This guide is intended for one- and two-family dwelling units and additions to existing units that are not a part of a subdivision. Additional Planning, Public Works, and Fire Department requirements may apply.

Plans prepared using the following list as a guide should be deemed complete, and will assist in the review process. Please understand that this list is not complete for all conditions, and the California Building Codes must be reviewed for all code requirements. California Building Codes are available online at [http://public.resource.org/bsc.ca.gov/index.html](http://public.resource.org/bsc.ca.gov/index.html)

**GENERAL REQUIREMENTS:**

1. Plan sets shall include: [AMC]
   a. Title sheet
   b. Site plan
   c. Grading and drainage plan
      i. Erosion control
   d. Construction drawings
      i. Floor plan
      ii. Elevations
      iii. Sections
      iv. Foundation plan, floor framing plan, and roof framing plan as applicable
      v. Plumbing, mechanical and electrical sheet

2. Title 24 energy documentation
   a. Mandatory Features MF1-R
   b. CF-1R or Energy Compliance Report

3. California Green Building Standards Code compliance documentation
   a. Mandatory Measures Sheet

4. The preparer must sign all plans sheets. [BSP]
   a. Licensed architect or engineer must stamp and sign sheets prepared under their direction.
   b. Support documents (soils report, truss calcs, etc.) must be stamped and signed by their responsible licensed professional; reviewed and approved for consistency by the design professional in responsible charge.

5. Provide the following information on the Title Sheet. [CRC 106]:
   a. Project Description
   b. Site info (Address, Parcel Number, lot size)
   c. Occupancy type (Typically R-3 and U if it applies)
   d. Type of Construction (Typically V-B)
   e. Fire Sprinklers (yes/no)
   f. Basic Floor Area calculations. Include both existing and proposed floor areas.
   g. Owner’s name, address and phone number
   h. Designer’s name, address and phone number
   i. Schedule of Special Inspections
   j. List of HERS Verifiable Measures


7. Clearly state the scope of the project on the cover sheet. [CRC 106]

8. Provide the following information on the site plan:
   a. North Arrow
b. All existing and proposed structures 

c. All property lines 

d. Setbacks 

e. Driveway 

f. Easements 

g. Utilities 

h. Native trees 

i. Topography, including finished floor elevations and next upstream manhole rim elevation if the parcel is on sewer 

j. Site drainage 

k. Bench mark for project 

l. Flood Hazard information if in or near a 100-year flood plain or floodway 

m. Septic or sewer information 

9. All support documents that apply to the project, including but not limited to, structural calculations, truss submittal, soils report, energy analysis, HVAC system design, storm water control plan, arborist report, biologist report, archeologist report, are to be included with the submittal at the time of application. No items may be deferred with exception of fire sprinkler plans. **ONLY** fire sprinkler plans may be deferred at time of submittal but must be submitted, but do not need to be approved, prior to the permit being issued. 

10. If the project requires special inspections based on CBC 1701, the owner or the project engineer/architect, acting as the owner’s agent, shall employ special inspector(s) to provide inspection(s) of the following types of work during construction [CBC 1701]. Provide a special note ‘block’ on the cover sheet clearly listing special inspections required for the project. Include all products/processes where special inspection is required by the ICC ESR report. Note: Special inspection is required for all adhesive or mechanical anchors post-installed in hardened concrete consistent with the requirements of their evaluation reports, including Titen screws, epoxied anchors, and expansion anchors. 

11. See Soils Report Handout for soils report requirements. Provide a note on the Grading and Drainage Plan referencing Soils Engineer of record, the reference number on the report, and how it is dated. Summarize on the plans the procedures outlined in the report. Recommendations specific to the foundation design are to be listed on the foundation plan. [CRC 106] 

12. For new SFR’s: obtain a Will Serve Letter from the Atascadero Mutual Water Company. [AMWC] 

**RESIDENTIAL FIRE SPRINKLER SYSTEM:** 

13. Automatic fire sprinkler systems are required for all new single-family residences except new accessory dwelling units where the existing primary dwelling unit does not have fire sprinklers. (Senate Bill 1069) Additions to primary residences over a certain area in square footage, including the construction of an attached accessory dwelling unit, can require that the entire residence be protected by an automatic fire sprinkler system. See the handout at the following link to determine whether you proposed addition would require the residence to have an automatic fire sprinkler system. (Fire Sprinkler System Handout) New detached accessory dwelling units are required to comply with the standards for fire protection such as water supply and fire department access. 

14. If Fire Sprinklers are required for your project, please provide sprinkler layouts and calculations. Fire sprinkler system is a separate submittal (addendum to main permit), and must be submitted for review prior to main permit issuance. [AMC, CRC] 

15. Provide a letter from the Atascadero Mutual Water Company stating the minimum design pressure of the sprinkler system. Incorporate this information onto the cover page of the plans. [BSP] 

**ARCHITECTURAL REQUIREMENTS:** 

16. Clearly show and indicate all new, existing, and removed walls. Provide wall schedule showing height, stud size and spacing. [R106] 

17. Exterior walls, projections and openings shall be consistent with CRC Table R302.1(1) for buildings without automatic residential fire sprinkler protection and CRC Table R302.1(2) with protection. 

18. The following are required for an attached garage: 

   a. No openings are permitted from the garage directly into a room used for sleeping purposes. [R302.5.1] 

   b. The garage is separated from the residence and attic by no less than ½" gypsum board or equivalent. 

   c. Where habitable space exists over a garage the garage ceiling finish is to be not less than 5/8" Type “X” gypsum board or equivalent and structure(s) supporting floor/ceiling assemblies not less than ½” gypsum board or equivalent. Fire-protected posts or columns subject to vehicle impact are to be protected by
minimum 5’ corner guards or metal jacketing. When habitable space does not exist over the garage, provide ½’ gypsum board to separate the dwelling and its attic from the garage. [Table R302.6] A separation is not required between a dwelling unit and a carport provided the carport is entirely open on two or more sides and there are not enclosed areas above.

d. Specify self-closing, self-latching, tight-fitting, 1 3/8” thick solid wood door, 1 3/8” thick solid/honeycomb steel door, or 20-minute rated door for opening between garage and dwelling. Exception: Where the residence and the private garage are protected by an automatic residential fire sprinkler system in accordance with Sections R309.6 and R313, door openings between the private garage and the residence need only be self-closing and self-latching. [R302.5.1] This exception can only be used if the garage meets energy code building envelope standards.

e. Ducts in the garage and ducts penetrating the garage/dwelling separation shall be minimum 26-gauge sheet steel and shall have no openings into the garage. [R302.5.2]

19. Dwelling units in two-family dwellings by wall and floor assemblies having not less than a 1-hour fire-resistance rating. Fire-resistance-rated floor ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing. Exceptions: 1) a ½-hour assembly in buildings equipped throughout with an automatic fire sprinkler system installed in accordance with NFPA 13 (not 13D), 2) the ceiling is protected by not less than 5/8” Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than ½” gypsum board or equivalent. [R302.3]

20. Garage and carport floor surface shall be of approved noncombustible material. Asphalt surfaces are permitted for ground level carports. The floor surface shall slope toward a drain or the main vehicle entry to facilitate movement of liquids. [R309.1, R309.2]

21. All habitable rooms shall have natural light (8% of floor area min.) and ventilation (4% of the floor area). Show all window size and type of operation on plans. [R303.1] If light and ventilation are being supplied from an adjacent room at least 1/2 of the common wall must be open and have an opening of at least 1/10th the floor area of the interior room but not less than 25 sq. ft. [R303.2]

22. Bathrooms containing a bathtub, shower or tub/shower combination shall be mechanically ventilated to the outside with an ENERGY STAR compliant fan rated for 50cfm. Unless operating as part of a whole house ventilation system the fan shall have humidity controls capable of adjustment between a relative humidity range of 50-80%. [CGBSC 4.506.1] Toilet rooms shall be provided with 50cfm mechanical ventilation. [CMC Table 403.7]

23. Habitable rooms other than kitchens shall contain at least 70 Sq. ft. of floor area shall be not less than 7’ in any horizontal dimension. [R304.2]

24. Show required ceiling height of 7’ minimum in habitable spaces and hallways. Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6’8”. For rooms with sloped ceilings at least 50% of the required floor area of the room must have a ceiling height of at least 7’ and no portion of the required floor area may have a ceiling height of less than 5’. Bathrooms shall have a minimum ceiling height of 6’8” at the center of the front clearance area for fixtures and a shower or tub shall have a minimum ceiling height of 6’8” above a minimum area of 30” by 30” at showerheads. Show ceiling heights on building sections or identify on the floor plan(s). [R305.1]

25. Show 36” minimum clear hallways. [R311.6]

26. Show on plans: 24” clear in front of toilet and 30” minimum wide toilet compartment. (15” to CL). [CPC 402.5]

27. Show on plans: Minimum 1,024 sq. in. area and 30” diameter clear circle in shower compartment maintained to a height of 70” with only valves, shower heads, soap dishes, shelves grab bars and fold-down seats in accessible shower stalls protruding into the circle. Shower door shall provide 22” clear opening, 24” clear in front of the full width of the door and may not encroach upon the 30” clear circle. The curb or threshold of the shower shall not be less than 2” or more than 9” above the drain inlet. [CPC 408.5, 408.6]

28. Wall in showers and tubs with showerheads shall be finished with a nonabsorbent surface to 6’ (72”) above drain. [R307.2] Enclosures must be of approved safety glazing. Windows in enclosure walls shall be labeled safety glazing when less than 60” above the drain. [R308.4.5] Materials used as backers for wall tile in tub and shower areas and wall panels used in shower areas shall be ASTM C1178, C1278, C1288, C1325 or ISO 8336, Category C listed for the purpose. Paper-faced gypsum board, including moisture-resistant gypsum board (“green board”), may not be used.

29. Every sleeping room, habitable attics, and basements in dwelling units shall have at least one operable exterior door or window for emergency escape and rescue and shall open directly into a public way or yard/court that provide access to the public way. Indicate each opening that satisfies this requirement on plan or schedule. [R310.1] Windows must provide:

a. A minimum 5.7 sq. ft. of clear openable area. 5 sq. ft. is allowed for grade level floors.

b. A minimum clear width of 20” and minimum clear height of 24”. 

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c. A finished opening height not more than 44" above the floor. Note this on the plan or window schedule.

d. A minimum 36"x36" window well with a fixed ladder if finish opening height is 44" or more below grade. Window well must extend below windowsill for drainage. For additional dimensional requirements, see R310.2.

30. Window openings less than 24" above the finished floor and more than 72" above finished grade or surface below shall be provided with fall protection; operable windows with openings that do not permit the passage of a 4" sphere, operable windows that are equipped with window fall protection devices that comply with ASTM F2090, or operable windows that are window opening control devices that comply with ASTM F2090[R312.2]

31. A sunroom is a one-story structure attached to a dwelling with a glazing area in excess of 40% of the gross area of the structure's exterior walls and roof. [R202]

32. A patio cover is a detached or attached structure not exceeding 12' in height with open or glazed walls that is used for recreational, outdoor living purposes associated with a dwelling unit. Exterior openings for light and ventilation shall be permitted to open into a patio cover and egress openings that open into a patio cover shall be provided with exits complying with R311. Patio covers may not be used as carports, garages, storage rooms or habitable rooms. Patio covers may have enclosure walls of any configuration provided the open or glazed area of the longer wall and one additional wall is equal to at least 65% of the area below 6'8" of each wall, measured from the floor. [AH101.2, 102, 103.1]

33. Balconies and decks shall be designed for a live load of 60 psf. [CRC Table R301.5]

34. Where balconies or other elevated walking surfaces are exposed to water from direct or blowing rain and the structural framing is protected by an impervious moisture barrier the construction documents shall contain all details for all elements of the impervious moisture barrier system and the manufacturer’s installation instructions. All elements of the impervious moisture barrier system shall not be concealed until inspected and approved. [R106.5.1, R109.1.5.3]

35. A corrosion-resistant weep screed (26-gauge) is required below the stucco a minimum 4" above finished grade or minimum 2" above paved surfaces. [R703.6.2.1]

36. Provide details for masonry veneer. Specify anchors, backing, footings, and support over openings consistent with R703.7. Masonry veneer shall not exceed 5" in thickness and shall not exceed the height allowed by Table R703.7(2). [R703.7]

37. Show slope(s) of roof; specify type of roof covering, underlayment, fasteners, and flashing requirements. Specify a Class “A” minimum rated roof covering. Note on plans: “Roof assembly shall be listed by an approved testing agency.” Provide notes or details for required flashings. Drip edge is required on both eaves (under underlayment) and gables (over underlayment). Show valley, sidewall and diverter (kick out”) flashings if applicable. Roof gutters shall be provided with a means to prevent accumulation of leaves and debris in the gutter. [R327.5, R902.1, R903.2, R905]

38. Roof Decks: Specify type, manufacturer, and ICC report number (or submit other approved testing agency report) for weatherproof walking surface material to be used on all exterior decks and balconies. Deck coverings must bear a Class “A” minimum fire rating for roof coverings. Show minimum slope-to-drain per manufacturer’s instructions. [R903.1, AMC]

39. The walking surface material of decks, porches, balconies or stairs where any portion of such surface is within 10’ of a building shall be constructed of ignition-resistant or other approved material. [R327.9.3]

40. Unless roofs or roof decks are sloped to drain over the edge, roof drains are required at each low point. Overflow drains of the same size are required 2" above each low point and connected to independent drain lines. Overflow scuppers of three times the size of the roof drains with a 4" minimum height may be used in lieu of overflow drains when installed on the adjacent parapet wall at 2" above the low point of the roof [R903.4, R903.4.1]

41. Clearly show how each attic and rafter space other than unventilated attic and rafter spaces complying with R806.5 will be cross ventilated. Openings in roof framing members shall conform to the requirements of R802.7. Attic ventilation is required for all attic spaces including open areas with attics and attics above unconditioned spaces to prevent condensation due to temperature changes. Minimum net free ventilation area (NFVA) of attic vents shall equal 1/150 of the attic area. Provide calculations to show adequate NFVA. For the 1/300 exception, a minimum of 40% and no more than 50% of the required (calculated 1/300 minimum) ventilating area is to be provided by ventilators located in the upper 3’, measured vertically, of the rafter or attic space with the balance of the required ventilation provided by ventilators in the lower one-third of the attic space. There is no maximum limit for additional low ventilation. Provide the make, model, NFVA, and location for all ventilators. [R806.2]

42. Where eave or cornice vents are installed or rafter spaces ventilated, insulation shall not block the free flow of air. A minimum of 1" airspace shall be provided between the insulation and the roof sheathing at the location of the vent and at rafter spaces. The area of free flow of air must be at least equal to the NFVA of the ventilator. [R806.3]
43. For raised floors, show calculation for minimum under-floor ventilation equal to 1/150 sq. ft. of under-floor area. Show location of under-floor vents. Locate a vent within 3’ of each corner of the building. [R408.2] See R408.2 and 408.3 for other underfloor ventilation options.

44. Ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are directly applied to the underside of roof rafters, and under-floor openings shall be fully covered with metal wire mesh with minimum 1/16” and maximum 1/8” openings. Vents shall not be installed on the under-floor of eaves or cornices other than approved ventilators that resist the intrusion of flame and burning embers or the exterior wall covering and underside of the eave are of non-combustible or ignition resistant materials and the vent is 12’ above the ground or walking surface of a deck porch or patio. [R337.6]

45. Exterior wall coverings, exposed underside of roof eaves and soffits, the underside of exterior porch ceilings, floor projections and under-floor projections shall resist building ignition under the provisions of R337.

46. Exterior garage doors shall resist the intrusion of embers by preventing gaps between doors and door openings, at the bottom, sides and tops of doors, from exceeding 1/8". Gaps between doors and door openings shall be controlled by: (1) Weather stripping products tested in accordance with ASTM D638, (2) Door overlaps into jambs and headers, or (3) Garage doorjambs and headers covered with metal flashing. [R]

47. Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that have a vertical height of 30” or more over an area of not less than 30 square feet. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough framed opening shall be not less than 22’ by 30” and shall be located in a hallway or other readily accessible location. Where located in a wall, the opening shall be not less than 22” wide by 30” tall. Where located in a ceiling, minimum unobstructed headroom in the attic space shall be at some point above the access measured vertically from the bottom of ceiling framing members. A larger opening may be required to remove mechanical equipment. Ceiling insulation to be permanently attached to the attic access [R807.1]

48. Prefabricated skylights and tubular daylighting devices shall be tested by an approved independent laboratory and bear a label identifying manufacturer, performance grade and approved inspection agency and be rated Class “A”. [R308.6.9. AMC]

49. There shall be a floor or landing at each side of each exterior door. The width of each landing shall not be less than twice the width of the door opening. The slope of the landing shall not exceed 1/8” between floor levels or landings. 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]

50. Notes and details are required to show the following for all interior & exterior steps. [R311.7]
   a. Minimum 36” wide stairway.
   b. There shall be a landing or floor at the top and bottom of each stairway at least as wide as the stairs and 36” min. in the direction of travel. A flight of stairs shall not have a vertical rise larger than 147” between floor levels or landings. 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.
   c. Maximum 7.75” rise; minimum 10” run.
   d. Open risers are permitted only when they do not permit the passage of a 4” sphere and may be completely open when the total rise does not exceed 30”.
   e. Winders are to have a 6” min. tread at the narrowest point.
   f. Spiral stairs shall comply with R311.7.1.
   g. Dimension headroom over stairs to show 6’-8” minimum from nosing of tread.
   h. Protective guard on open side of stairs over 30” above floor or adjacent grade. May serve as handrail. Guard and handrail assembly may be 34” to 38” high at the open side of stairs. Other required guards are to be 42” high.
   i. Handrail (required for 4 or more risers) at 34” to 38” above tread nosing, 11/2” clearance to wall, 1 1/4” to 2” in cross section, with ends returned to wall or floor or terminate at newel or safety post. See R311.7.8.3 for other types of handrails. Clearly define handrail requirements, including handrail shape, on the plans. Show handrail continuous for the length of the stairs.
   j. Provide lighting at stairs. Show light fixture(s) and locate switches at top and bottom landings of stairways with six or more risers. Exterior stairs shall have lighting located in the immediate vicinity of the top landing. [R303.6]
   k. Enclosed usable space under stairs shall be finished with 1/2” drywall. [R302.7]
51. Residential ramps serving the egress door required by R311.2 shall have a slope of not more than 1 unit vertical in 12 units horizontal (8.3% slope). All other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal (12.5% slope). [R311.8]

52. Egress from habitable levels including habitable attics and basements located more than one story above or below an egress door in accordance with R311.2 shall have a maximum travel distance of 50’ to a stairway or ramp that provides egress. [R311.4]

53. Required exit doorways shall be not less than 36” in width and not less than 6’-8” in height and shall be capable of opening at least 90 degrees. [R311.2]

54. Exterior stairways shall not project into the 5’ setback from the property lines. [Table R302.1(1)]

55. Guards (guardrails) are required at floor and roof openings, landings, balconies, at open sides of stairs over 30” in height and at windows with opening less than 24” above the floor and greater than 6’ from grade. Detail or note the following to show compliance: [R312]
   a. Guards are to be 42” minimum in height.
   b. Open guards shall have intermediate rails or an ornamental pattern such that a 4” sphere cannot pass through or 4½” sphere cannot pass through at the open side of stairs. The triangular openings at the open side of stairs formed by the riser, tread, and bottom rail of a guard shall not allow the passage of a 6” sphere.
   c. Provide connection details of guard/handrail on open side of balconies, decks, landings, and stairs adequate to support a single concentrated 200 lb. load at a right angle to the top rail. [CBC1607.8.1.1]

56. A label (permanent if tempered) must identify all glazing in hazardous locations, as indicated below, as safety glazing. [R308.1, R308.4]
   a. Glazing in all doors except glass openings through which a 3” sphere cannot pass.
   b. Glazing in doors, walls and enclosures with the exposed edge of glazing less than 60” above drain inlet, for bathtubs, showers, whirlpools, spas, etc.
   c. Glazing within 24” of either side parallel to a door in the closed position and glazing within 24” of a wall that is completely parallel to the hinge side of an in-swinging door.
   d. Glazing panels over 9 sq. ft. having the lowest edge less than 18” above the finish floor and having a top edge greater than 36” above the floor, and within 36”, horizontally, of a walking surface.
   e. Glazing in guardrails.
   f. Glazing in walls/fences used as pool barrier for indoor and outdoor swimming pools.
   g. Glazing within 36” horizontally from the walking surface of stairways with bottom edge less than 60” above walking surface.
   h. Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36” above the landing and within a 60” horizontal arc, less than 180 degrees from the bottom tread nosing.

57. Prefabricated metal fireplaces shall be listed by an approved listing agency and shall be installed in accordance with their listing. Gas fireplaces shall be a direct vent sealed combustion type. Specify unit by manufacturer's name and model number, ICC, UL or ER number. Gas fireplaces except for those installed over a concrete slab on an interior wall shall have a combustion air intake to draw air from the outside of the building and equipped with a readily accessible, operable and tight-fitting damper or combustion air control device and a flue damper with a readily accessible control. [CEnC 150.0(e)1.]

58. Wood burning stoves and fireplaces in dwelling units are to be on the list of approved models by the SLO County Air Pollution Control District. Only District approved wood burning devices are allowed in dwelling units. Clearly show hearth construction, size and specify all required clearances on the plans. [R1004.1, 1004.2]

59. Chimneys shall extend not less than 2’ above any part of the building within 10’ but not less than 3’ above the highest point where the chimney passes through the roof. At the chimney termination, show an approved spark arrester with a net area of opening four times that of the chimney. Factory built chimneys shall terminate in a listed factory built chimney cap. No other architectural feature is permitted without manufacturer's approval. [R1003.9, R1004.3] “Chimneys” are for solid fuel appliances. “Vents” for gas appliances shall terminate consistent with the manufacturer's installation instructions.

**MECHANICAL/PLUMBING/ELECTRICAL REQUIREMENTS:**

60. Every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F at a point 3’ above the floor and 2’ from exterior rooms at the design temperature. [R303.9.]

61. For new construction dwelling units provide and demonstrate that heating and air-conditioning systems have been sized, designed and have their equipment selected according to ANSI/ACCA Manuals, ASHRAE handbooks or other equivalent design software or methods. ASHRAE 1% heating design temperature for Atascadero is 98°F. Cooling design temperature is 29°F. A duct schematic and equipment callouts are to be
provided on the plans. [CGBSC 4.507.2] For additions/conversions/alterations ducts shall be designed according to ANSI/AIRCA manuals or other approved methods. [CMC 602.1]

62. Indicate on plan the location of water heater/forced air unit/heating equipment/air conditioning unit/washer and dryer. A service receptacle outlet shall be located within 25" of the equipment. Clothes dryer ducts shall not terminate less than 3' from an opening into the building and 5' from an air conditioning condenser or heat pump condensing unit. [R106, CMC 310.1, 504.5, CEnC 150.0(h)(3.A.]

63. Provide a mechanical exhaust system, supply system, or combination thereof shall be installed to operate for each dwelling unit to provide whole-building ventilation at a rate not less than specified in ASHRAE 62.2 Section 4.1.1. Provide cfm calculation and show duct sizing consistent with Section 7.1. The ventilating fan shall have a sound rating not exceeding one sone. Controls are to be appropriately labeled. Additions of over 1,000sf trigger the whole house ventilation requirement for existing residences. [CEnC 150.0(o)]

64. Gas-fired water heaters shall comply with the following:
   a. Tank water heaters must be strapped at upper 1/3 and the lower 1/3 (but 4" above the controls) for lateral support. [CPC 507.2]
   b. The first hour rating is to meet the requirements of CPC Table 501.1
   c. Provide a pressure relief valve and a ¼" metal or CPVC sloping drain to the exterior of the building, discharging down 6" to 24" above grade. Discharge from a relief valve into a water heater pan shall be prohibited. [CPC 507.5, 608.5]
   d. Where a water heater, including an instantaneous (tank less) water heater, is located in an attic, attic-ceiling assembly, floor-ceiling assembly, or floor subfloor assembly a watertight pan of corrosion-resistant materials with a ¼" drain discharging to an approved location. [507.4]
   e. For future water heater replacement; the gas line is to be capable of supplying 200,000 Btu/hour, a straight B-vent run to the outside termination or a Category III or IV vent roughed in to the exterior, a condensate drain to the exterior located no higher than 2" from the base of the water heater and a receptacle outlet located within 3' of the water heater. [CEnC 150.0(n)]

65. Combustion air is required for fuel burning appliances.

66. Indoor Combustion Air. The required volume of indoor air not less than 50 cubic feet per 1,000 Btu/hr input rating or the known air infiltration rate. Indoor Opening Size and Location. Openings used to connect indoor spaces shall be sized and located as follows. Each opening shall have a net free area of not less than 1 sq. inch per 1,000 Btu/hr input rating, but not less than 100 sq. inches and have a dimension of not less than 3". One opening shall commence within 12 inches of the top of the enclosure and one within 12" of the bottom of the enclosure. [CPC 506.3]

67. Outdoor Combustion Air. Two permanent openings method; two permanent openings one located within the upper and one within the lower 12" of the enclosure for combustion air. Each opening shall have an area of at least, 1) 1 sq. inch per 4000 Btu/hour input and must freely communicate with the outdoors directly, or through vertical ducts to the outdoors or spaces that freely communicate with the outdoors, or 2) each opening shall be 2 sq. inch per 4,000 Btu/hr when communicating to the outdoors through horizontal ducts. One permanent opening method. One permanent opening method: one opening in the upper 12" of the enclosure having an area of at least 1 sq. inch per 3,000 Btu/hour input communicating with the outdoors or through vertical or horizontal ducts to the outdoors or spaces that freely communicate with the outdoors. [CPC 506.4]

68. Instantaneous (tank less) water heaters shall have isolation valves on both the cold water supply and the hot water pipe leaving the water heater, and hose bibs or other fittings on each valve for flushing the water heater when both valves are closed. [CEnC 110.3(c)(7)]

69. Water heater, furnace, or other heat-producing appliances located in garage, which create a glow or spark, must be located a minimum of 18" above the garage floor. Provide elevated platform. If subject to vehicle damage provide a 3' tall, 4" diameter steel concrete filled guard post post 3' from the water heater, embedded 3' into a footing not less than 15" in diameter or alternate protection meeting the requirements of CFC 312.3. [CPC 507.13]

70. LPG equipment shall not be installed in a pit or basement. LPG equipment above-grade under a floor shall be provided with an approved means to drain unburned gas.[CMC 303.8.1]

71. Clothes dryer moisture exhaust ducts shall terminate outside the building and have a back-draft damper. Exhaust ducts are limited to 14' with two elbows. This shall be reduced 2'-0" for every elbow in excess of two. Show minimum 4" diameter, smooth, metal duct, and show duct route on plan. Dryer duct termination is to be at least 5' from an air-conditioning or heat pump unit and at least 3' from an opening into the building. [CMC 504.3.1.2, 504.5, CEnC 150.0(h)(3.A.)

72. Provision for makeup air for Type I (residential) clothes dryers shall be provided in accordance with the manufacturer's installation instructions. When a closet is designed for the installation of clothes dryer, not less than 100 square inches for make-up air shall be provided in the door or by other approved means. [CMC 905.3, 504.3.1]

73. Show the following on plans for attic/basement furnace or cooling equipment: [CMC 904.10]
a. Attic access opening of 22"x30" or larger to accommodate the removal of the largest equipment and located not over 20' from equipment.
b. Unobstructed passage 24" wide with solid continuous flooring from access to equipment/control panel.
c. A level, unobstructed work platform, minimum 30"x30" in front of the equipment with 30" headroom.
d. Light over equipment with switch at access.
e. Truss chords and ceiling joists/rafters are to be designed for the additional dead load of the equipment. Attachments for equipment suspended from trusses or mounted on the roof are to be made to blocking nailed to or between truss chords. Note or detail on plans.
f. Supported on solid concrete slab 3" above adjoining grade or suspended 6” above adjoining ground level for under-floor units.

74. Where static water pressure in the water supply piping exceeds 80 psi, provide an approved-type pressure regulator preceded by an adequate strainer [CPC 608.2]
75. Size the building supply water pipe using CPC Table 610.4 or as required for the fire sprinkler system. [CPC 610.0]
76. Water piping subject to freezing is to be insulated. Exterior insulation not rated for UV exposure is to be protected with a UV rated tape or cover (not “pipe wrap”). [CPC 312.6, CEnC 150.0(j)3.A.]
77. Domestic hot piping shall be insulated. Hot water pipe insulation shall have a minimum thickness of not less than the diameter of the pipe for a pipe up to 2” in diameter. Exceptions: 1) Piping that penetrates framing members shall not be required to have insulation for the distance of the framing penetration. (2) Hot water piping between the fixture or supply stop and the fixture or appliance shall not be required to be insulated.
78. Plumbing fixtures shall have a maximum flush volume or flow as follows: Water Closets – 1.28 gallons, Single Showerhead – 1.8 gpm, Multiple Showerheads – combined flow 1.8 gpm unless separately controlled, Lavatories – 1.2 gpm, Kitchen Faucets – 1.8 gpm with a temporary increase to 2.2 gpm but must default to 1.8 gpm.

Gas Line Sizing:
1. Determine the type of fuel and pressure to be used. Natural gas is delivered from the meter at 7 inches water column. (the lowest pressure for which tables are provided). Use CPC Table 1216.2(1) for Schedule 40 Metallic Pipe, (14) for Corrugated Stainless Steel Tubing (CSST) and (20) for Polyethylene Plastic Pipe (PE) for natural gas. Additional tables are provided for propane both for runs between first and second stage regulators and from the second stage regulator to the appliance.
2. Convert from BTU’s to CFH (divide the BTU’s by 1,100 for natural gas and 2500 for propane).
3. Determine the type of piping materials to be used.
4. Measure the length of gas piping from the meter to the most remote outlet on the system.
5. In the appropriate table based on pressure and material select the length of feet row showing that distance or the next longest distance.
6. Start at the most remote outlet, find in that row the amount of fuel required for that appliance or the next higher amount.
7. At the top of the column will be the correct pipe size.
8. Using the same process work backwards down the main line and add gas demand at each node and then size that section of pipe all the way back to the meter.
9. Size each section that was not already sized by measuring the distance from that appliance back to the meter. Use that row for sizing that section of pipe from that appliance back to the meter. Use that row for sizing the pipe only back to the main line already sized.
79. For threaded drain fittings or spa motors, provide tub plumbing access. [CPC 315.1, CEC110.26]
80. Show location and size of LPG tank. [CRC 106]
81. Show the location of cleanouts meeting the upper and lower terminus requirements, distance, and horizontal change of direction requirements of CPC 707 and a cleanout at the back of the right-of-way. Cleanouts in driveways shall be protected by a minimum 1R valve box (Brooks Products Inc. or approved equal) with a cast iron cover. If the driveway is other than concrete the valve box is to be installed in accordance with City Standard Drawing 605. [AMC 8-6.101, CPC 719.1] The drainage system of each new building and of new work installed in an existing building shall be separate and independent from that of any other building. [CPC 311.1]
82. A backwater valve shall protect fixtures installed on a floor level that is lower than the one foot above the next upstream manhole cover. Fixtures on floor level that are not below the nearest upstream manhole cover shall not drain through the backwater valve. Cleanouts for drains that pass through a backwater valve shall clearly identified with a permanent label stating “backwater valve downstream”. [CPC 710] [AMC8-6.101]
83. Installed PEX piping is to be flushed twice, at least one week apart and documentation provided. [CPC 604.1.2]
84. Electrical service panels for new SFR’s are to be sized by a load calculation consistent with CEC Article 220 with a minimum service of 100A. A communications ground bus external to the service panel (typically located in the telco/cable box) is to be provided consistent with CEC 800.100.
85. An electrical outlet is a point on the wiring system at which current is taken to supply utilization equipment; this includes lighting outlets, smoke and CO alarm outlets and receptacle outlets. A receptacle outlet is an outlet where one or more receptacles are installed. [CEC 100]

86. Show on the plans all electrical lighting fixtures, outlets and switches. Show receptacle outlet locations consistent with CEC 210.52. [CEC 210.50, 210.52, 210.70]

87. Receptacle outlets in garages are to be a minimum of 18” above the floor.

88. In addition to other branch circuits, provide two or more dedicated 20A small appliance branch circuits to the kitchen, pantry, breakfast room, dining room or similar area of a dwelling unit. Provide at least one dedicated 20A circuit for laundry room. This circuit shall have no other outlets. Provide at least one dedicated 20A circuit to supply bathroom receptacle outlets. Such circuits shall have no other outlets except that where the 20A circuit supplies a single bathroom, outlets for other equipment within that same bathroom may be supplied by the circuit. [CEC 210.11(C)]

89. Provide ground-fault circuit-interrupter (GFCI) protection for all 125-volt, single-phase, 15- and 20-amp outlets in bathrooms, garages, laundry rooms, outdoor locations, unfinished basement receptacles, counter-top receptacles and within 6’ of the outer edge of a sink, bathtub or shower. [CEC 210.8(A)]

90. Show AFCI protected circuits for all outlets (including lighting and smoke/CO alarm outlets) in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas. [CEC 210.12]

91. Provide at least one electrical receptacle outlet accessible at grade level and not more than 6'6" above grade level at the front and back of building. Receptacle outlets to be GFCI protected with weatherproof casings. [CEC 210.52]

92. For each new dwelling unit install a 1” min. listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. [CGBSC 4.106.4.1]

93. Provide one light outlet (wall switch-controlled) installed on the exterior side of outdoor entrances and exits. [CEC 210.70]

94. Outlet boxes or outlet box systems used as the sole support for ceiling suspended fans shall be marked by the manufacturer as suitable for that purpose and shall not support fans weighing over 70 lbs. For boxes supporting fans weighing over 35 lbs. the required marking shall include the maximum weight to be supported. [CEC 314.27(C), 422.18]

95. Smoke Alarms: Hard-wired smoke alarms with a battery backup are required. Show all locations with a symbol on the plan. [R314] Provide smoke alarms as follows.
   a. In each sleeping room.
   b. Centrally located in rooms and corridors giving direct access to each sleeping area.
   c. On every story of multistory dwellings including basements and habitable attics.
   d. In split-levels without an intervening door, smoke alarms shall be installed on the upper level provided that the upper level is less than one full story above the lower. If the lower level contains sleeping areas, then it too shall be equipped with smoke alarms as above.
   e. Smoke alarms shall be installed a minimum of 20’ from a permanently installed cooking surface. (see R314.3.3 for options when this would prevent placement of a required alarm). Smoke alarms shall not be installed within 3’ of a bathroom door unless this would prevent placement of a required smoke alarm. Smoke alarms shall not be installed within 3’ of the tip of a ceiling-suspended fan or supply registers of a forced air heating system.
   f. For coffered ceilings, smoke alarms shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12” vertically down from the highest point.
   g. Smoke alarms shall be hardwired with battery backup and interconnected so that the activation of one alarm shall activate all other alarms in the dwelling unit.
   h. In existing dwellings when an addition, alteration, or repair is made with cost exceeding $1000, smoke alarms are required to be installed at locations indicated below. Retrofit smoke alarms may be battery operated where connection to premise power would require the removal of wall or ceiling finishes, at locations where battery powered smoke alarms are already installed, or where repairs or alterations are limited to the exterior of the building, including the addition of porches or decks, or consist only of plumbing, electrical and mechanical work not requiring the removal of interior wall or ceiling finishes.
      i. In each sleeping room and centrally located in rooms and corridors giving direct access to each sleeping area.
      ii. On each story of multistory dwellings including basements and habitable attics.

96. Carbon Monoxide Alarms (CO alarms): Hard-wired and interconnected CO alarms with a battery backup are required. Show all locations with a symbol on the plan. [R315] Provide CO alarms as follows.
   a. Outside of and within close proximity to each sleeping room.
   b. On each story of multistory dwellings including basements and habitable attics.
c. CO alarms shall be hardwired with battery backup and interconnected so that the activation of one alarm shall activate all other alarms in the dwelling unit.
d. Where an addition or alteration is made to an existing dwelling, or a fuel-burning heater, appliance or fireplace is added to an existing dwelling, not previously required to be provided with carbon monoxide alarms, new carbon monoxide alarms shall be installed at the locations below. These CO alarms may be battery powered and not interconnected.
   i. Outside of and within close proximity to each sleeping room.
   ii. On each story of multistory dwellings including basements and habitable attics.
97. All dwelling unit receptacle outlets are to be tamper resistant. [CEC 406.12]
98. Note "UFER" or other approved ground to be provided. A "UFER" (concrete encased electrode) shall be provided for newly constructed buildings with electrical. [CEC 250.32]
99. Sub-panels, panel boards, other equipment not approved for one-hour fire resistive construction facing the garage side of walls required to be of fire-resistant construction are not permitted. Penetrations shall be fire stopped in an approved manner. [R302.5]
100. New one- and two-family dwellings and townhouses with attached private garages shall have a 1-inch listed raceway installed to accommodate a dedicated 208/240-volt branch circuit for electric vehicle charging. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other enclosure in close proximity to the proposed location of the EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. [CGBSC 4.106.4.1]
101. The 2016 Energy Code requires that all permanently installed luminaires be high efficacy. However, the types of luminaires that can be considered high efficacy have been redefined. Pin-based fluorescent, metal halide, HPS, GU-24 and solid-state luminaires are automatically classified as high efficacy. All other luminaires must have a high efficacy lamp installed at time of inspection; JA8-2016 or JA8-2016-E for enclosed luminaires.
Note: A luminaire is the lighting industry’s term for a lighting fixture.
   a. Recessed lighting fixtures may not contain a screw-based socket and must meet the additional requirements of CEC 150.0(k)1C.
   b. Lighting fixtures containing screw-based sockets must be controlled by a dimmer or vacancy sensor.
   c. In bathrooms, garages, laundry rooms, and utility rooms at least one luminaire in each of these spaces shall be controlled by a vacancy sensor except for luminaires in closets <70sf and hallways.
   d. Exhaust fans are to be switched separately from lighting except for lighting in kitchen exhaust hoods.
   e. Under cabinet lighting shall be switched separately from other lighting systems.
   f. Exhaust fans shall be switched separately from lighting systems unless the lighting is integral to the fan and the light can be switched off while the fan continues to operate under humidistat control.
   g. Outdoor lighting shall be controlled by 1) a manual ON and OFF switch that does not override to ON and a photocell and motion sensor or a switch that overrides to ON and returns motion sensor control within 6 hours or 2) a manual ON and OFF switch that does not override to ON and a photocell and automatic time switch that does override to ON or a switch that overrides to ON and returns to automatic time clock control within 6 hours or 3) a manual ON and OFF switch that does not override to on and an astronomical time switch or a switch that overrides to on and returns that astronomical time clock to normal operation within 6 hours and which is programmed to turn the outdoor lighting OFF during daylight hours.
   h. The number of electrical boxes that are more than 5’ above the finished floor and do not contain a luminaire or other device shall be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.

**ENERGY REQUIREMENTS:**

102. Provide energy calculations showing compliance with prescriptive or performance method per California Energy Code requirements:
   a. Mandatory energy compliance features MF-1R form must be incorporated in the plan sheets..
   b. CF-1R form (for new construction; for additions and/or remodel), completely filled out, including all required signatures, must be shown on the plan sheets.
   c. Show all compliance measures on the plans, including but not limited to, insulation, glazing and doors at the exterior of the conditioned envelope, lighting fixtures and controls, and space and water heating and cooling appliances. Requirements for radiant barrier sheathing shall be called out BOLDLY on the floor plan and roof framing plan. Include a plan note that a radiant barrier is required on attic gable walls.
GREEN BUILDING REQUIREMENTS:

103. Provide Green Building Code Mandatory Measures sheet attached to plans.
104. Verification of compliance with the California Green Building Standards Code may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency that show substantial conformance.

CONSTRUCTION/STRUCTURAL REQUIREMENTS

Soils Requirements

105. For soils report requirements see Soils Report handout. [AMC] If a soils report is required for your project, provide documentation from the Soils Engineer confirming that the foundation plans and associated specifications have been reviewed and that it has been determined that the recommendations in the soils report have been properly incorporated in the plans.
106. For light frame single story additions or accessory structures of 500 sq. ft. or less on sites not exceeding 10% in slope, in lieu of a soils report, a 12” wide, 27” deep foundation with one #5 or two number 4 bars top and bottom may be used
107. For light framed single story additions or accessory structures of 1,000 sq. ft. or less on sites not exceeding 10% in slope, in lieu of a soils report, a foundation plan stamped and signed by a licensed architect or engineer with a statement of site suitability may be used. [AMC] Use CRC Table 401.4.1 for design soil bearing value for unclassified natural soil. [R401]

General Requirements

108. Conventional light-frame construction designs are to demonstrate compliance through plans and details that reference code sections/tables of the California Residential Code. Show all connections in the load path from the roof to the foundation consistent with code requirements. Lateral wall bracing is to be demonstrated by means of a grid provided on the plans using Letters and Numbers. A table shall be provided for both seismic and wind forces referencing braced wall lines, showing adjustment factors, required braced wall lengths, and bracing wall lengths provided. Braced wall panels other than methods WSP, BV-WSP and continuous sheathing methods shall be located at each end of a braced wall line. Braced wall panels of methods WSP, BV-WSP and continuous sheathing methods may begin not more than 10’ from the end of a braced wall line providing each end complies with End Condition 4 or End Condition 5 of Figure R602.10.7. A plan and table shall be provided for each floor and cripple walls as applicable.
109. Designs that deviate from the wood frame construction provisions of the California Residential Code are to be designed by a California licensed Engineer or Architect with structural calculations provided. Floor, wall or roof-ceiling structural elements in dwellings designed of cold-formed steel, concrete, masonry or structural insulated panels as prescribed by the CRC are to be approved and stamped by a California licensed architect or engineer. [R301.1.3.3]
110. Notes and details from standardized sheets that do not apply the project are to be deleted, noted as “not used” or crossed out. [R106]
111. Reference/key/identify all sections and details as to location on plans, elevations, sections, and detail sheets. [R106]

Foundation Requirements

112. Dimension foundation plan. Detail footing sections for each different footing configuration shown on plan. [R106.1]
113. Continuous Footing:
   a. Provide continuous footings under braced wall panels on exterior walls and braced wall panels on interior walls in buildings with plan dimensions greater than 50’. [R403.1.2]
b. Concrete stem walls with a maximum of 48” of unbalanced fill are to have one horizontal #4 bar within 12” of the top of the stem wall and one near mid-height of the wall [R404.1.2.2]

114. Show foundation anchor bolt size and spacing on foundation plan. [R403.1.6] Note or show the following on plans:
   a. Minimum of ½” diameter A.B. embedded 7” into footing and spaced not more than 6’ on center. 4’ maximum spacing for buildings over two-stories in height or per engineered shear wall schedule.
   b. Minimum two bolts per piece of sill plate and one located within 12” and not less than 6” from the end of each end of each sill plate.
   c. 3” x 3” x 0.229” plate washer shall be used on each anchor bolt for the entire length of braced wall lines. Slotted plate washers are to have a cut washer placed between the plate and the nut.
   d. Plate washers are to be within ½” of the sheathing edge of plates for the full 3” dimension.

115. Show type and location of hold down anchors on foundation plan. Specify size, spacing, ICC number, and manufacturer of expansion, screw, or adhesive anchors to be used on existing footings. [R106] Note: As of 10/1/2018; ALL anchors, adhesive and mechanical (including “red heads”) post-installed in hardened concrete require special inspection in accordance with their ICC ESR report. [R106.1]

116. Provide a 16”x24” (minimum) access opening(s) to all under-floor areas, 18”x24” if the access is through the floor. Show on the foundation plan. [R408.4]

117. Concrete slab foundation required to have a vapor retarder by Chapter 5 of the CRC shall be installed in compliance with one at least one of the following:
   a. A 4-inch-thick base of at least ½” or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
   b. Other equivalent methods approved by the enforcing agency.
   c. A slab design by a licensed professional.
   d. For conversion of existing slabs without a vapor retarder to habitable space, provide a call out for a listed liquid applied vapor barrier. [R506.1, CGBSC 4.505.2.1]

118. 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 in accordance with R403.1.3.2. Standard hooks shall comply with Section R611.5.4.5.

119. If the soil is expansive or collapsible, a controlled method of water shall be provided to collect and discharge to the ground surface at least 5’ from foundation walls or to an approved drainage system. [R801.3]

120. Minimum clearance of untreated wood members above earth is 12” for girders and 18” for joists. Show and dimension. [R317.1, item 1]

121. Wood framing members shall be placed 8” from exposed grade or shall be pressure treated or naturally durable. [R317.1, item 2]

122. Show/detail on plan that exterior posts located on a slab shall be at least 1” above the floor/slab. [R317.1.4, exception 1]

123. All foundation anchor bolts and hold down anchors must be secured in place per manufacturer’s instructions prior to foundation inspection. [R109.1]

124. Show footings under all load-bearing walls and braced wall lines. [R403.1]

125. Show stepped footings level, top and bottom, for slopes steeper than 1:10. [R403.1.5]

126. Show minimum 18” clearance from grade to bottom of floor joists and minimum 12” clearance to bottom of girders. [CRC 408.4]

127. Show pier size, spacing, reinforcement and depth into undisturbed soil. [R106.1]

Framing Requirements

128. Delete all notes and details on the plans that do not apply to this project. [R106]

129. If structural calculations are provided, the professional responsible for the structural design shall stamp and wet sign the cover sheet of the calculations, and stamp and sign the plan sheets covered by the calculations. [BPC]

130. Truss calculations shall include the wet-stamp and signature of the truss design engineer. In addition, and if an architect or engineer is a part of the design team, they shall include on the cover sheet a wet-signed statement from the project’s design engineer that truss calculations and layouts are in substantial conformance with the structural design and intent of the structure. [BPC]

131. Truss packages are required to be submitted with original submittal and are to be approved by the design professional. [CRC 106]

132. Show framing member sizes and wood species information on plans. [R106.1]
133. Show double top plate with minimum 24" lap splice with eight 16d nails in the lapped area. [CRC 602.3.2]
134. Show stud size, height and spacing in accordance with Table R602.3.1.
135. Provide roof framing plan and a floor framing plan. Show rafter/floor joist size, spacing and length. Show posts and beams, drag struts, connection details, identify all connectors, shear walls and their lengths, etc. on the plan. [R106.1.1]
136. Provide accurate details and sections to show how braced walls/shear walls are connected to roof, through ceiling and floor and to foundation. All blocking, nailing, and fasteners at intermediate elements shall be detailed to have a minimum capacity of the shear wall below. [R106.1.1]
137. Show size(s) of all headers over openings. [R602.7] Note: Conventional construction tables for headers and girders are show as built-up 2x's or structural panel box headers only. [Table R502.5(1), Table R602.7.2] 4x's may be used for 2-ply headers and 6x's for 4-ply headers.
138. Conventional braced wall panels shall conform to R602.10.
139. If braced wall lines do not meet the prescriptive requirements of the CRC, provide a lateral analysis stamped and signed by a licensed architect or engineer. [R301.1.3.1]
140. For roof and floor diagrams, specify structural panel thickness, grade, span rating or panel index, nailing schedule, and panel layout. [Table R503.1]
141. Floor structural panels shall be tongue and groove or have blocked panel edges. [R503.1.1]
142. Show blocking at ends and at supports of floor joists, and for rafters at exterior walls. [R502.7, 802.8] Roof trusses shall be braced in accordance with R802.10.3.
143. Note that floor joists and rafters 12" or more in depth shall be supported laterally by bridging at intervals not exceeding 8', unless both edges are held in line. [R502.7.1]
144. Provide double joists under bearing partitions running parallel with the joists. [R502.4]
145. Provide blocking 16" o.c. for non-bearing partitions running parallel with the joists. [Table R602.3.1]
146. A ridge board 2" minimum greater than joists in nominal depth is required. When roof pitch is less than 3:12, the ridge shall be designed as a beam. [R802.3]
147. Ridge hips, and valleys shall be at least one size larger than supported rafters. [R802.3]
148. Provide call out for the number of 16d common nails for rafter/ceiling joist heel nailing from Table R802.5.1(9).
149. Provide rafter ties at 48" maximum o/c, design and support ridge/hips/valleys as beams, or provide other design for roof support when ceiling joists are not parallel to roof rafters. [R802.3.1]
150. Roof purlins to reduce the span of rafters within allowable limits are to be a minimum of the same size as rafters with 2"x4" minimum struts not over 8' in unbraced length and not less than 45 degrees from horizontal to a bearing wall or partition. [R802.5.1]
151. Attics shall be designed for a 10 psf minimum live load. Attics where the minimum clear height between joists and rafters is 42" or greater or where there are two or more trusses with web configurations capable of accommodating an assumed rectangle 42" in height or greater and 24" in width or greater shall be designed for a minimum 20 psf live load. Habitable attics and attics served by stairways other than the pull-down type shall be designed for a 30 psf minimum live load.
152. Show plywood sheathing over exposed eaves or other weather exposed areas as exterior grade. [R803.2.1.1]

Masonry Requirements

153. Show height and construction details of all masonry walls. [R106.1]
154. Grout shall be poured in lifts of 8’ maximum height. When a total grout pour exceeds 8’ in height, the grout shall be placed in lifts not exceeding 5’ and special inspection during grouting shall be required. [R606.3.5.1]