City of West Covina
BUILDING DIVISION
1444 West Garvey Avenue
West Covina, CA 91793
Phone: 626-939-8425

RESIDENTIAL PLAN CORRECTION LIST

2007 California Building Codes and West Covina Municipal Code.
(One Story Conventional Construction Requirements)

ADDRESS: _____ PLAN CHECK No.: _____
VALUATION: **$** _____ TYPE: **VB** OCCUPANCY: **R3/U**
FLOOR AREA: NEW 1ST FLR: _____ OTHER: _____ GARAGE: _____

OWNER: _____ DESIGNER: _____
CONTACT PERSON: _____ TELEPHONE #: _____

PLAN REVIEWER: _____ 1ST CHK DATE: _____
TELEPHONE #: _____ 2ND CHK DATE: _____
FAX #: _____ 3RD CHK DATE: _____
HOURS: _____ APPROVED: _____

Your application for a permit, together with plans and specifications, has been examined and the issuance of a permit is withheld for the reasons set forth. The approval of plans and specifications does not permit the violation of any section of the Building Code, or other local ordinance or state law.

CODES: Unless noted otherwise, all references pertain to the current edition of the California Building Code [CBC], California Plumbing Code [CPC], California Mechanical Code [CMC], California Electrical Code [CEC], California Fire Code [CFC], California Health and Safety Code [H&S], or West Covina Municipal Code [WCMC].

INSTRUCTIONS:

- Comments CIRCLED/LISTED are correction items applicable to this plan check. Please respond to all comments.
- In the left-hand margin of the circled corrections, please indicate the sheet number and detail or note number on the plans where the corrections are made. Be as specific as possible.
- Incorporate all comments as marked on the checked set of plans, calculations and this correction sheet on the revised plans. Resubmit marked original plans and two corrected sets of plans, calculations and this plan review list. Incomplete or unreadable drawings or calculations will not be accepted.
- This list is intended for use on one-story buildings meeting the provisions of Conventional Light-Frame Construction of CBC § 2308 for Seismic Design Category 'D' and default Site Class 'D'. Plans and documents preparation by State licensed Engineer/Architect will be required for design deviating from such provisions.

Recheck comments/corrections: _____

GENERAL:

1. See plans for additional corrections/comments. Return check set of plans with all documents and revised plans.

2. Referrals: Approval of the following departments **may** be required: Obtain requirements and obtain approvals prior to permit issuance:

☐ Planning Department	Room 208	(626) 939-8422
☐ Engineering Section	Room 215	(626) 939-8425
☐ Fire Department	Call for Appointment	(626) 338-8800
☐ Redevelopment Agency	Room 218	(626) 939-8417

   a. Verify approval for: _____
   b. School fees are required for all additions of 500 square feet or more. Pay at school district office and bring receipt to Building Division. This may be done after all other corrections have been approved.

3. Approved Drainage/Finish Grading Plan is required.

   a. Submit plans and documents to Engineering Section. Attach a copy for reference.
   b. Show drainage away from building foundations and adjacent properties.
   c. Show flowline elevations at every 25' and at high/low points (existing and new).
   d. Indicate drainage pattern on adjacent (north, south, east, west) lots and justify contributory drainage (existing and new).
   e. Specify elevations at all building corners to verify the foundation is at least 6" above grade.
   f. A minimum of 1 percent for landscape and AC pavement and 0.5 percent for concrete is required.
   g. Note on plans: “Provisions for contributory drainage shall be made at all times.”

4. Separate application, plan check, and permit(s) is/are required for: Note on plans.

   a. Retaining walls
   b. Swimming pools/spas
   c. Electrical work
   d. Mechanical work
   e. Plumbing work
   f. Demolition

5. The valuation is low. Correct application and pay an additional plan check fee at Room 215 based on a valuation of $ _____

6. RESUBMITTAL review – The following are required in the submittal package. Missing plans and documents WILL DELAY processing of the plans for permitting.

   a. All of the original checked plans and documents.
   b. Plan check response comments from the design team addressing ALL comments. Response comments must specifically indicate where corrections have been made.
   c. Two (2) REVISED sets of the following list below (1-set will be returned as the approved plans and documents of the project). If prepared by State Licensed Professional, BOTH sets shall be wet stamped and/or signed by responsible professionals (architect, engineer):
      i. Plans, details, notes, specifications - architectural, structural, or _____
      ii. Calculations – structural, T-24 energy, etc.

7. Provide 2 reduced copies on 8.5”x11” paper of the plot/site plan showing LEGIBLY the following information:

   a. Area of addition graphically with clear distinction between existing and new work and a written description of proposed work.
   b. All property lines of the lot and street.
   c. Project address

d. Existing square footage and proposed square footage.
e. Existing number of stories (floors) and proposed number of stories (floors)

8. A complete site/plot plan is required showing property lines, lot dimensions, side yards, existing buildings, distances between adjacent buildings, easements, public right of way, existing and proposed elevations, and north arrow. Locate all fences, walls, and retaining walls. CBC App. 1 § 106.2.

9. Structural plans and calculations shall be stamped and signed by state licensed engineer or architect. The first page of the structural calculation and every sheet of the plans containing structural plans, specifications, and details shall bear the engineer/architect professional seal, signature, and expiration date. California Business and Profession Code.

10. The first sheet of the plans must:

    a. Contain the name and address of the owner and designer, site address, and list all consultants (engineer, energy, soils, etc.), associated with the project. CBC App. 1 § 106.1.1.
    b. Show applicable building data including floor area and classification of each occupancy group (R3/U), area of each story, area of addition, number of stories, type of construction (VB), and applicable codes (2007 CBC/WCMC).

ARCHITECTURAL REQUIREMENTS:

11. Clearly show and indicate all new, existing, and removed walls and construction. Provide wall schedule.

12. Specify uses in all areas. Clarify use at _____

13. Exterior walls construction when located: CBC § 704.5, 704.11, Table 602, and 704.8.

    a. Less than 3-0" to a property lines, shall be of 1-hour fire resistive construction with a 30" high parapet when combined floor area is greater than 1,000 S/F. No openings are allowed.
    b. Between 3'-0" and 5'-0" to a property line, shall be of 1-hour fire resistive construction. Openings per story (doors, windows, mechanical vents, scuppers) are allowed where the cumulative area of the openings is less than 25% of the exterior wall area per story. Show the widths and heights of all windows, doors, and vents on architectural elevations. Provide calculations on the plans to show compliance.

14. Projections (eaves, balconies, etc.) from exterior walls shall clear the property line 2'-0" minimum. No projection is allowed when exterior wall is located less than 2'-0" to the property lines. Projections less than 3'-0" clear to the property lines shall be constructed completely of 1-Hour fire rated construction, Heavy Timber, fire-treated wood. (CBC § 704.2)

15. The following are required for an attached garage:

    a. No openings are permitted from the garage directly into a room used for sleeping purposes. CBC §406.1.4.
    b. Finish garage walls and ceiling under dwelling with materials approved for one-hour construction (5/8" type 'x' gypsum board, 7/8" stucco, etc.). When habitable space does NOT exist over the garage, provide ½" drywall to separate the dwelling and its attic from the garage. CBC §406.1.4.
    c. Specify self-closing, tight-fitting, 1-3/8" thick solid wood/steel door, 1-3/8" thick honeycomb steel, or 20-minute rated door for opening between garage and dwelling. CBC § 406.1.4 and 715.4.3.
    d. Ducts through attached garage into dwelling shall be minimum 26-gauge sheet steel and shall have no openings into the garage. Note on plans. CBC §406.1.4.

16. Basements in dwelling units and every sleeping room below the fourth story 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. CBC §1026. Windows must provide:

    a. A minimum 5.7 square feet of clear openable area. 5.0 square feet is allowed for grade level floors.

b. A minimum clear width of 20", minimum clear height of 24".
c. A finished sill height not more than 44" above the floor. Note this on the plan or schedule.
d. A minimum 36"x36" window well with a fixed ladder if finish sill height is 44" or more below grade. Window well must extend below windowsill for drainage. For additional dimensional requirements, see CBC § 1026.5.2.1.

17. Windows sill shall be 24" above the finished floor where the opening of the sill portion of an operable window is higher than 72" above the adjacent grade or surface. CBC § 1405.12.2.

18. All habitable rooms must be provided with natural light (8% of floor area min.) and ventilation (4% of the floor area). Show all window sizes and opening types on plans or schedule CBC §1205.2 and CBC §1203.4.1.

19. In bathroom containing a bath and/or shower compartments, provide openable exterior openings for natural ventilation equal to 4% of the floor area and mechanically ventilated (50 cfm). Exhaust outlet must be minimum 3'-0" from any openings into building and 3'-0" from the property line. CMC § 402.2.1, 403.7, CMC Table 4-4, CBC § 1203.4.2.1.

20. Show on plans: 24" clear in front of toilet and 30" minimum wide toilet compartment. (15" to CL). CPC §407.6.

21. Show on plans: Minimum 1,024 square inch area and 30" diameter in shower compartment. Shower door shall provide 22" clear opening. CPC §411.7.

22. Wall coverings in showers and tubs with showerheads shall be cement plaster, tile, or equal to 70" above drain. Enclosures must be of approved safety glazing and doors (22" min. width) must swing out of showers. Windows in enclosure walls shall be labeled safety glazing when less than 60" above the drain. CBC §1210.3, CPC § 411.7.

23. Required ceiling height is 7'-6" minimum in habitable spaces and hallways and corridors. 7'-0" minimum is allowed in kitchens, laundry rooms, storage, and bathrooms. CBC §1208.2.

24. Hard-wired smoke alarms with a battery backup are required. Show all locations with a symbol on the plan. CBC §907.2.10.1. Provide smoke alarm at the following locations:

a. In each sleeping room.
b. Centrally located in rooms and corridors giving direct access to each sleeping area.
c. On each story of multistory dwellings and including basements.
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 a smoke alarm.
e. Note on plans: "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."
f. In existing dwellings when an addition, alteration, or repair is made with cost exceeding $1000, smoke alarms at locations indicated above. Show existing smoke alarm locations on plans. If no smoke alarms exist, show on the plans that smoke alarms will be provided. Retrofit smoke alarms may be battery operated. H&S Section 13113.7.

25. Provide under-floor ventilation. Ventilation openings area shall equal to 1/150 of under-floor area. Openings shall be equally distributed on at least two opposite sides. Specify size and number of required vents on plans. CBC §1203.3.

26. A corrosion-resistant weep screed (26-gauge) is required below the stucco a minimum 4"/2" above grade/slab. CBC §2512.1.2.

27. Prefabricated metal fireplaces shall be listed by an approved listing agency and shall be installed in accordance with their listing. Specify unit by manufacturer's name and model number, ICC, UL or NER number and clearly show hearth construction and size and specify all required clearances on the plans.

28. Provide complete architectural and structural details for masonry fireplace/chimney construction. Architectural design shall comply with CBC § 2111. Provide engineered calculations to justify vertical and lateral loads design complying with CBC Chapter 16 and ASCE 7-05. Provide details showing construction of fireplace/chimney walls, foundation, anchorage, hearth extension, etc.

29. Chimney shall extend not less than 2'-0" above any part of the building within 10'-0". Factory-built chimneys shall terminate 3'-0" minimum above the roof opening penetration. CBC § 2113.9, CMC Table 5-7, and 510.5.2.

30. At chimney termination, indicate 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. CBC § 2113.9.1.

31. Prefabricated skylights shall be listed by an ICC Evaluation Report and shall be installed in accordance with their listing. Specify manufacturer, product name, and ICC or NER Number on the plans. CBC §2405.5.

32. Provide adhered or anchored details for masonry veneer. Specify anchors, backing, footings, and support over openings. Masonry veneer shall not exceed 5" in thickness and shall not extend above the first story. CBC § 1403.3, 1405.5 to 1405.9.

33. Show slope(s) of roof; specify type of roof covering, underlayment, fasteners, and flashing requirements. CBC §Chapter 15. Specify a Class "B" minimum rated roof covering. Note on plans: "Roof assembly shall be listed by an approved testing agency." CBC §1506 and WCMC § 7-18.12.

34. Wood shakes or shingles shall be listed and labeled as at least Class B rated. Note on plans: Provide ICC number on the plans.

35. 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 me used in lieu of overflow drains when installed on the adjacent parapet wall at 2" above the low point of the roof. CBC §1503.4, CPC § 1101.11 and 1101.12.

36. 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 over enclosed construction. Minimum slope ¼"/ft is required for drainage. CBC § 1503.1.

37. Attic (with over 30" headroom) must have access opening (20"x30" minimum). A 30" minimum clear headroom is required above opening. Larger opening may be required to remove the mechanical equipment. Show the opening located in a corridor, hallway, or other readily accessible location. CBC §1209.2 and CMC §305.

38. Clearly show how attic and rafter space ventilation will be provided. Minimum net opening of attic vents shall equal 1/150 of the attic area with 50% of the vents located 3 feet above the eave vents and the remainder to be provided by eave vents. Size and number of vents necessary to meet code requirements shall be specified on the plans. Provide calculations to justify area of vents specified. Please note that net free area is required. CBC §1203.2.

39. Provide 1" of air space between top of insulation and bottom of roof sheathing for rafter space ventilation. Detail construction of ventilation at eaves. Minimum net opening of eave vents shall equal 1/150 of the rafter space area. CBC §1203.2.

40. Notes and details are required to show the following for all interior & exterior steps. CBC §1009.1, 1012, and 1013.

    a. Minimum 36" wide stairway and landings.
    b. Maximum 7.75" rise; minimum 10" run.

c. Note on plans: "The largest rise or run in a flight of stairs may not exceed the smallest by more than 3/8".
d. Dimension headroom over stairs to show 6'-8" minimum from nosing of tread.
e. Protective guard on open side of stairs over 30" above floor or adjacent grade. May serve as handrail also. Guard and handrail assembly may be 34" to 38" high only at open side of stairs.
f. Handrail (required for 4 or more risers) at 34" to 38" above tread nosing, 1½" clearance to wall, 1¼" to 2" in cross section, with ends returned to wall or floor or terminate at newel or safety post. Clearly define handrail requirements, including handrail shape, on the plans. Show handrail continuous for the length of the stairs.
g. The triangular area formed by riser, tread and bottom of guardrail shall be sized so that a 6" sphere cannot pass through.
h. Enclosed usable space under stairs shall be finished with ½" drywall.

41. Exterior doors shall have a concrete landing (36" deep x door width.) with a minimum slope of ¼" per foot for drainage. The landing shall not be more than 0.5" lower than the threshold of the doorway and may be 7.75" maximum lower than the threshold when the door does not swing over the landing. Detail landing and threshold drop at doors. CBC § 1008.1.4 and 1008.1.6.

42. Guards (guardrails) are required at floor and roof openings, landings, balconies, and at open sides of stairs over 30" in height. Detail or note the following to show compliance: CBC § 1013.

a. Guardrails to be 42" minimum in height.
b. Open guardrails shall have intermediate rails or an ornamental pattern such that a 4" sphere cannot pass through.
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. CBC 1607.7.1

43. All glazing in hazardous locations must be identified by a label (permanent if tempered) as safety glazing. CBC §2406. Note and show all required locations on plans. Hazardous locations are identified as follows:

a. Glazing in all doors
b. Glazing in doors, walls (with the exposed edge of glazing less than 60" above drain inlet.) and enclosures for bathtubs, showers, whirlpools, spas, etc.
c. Glazing within a 24" arc of a door edge
d. Glazing panels over 9 square feet having the lowest edge less than 18" above the finish floor and having a top edge greater than 36" above the floor, and with 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 stairways with bottom edge less than 60" above walking surface.

44. All <u>new</u> doors providing access from house to pool area shall be equipped with exit alarms operable upon opening of door. Please indicate on plans or schedule to comply with pool barrier requirements H&S Section 115920-115929.

<u>BUILDING SECURITY REQUIREMENTS:</u>

45. Exterior doors, doors between house and garage, and their hardware shall conform to the security provisions of West Covina Municipal Code Section 7-230. Note on plans.

a. Garage and exterior doors shall be at least 1-3/4" solid core with panels not less than 9/16" thick and equipped with a dead locking latch and a dead-bolt with hardened insert with 1" minimum throw and 3/4" minimum embedment into the strike. Front doors shall have a wide-angle viewer (unless clear vision panels are installed.
b. Windows and door lights within 40" of the locking device shall be fully tempered or burglary resistant glazing.
c. Overhead and sliding garage doors shall be capable of being securely locked.
d. Sliding doors and sliding windows shall be capable of withstanding forced entry attempts as outlined in Section 7-244.

e. Street numbers, 4 inches in height shall be visible from the street.

MECHANICAL/PLUMBING/ELECTRICAL REQUIREMENTS:

46. Indicate on plan the location of water heater/forced air unit/heating equipment/air conditioning unit/washer and dryer. Comply with additional items as applicable.

47. Show how dwelling unit/addition is heated to 68°F. CBC § 1207.1.

48. Gas-fired water heaters shall comply to the following:

    a. Water heater must be strapped at upper one-third (1/3) and the lower one-third (1/3) for lateral support. CPC § 508.2.
    b. Compartments within an unconfined area of a building shall have at least two openings located within the upper and lower 12" of the enclosure for combustion air. Each opening shall have a minimum dimension of 3" and an area of at least 100 sq. inch. CPC §507.3.
    c. Compartments outside a building or located in the basements or utility rooms shall have at least two openings located within the upper and lower 12" of the enclosure for combustion air. Each opening shall have an area of at least 1 sq. inch per 4000 Btu/hr input and must be freely communicating with the outdoors. CPC §507.4.
    d. Compartment door shall large enough to provide for removal of water heater.

49. Water heaters and furnaces in any bedroom, bathroom, or closet that opens into bedrooms or bathrooms shall be enclosed by permanent closet and installed with ALL of the following features are provided: CMC § 931.0, CPC § 505.1, NFPA 54: 10.28.

    a. A listed gasketed door assembly
    b. A listed self-closing device that causes the door to close and latch each time that it is open.
    c. Door assembly shall be installed with a gasketed door bottom and threshold.
    d. All combustion air requirements are taken from the outdoors.
    e. The closet will be used exclusively for the water heater.

50. 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 and shall be protected from automobile damage. Provide elevated platform. Detail protection barrier (wheel blocks are not acceptable) or relocate from path of vehicle. CMC §308.1 and CPC §508.14.

51. A 12" minimum access panel to bathtub trap connection is required unless plumbing is without slip joints. CPC §404.2. Show or note.

52. Clothes dryer moisture exhaust ducts shall terminate outside the building and have a back-draft damper. Exhaust duct is limited to 14'-0" 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. CMC §504.3.2.

53. Show the following on plans for attic or underfloor furnace or cooling equipment: CMC § 904.11 and 931.0.

    a. Attic or underfloor access opening of 22"x30" or larger to accommodate the removal of the largest equipment and located not over 20'-0" 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. Supported on solid concrete slab 3" above adjoining grade or suspended 6" above adjoining ground level for under-floor units.

54. Show on plan all electrical lighting fixtures, outlets and switches.

55. Provide ground-fault circuit-interrupters (GFI) protection for all 125-volt, single-phase, 15- and 20-amp outlets in bathroom, garage, outdoor and basement receptacles, counter-top receptacles of a kitchen sink and within 6'-0" of the outer edge of a wet bar, laundry, or utility sink. CEC Article 210.8(7).

56. Provide combination type arc-fault circuit interrupters (AFCI) protection for all branch circuits that supply 125-volt, single phase, 15- and 20- ampere receptacle outlets installed in bedrooms. CEC Article 210.12.

57. For a single-family dwelling and each dwelling unit of a duplex, at least one electrical receptacle accessible at grade level and not more than 6'-6" above grade level shall be installed at front and back of building. CEC Article 210-52(e).

58. At least one light outlet (wall switch-controlled) shall be installed on the exterior side of outdoor entrances and exits. CEC Article 210-70(a).

ENERGY REQUIREMENTS:

59. Certificate of Compliance. Completed and signed forms CF-IR and MF-IR shall be printed on the plans. Separate, attached sheets are not acceptable. Section 1403(a) 2A, Title 20. Provide energy calculations for review.

60. Note on the plans: "Permanent lighting shall comply with the mandatory measures listed on forms MF-1R attached."

61. Provide minimum stud/rafter sizing to accommodate insulation. Where 1" rafter space ventilation is required per CBC §1203.2, provide 2x12, 2x8 and 2x6 for R-30, R-19, and R-13 respectively.

CONSTRUCTION/STRUCTURAL REQUIREMENTS:

General Requirements

62. Indicate grade and species of framing lumber, treated sillplates, specifications of concrete (f'c=2500 psi min.), mortar and grout, grade of masonry units, structural steel specification and grade of reinforcing steel. CBC App. 1 § 106.

63. Submit structural design by a state licensed Engineer or Architect. CBC § 2308.1.1. Structural calculations and details are required for:_____

64. Details and sections are required where indicated on plan check set. CBC App. 1 § 106. See plans where indicated.

65. Delete notes and details that do not apply. CBC App. 1 § 106. See plans where indicated.

66. Reference/key/identify all sections and details as to location on plans, elevations, sections, and detail sheets. CBC App. 1 § 106.

Foundation Requirements

67. For new construction with slab on grade, provide detailed drainage plans. Identify the following on the foundation plan:

    a. Finished floor elevation of the building
    b. Finished elevation of exterior surface within 10 feet from foundation edge.
    c. Existing and proposed slopes
    d. Existing and proposed drainage devices
    e. Size and show termination of all drainage lines. Obtain curb cut permit through City Engineering Division is required when terminating at public curb.

68. Show foundation sections 12" wide, 6" thick, and 12" deep, and indicate below undisturbed ground surface (or engineered compacted fill and submit soils report). CBC § 1805.2, 1805.4 and Table 1805.4.2.

69. Footings shall be reinforced horizontally with a continuous 1-#4 bar at top and 1-#4 bar at bottom. Footings with concrete stem walls above may provide 1-#4 bar near the top of stem and 1-#4 bar at the bottom provided that both footing and stem are monolithically poured. CBC § 1908.1.15

70. Unless a soils report specifies otherwise, use a maximum soil bearing pressure of 1,500 psf. Use Class 5 soil type. CBC Table 1804.2.

71. An 18"x24" (min.) crawl hole(s) is required for access to all under-floor areas. Show on foundation plan. CBC §1209.1.

72. Exterior bearing walls and braced walls/shear walls shall be supported on continuous foundations. CBC § 1895.4.2, 2308.3.4, and Table 1805.4.2.

73. Interior bearing walls, not supporting braced walls/shear walls required by CBC § 2308.9.3, may be supported by spread pad footings (24"sq.x12" deep) at 6'-0" maximum spacing. CBC § 1805.4.2 and Table 1805.4.2.

74. Raised floor buildings in Seismic Design Category D shall be supported on solid concrete stem wall or provide engineer design for structure. CBC § 2308.2 and 2308.12.1.

75. Floor slabs shall be a minimum: 4" thick over 4" coarse aggregate base or moisture barrier membrane and reinforced with No. 3 bars at 24" o/c each way or two layers 6x6-10/10 WWFM or one layer 6x6-6/6 WWFM positioned at center of slab thickness. CBC § 1910.1.

76. Show foundation anchor bolt size and spacing on foundation plan. Note or show the following on plans:

    a. Minimum of ½" diameter A.B. embedded 7" into footing and spaced not more than 6'-0" on center. CBC § 2308.6.
    b. Minimum two bolts per piece of sill plate and one located within 12" and not less than 7 bolt diameter or 4-3/8" of each end of each sill plate. CBC § 2308.6.
    c. Sill bolt diameter and spacing for two-story buildings shall be specifically designed by engineer and must not exceed 48" o/c. CBC § 2308.3.
    d. 3" x 3" x ¼" (0.229" min) plate washer shall be used on each anchor bolt. Slotting of washer is allowed to 1.75" long. CBC §2308.12.8.

77. Detail connection of new holdowns/anchor bolts to existing foundation and specify approved manufacturer information. Specify size, spacing, ICC number, and manufacturer of expansion, wedge, or adhesive anchors to be used on existing footing. Provide justification for use including noting edge distance and embedment depth on plans. CBC App. 1 § 106.

78. Provide details to show how floor girders will frame into supporting foundation. Girders framed into pockets in the foundation must be provided with a ½" air space on top, sides and ends or girder must be treated lumber. CBC §2304.11.2.5.

79. Minimum clearance of untreated wood members above earth is 12" for girders and 18" for joists. Show and dimension. CBC §2304.11.2.1.

80. Wood framing members located less than 8" from exposed grade shall be pressure treated or naturally durable. CBC §2304.11.2.2.

81. Show/detail on plan that exterior posts located on a slab shall be at least 1" above the floor/slab. CBC §2304.11.2.7.

Framing Requirements

82. Doubled joists/girders are required under parallel interior bearing partitions. CBC §2308.8.4. Provide floor girder directly under interior bearing partitions perpendicular to joist span. CBC §2308.8.4.

83. Solid blocking or cross bridging of floor joists is required at each end and at supports. Note or show on the framing plans. CBC § 2308.2.

84. Show size(s) of all headers over openings. CBC § 2308.9.5.

85. A ridge board 2" minimum greater than joists in nominal depth is required. Design as a load-bearing member if roof slope is less than 3" in 12". CBC §2308.10.

86. Provide structural design and calculations by engineer/architect for valley/hip/ceiling beams at (CBC § 2308.1.1): _____

87. Provide roof purlins to reduce the span of rafters within the allowable limits. Purlins to be a minimum same size as rafters, the maximum span for 2"x4"/2"x6" is 4'/6', with braced struts not over 8' in unbraced length and not flatter than 45 degrees from horizontal to a bearing wall or partition. CBC §2308.10.5.

88. 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. CBC §2308.10.4.1.

89. Positive connections shall be used for all post-beam connections to ensure against uplift and lateral displacements. Show and detail. CBC § 2308.5 and 2304.9.7.

90. For roof and floor diaphragms specify structural panel thickness, grade, span rating or panel index, nailing schedule, and panel layout. CBC Table 2304.7(3).

91. Floor structural panels shall be tongue and groove or have blocked panel edges. CBC Table 2304.7(3), footnote 'd'.

92. Conventional wall bracing panels/shear walls shall conform to CBC Table 2308.12.4 for seismic design category D with $S_{DS} > 1.0$. Show the following on the plans:

    a. 4'-0" minimum panel length (2:1 plate height to length ratio is required) with <u>cumulative</u> lengths not less than 12'-0" per 25'-0" of wall lengths. 6'-0" minimum <u>cumulative</u> lengths are allowed when ALL of the following items are provided:
        i. Sheathing is applied on both sides.
        ii. Uplift design by licensed engineer/architect (submit stamped & signed calculations and details) is submitted.
        iii. Framing members (end studs and sill/sole plate) shall be 3x with nailing staggered. CBC Table 2306.4.1, footnote 'h'.
    b. Sheathing shall be 3/8" minimum CDX plywood or Exposure 1 OSB with 8d nails at 6" o/c at panel edges and 12" o/c at intermediate studs.
    c. Wall bracing panels shall start at not more that 8'-0" from building corners and from the each other.
    d. Brace wall lines shall be spaced no more than 25'-0" (perpendicular to panel lengths) apart.

93. Alternate braced walls (2'8"x8'0" panels) as specified in CBC § 2308.9.3.1 and 2308.9.3.2 are NOT allowed in Seismic Design Category 'D'. Provide seismic design by engineer/architect.

94. Use 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. Note on plans: "Shear walls shall run continuously from foundation to roof/floor framing."

<u>ADDITIONAL REQUIREMENTS:</u>

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