A nosing projection not less than 3/4 inch but not more than 1-1/4 inches shall be provided on stairways with solid risers. (R311.7.5.3).
- \_\_\_ 47. Continuous HANDRAILS shall be provided on at least one side of each continuous run of treads or flight with four or more risers. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1-1/2 inches between the wall and the handrails. Handrails shall be 34 – 38 inches above tread nosing (see exceptions in R311.7.8.1). Handrails must have a circular cross-section with an outside diameter of at least 1-1/4 inches and not greater than 2 inches or must otherwise have a grip size that meets the requirements of R311.7.8.3.
- \_\_\_ 48. GUARDS shall be located along open-sided walking surfaces, including stairs, ramps, landings, and decks, that are more than 30 inches above the floor or grade. Required guards shall be not less than 42 inches above the adjacent walking surface except that guards serving as handrails on the open side of stairways may be 34 inches minimum. Openings in guards shall not exceed 4 inches [Exception: 4-3/8 inches at stair guards; 6" at triangular opening formed by the tread, riser and bottom rail of stairs.] (R312.1.3).
- \_\_\_ 49. WINDOW FALL PROTECTION. Where the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window sill shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter sphere where such openings are located within 24 inches of the finished floor (CRC R312.2.1).
- \_\_\_ 50. OPENINGS FROM A PRIVATE GARAGE directly into a room used for sleeping purposes is not permitted. Other openings between the garage and residence shall be equipped with solid wood doors, or solid- or honeycomb-core steel doors not less than 1-3/8 inches thick, or 20-minute fire-rated doors and equipped with a self-closing and self-latching device. (R302.5.1). [Note: see exception when fire sprinklers are installed].
- \_\_\_ 51. CARPORTS WITH HABITABLE SPACE ABOVE AND ATTACHED GARAGES shall be protected by a residential fire sprinkler system (R309.6) [See exceptions for additions and alterations.]
- \_\_\_ 52. Walls for ATTACHED GARAGES and garages located less than 3 feet from a dwelling on the same lot shall be provided with 1/2-inch gypsum board or equivalent fire separations supporting floor/ceiling assemblies, on walls adjacent to habitable space or attics. Where habitable rooms are located above a garage or carport, 5/8-inch gypsum board shall be installed on the garage ceiling and the walls or columns supporting the ceiling assembly must be protected with 1/2-inch gypsum board. (R302.6 and Table R302.6).
- \_\_\_ 53. GARAGE FLOOR SURFACES shall be of approved noncombustible material and shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway (R309.1).
- \_\_\_ 54. PLUMBING and MECHANICAL PLANS: Show all plumbing fixtures, water heaters, plumbing cleanouts, HVAC equipment register locations and type, mechanical duct runs and sizes, fire dampers and other mechanical equipment. Specify, show and coordinate all equipment required on energy documentation. [May be combined with floor plan or electrical plan for very simple structures.]
- \_\_\_ 55. Specify that all new toilets, urinals, showerhead and interior faucets must be WATER CONSERVING FIXTURES (i.e. 1.8 GPM max. shower heads; 1.2 GPM max lavatory faucets; 1.8 GPM max. kitchen faucets; 1.28 gal. per flush water closets).
- \_\_\_ 56. All NONCOMPLIANT EXISTING PLUMBING FIXTURES as defined in CA Civil Code 1101.1-1101.8. and installed in homes built and available for use prior to January 1, 1994 must be converted to water conserving fixtures [See the Change-out Requirements for Existing Noncompliant Plumbing Fixtures handout on the Bldg. Dept. web page for exceptions].
- \_\_\_ 57. Show and specify that WATER CLOSETS shall be located not less than 15 inches from a side wall or obstruction and within a space not less than 30 inches in width with 24 inches minimum clearance in front of the toilet. The bathroom door should not swing into the required clear space (CPC 402.5).
- \_\_\_ 58. Show location, size and type of TANKLESS GAS WATER HEATER(s) and the gas piping serving the water heater. Provide gas line sizing calculations per CPC 1215.0. A gas supply of at least 200,000 Btu/hr shall be provided for all new tank type gas water heaters (Energy 150(n)).
- \_\_\_ 59. Specify that ALL HOT WATER PIPING SHALL BE INSULATED in accordance with CPC 609.11 and Energy Code 120.3.
- \_\_\_ 60. Specify that PLUMBING CLEANOUTS in underfloor piping shall be extended to or above the floor or extended outside the building crawlspace unless located within 5 feet of an access door or crawl hole pursuant to the requirements of CPC 707.9.
- \_\_\_ 61. Show location of hose bib-type faucets and specify that they must have approved non-removable BACKFLOW PREVENTION devices. (CPC 603.5.7)
- \_\_\_ 62. GAS WATER HEATERS AND FURNACES are not allowed in an area opening into a bedroom or bathroom unless the direct vent requirements of CPC 504.1 and CMC 904.1 are met.
- \_\_\_ 63. NO WOOD BURNING DEVICES (i.e. wood heater, fireplace, etc.) may be installed in new building construction (within buildings). No fireplace or chimney alteration with a cost greater than \$15,000 shall be made unless a gas-fired, electric or EPA Certified device is installed. (BAAQMD Regulation 6 Rule 3)
- \_\_\_ 64. Indicate how habitable spaces are heated. (R303.10)
- \_\_\_ 65. ENCLOSURES for gas water heater and/or furnace located within or adjacent to conditioned space shall be provided with a fully weather-stripped access door and insulated enclosure walls. Show and specify 30 inches of clear unobstructed working space along the entire front of the firebox for servicing of the equipment. (CMC 304.1 & Energy 150.0)
- \_\_\_ 66. Show and specify how gas appliance enclosures are provided with COMBUSTION AIR openings in accordance with CMC Chapter 7.
- \_\_\_ 67. Space heating, space cooling, water heating, fenestration, insulation, etc. shall be coordinated with energy documentation and comply with the CA ENERGY CODE. Provide heating and cooling load and duct calculations for all new systems.
- \_\_\_ 68. Show and specify that all APPLIANCES installed IN ATTICS have the following: (CMC 304.1 and CMC 904.10)
1. Approved listing for attic installation.
  2. 22 inch x 30 inch minimum attic access.
  3. 24 inch wide solid catwalk from attic access to appliance. (CMC 304.4.2)
  4. 30 inch x 30 inch solid working platform and working space in front of servicing locations with a 30 inch minimum height. (CMC 304.1 & 304.4.3)
  5. A permanent electrical receptacle and high efficacy luminaire with a vacancy sensor near the appliance location. (CMC 304.4.4 and Energy 150.0(k)2.J)
  6. Water heaters and cooling units shall be provided with a water-tight, corrosion-resistant 1.5 inch minimum height metal pan with a condensate drain to the exterior of the building. (CMC 310)
- \_\_\_ 69. VENT DRYER to the outside of the building with a rigid metal duct. Dryer exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 ft., including two 90-degree elbows. Two feet shall be deducted for each elbow in excess of two. Show the routing for the dryer duct. (CMC 504.4.2.1)
- \_\_\_ 70. For newly constructed residential buildings and for additions over 1,000 square feet of conditioned floor area, show the method of required continuous, quiet MECHANICAL WHOLE-BUILDING VENTILATION to comply with ASHRAE 62.2.
- \_\_\_ 71. Each kitchen and bathroom must have a LOCAL VENTILATION EXHAUST fan that exhausts indoor air to the exterior. Exhaust fans in bathrooms must be controlled by a humidistat unless part of the whole-building ventilation system (CGBC 4.506.1). Window operation is not allowed as a permissible method for providing the required ventilation. (Energy -Section 150(o) and CRC R303.3.1). [See ASHRAE 62.2 for more requirements.]
- \_\_\_ 72. 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 gauge sheet steel or other approved material and shall have no openings into the garage (R302.5.2).
- \_\_\_ 73. APPLIANCES AND RECEPTACLES INSTALLED IN GARAGES and carports generating a glow, spark or flame shall be located 18" min. above the floor. Provide protective bollard or other impact barrier (i.e. 3" dia. steel pipe filled with concrete) when appliances are subject to vehicular damage (CMC 305).
- ELECTRICAL PLANS:**
- \_\_\_ 74. ELECTRICAL PLAN: Show all electrical fixtures, switching, receptacles, appliances, fans, smoke and carbon monoxide detectors, services and electrical equipment. Specify required GFCI and AFCI circuits. Provide light fixture and lighting control legend and schedule and show all light fixture switching configurations, vacancy sensors, photo cells, astronomical time clocks, motion sensors, dimmers and other lighting control devices and show which fixtures they control to show compliance with mandatory energy requirements. Specify size of electrical service. [May be combined with floor plan or mechanical plan for very simple structures.]

- \_\_\_ 75. Show and specify a 120V electrical receptacle within 3 feet from any NEW GAS WATER HEATER (Energy Code 150(n)).
- \_\_\_ 76. Show and specify separate branch circuits in the following locations: (CEC 210.11(C) & CEC 210.52)
  - One 20-Amp RECEPTACLE IN LAUNDRY AREAS. (CEC 210.52(F))
  - A minimum of two 20-Amp kitchen or similar area SMALL-APPLIANCE CIRCUITS. (CEC 210.52(B)1&3)
  - One 20-Amp RECEPTACLE IN A BATHROOM. (CEC 210.52(o))
  - All outlets in a GARAGE. At least one receptacle outlet is required for each car space. (CEC 210.52(G)1)
- \_\_\_ 77. For new attached garages, show and specify a 208/240-volt/40-amp ELECTRIC VEHICLE (EV) charging circuit (CGBC A4.106.8.1).
- \_\_\_ 78. Provide KITCHEN COUNTER RECEPTACLES above each counter space 12 inches or wider, not more than 4 feet o.c. and within 24 inches of the end of the counter space. (CEC 210.52)
- \_\_\_ 79. Show RECEPTACLES installed so that no point measured horizontally along the floor line of any wall space is more than 6 ft. from a receptacle outlet. (CEC 210.52(A)); At least one receptacle outlet is required in the bathroom adjacent to the basin, outdoors at grade level at the front and the back of the dwelling, in laundry areas, on balconies, decks, porches and in the garage (CEC 210.52(D) and (E)).
- \_\_\_ 80. Identify and specify GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI) protection for all new 15- and 20-ampere receptacles installed in bathrooms; laundry rooms, garages, unfinished basements, crawl spaces, outdoors, or within 6 feet of a sink or that supply dishwashers or that serve countertop surfaces in kitchens. (CEC 210.8)
- \_\_\_ 81. Specify that all 15- and 20-ampere, 125- and 250-volt receptacles installed in wet or damp locations shall be listed weather-resistant (CEC 406.9).
- \_\_\_ 82. Specify that ARC-FAULT CIRCUIT INTERRUPTER (AFCI) protection is required for all 120- volt 15- and 20-amp circuits supplying outlets and devices in dwelling units unless exempt pursuant to CEC 210.12 (i.e. bathrooms)
- \_\_\_ 83. Specify that RECEPTACLES on 120- volt 15- and 20-amp circuits shall be listed TAMPER-RESISTANT except when located more than 76 inches above the floor or within casework, or when part of a luminaire or appliance (CEC 406.12).
- \_\_\_ 84. Show and specify that all installed luminaires shall be HIGH-EFFICACY in accordance with CA Energy Code Table 150.0-A. Low efficacy lighting is not allowed. (Energy 150.0(k)1.A)
- \_\_\_ 85. BLANK ELECTRICAL BOXES (with no fixture or receptacle) more than 5 feet above the floor shall not exceed the number of bedrooms and shall be controlled by a dimmer, vacancy sensor or fan speed control. (Energy 150.0(k)1.B)
- \_\_\_ 86. Specify that newly installed RECESSED DOWNLIGHT LUMINAIRES shall not contain screw based sockets. (Energy 150.0(k)1.C)
- \_\_\_ 87. Specify that SCREW BASED LUMINAIRES shall have lamps installed marked with "JA8-2016" or "JA8-2016-E". All screw based luminaires shall be controlled by dimmers or vacancy sensors. (Energy 150.0(k)1.G & 150.0(k)2.J)
- \_\_\_ 88. Show and specify at least one luminaire in all bathrooms, garages, laundry rooms and utility rooms are CONTROLLED BY A MANUAL-ON VACANCY SENSOR. (Energy 150.0(k)2.I)
- \_\_\_ 89. Show and specify that all new OUTDOOR LIGHTING mounted to a building is high efficacy and is controlled both by a manual On/Off switch that does not override the automatic shutoff control and one of the following: 1) a photocell and motion sensor; or 2) a photocell and time clock; or 3) an astronomical time clock; or 4) an Energy Management Control System. (Energy 150.0(k)3.A). Show the location for all automated shutoff controls and the luminaires that they control.

- \_\_\_ 90. Show that EXHAUST FANS are switched separately from lighting. (Energy 150.0(k)2.B)
- \_\_\_ 91. LIGHT FIXTURES INSTALLED IN WET LOCATIONS (subject to saturation) or damp locations (not subject to saturation but exposed to moderate moisture) shall be listed for use in its intended location (CEC 410.10).
- \_\_\_ 92. SMOKE ALARMS shall be installed in new residential construction or additions, alterations or repairs to residential buildings where the value of the work exceeds \$1,000. Smoke alarms shall receive their primary power from the building wiring, shall have a battery backup and shall be interconnected with all other smoke alarms to be clearly audible in all bedrooms except in existing areas of buildings undergoing alterations or repairs that can't be installed without the removal of interior finishes. Show and specify required smoke alarms in the following locations in accordance with CRC Section R314:
  - In each sleeping room.
  - Outside each separate sleeping area in the immediate vicinity of the bedrooms. Smoke alarms shall be installed not less than 3 feet horizontally from a bathroom door or opening.
  - On each additional story of the dwelling, including basements and habitable attics, but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level, provided that the lower level is less than one full story below the upper level.
- \_\_\_ 93. CARBON MONOXIDE ALARMS shall be installed where fuel-burning appliances are installed and in dwelling units that have attached garages in new residential construction or additions, alterations or repairs to residential buildings where the value of the work exceeds \$1,000. Carbon monoxide alarms shall receive their primary power from the building wiring, shall have a battery backup and shall be interconnected with all other carbon monoxide alarms in the individual unit, except in existing areas of buildings undergoing alterations or repairs that can't be installed without the removal of interior finishes. Show and specify required carbon monoxide alarms in the following locations (R315):
  - Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s).
  - On every level of a dwelling unit including basements.
  - In any bedroom where a fuel burning appliance is located within the bedroom or its attached bathroom.
- \_\_\_ 94. Show location of MAIN ELECTRICAL SERVICE PANEL and subpanels. Electrical SUBPANELS, incandescent fixtures with open or partially enclosed lamps and pendant fixtures or lamp holders are not allowed in clothes closets. Electrical overcurrent protection is not allowed in bathrooms or over steps. (CEC 240.24(E&F)) Maintain a clearance of 36 inches in front of electrical panels and disconnect switches. (CEC 110.26)

**FOUNDATION PLAN and DETAILS:**

- \_\_\_ 95. FOUNDATION PLAN: Show and specify materials, size, type and spacing of all foundation elements and materials. A separate detail is required for each different condition. Completely dimension plan including interior footings. Label and locate porches, patios, decks, garage, etc. Locate and note size and

spacing of anchor bolts, straps and tie downs on plan. Note size, number and position of crawl space vents.

- \_\_\_ 96. CONCRETE foundations, slabs, retaining walls and other concrete elements shall be not less than 2,500 psi (R404.1.3.3.1; Table R402.2).
- \_\_\_ 97. Concrete FOUNDATIONS for stud-bearing walls SUPPORTING ONE FLOOR shall have a 12-inch min. width footing, 6-inch min. thick footing and 12-inch min. footing depth below undisturbed soil (Table R403.1(1)). Stem walls shall be designed and reinforced in accordance with R403.1.3 and R404.
- \_\_\_ 98. Concrete FOUNDATIONS for stud-bearing walls SUPPORTING TWO FLOORS shall have a 16-inch min. width footing, 6-inch min. thick footing and 12-inch min. footing depth below undisturbed soil (Table R403.1(1)). Stem walls shall be designed and reinforced in accordance with R403.1.3 and R404.
- \_\_\_ 99. CONTINUOUS, reinforced concrete FOOTINGS are required under exterior walls, bearing walls, at garage door openings and around any covered floor area. Footings shall be supported on undisturbed natural soil or engineered fill (R403.1). Individual footing pads supporting piers and columns may be used when justified by calculations based on the tributary load and the allowable soil-bearing capacity. Provide footing support and calculations for all CONCENTRATED LOADS (CBC 1806.2).
- \_\_\_ 100. Concrete foundations with stem walls shall have HORIZONTAL REINFORCING with a minimum of one #4 bar within 12 inches of the top of the wall and one #4 bar located 3 to 4 inches from the bottom of the footing (R403.1.3.1).
- \_\_\_ 101. When the stem wall and footing are not poured monolithically, VERTICAL REINFORCEMENT of #4 rebar shall be installed vertically at 4 ft. o.c. The vertical bar shall extend to 3" clear from the bottom of the footing, have a standard hook, and extend a minimum of 14 inches into the stem wall (R403.1.3).
- \_\_\_ 102. Concrete SLABS shall be a minimum of 3.5" thick. (R506.1) Slabs with turned down footings shall have a minimum of one No. 4 bar at the top and the bottom of the footing. (See exception R403.1.3.3). Where the slab is not cast monolithically with the footing, No. 3 or larger vertical dowels with standard hooks on each end shall be provided at 48 inches on center.
- \_\_\_ 103. CONCRETE OR MASONRY WALLS over 6 feet in height or walls retaining more than 4 feet of backfill shall be designed by a licensed engineer (R404.1.1 and CBC 1610.1).
- \_\_\_ 104. Concrete slabs shall be separated from the base course by a minimum 6 mil polyethylene VAPOR RETARDER. This may be omitted if the space above is not heated and is not likely to become heated in the future. (R506.2.3)
- \_\_\_ 105. Minimum SILL ANCHOR BOLTING: Anchor bolts shall be 1/2" x 10" min. placed at 6 ft. o.c. maximum. Embed bolts 7 inches min. Locate end bolts neither less than 7 bolt diameters nor more than 12 inches from ends of sill members or splices (R403.1.6). Provide 3" x 3" x 0.229" plate washers on each bolt (R602.11.1).
- \_\_\_ 106. PIER AND GRADE BEAM foundations require an engineered design and special inspection by a geotechnical engineer. Provide completed Statement of Special Inspections (R301.1.3).

**FRAMING PLANS (Floors, Ceiling and Roof):**

- \_\_\_ 107. FRAMING PLANS: Specify and show framing members and sheathing for floor and roof and ceiling plans. Specify size, grade and species of materials and show direction and spacing of joists. Indicate how framing exposed to the weather will be protected or resistant from decay (i.e. pressure-treated, painting, etc.). Show location of all bearing walls, beams and other supporting elements. Specify all joist hangers and beam connections. Provide detail of support connection for floor girder at foundation wall.
- \_\_\_ 108. Provide a CONTINUOUS LOAD PATH and show how all gravity, uplift and lateral loads are carried to the foundation (R301.1).
- \_\_\_ 109. Show and specify STAIRWAY FRAMING size and span for stairway stringers in accordance with R502.3.
- \_\_\_ 110. FLOOR and or ROOF TRUSS DESIGN: Truss design must be stamped by a licensed design professional. Truss design, layout plan and connection details must be submitted for approval when submitting plans for plan check (R301.1.3, R502.11.1 and R802.10.1). Show and specify all trusses, truss spacing and truss connections. Identify each truss corresponding with truss design documentation. Show all walls, support columns and beams supporting trusses.
- \_\_\_ 111. Structural calculations shall be submitted for ENGINEERED WOOD PRODUCTS supporting bearing walls above and no supporting wall directly below. Rim and blocking details are required when using engineered wood products. (R301.1.3)
- \_\_\_ 112. Provide 18" x 24" UNDERFLOOR ACCESS through the floor or 16" x 24" underfloor access through the perimeter wall (R408.4).
- \_\_\_ 113. Show FLOOR JOIST sizes, grade and spacing in accordance with (CRC R502.3) and associated span tables or provide engineer's design calculations.
- \_\_\_ 114. At floor openings where HEADER JOIST span exceeds 4 feet, specify double trimmer joists and headers (R502.10).
- \_\_\_ 115. Minimum nail spacing for WOOD STRUCTURAL FLOOR PANELS: 6 inches o.c. at edges, 12 inches o.c. in field (Table R602.3(1)).
- \_\_\_ 116. BEARING PARTITIONS perpendicular to joists shall not be OFFSET from supporting girders, walls or partitions more than the joist depth or provide engineer's calculations. Joists under and parallel to bearing partitions shall be doubled (R502.4).
- \_\_\_ 117. Show all BEAM, girder and header locations, sizes, species and grade. The span shall not exceed those shown in Table R602.7(1), Table R602.7(2) or Table R602.7(3) unless engineer's design calculations are provided. (R502.5).
- \_\_\_ 118. Conventional 16-foot GARAGE DOOR HEADERS supporting roof framing with a span not exceeding 12'- 2" may be 4"x 14" or 6"x 12" No.1, D. Fir. Garage door headers supporting floor framing, tile roofs or roof framing spans of more than 12'- 2" must be designed by an engineer (CRC Table 602.7(1)).
- \_\_\_ 119. Show all ROOF RAFTERS, RAFTER TIES AND CEILING JOISTS. Spans shall be per Tables R802.4(1) & (2) for ceiling joists and Tables R802.5.1(1) & (2) for rafters. Include the size, spacing and grade of all members.
- \_\_\_ 120. If ceiling joists or rafter ties are not provided to TIE OPPOSING RAFTERS TOGETHER, trusses shall be used or engineering shall be provided (R802.5.2).
- \_\_\_ 121. SLOPED CEILINGS shall be provided with an approved method of tying opposing rafters together, such as a rafter tie or a 1-1/4"x 18"x 20 ga. steel tie strap (Table R602.3(1)).
- \_\_\_ 122. For ROOFS with slopes lower than 3:12, ridges, hips and valleys shall require engineering (R802.4.4).
- \_\_\_ 123. Wood structural panel sheathing shall be bonded by exterior glue (R803.2). Specify minimum ROOF SHEATHING NAILING per Table R602.3(1) (i.e. 8d common, box or casing at 6 inches O.C. at edges and 12 inches O.C. in the field);. Nail panels to blocking between rafters.

- \_\_\_ 124. All GIRDER or terminal hip-type TRUSSES shall be SUPPORTED by doubled studs placed directly under the truss unless otherwise justified by structural calculations.
- \_\_\_ 125. Provide a DETAIL OF THE CONNECTION (i.e. framing connectors) between roof diaphragm and designed shear walls. (CBC 1604.8.2) Specify the connection between braced wall panels and roof rafters or trusses. (CRC R602.10.8.2)
- \_\_\_ 126. Provide load assumptions or structural design calculations for beams, rafters and trusses supporting a TILE ROOF. Provide Type 30 felt underlayment over solid sheathing for all tile roofs unless otherwise justified by independent testing laboratory.

**WALL BRACING PLANS & DETAILS:**

- \_\_\_ 127. For each story, provide a KEYED PLAN WITH GRIDLINES OF ALL BRACED WALL LINES (and shear walls if any) indicating the location, length, type of wall bracing, braced panel material and nailing and top- and bottom-plate connection requirements. Braced wall lines are required and shall be sized, configured and shown in accordance with Section R602.10 in its entirety. Braced wall lines shall be designed for Seismic Design Category D<sub>2</sub>. Interior braced wall lines in two-story buildings generally require continuous reinforced foundations. Specify and provide labeled details of all braced wall panels to be used. Label each braced wall panel with the specified wall type. (R403.1.2)
- \_\_\_ 128. Sills at BRACED WALLS PANELS SHALL BE ANCHORED to concrete or masonry foundations. Show and specify steel plate washers a minimum of 0.229 inch by 3 inches by 3 inches in size shall be provided except where approved anchor straps are used (R602.11.1).
- \_\_\_ 129. SPACING BETWEEN BRACED WALL LINES in each story shall not exceed 25 feet on center in both the longitudinal and transverse directions except in one- and two-story buildings, spacing between two adjacent braced wall lines shall not exceed 35 feet on center in order to accommodate one single room not exceeding 900 square feet in each dwelling unit (Table R602.10.1.3).
- \_\_\_ 130. Provide braced wall panels, portal frame wall with hold-downs, or engineered shear wall at GARAGE DOOR OPENINGS in accordance with the requirements of Section R602.10.
- \_\_\_ 131. Exterior braced wall panels shall be CONNECTED TO ROOF FRAMING pursuant to R602.10.8.2.
- \_\_\_ 132. Where STONE OR MASONRY VENEER is used, wall bracing shall be increased in accordance with R602.10.6.5.

**ROOF PLAN:**

- \_\_\_ 133. Provide ROOF PLAN to show overhead view of roof to indicate roof slope, valleys, hips, ridges, roof drainage and roof materials. *[May be combined with plot plan for simple structures.]*
- \_\_\_ 134. All ROOFING shall be a minimum of Class C fire-resistive material, supported by solid sheathing (R902.1.3). Specify the roof sheathing and nailing.
- \_\_\_ 135. Provide proper ROOF SLOPE for the roofing materials used to provide positive drainage. In no case shall the slope be less than 1:12 minimum unless design for deflection and ponding is submitted and approved.
- \_\_\_ 136. Roofs using ASPHALT SHINGLES WITH SLOPES LESS THAN 4:12, but not less than 2:12, must be provided with double underlayment consisting of two layers of underlayment felt layered shingle fashion in accordance R905.1.1.

**EXTERIOR ELEVATIONS:**

- \_\_\_ 137. EXTERIOR ELEVATIONS: Show all sides of the building. Show and specify all exterior materials, crawlspace vents, doors, windows, trim, gutters, stairways, handrails, roof pitch, roofing, chimneys, etc. Show original and finished grades and stepped footings (if provided).

- \_\_\_ 138. Approved house ADDRESS NUMBERS shall be provided in an illuminated area, plainly visible and legible from the public street. Numbers shall contrast with their background and shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch (R319.1).
- \_\_\_ 139. WEATHERPROOFING of exterior surfaces above and below grade is required (R406 and R703).
- \_\_\_ 140. All FASTENERS used for attachment of siding shall be corrosion-resistant (R703.3.3). Corrosion resistant flashing shall be provided at openings and intersections/attachments as listed in R703.4.
- \_\_\_ 141. UNDERFLOOR SPACE shall have a ventilation opening area of 1/150 square feet of underfloor area. If a Class I vapor retarder is used, the ratio may be reduced to 1/1500. One opening shall be placed within 3 feet of each building corner. Openings shall be covered with a covering having openings no greater than 1/4 inch (R408.2).

**SECTIONS:**

- \_\_\_ 142. SECTIONS: Provide section views through varying portions of building showing structural elements, and other sections as needed, including earth to wood clearances, floor-to-ceiling heights, roof slopes, etc. Note typical finishes; call out insulation type and value. Show and specify size, type, spacing, slope and connection of all materials and show varying construction conditions.
- \_\_\_ 143. CRIPPLE WALLS less than 14 inches in height shall be fully sheathed or constructed of solid blocking (R602.9).
- \_\_\_ 144. STRUCTURAL FLOOR MEMBERS, rafters and beams shall not be cut, bored or notched in excess of the limitations specified in R502.8.
- \_\_\_ 145. Specify and provide naturally durable wood or preservative TREATED WOOD for the following locations (R317.1):
  - Wood joists and girders closer than 18 inches or 12 inches respectively, to the exposed ground.
  - Wood framing members that rest on concrete or masonry and are less than 8" from the exposed ground.
  - Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground, unless separated by an impervious moisture barrier.
  - The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.
  - Wood siding, sheathing and wall framing on the exterior of the building having a clearance of less than 6" from the ground or less than 2" from a horizontal concrete surface.
  - Wood structural members exposed to the weather.
  - Wood furring strips or other wood attached to masonry or concrete walls below grade.
  - All wood columns exposed to the weather (see exceptions R317.1.4).
  - All wood in contact with the ground.
  - Glued-laminated timbers exposed to the weather.
  - All wood embedded in concrete that is in direct contact with the ground or exposed to weather and that supports structures intended for human occupancy.

- \_\_\_ 146. CANTILEVER spans for floor joists supporting light frame exterior bearing walls and a roof shall be in accordance with Table R502.3.3(1) and shall have a backspan to cantilever span ratio of 3:1. Spans for exterior balconies shall be in accordance with Table R502.3.3(2) and shall have a backspan to cantilever span ratio of 2:1.
- \_\_\_ 147. Provide detail at junction of EXTERIOR DECKING, wall and interior floor framing. Show elevations, flashing, and anchorage. Deck framing shall be positively attached to building framing at a minimum of two locations with connectors not using nails in withdrawal. See R507 for deck framing requirements.
- \_\_\_ 148. DECK FRAMING, support posts and other lumber exposed to the weather shall be of preservative-treated or decay-resistant lumber. (R317.1) Hardware and fasteners shall be hot-dipped galvanized, stainless steel, silicon bronze, or copper (R317.3.1). Spans for decking, deck framing and deck beams shall not exceed the allowable values in Tables R507.4, R507.5, R507.6 and R507.8.
- \_\_\_ 149. Show STUD SIZE, grade and spacing in accordance with Table R602.3(5) and R602.3.1. All studs shall be continuous from floor to roof unless otherwise braced (R602.3). The maximum stud height for laterally unsupported 2x4" bearing walls is 10'. The maximum stud height for laterally unsupported 2x4" nonbearing walls is 14'. Increases in listed stud heights are permitted only when justified by structural calculations.
- \_\_\_ 150. BALLOON FRAME GABLE END WALLS or provide soft-wall bracing detail.
- \_\_\_ 151. WOOD STRUCTURAL PANEL SHEATHING shall be bonded by exterior glue (R803.2.) Minimum nailing per Table R602.3(1) is 6" at edges and 12" in the field, 8d common, box or casing. Nail panels to blocking between rafters.
- \_\_\_ 152. Provide one layer of 15# FELT or other approved material under exterior wall siding. Material shall have upper layer lapped 2 inches min. over lower layer with 6 inches min. laps at joints (R703.2). Provide two layers of Grade D paper or equivalent between wood sheathing and stucco lath (R703.7.3).
- \_\_\_ 153. Show and specify ceiling, wall and underfloor INSULATION as required by the energy documents.
- \_\_\_ 154. Provide material product literature for any SPRAY-APPLIED INSULATION to show compliance with section R316. Show and specify the location, material, thickness and R-value for the proposed insulation and the required thermal barriers and/or ignition barriers pursuant to section R316. Spray-applied ignition barriers must be verified by special inspection pursuant to CBC 1705.14
- \_\_\_ 155. Show ROOF RAFTERS AND CEILING JOISTS. Spans shall be per Tables R802.4(1) & (2) for joists and Tables R802.5.1(1) & (2) for rafters. Include the size, spacing and grade of all members.
- \_\_\_ 156. NAIL RAFTERS TO ADJACENT PARALLEL CEILING JOISTS. Where not parallel, use 2 x 4" rafter ties at 4 ft. o.c. max (R802.5.2). Connect ties per Table R802.5.1(9). Rafter ties shall use adjustment factor in footnote (h) for height above supporting wall and must be in lower third of attic space. Where ceiling joists or rafter ties are not provided, trusses shall be used or engineering shall be provided. (R802.10.2).
- \_\_\_ 157. Solid block all rafters and trusses at exterior walls (R602.10.8.2). Nail blocking to top plate with (3) 8d toe nails per block or provide approved steel framing clips.

- \_\_\_ 158. Trusses shall be connected to wall top plates by the use of approved connectors having a resistance to uplift of not less than that specified in CRC Table R802.11.
- \_\_\_ 159. Show and specify the location, size, grade and species of all GIRDERS, HEADERS AND BEAMS pursuant to R602.7. Installation of PURLINS to reduce the span of rafters is permitted provided that they are continuous, sized no less than the required size of the rafters that they support and are supported by 2-inch by 4-inch braces installed to bearing walls at a slope not less than 45 degrees from the horizontal. The braces shall be spaced not more than 4 feet on center and the unbraced length of braces shall not exceed 8 feet (R802.4.5).
- \_\_\_ 160. ATTIC VENTILATION: 1/150 of attic area. If a Class I or II vapor barrier is applied to warm-in winter side of ceiling, or, if 50% - 80% of the vents are at least 3' above the eaves and the remaining vents are in the eaves then the ratio may be reduced to 1/300 (R806.2). Unvented attics may be allowed if meeting the requirements of R806.5. Enclosed rafter spaces shall have cross ventilation (min. 1" clear) (R806.3).

**DETAILS:**

- \_\_\_ 161. DETAILS: Provide sufficient details to clearly indicate construction and attachment of members. Show and specify materials, size, type and spacing of all framing elements. A separate detail is required for each different condition. Show eave details, truss connection details, post-to-beam connections, post-to-footing connections, hold-down details, rim joist, ledger and cantilever details, flashing details, etc. Submit foundation, floor and roof details, beam connections, special framing, flashing details and structural details as necessary to show construction.
- \_\_\_ 162. Show and specify not less than 2" nominal thickness, full-depth solid BLOCKING at joist and rafter ends and over supports or specify other approved connections (R502.7).
- \_\_\_ 163. Specify FASTENERS FOR PRESERVATIVE-TREATED WOOD shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper [R317.3.1 (See exceptions)].
- \_\_\_ 164. For enclosed roof decks, provide ROOF AND OVERFLOW DRAINS sized in accordance with the CPC Appendix D. Overflow drains shall be the same size as the roof drains and shall be located with the inlet flow line located 2 inches above the low point of the roof. Overflow scuppers, where installed, shall be three times the size of the roof drain, have a minimum height of 4 inches and be located with the inlet flow line located 2 inches above the low point of the roof (R903.4.1).
- \_\_\_ 165. Provide installation details for installation of glass unit masonry (GLASS BLOCK) complying with section R607.
- \_\_\_ 166. Where post and beam or post to concrete construction is used, CONNECTORS approved for the proposed use shall be shown and specified to ensure against uplift and lateral displacement (R502.9 and R507.9.2).
- \_\_\_ 167. DRILLING AND NOTCHING OF STUDS shall be in accordance with the following (R602.6):
  - Notching. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width.
  - Drilling. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no more than 60 percent of the stud width, the edge of the hole is no more than 5/8 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall also be doubled with no more than two successive doubled studs bored.
- \_\_\_ 168. DOUBLE TOP PLATES shall have a minimum lap of 24 inches. Nail with eight 16d nails on each side of the joint, unless additional nailing is specified. Lap plates at intersections and corners (R602.3.2).