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REVIEW	FIRST	SECOND	THIRD	FOURTH
DATE				

PLAN REVIEW CORRECTION LIST
Residential Construction (CBC 2007 Edition)
Effective Date January 1, 2008

Project Address	Locality	Plan Check Number
Owner/Agent	Mailing Address (Number & Street)	
City, State and Zip Code	Phone Number	

INSTRUCTIONS

- Circled item numbers on the following list identify required corrections. Code references following each item refer to the California Building Code (CBC) 2007 Edition, the Ventura County Building Code (VCBC), the Ventura County Ordinance Code (VCOC), Fire Protection District Ordinance 26 (FPD 26), Title 24 of the California Administrative Code (24CAC), or the California Business and Professions Code (BPC) unless otherwise noted.
- Provide three new corrected sets of prints from the corrected tracings, including two sets of corrected/revised calculations for recheck along with the marked-up set of drawings and calculations which was originally submitted for plan review.
- Minor corrections may be made on plans in ink at the counter when approved by the plan checker. Such corrections shall be initialed by the designer.
- **RETURN THIS LIST with corrected plans. To facilitate rechecking of plans, please indicate Sheet Number, detail number and note number on the line left to each circled item where the corresponding correction has been made.**
- Please respond to marked-up corrections on the plans at the same location to facilitate resubmittal plan review.
- Where handout number is mentioned in the item, please download it from our website noted above or you may request the copy from the counter.
- The set of plans you originally submitted for plan check, marked for correction, is available at the Division of Building and Safety in the (Ventura East County) office. However, you may request

pickup of your plans from the office you originally submitted.

GENERAL REQUIREMENTS

- ___ 1. Incomplete, inconsistent or illegible drawings and/or calculations are unacceptable. VCBC 106
- ___ 2. Plans are inadequate and incomplete for plan review at this time. Plan checking will continue after the receipt of 100% complete plans and calculations. VCBC 106. Please download handout B-1 from our website noted above to check over minimum requirements on plans for Residential Construction.
- ___ 3. Plans and calculations require the wet signature, stamp and expiration date of a California-registered civil or structural engineer or architect upon final submission of plans. BPC 6735, 5536.1
- ___ 4. Refer to comments in red ink on the first submittal marked-up set of plans.
- ___ 5. Refer to comments in red ink on the first submittal marked up calculations.
- ___ 6. Refer to marked-up set of plans and make the changes indicated by the comments circled in black ink.
- ___ 7. Add owner's name and the address of the project to each sheet of plans. VCBC 106
- ___ 8. Add sheet index to the front sheet of the plans/calculations.
- ___ 9. Add this note to the plans, "Special inspection is required per CBC 1704 and 1707 for _____ *construction." (*Use type of construction circled below)
 - (a) Over 2500 psi foundation concrete
 - (b) Concrete stem walls

- (c) shotcrete
- (d) post-tensioning system
- (e) masonry construction
- (f) steel frame
- (g) field welding and/or high-strength bolting
- (h) piling/caissons
- (i) structural wood
- (j) others _____

(j) **Reports:** Engineer of record or the designated engineer shall submit reports to this office on the prescribed form.

___ 10. Add this note to the plans: "All structural weldings shall be done in an approved fabricating shop. In absence of an approved fabricating shop, structural welding shall be done under the supervision of a Certified Special Inspector." CBC 1704.2.2, 1704.3

___ 11. Provide structural observation program in the following format and sequence per CBC 106.3.4.1 and 1709. It is desirable to have this program on the front sheet of structural drawings.

- (a) Write **heading** "Structural Observation Program".
- (b) **Add this note:** "The owner shall employ the Engineer or Architect registered/licensed in State of California who is responsible for the structural design to do structural observation".
- (c) **Name:** Write the name, reg./lic. # of Engineer or Architect responsible for structural design.
- (d) **Designated name:** Write the name, reg./lic. # of the Engineer or Architect designated by the Engineer or Architect of Record to do structural observation.
- (e) **Add This Note:** "The Engineer or Architect responsible for the Structural Observation, the Contractor, and appropriate Subcontractors shall hold a pre-construction meeting to review the details of the structural system to be structurally observed."
- (f) **Foundation:** List the structural elements to be observed prior to placement of concrete in the foundation. If portions of structural elements are to be observed in two or three construction stages, identify clearly the structural elements to be observed at each stage.
- (g) **Roof nailing:** List the structural elements of roof framing to be observed prior to covering the roof.
- (h) **Exterior Framing prior to prewrap:** List the exterior structural elements to be observed prior to weather-protecting the building.
- (i) **Final Observation:** List the structural to be observed at the final visit for the complete structural system.

___ 12. Add to the plans statement of special inspections as required per CBC 1704.1.1.

___ 13. To avoid additional plan review fee, please comply with all the remaining corrections by next resubmittal. You may make an appointment with your plan checker to discuss the corrections before revising the drawings. Please note that plans are not checked at the counter.

___ 14. We have reviewed your plans three times and have provided the service covered by the plan review fee we received. Plan review fees will be charged by the hour until approved.

___ 15. Provide site/plot plan; show size and location, setbacks, use, location and extent of retaining walls, and distance between each existing and proposed buildings. Show complete outline of parcel on the plot plan as well as all easements and their dedicated size and use. VCBC 106.2

___ 16. Provide a soil report to enable plan review of foundation design. VCBC 1802

___ 17. The Soil Engineer shall provide the expansive index of the soil to enable plan review of foundation.

___ 18. The Soil Engineer shall provide recommendations and design parameters for retaining wall piles/caissons.

___ 19. The Soil Engineer shall provide soil parameters for seismic design per CBC 1613.5.2, 1613.5.3.

___ 20. The original soil report is more than one year old. Please provide an update letter. VCBC 1802

___ 21. A Pre-Plan Check Inspection of the site is required prior to re-submittal of plans for a second review. Please contact the counter staff to schedule.

___ 22. Soil Engineer shall review and sign site/plot plan and foundation plan to affirm correctness and consistency with the soil report.

___ 23. Draw grid lines on the floor, framing and foundation plans to facilitate planchecking.

GRADING AND SITE/DRAINAGE

___ 24. When a grading permit is required, submit grading plans and obtain a grading permit from the Public Works Development Services Division. CBC Appendix J

___ 25. When a grading permit is not required, add a signed statement to the drainage plan/site plan as noted here. "No grading required". CBC Appendix J103.

___ 26. Drainage plan/site plan must show the existing and proposed topography by means of contours and elevations.

___ 27. Show finished floor elevation of the garage, first floor, and basement, if any.

- ___ 28. Show property lines, driveways, access roads and streets. VCBC 106
- ___ 29. Show retaining walls and finished grade elevations at top of stem and base of stem. CBC 1805.3.4, 1806, Appendix J104.2
- ___ 30. Show location and provide construction detail for all catch basins, sumps, concrete or asphalt drainage ditches and swales, culverts, drain pipes, collectors, or similar drainage devices. CBC Appendix J
- ___ 31. Show swales and drainage flow lines by means of arrows or other appropriate symbols. Indicate the high point(s) on the lot and a minimum slope of 2% toward a street, storm drain, or approved watercourse or disposal area. CBC 1805.3.4, CBC Appendix J
- ___ 32. Provide a cross section of the site topography at location(s) marked on the plans. CBC Appendix J
- ___ 33. Show minimum building setback from ascending slopes and minimum footing setback from descending slopes. Refer to Ventura County Technical Bulletin B-70 attached to the plans. CBC 1805.3, Appendix J
- ___ 34. Add this note to the site/plot plan/foundation plan: "Soil compaction report shall be provided to the building inspector at the job site prior to placement of concrete for the foundation."
- ___ 35. Add this note to the foundation plan: "Soil engineer shall inspect foundation prior to placement of concrete for the foundation."
- ___ 36. Add this note to the plans: "A certification for 90% compaction of backfill from a geotechnical engineer shall be provided to the building inspector prior to final sign off and acceptance of retaining wall."
- ___ 37. Identify existing structures on the site plan which are not part of this permit application, as "Existing."
- ___ 38. Add Grading Permit number to the site plan.
- ___ 39. When grade adjacent to the dwelling is steeper than 3 horizontal to 1 vertical, site plan shall be prepared by a California-registered engineer. CBC 1805.3, CBC Appendix 106.3.4
- ___ 40. Show drainage away from the structures for a minimum of 2% for 5' feet to an approved drainage course. CBC 1803.3

HEIGHT AND LOCATION

- ___ 41. Exterior walls less than 5 feet from property line shall be of one-hour fire-resistive construction. CBC Table 602
- ___ 42. Openings in exterior wall greater than 3' to 5' feet from property line shall not exceed 25% of exterior wall area per CBC Table 704.8
- ___ 43. Openings in exterior wall 3' feet or less from property line are not permitted per CBC Table 704.8.
- ___ 44. Exterior walls of agricultural building (U occupancy) less than 30 feet from property line

shall be of one-hour fire resistive construction. CBC Table 602

- ___ 45. The height of the building exceeds the limits specified in CBC Table 503 / Zoning Clearance.
- ___ 46. Refer to the definitions of "Grade," "Grade Plane" per VCBC 202, "Basement," and "Story" per CBC Chapter 2. Show grade elevations on the site plan and grade lines on building elevations. Justify basement on the building elevations by showing distance from grade or grade plane to the top of floor above.

EXIT FACILITIES

- ___ 47. Provide construction details of stairway to show compliance with CBC 1009, 1012, 1607.7.1 and Table 1607.1. Indicate width, rise, run, headroom (6'-8" minimum), handrail shape, height (34"-38") and connections, stringer size and supporting arrangement, foundation and anchorage on the construction detail.
- ___ 48. Winding/curved/spiral stairway does not comply with CBC 1009. Redesign. See Ventura County handout B-55. Please download the handout from our website.
- ___ 49. The unobstructed width of stairway shall be minimum 36". CBC 1009.1
- ___ 50. Exterior stairway is not permitted less than 10 ft. from property line. CBC 1024.3
- ___ 51. Doors, when fully open, shall not reduce the required width of the landing by more than 7". CBC 1008.1.5
- ___ 52. The depth of the stairway landing shall be not less than the width of the stairway. CBC 1008.1.5
- ___ 53. The depth of landing at door shall be 36" minimum. CBC 1008.1.5
- ___ 54. Add this note. "All handrails shall have height between 34" to 38" measured from the tread nosing. Handrails with circular cross-section shall have outside diameter between 1.25" to 2". Handrails with non-circular cross-section shall have perimeter dimension between 4" and 6¼" with a maximum cross-section dimension of 2¼". Edges shall have a minimum radius of 0.01". Opening between the guards (balusters or ornamental patterns) shall not allow a sphere of 4³/₈" pass through the opening. Handrail shall be capable to resist a single concentrated load of 200# applied in any direction at any point along the top." CBC 1012.2, 1012.3, 1013.3, 1607.7.1
- ___ 55. Add this note to the plans: "Provide emergency exit door or window from basement and/or sleeping room(s). Net clear window opening area shall be not less than 5.7 sq. ft. (except at grade floor opening shall be minimum 5.0 sq. ft.). Min. net window opening height dimension, 24" clear; min. net opening width dimension, 20" clear. Finished sill height max. 44" above floor." CBC 1026.2, 1026.3
- ___ 56. Exit court width shall be not less than 36". CBC 1024.5.1

- ___ 57. Provide 4'-0" clear width of side yard since the required window openings of a three story building occur on this side yard. CBC 1206.2
- ___ 58. Hallway width shall be not less than 36". CBC 1017.2
- ___ 59. Walls and ceilings of the enclosed space under stairway shall be protected on the enclosed side with ½" thick gypsum board. CBC 1009.5.3

LIGHT, VENTILATION AND SANITATION

- ___ 60. Window area shall be not less than 8 percent of the floor area of the room and not less than 4 percent of the required window area shall be openable. CBC 1205.2, 1203.4.1
- ___ 61. In bathroom containing bathtubs, showers, spas, and similar bathing, fixtures shall be mechanically ventilated in accordance with California Mechanical Code 2007 CBC 1203.4.2.1
- ___ 62. Justify by calculations mechanical ventilating system in accordance with California Mechanical Code 2007 CBC 1203.1
- ___ 63. To consider ventilation for the adjoining room, opening to the adjoining room shall be not less than 8 percent of the floor area of the interior room, but not less than 25 sq. ft., whichever is greater. CBC 1203.4.1.1
- ___ 64. To consider natural light for the adjoining room common wall between the rooms shall be 50% open and shall provide opening of not less than 1/10 of floor area of interior room or 25 sq. ft., whichever is greater. CBC 1205.2.1
- ___ 65. Where artificial light is provided, it shall provide an average illumination of 10 foot-candles (107 Lux) over the area of the room at a height of 30" above the floor. CBC 1205.3
- ___ 66. Add this note to the plan: "The plumbing fixtures and plumbing fitting shall meet the standards noted below:
 - (a) Water Closet = 1.6 gallons per flush max
 - (b) Showerhead = 2.5 gpm max
 - (c) Lavatory faucets = 2.2 gpm max
 - (d) Sink faucets = 2.2 gpm max" Title 24, VCBC, UPC

ROOM DIMENSIONS

- ___ 67. At least one habitable room shall have a floor area not less than 120 sq. ft; min. 7 ft. in any dimension. CBC 1208.1, 1208.3
- ___ 68. Ceiling height shall be not less than 7'-6"/7'-0" in _____. CBC 1208.2
- ___ 69. Efficiency dwelling unit shall contain a living room having not less than 220 sq. ft. of superficial floor area. CBC 1208.4
- ___ 70. Call out missing dimensions at locations indicated on plans. CBC Appendix 106.3
- ___ 71. Habitable or non-habitable use of attic space shall be designed in compliance with "R-3" occupancy

requirements per item # 28 of Table 1607.1. Revise plans.

- ___ 72. Label each room on the floor plan and cross sections to indicate its use. CBC Appendix 106.3
- ___ 73. Provide description of material used, handled, stored and product manufactured in the workshop. This is required to classify group occupancy per California Building Code Chapter 3.
- ___ 74. Laundry and refuse chutes, elevator, and dumbwaiter shaft enclosures shall have one hour fire resistive walls and openings. Call out the materials for the walls and rated assembly for the openings. CBC 707.13, 707.14, 707.4, 707.7
- ___ 75. Provide details of one hour fire resistive walls and floors separating dwelling units. CBC 708.1
- ___ 76. Identify existing and new construction. You may shade/cross-hatch new construction for clarity.
- ___ 77. Add wall legend for clarity on floor, framing and foundation plans. CBC Appendix 106.3

GARAGE

- ___ 78. Provide ½" thick gypsum board between garage and dwelling on garage wall side only. CBC 406.1.4
- ___ 79. Door opening between garage and dwelling shall be protected by 1 3/8" thick, tight-fitting, self-closing solid core wood door or 20-minute fire rated door. Specify. CBC 406.1.4, 715.4.3
- ___ 80. Show fire protection on all members supporting the garage ceiling or specify heavy timber: minimum 6 x 10 beam and 8 x 8 wood posts unless covered with 5/8" type X gypsum board. CBC 602.4.1, CBC 602.4.2, 406.1.4
- ___ 81. Provide two layers of 5/8" type x gypsum board to the bottom chord of trusses for occupancy separation between dwelling and the garage. Walls supporting such ceiling shall have one layer of 5/8" type x gypsum board. CBC Table No. 720.1(3), Item # 21
- ___ 82. Omit the direct opening between garage and bedroom. CBC 406.1.4
- ___ 83. Design garage/carport floor system to support a concentrated load of 3000 lbs. acting on area 4 1/2"x4 1/2". CBC Table 1607.1 Item #17 Footnote "a".
- ___ 84. Garage shall be min. 18 ft. wide and 20 ft. deep, clear and unobstructed to comply with Zoning requirements. Show clear dimensions on the plan. VOC Sec. 8108-1.3.1
- ___ 85. Since the garage is above the first story, provide 5/8" type x gypsum board for separations between garage and dwelling. CBC 406.1.4

ROOFS

- ___ 86. Indicate Class A, B or C roofing/decking materials. Call out ICBO research report # and the materials used in the proposed roofing/decking assembly, such as, underlayment felt,

cap sheet, weight of rock, weight of asphalt per roofing square. CBC 1505.1.1, FPD 26

- ___ 87. Provide size and location of roof and overflow drains. CBC 1503.4
- ___ 88. Specify roof pitch for the roofing type shown per CBC 1507.
- ___ 89. Specify thickness and span of roof/floor sheathing. CBC Table Nos. 2304.7(1), 2304.7(3), 2304.7(4), 2304.7(5)
- ___ 90. Projections shall not extend 12" into areas where openings are prohibited. CBC 704.2
- ___ 91. Roof projection toward side property line shall be not more than $\frac{1}{3}$ the distance to the lot line from vertical plane where protected openings are required. CBC 704.2
- ___ 92. Provide construction detail of skylight to show compliance with CBC 2405; or call out an ICC-approved prefab unit and its report number. VCBC 106
- ___ 93. Gutters/downspouts are required when recommended by Soil Engineer or when the soil expansion index exceeds 50. SHOW on site/plot plan piping and/or other approved non-erosive devices to conduct water to a street or other approved watercourse. VCBC 1802

CONSTRUCTION REQUIREMENTS

- ___ 94. Specify species/grade of framing lumber, grade of structural steel, strength of concrete/mortar/ grout, grade of masonry units, grade of reinforcing steel. VCBC 106
- ___ 95. Provide a complete cross-section of the framing at the location indicated. VCBC 106
- ___ 96. Mark the location of full height cross sections on the floor, framing and foundation plans. VCBC 106
- ___ 97. Draw roof/floor framing plans in $\frac{1}{4}" = 1'$ scale. Show rafter/floor joist size, spacing and extent, posts and beams, drag struts, connection detail reference, or model # of connectors, shearwalls and their lengths, etc., on the plan. VCBC 106
- ___ 98. Shade/hatch areas on the roof framing plan where "California Valley" roofing occurs. VCBC 106
- ___ 99. Cross-reference details on the framing cross sections and on the framing plans. VCBC 106
- ___ 100. Indicate structural information such as rafter, beams, plywood, detail reference, etc. on all the full height cross sections to justify load path. VCBC 106
- ___ 101. Delete all notes and details on the drawings that do not apply to this project. VCBC 106
- ___ 102. Specify the size, spacing, direction, and extent of rafters and floor joists. VCBC 106
- ___ 103. Call out size of hip and valley rafters. VCBC 106
- ___ 104. Provide details showing supporting arrangements of hip and valley rafters. VCBC Appendix 106.3

- ___ 105. _____ Rafters @ _____" o.c., are overspanned at the location(s) indicated on the marked-up set of plans. CBC Table 2308.10.3(1) thru 2308.10.3(6)
- ___ 106. Design ridge as a beam where roof pitch is less than 3:12. Show location and size of supporting column(s). CBC 2308.10
- ___ 107. Indicate rafter tie size and spacing or design ridge as a beam. CBC 2308.10.4.1
- ___ 108. Show rafter ties immediately above ceiling joists and at max. 4 ft. o.c. where joists do not parallel rafters. CBC 2308.10.4.1
- ___ 109. Roof purlins shall be not smaller in size than the supported rafters. Purlin braces shall be sloped not less than 45° from the horizontal. CBC 2308.10.5
- ___ 110. Provide nailing schedule for plywood roof and floor sheathing. CBC Table 2306.3.1
- ___ 111. Specify: Floor joists under and parallel to bearing partitions shall be doubled. CBC 2308.8.4
- ___ 112. _____ Floor joists @ _____" o.c., are overspanned at location(s) indicated. CBC Table 2308.8(1) thru 2308.8(2)
- ___ 113. _____ Roof/floor beam is overspanned at location(s) indicated. CBC 1605.3
- ___ 114. Specify required header size for all openings in walls. CBC 2308.9.5.1, 2301.2
- ___ 115. _____ Header is overspanned at location(s) indicated. CBC 2308.9.5.1, 2301.2
- ___ 116. Foundation cripple walls shall be framed with studs not less than 14 inches in length, or shall be braced with plywood sheathing nailed to the top plate, studs and sill. CBC 2308.9.4
- ___ 117. Provide shearwalls at under floor cripple walls per CBC 2308.12.4.
- ___ 118. _____ Studs @ _____" o.c. should not exceed _____ in height. You may justify proposed height with structural calculations for axial load plus bending. CBC Table 2308.9.1
- ___ 119. Provide 2 x 6 at 16" on center or 3 x 4 at 16" on center studs at the first story of three story building. CBC Table 2308.9.1
- ___ 120. Provide truss layout plans, details, and calculations signed by engineer/architect. Check top and bottom chords for axial load plus bending.
- ___ 121. Engineer of record shall review and sign truss plans to affirm their correctness and consistency with his structural calculations. VCBC 106
- ___ 122. Design shear panels for areas circled in red on the floor plan. Specify length of panel, thickness of plywood, nailing schedule, holdowns, anchor bolt size and spacing. CBC 1604.4
- ___ 123. Irregular structures shall be designed for lateral forces as specified in CBC 1604, CBC 2305

- ___ 124. Horizontal and/or vertical _____ diaphragm dimension ratio shall comply with CBC Table 2305.3.4, 2305.2.3
 - ___ 125. Provide shear transfer details showing how forces are transferred from roof/floor diaphragms to shear walls and foundation, and refer to such details on the cross sections. CBC 2305.1.4. Please download County handout B-40 from our website noted on the front page for guidance.
 - ___ 126. Indicate length and type of shearwalls on framing plans corresponding to calculations.
 - ___ 127. Interior shear walls shall extend to roof/floor diaphragm. Provide shear transfer detail/reference.
 - ___ 128. Provide chord splice detail for roof/floor diaphragms. CBC 2305.1.2, 1613.1
 - ___ 129. Provide drag strut connection detail/reference. Show location on the framing plans. CBC 2305.1.2
 - ___ 130. Spacing of boundary nailing for floor diaphragm and sill nailing of wall above to 2X perimeter blocking shall be sufficient to avoid splitting the 2X material. Provide a detail showing suitable nailing pattern or use 3X blocking. CBC Tables Nos. 2306.3.1, 2306.3.2, 2306.4.1
 - ___ 131. Show holdowns on the framing plans and provide a detail showing connection of upper and lower story shear walls. CBC 2305.3.7
 - ___ 132. Show location and size of posts which support beam. Specify post-beam connectors. CBC 2304.10.1.1, 2304.9
 - ___ 133. Specify metal connectors between ridge beams, rafters, and supports. Provide construction details. CBC 2304.9.3
 - ___ 134. Specify metal tie straps max. 4 ft. o.c. for connection of roof beams/rafters at ridge. CBC 2304.9.3
 - ___ 135. Show beam to beam, beam to post, and post to foundation connections. Specify approved metal connectors or provide details. CBC 2304.9, 2304.10.1
 - ___ 136. Balconies, decks and landings more than 30 inches above grade shall be provided with a guardrail, min. height 42". Open space between intermediate rails/balusters shall not exceed 4". Provide details. CBC 1013
 - ___ 137. Provide construction details for balcony railings, guard- rails and handrail post-base connections in compliance with the lateral load of 200# in any direction at any point per CBC 1607.7.1.
 - ___ 138. Provide full height structural cross section of fireplace to show compliance with CBC 2111 or attach County handout B-10 to the plans, or callout ICC research report number for factory built fireplaces on the plans. Please download this handout from our website.
 - ___ 139. Glazing within a 24" arc of the doorway/ glazing within 18" of floor/glazing in shower and bathtub doors and enclosures shall be tempered. CBC 2406.3
 - ___ 140. Glazing in doors shall be tempered. CBC 2406.3
 - ___ 141. Glazing in railing regardless of height above a walking surface shall be tempered. CBC 2407
 - ___ 142. Provide structural details and calculations for glass-enclosed greenhouse/solarium. Design for wind, seismic and dead loads per CBC 1609, 2404.
 - ___ 143. Call out size and spacing of veneer ties and joint reinforcement for anchored veneer per CBC 1405.
 - ___ 144. Provide construction detail of glass block masonry. CBC 2110
 - ___ 145. Provide attic ventilation per CBC 1203.2 and under floor ventilation per CBC 1203.3.
- FOUNDATION**
- ___ 146. Piers are permitted for single floor loads only. Redesign. VCBC Table 1805.4.2
 - ___ 147. Refer to soil report and to VCBC Table 1805.4.2. Redesign foundation to meet requirements associated with the soil expansion index for this site.
 - ___ 148. Design foundation for expansive index range of 91-130 and foundation bearing pressure = 1,000 PSF. Revise.
 - ___ 149. Welded wire mesh is not permitted in the slab on grade. VCBC Sec. 1802 and Table 1805.4.2. Revise.
 - ___ 150. Provide dowels: #3 @ 24" o.c. in exterior footing; bend 3' into slab. VCBC Table 1805.4.2
 - ___ 151. Use $\frac{5}{8}$ " anchorbolts for seismic design category "E" per CBC Sec. 2308.12.9.
 - ___ 152. Soil engineer shall provide recommendations for post tensioning system. Recommendations shall include but not limited to, allowable interior and exterior spans for slab design. Such allowable spans shall be justified according to expansiveness of the soil due to lateral migration of rainwater under the slab.
 - ___ 153. Engineer who prepared the post-tension design calculations shall also provide actual loads at bearing walls and posts.
 - ___ 154. Redesign foundation to comply with recommendations of the soil report. VCBC 1802
 - ___ 155. Design cast-in-place concrete piles, caissons and caps in compliance with CBC 1810
 - ___ 156. Provide pile caps and lateral stability for piles. CBC 1808.2.4, 1808.2.5
 - ___ 157. Show location, size, and reinforcement of column footings. CBC 1801.2
 - ___ 158. Show location (dimensioned) of hold-downs/steel straps/post anchors on the foundation plan. CBC Appendix 106.3
 - ___ 159. Add this note to foundation plans:

"All holdowns and anchor bolts at shearwall shall be set in place by template prior to foundations inspection."

- ___ 160. Indicate size and spacing of anchor bolts for shearwalls on the foundation plan. Reference to shearpanel schedule is not acceptable.
- ___ 161. Provide approved waterproofing material on the exterior surface of foundation retaining walls. Call out ICC research report number. CBC 1807
- ___ 162. Specify reinforcement at top and bottom of foundation where hold-downs are located. CBC 1604
- ___ 163. Add this note to the plans: "Drilled in expansion bolt anchors shall be tested by an independent testing laboratory to a minimum of 1,000 pounds or to twice the allowable design value for the same size bolt, whichever is greater. Frequency of testing shall be: one to five bolts per site - two bolts shall be tested and certified. More than five bolts - 25 percent of such bolts shall be selected at random to be tested and certified. Failing bolts shall be reinstalled and retested to the same criteria." VCBC 1613.7

STRUCTURAL DESIGN REQUIREMENTS

- ___ 164. Wood frame buildings of unusual shape or size, or of split level construction, shall be designed to resist lateral forces. Provide lateral force calculations and structural details. CBC 1604, 2305
- ___ 165. The complexity of the proposed structure necessitates design analysis and submittal of structural calculations for horizontal and vertical loads. CBC 1604
- ___ 166. Design retaining wall for overturning and sliding for a factor of safety of at least 1.5 per CBC 1806.
- ___ 167. Computer printout for retaining wall calculations as received is difficult to follow. Revise the printout to indicate the following:
 - (a) Fluid pressure.
 - (b) Any building axial load, surcharge due to building setback and/or surcharge due to vehicle parking.
 - (c) Actual bearing pressure at heel and toe.
 - (d) Minimum factor of safety = 1.5 for overturning and sliding.
 - (e) Value of n (Es/Em) used in the calculations.
 - (f) Actual flexural stresses in masonry and steel.
 - (g) Actual bond stress.
 - (h) Special inspection "yes" or "no".
- ___ 168. Submit structural design and details for retaining walls over 3 feet high or with surcharge. VCBC 105.2
- ___ 169. Check basement retaining walls for axial plus bending stresses.

- ___ 170. Separate permit is required for detached retaining walls. (Contact permit processing staff.)
- ___ 171. Provide concrete/masonry wall anchorage connection detail between roof/floor and the wall per CBC 1604.8.2. Such anchorage connection shall provide a direct and positive connection to resist horizontal forces.
- ___ 172. Submit structural design and details for fences or garden walls over 6' in height. VCBC 105.2
- ___ 173. Design uninhabitable residential attic storage use area for 20# per square foot per CBC Table 1607.1.
- ___ 174. Wood frame construction as shown on the plans deviates significantly from the conventional construction standards of CBC 2308. Provide structural calculations and details. Plans must be prepared by a licensed architect or registered engineer. Sec. 6737.1(b), California Business and Professions Code.
- ___ 175. Plans and calculations for residential buildings over two stories in height shall be prepared by a licensed architect or registered engineer. Sec. 6737.1(b), California Business and Professions Code.
- ___ 176. Provide a layout of rafters, joists, beams, posts, and shear resistive elements. Label the structural elements shown on the layout corresponding to calculations.
- ___ 177. Distribute lateral loads per CBC 1613.
- ___ 178. Check the rigid frame for load combination using allowable stress design per CBC 1605.
- ___ 179. Design rigid frame moment connection for the seismic design category per CBC 2205.2.2. You may design any pre-qualified connection details per Table 2-2 of FEMA Publication 350.
- ___ 180. Computer printout for rigid frame as received is difficult to follow. Revise the printout to indicate the following:
 - (a) Loading diagrams for each load combination.
 - (b) Bending, shear and deflection diagrams, each load combination.
 - (c) Vertical and horizontal reaction for each combination.
 - (d) Actual stresses in each structural element.
 - (e) Axial plus bending (unity check) for column.
- ___ 181. Computer printout for _____ as received is difficult to follow. Revise the printout to indicate the following:
 - (a) Loading diagrams for each load combination.
 - (b) Bending, shear and deflection diagrams, each load combination.
 - (c) Vertical and horizontal reaction for each combination.

- (d) Actual stresses in each structural element.
 - (e) Axial plus bending (unity check) for column.
- ___ 182. Design base bearing plate for steel column.
- ___ 183. Design column baseplate anchors per CBC 1911.
- ___ 184. Design steel column and footing in compliance with CBC 1613, 1805.4.2, 2205.1
- ___ 185. Design underfloor cripple walls as shearwalls per CBC 1604, 2308.12.4
- ___ 186. Use exposure "C" for wind design criteria per CBC 1609.4.
- ___ 187. Shearwalls sheathed with other than wood structural panels materials are not permitted. VCBC 2306.4.5
- ___ 188. Where special inspection is not provided due to fastener spacing of 4" or less, allowable shear value for shearwalls and horizontal diaphragm is 75% of CBC Table 2306.3.1 and 2306.4.1 per Ventura County Ordinance. Revise calculations and plans.
- ___ 189. Include redundancy factor in each shearwall design at each story per CBC 1613.
- ___ 190. Design cantilever column for resisting seismic forces per CBC 1613.1. Revise calculations.
- ___ 191. Since the upper story shearwalls are not continuous to the lower story, design lateral resistive elements for special seismic load combination as specified in CBC 1613.1. Where beams or columns occur under the shearwalls, they shall be designed for compression with "Ω" factor.
- ___ 192. Provide 3x sill plate since shear force/LFT has exceeded 350/LFT.
- ___ 193. In lieu of cut washers, provide square washers. Add this table to the plans.

MINIMUM SIZE FOR SQUARE PLATE WASHERS	
BOLT SIZE	PLATE SIZE
1/2"	3/16" x 2" x 2"
5/8"	1/4" x 2 1/2" x 2 1/2"
3/4"	5/16" x 2 3/4" x 2 3/4"
7/8"	5/16" x 3" x 3"
1"	3/8" x 3 1/2" x 3 1/2"

- ___ 194. Sill plate size and anchorage in seismic design category D, E shall have 3"x3"x0.229" washers. CBC 2305.3.11, 2308.12.8
- ___ 195. The architect/engineer who prepared the calculations shall review and sign the plans to affirm their correctness and consistency with the calculations. CBC Appendix 106.3

ENERGY CONSERVATION REQUIREMENTS (24 CAC)
- RESIDENTIAL

- ___ 196. Show on the PLANS the following to facilitate review for compliance with energy conservation standards:
- a. True north angle with respect to exterior walls.
 - b. On the cross sections, show insulation envelope, call out R-values of insulation for wall, roof, and floor (slab or raised floor) assemblies corresponding to the energy calculations.
 - c. Provide details of radiant barrier installation. 24 CAC(f)B.2
 - d. On the floor plans, identify thermal mass materials, thickness and square footage corresponding to energy calculations.
 - e. For package C, submit completed thermal mass worksheet "for slab floor construction"/"for raised floor construction" to justify compliance with thermal mass requirements.
 - f. Add mandatory energy conservation features and devices notes or MF-1R with applicable boxes check marked (___) to the plans.
 - g. Form CF-1R, Certificate of Compliance for Residential, shall be completely filled out including the required signatures and shall be added to the drawing sheets. Loose sheet CF-1R is not acceptable. 24 CAC, Sec. 10-103
- ___ 197. Provide energy calculation showing compliance with prescriptive or performance method per Title 24 requirements.
- ___ 198. Glazing area is not consistent with the energy calculations, verify and revise schedule.
- ___ 199. Show high efficiency luminaires in the kitchen, bathroom, garages, laundry room and utility room. 24 CAC. 150(k)

REQUIREMENTS BY OTHER AGENCIES

- ___ 200. Obtain a grading permit from the Public Works Development Services Division. CBC Chapter Appendix J
- ___ 201. The soil report has been sent to the Public Works Development Services Division for review. Comments or additional requirements, if any, will follow separately. VCBC 106
- ___ 202. Change drawings to comply with Public Works Development Services Division requirements. Refer to comments attached to this letter.
- ___ 203. Change drawings to show compliance with Public Works Flood Plain Ordinance requirements. Refer to comments attached to this letter. VCBC 106
- ___ 204. Show compliance with requirements of the High Fire Hazard Area/Fire Hazard Severity Zones on the plans. Refer to handout B-60. VCBC Chapter 7A FDP 26

