SAN JOAQUIN COUNTY
RESIDENTIAL PLAN CHECK CORRECTION SHEET
(209) 468-2098
FAX (209) 468-3163

PERMIT NO: _____ DATE: _____

APPLICANT: _____ PHONE #: _____

OWNER: _____ PHONE #: _____

JOBSITE ADDRESS: _____

CHECKED BY:

_____ _____

Eric Merlo
209/468-3169

A. GENERAL

Present California Law mandates that residential construction comply with Title 24 and the following model codes:

2010 California Building Code (CBC),
2010 California Residential Code (CRC)
2010 California Mechanical Code (CMC),
2010 California Plumbing Code (CPC),
2010 California Electrical Code (CEC),
2010 California Green Building Standards Code (CGBS),
2008 California Energy Efficiency Standards (CEES)

B. The items listed need clarification, modification or change.

C. To speed up the recheck process, note on this list (or a copy where each correction item has been addressed, i.e., plan sheet, specification, etc.). Be sure to enclose the marked up list when you submit the revised plans.

D. Please make all corrections on the original tracings and submit two new sets of prints, or substitute the affected sheets in the original prints and return all documents and original plan sets.

The 2010 California Residential Code (CRC) shall apply to detached One- and Two-family Dwellings and townhouses not more than three stories above the grade plane in height with separate means of egress and their accessory structures.

The construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations. [CRC R106.1.1]

A. PLAN REQUIREMENTS

A1. Specify on plans that the governing codes for this project are the following:

2010 California Building Code (CBC),
2010 California Residential Code (CRC),
2010 California Mechanical Code (CMC)
2010 California Plumbing Code (CPC),
2010 California Electrical Code (CEC),
2010 California Green Building Standards Code (CGBS),
2008 California Energy Efficiency Standards (CEES

A2. Indicate a job address on all sheets of the plans. [CRC R106.1.1]

A3. The name and address of the owner, architect, and engineer or person who prepared the plans shall be indicated on the front sheet of the plans. [CBC R106.1]

A4. Final plans and calculations are to be stamped and wet signed by an architect or civil/structural engineer licensed by the State of California. [CRC R301.1.3.1]

A5. Permit application for this project will expire 180 days after the date of filing. Contact County Building Inspection Division to obtain written 180-day extension(s). [CRC R105.3.2]

A6. Deferred submittals, are not acceptable without *PRIOR APPROVAL* of the Building Official, on a case-by-case basis. Please submit a "Deferred Submittal Request Form" for prior approval.

A7. The architect or engineer of record shall list all deferred submittals on cover sheet and note on the plan: "Deferred submittals to be reviewed by project architect or engineer of record and certified prior to submittal for plan review".

A7. Provide a note on cover sheet of the plans:

a. Job street address.
b. Owner's name and address.
c. Name, address and telephone number of person who prepared the plans.
d. Legal description (A.P.N.).
e. An automatic sprinkler system is required

A8. Provide a Building Code Data Legend on the title sheet. Include the following code information for the building proposed if not already shown on the plans:

a. Occupancy and group R3/U
b. Type of Construction: V-B
c. Site area square footage details.
d. Existing floor area square footage details.
e. New floor area square footage details.
f. Roof area square footage details.
g. Deck area square footage details.

A9. Incomplete submittal. Provide the following construction documents, calculations and/or drawings with each set of plans:

a. Three complete sets of plans
b. Soils report – 2 copies
c. Title 24 Energy Analysis
d. Vicinity Plan.
e. Drawing Index
f. Site Plan.
g. Shoring plan
h. Roof Plan.
i. Floor Plan.
j. Construction Section(s).
k. Foundation Plan
l. Floor Framing
m. Roof Framing.
n. Two Elevations.
o. Architectural Details.
p. Structural Calculations.
q. Structural Details. 2.1
r. Demolition Plan.
s. Fire Sprinkler Drawings.

A10. Indicate building type of construction (Type V-B, Type V-A, etc.), number of stories, area, and number of units, on the first sheet of the plans. [CRC R106.1.1]

A11. There shall be no trenches or excavations 5 feet or more in depth into which a person is required to descend; or obtain a necessary permit from State of California, Division of Industrial Safety prior to the issuance of a Building or Grading Permit.

A12. The architect or engineer of record shall list, on the cover sheet, all Special Inspections required.

A13. Submit engineering calculations for vertical and lateral loads prepared by a registered Civil, Structural Engineer or Architect. Additional Structural Corrections may apply.

A14. Drawing Requirements [CRC R106.1.1]:

a) Label all drawings (floor & framing plans, elevations, etc.) and provide an index of drawings.

b) Indicate drawing scales.

c) Key in sections and details to plans.

A15. Note on the Cover sheet: "Additions, remodels or renovations of a single family home with an existing pool require the suction outlet of the existing pool, spa, or toddler pool to be upgraded so as to be equipped with an approved anti-entrapment cover meeting the current standards of the ASTM or ASME per section 115920 HSC.

B. Site Plan

B.1 Submit fully dimensioned site plan drawn to scale showing north arrow, location, size and use of all existing and proposed structures on the lot. Identify property lines and show lot dimensions and all easements. Show distances between all structures, proposed and existing, and property lines. Show driveway with dimensions and construction materials. [CRC R106.1.1 & R106.2]:

B.2 Buildings 150 feet or more from the public roadway shall conform to the San Joaquin County Fire Chiefs Association Fire Road Standards. The existing-proposed fire access road/driveway shall be delineated on the construction drawings and the appropriate forms shall be signed by the owner prior to permit issuance.

B.3 Note on plans that surface water will drain away from building and show drainage pattern. Section 1804.7.

B.4 A Grading permit is required Show the following on the site plan. Section 1803

a. Drainage pond, volume required.

b. Building pad, estimate

cubic yards of material. Section 1803

B5. The size and location of electrical service, water service, and type (Utility supplied or LPG) of gas service shall be identified on the site plan.

B.6 Where applicable note the construction to be demolished and the location and size of the existing structures(s) and construction that is to remain. on the site plan.

B.7 Final plans and calculations are to be stamped and wet signed by an architect or civil/structural engineer licensed by the State of California. [CRC R301.1.3.1]

B.8 Revise sheet ___to indicate a minimum set back from top of the slope of ___feet per CRC Figure R403.1.7.1] [CRC R403.1.7.1]

B.9 Revise sheet ___ to indicate a minimum set back from toe of the slope of ___ feet per CRC Figure R403.1.7.2 [CRC R403.1.7.2]

B.10 Revise the street fronting building elevation to show a property address to comply with section CRC R319. [CRC R319.1]

C. GENERAL CONSTRUCTION REQUIREMENTS

C1. New townhouses, one- and two-family dwellings shall have an automatic fire sprinkler system installed in accordance with CRC Section R313.3 or NFPA 13D. [CRC R313]

Please provide complete plans for review.

C2. Private garage shall be separated from the residence and its attic, structure(s) supporting floor/ceiling assemblies used for separation required by CRC Section R302.6, and garages located less than 3' from a dwelling unit on the same lot shall be protected by a minimum ½ -in gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a 5/8-in type X gypsum board. [CRC R302.6]

C3. Doors between the garage and private residence shall be self-closing and self-latching. [CRC R302.5.1]

C4. Provide the minimum 1-3/8 inch solid-core wood door, a solid or honeycomb core steel door not less than 1-3/8 inch thick, or a 20-minute fire rated door between the garage and residence unless both are protected by an automatic residential fire sprinkler system. [CRC R302.5.1]

C5. Projections of dwelling units and accessory buildings without an automatic residential fire sprinkler protection are not permitted less than 2 feet to the property line and are required to be 1 hour fire rated on the underside with a fire separation distance between 2 feet and 5 feet. [CRC Table R302.1 (1)]

C6. Projections of dwelling units and accessory buildings with an automatic residential fire sprinkler protection are not permitted less than 2 feet to the property line and are required to be 1 hour fire rated on the underside with a fire separation distance between 2 feet and 3 feet. [CRC Table R302.1 (2)]

C7. Walls of dwelling units and accessory buildings without an automatic residential fire sprinkler protection with a fire separation distance less than 5 feet are required to have a full one hour rating. [CRC Table R302.1 (1)]

C8. Walls of dwelling units and accessory buildings with an automatic

residential fire sprinkler protection with a fire separation distance less than 3 feet are required to have a full one hour rating. [CRC Table R302.1 (2)]

C9. Detached garage accessory to a dwelling located within 2 feet of a lot line shall have a roof eave projection not to exceed 4 inches. [CRC R302.1]

C10. Openings are not permitted less than 3 feet to the property line. In dwelling units and accessory buildings without an automatic residential fire sprinkler protection openings are limited to 25 percent the wall area when fire separation distance is greater than 3' and less than 5'. [CRC R302.1 (1)]

C11. Exterior wall penetrations less than 5' in dwelling units and accessory buildings without an automatic residential fire sprinkler protection, or less than 3' in dwelling units and accessory buildings with an automatic residential fire sprinkler protection shall comply with CRC Section R302.4.

C12. Parapets shall be constructed in accordance with Section CRC R302.2.3 for townhouses as an extension of exterior walls or common walls in accordance with CRC R302.2.2.

C13. Townhouse units shall be separated by a common 1 hour fire-resistance-rated wall assembly and shall extend to and be tight against exterior walls and the underside of the roof sheathing. [CRC R302.2 Exception]

C14. Note on plans that a townhouse common wall cavity shall not contain plumbing or mechanical equipment, ducts, and vents. [CRC R302.2 Exception]

C15. A townhouse common wall shall be continuous from the foundation to the underside of the roof sheathing, deck or slab and extend the full length of the wall, including wall extensions through and separating attached enclosed accessory structures. [CRC R302.2.1]

C16. Townhouse parapets shall be constructed on exterior walls and common walls in accordance with CRC R302.2.3. [CRC R302.2.2]

C17. Duplex units shall be separated by a one hour fire-resistance wall and/or floor assemblies (1/2 hour in a sprinklered building) and shall extend to and be tight against exterior walls and the underside of the roof sheathing. [CRC R302.3]

C18. The supporting construction of floor assemblies with fire resistance rated by section R302.3 shall have its of equal or greater fire-resistance rating than the fire-rated assembly being supported. [CRC R302.3]

C19. Through penetrations of fire-resistance-rated construction shall be in accordance with CRC Section R302.4.1.1 or R302.4.1.2.

C20. Membrane penetrations of fire-resistance-rated construction shall be in accordance with CRC Section R302.4.1 and R302.4.2.

C21. Penetrations of electrical outlet boxes in a townhouse common wall shall be in accordance with CRC Section R302.4. [CRC R302.2 Exception]

C22. Fireblocking is required in concealed spaces 10' o.c. horizontal, vertically at the ceiling and floor levels, connections between horizontal and vertical spaces, concealed spaces between stair and landing, openings around vents, pipes, ducts, cables, wires, chimneys and fireplaces. [CRC R302.11]

C23. Provide details of the deck/balcony and specify method of waterproofing. List ICC approval number for decking material. Show two percent minimum slope. [CRC R905.10.1]

C24. Add note to window schedule: The load resistance of glass under uniform load shall be determined in accordance with ASTM E 1300.

C25. The minimum net area of under-floor space ventilation shall not be less than the floor area/150. [CRC R408.1]

C26. Access shall be provided to all under-floor spaces. The floor access shall be a minimum 18" by 24" and openings through a perimeter wall shall be not less than 16" by 24". [CRC R408.4]

C27. Wood joists or the bottom of a wood structural floor closer than 18" or wood girders closer than 12" to the exposed crawl space shall be pressure treated or naturally durable to decay. [CRC R317.1 (1)]

C28. All wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8" to the exposed ground shall be pressure treated or naturally durable to decay. [CRC R317.1 (2)]]

C29. Sills and sleepers in direct contact with concrete or masonry that is in direct contact with the ground and girders with less than ½" clearance to masonry and concrete shall be pressure treated or naturally durable to decay. [CRC R317.1 (3&4)]]

C30. Note on plans that "Field-cutting ends, notches and drilled holes of preservative-treated wood shall be treated in the field in accordance with AWPA M4". [CRC R317-1.1]

D. OCCUPANCY REQUIREMENTS

D1. A garage shall not be open into any room used for sleeping. [CRC R302.5]

D2. Sleeping rooms must have a window or exterior door for an emergency exit, sill height not more than 44 inches above the floor, 5.7 square feet of openable area, 24 inches clear opening height, 20 inches clear opening width and shall open directly into a public street, alley, yard, or exit court.. Windows _____ do not comply. [CRC R310.1-R310.1.3]

D6. Window wells are not permitted to be located within 3 feet of property line. [CRC Table R302.1 (1) & (2)]

D7. Window wells shall comply with section CRC R310.2

D8. Specify window size and type (how it opens) for both existing and new windows for bedroom(s) adjacent to new addition so that emergency egress requirements may be verified.

D9. Wall between _____ and _____ should be unobstructed and provides an opening of not less than 8% of the floor area of the interior room or 25 square feet whichever is greater to meet ventilation requirements in these rooms. [CRC R303.2]

D10. Minimum window area shall be 8 % of the floor area and 50 % openable at _____ room. [CRC R303.1]

D11. Wall between _____ and _____ should be 50 % open and unobstructed and provides an opening of not less than 1/10 of the floor area of the interior room or 25 square feet whichever is greater to meet natural light requirements in these rooms. [CRC R303.2]

D12. Net window opening for ventilation at _____ room shall be a minimum of 4 % of the floor area. [CRC R303.1]

D13. Where openable windows are not provided provide a mechanical ventilation system capable of producing 0.35 air change per hour in the room. [CRC R303.1 (1)]

D14. Specify window size and type (how it opens) for both new and existing windows at rooms adjacent to new addition so that minimum light and ventilation requirements may be verified. Minimum window area shall be 8 % of the floor area square and 50% openable. [CRC R303.1]

D15. Where windows are not provided provide a mechanical ventilation system capable of producing 0.35 air change per hour in the room and artificial light producing 6 foot-candles (65 lux) at 30" in height. [CRC R303.1 (2)]

D16. Bathroom or service room minimum window areas shall not be less than 3 square feet and 50 % openable or, provide a mechanical ventilation system exhausted to the outside capable of providing 50 cubic feet per minute for intermittent ventilation 25 cubic feet per minute for continuous ventilation. [CRC R303.3]

D17. Show 30-inch clear width for water closet compartments and 24-inch clearance in front of a water closet.

D18. Show a 7' minimum ceiling height for habitable rooms, hallways, bathrooms, toilet & laundry rooms, and basements containing these spaces. [CRC R305.1]

D19 For sloped ceilings at least 50% of the required floor area (70 sq feet) 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'. [CRC R305.1 Exception (1)]

D20. Bathroom shall have a minimum ceiling height of 6'8" at the center of the front clearance area for fixtures. [CRC 305.1 Exception (2)]

D21. Show a 6'-8" minimum ceiling height for non habitable basements. [CRC 305.1.1]

D22. Exterior openings that open into porches and sunrooms areas used for light and ventilation shall have 40% of the exterior walls are open and the enclosure shall comply with CRC Appendix H. [CRC R303.1 Exception (3)]

D23. Show location of heating equipment on the plans. [CRC R303.8]

D24. Revise plans to show UL 217 rated smoke alarms:

a) In alterations, repairs and additions smoke alarms are required in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms, and at each additional floor or basement level. Smoke alarms may be battery operated and not interconnected. [CRC R314.3.1]

b) Smoke alarms shall be provided in all new construction located in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms, and at each additional floor or basement level. [CRC R314.3]

c) In new buildings, smoke alarms shall be interconnected and hardwired. [CRC R314.4 & R314.5]

D25. Revise plans to show UL 2034/2075 rated Carbon monoxide alarms:

a) In alterations, repairs and additions of existing dwellings exceeding $1000 carbon monoxide alarms are required in the specific permitted dwellings or sleeping units that have attached garages or fuel burning appliances. The carbon monoxide alarms may be battery operated and not interconnected. [CRC R314.3.1]

b) Carbon monoxide alarms shall be provided in all new construction located in each sleeping room containing a fuel-burning appliance and in dwelling units that have an attached garage. [CRC R315]

c) In new buildings, carbon monoxide alarms shall be interconnected and hardwired. [CRC R315.1.1 & R315.1.2]

E. FINISHES

E1. Provide specifications and details for stone and masonry veneer in compliance with CRC Section R703.7.

E2. Submit an interior finish schedule (specify fasteners, fastener spacing, coating thickness, number of coats, etc) complying with the requirements of CRC R702.

E3. Indicate vertical supports for anchored veneer and air spacing in accordance with CRC Section R703.7.

E4. Provide specifications for lath, plaster and drywall to conform to the requirements of CRC Chapter 7.

E5. Show exterior wall construction assembly. A minimum of one layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for Type 1 felt shall be applied over studs of all exterior walls. Specify that two layers of Grade D or 60 minute Grade D paper shall be applied over all wood base sheathing. [CRC R703.2]

E6. Specify a minimum 0.019" (No. 26 galvanized sheet gage) corrosion-resistant or plastic weep screed located below foundation plate line and 4 inches above grade on all exterior stud walls or 2-inches above paved areas. [CRC R703.6.2.1]

F. GLAZING

F1. Note on plan "Each pane of safety glazing installed in hazardous locations shall be identified (acid etched, sand blasted, ceramic fired, etc) by a manufacturer's designation, the manufacturer or installer and the safety glazing standard which it complies. Multi-pane assemblies shall be identified per CRC R308.1. [CRC R308.1]

F2. Glazing in swinging, sliding, and bifold doors 9 square feet or less shall be a minimum category classification of I (CPSC 16 CFR 1201) and II (CPSC 16 CFR 1201) when more than 9 square feet or sliding. [Table R308.3.1 (1), R308.3 (1)]

F3. Glazing within 24" arc of either vertical edge of the door and less than 5' from the walking surface shall be safety glazed. [CRC R308.4 (2)]

F4. Glazing over 9 square feet in area with bottom edge less than 18" above the floor and exposed top edge greater than 36" above the floor shall be safety glazed. [CRC R308.4 (3)]

F5. Glass used in handrails and guards shall be safety glazed. [CRC 308.4(4)]
F8. Glazing in door and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathrooms, showers less than 5' above the standing surface shall have a minimum category classification of II (CPSC 16 CFR 1201). [CRC TR308.3.1 (1) & 308.4(5)]

F6. Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas when the bottom edge of the glazing is less than 5' above a walking surface and it is within 5' horizontally of the water's edge shall have a minimum category classification of I (CPSC 16 CFR 1201) or B (ANSI Z97.1) when 9 square feet or less in area and II (CPSC 16 CFR 1201) or A (ANSI Z97.1) when more than 9 square feet.. [CRC 308.4(6) & T R308.4.1 (1) & (2)]

F7. Glazing adjacent to stairway, landings and ramps within 3' horizontally and 5' vertically of a walking surface shall have a minimum category classification of II (CPSC 16 CFR 1201) or A (ANSI Z97.1) when more than 9 square feet. [CRC R308.4 (7) & Table R308.4.1 (1) & (2)]

F8. Glazing adjacent to stairways within 5' horizontally and 5' vertically of a walking surface shall be safety glazing. [CRC 308.4(8)]

G. Skylights

G1. Specify manufacturer's name and ICC approval number for skylights. [CRC R308.6.9]

G2. Specify that glazing material for skylights shall be fully tempered, heat-strengthened, wired, approved rigid plastic, or laminated in accordance with CRC R308.6.2.

G3. Screens shall be provided to glazing that is not fully tempered meeting the requirements listed in R308.6.5. [CRC R308.6.3 & R308.6.5]

G4. Provide skylight details to show flashing and 4-inch minimum mounting height. [CRC 308.6.8]

G5. Submit calculations, specifications, and construction details for skylights that are not third party approved.

H. FIREPLACES

H.1. Provide details of masonry firebox and chimney construction in accordance with CRC R1003 & R1001.

H2. Provide 2 inch minimum (1 inch for exterior chimneys) clear air space between chimney and wood construction from the front faces and sides and 4 inch from the back face. [CRC R1001.11]

H3. Provide details of the fireplace, indicate chimney lining, reinforcing, ties to building, etc. [CRC R1003 & R1001]

H4. Call out make, model and ICC, UL or third party approval number for the prefabricated metal fireplace and chimney. [CRC R1004.1 & R1005.1]

H5. Fireboxes that burn solid fuel shall be provided with a chimney spark arrester. [CRC 1003.9.1]

H6. Show height of the chimney to be two feet above roof level within 10 feet of chimney, and not less than three feet from point where chimney passes through roof. [CRC R1003.9.1]
G7. Provide Seismic reinforcing for section [CRC R1003]

H8. Provide anchoring detail or masonry heart to foundation. [CRC 1002.4]

I. EXITING REQUIREMENTS

I.1 Every residence and dwelling unit shall have at least one continuous and unobstructed path of vertical and horizontal egress travel from all portions of the building without requiring travel through a garage. [CRC 311.1]

I.2 The third floor shall have a maximum 50' travel distance from any occupied point to an egress stairway or ramp. [CRC R311.4]

I.3 The minimum width of hallways shall not be less than 36". [CRC R311.6]

I.4 Basements shall have at least one exterior emergency escape and rescue opening that shall open directly into a public street, alley, yard, or exit court. Each sleeping room at basement shall have its emergency egress and rescue opening. Escape windows with a finished sill height below adjacent ground elevation shall have a window well and ladder per CRC R310.2. [CRC310.1]

I.5. Specify that bars, grilles or similar devices if placed over any sleeping room door or window shall be releasable and removable from the inside without the use of a key, tool, or any special knowledge or effort. [CRC R310.4]

I.6. Every dwelling unit shall have at least one swinging exit door, minimum clear height of 6'-6", and minimum clear width of 32". [CRC 311.2]

I.7. Revise plans to indicate that a landing, with a width not less than the width of door and length in the direction of travel of not less than 36 inches, will be provided on each side of doors. The elevation of landing shall not exceed 1 ½ inch difference than the threshold of the doorway (7 3/4 inch if door does not swing over the landing or steps) in each direction. Revise plans at door from _____ to show compliance. [CRC R311.3.1]

I.8. Specify that the maximum slope of any landing shall not exceed ¼ inch per foot. [CRC R311.3]

I.9. Indicate that the corridor/hall to _____ room shall be 36 inches minimum clear width. [CBC R311.6]

I.10. The minimum clear width of stairways is clear 36" above the handrail. Handrails shall not project more than 4.5" on either side of the stairway and the minimum clear width of the stairway at and below the handrail height shall be 31.5" and 27" when installed on one side and both sides, respectively. [CRC R311.7.1]

I.11. Provide a section of stairway showing a maximum rise of 7.75 inches and a minimum run width of 10 inches for straight stairways. The maximum difference between the stair risers and treads shall not be greater than 3/8". [CRC R311.7.4]

I.12. Provide details of the winding tread walk line 12" clear from the inside turn. [CRC R311.7.3]

I.13. Provide detail of spiral stairways that show compliance with CRC R311.7.9.1.

a) Minimum clear width at and below the handrail is 26".

b) Have a minimum tread depth of 7 1/2" at 12" from the narrow edge.

c) All treads are identical with a maximum rise of 9 1/2".

d) Minimum headroom of 6'-6" shall be provided.

I.14. Handrails are required on at least one side of a continuous run of treads or flight with four or more risers. [CRC R311.7.7]

I.15. Provide dimensioned details of handrail grips showing a minimum edges radius of 0.01 inch and shall have a one of the following:

a) Circular cross sectional diameter shall be between 1 ¼" and 2". Non-circular handrails shall have a perimeter dimension between 4 and 6 ¼ inches with a maximum cross section of dimension of 2 ¼ inches. [CRC R311.7.7.3 (1)]

b) Handrails with a perimeter dimension > 6 ¼ inches shall have a graspable finger on both sides of the profile between 1 1/4" to 2 ¾" beginning within ¾" from the top of the profile and achieve a minimum 5/16" depth within 7/8" below the widest profile point and shall continue a minimum 3/8" to a level not less than 1¾" below the tallest portion of the profile. [CRC R311.7.7.3 (2)]

I.16. Handrails shall be continuous except at a turn they are permitted to be interrupted by a newel post and have a minimum clear distance between the wall and handrail grip of 1 ½ inches. [CRC R311.7.7.2]

I.17. Where guards are used as handrails at the sides of stairs they shall have a height between 34-38 inches. [CRC R312.2.7]

I.18. Provide a 42 inch high guardrail at balconies landing and decks located more than 30" vertically to the floor or grade below. [CRC R312.1 & R312.2]

I.19. Provide a detail of the guard (including a handrail on open sides of the stairway) showing that a 4 3/4" diameter sphere may not pass through the open space between intermediate rails and pickets. The open space between the riser tread and bottom rail of the guard shall not allow a 6-inch diameter sphere to pass through. [CRC R312.3]

I.20. Show a ½ inch gypsum board at enclosed space under the stairway. [CRC R302.7]

I.21. Provide a stairway cross-section showing minimum clear headroom of 6'-8". [CRC R311.3.2]

I.22. There shall be not more than 12 feet vertically between landings. [CRC R311.7.5]

I.23. Dimension landings at top and bottom of stairs measured in the direction of travel not less than the stair width. [CRC R311.7.5]

J. ROOF CONSTRUCTION AND COVERING

J1. Provide detail of roof construction assembly. [CRC 902.1]

J2. Specify ICC approval number for tile and special roof coverings. [CRC R905.3.4 and R905.3.5]

J3. For each enclosed attic space with a maximum vertical height greater than 30 inches, provide a minimum of 22 x 30 inches attic access. [CRC R807.1]

J4. Provide cross ventilation for attic and each enclosed rafter space as specified in CRC Section R806. The total net free ventilating area shall not be less than 1/150 or 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling. [CRC R806.2]

J.5 Unvented attic assemblies shall comply with CRC R806.4.

J.6 Provide detail at eave vents to show a minimum 1" space between the insulation and bottom of the roof sheathing. [CRC R806.3]

J.7 Roof and deck area drains to be designed for a ____ hour rainfall per Table 11-1. [CPC 1105]

J.8 Provide details of roof drain and overflow. Overflow drains shall have separate independent piping and have an inlet flow line locate 2" above the low point of the roof. Overflow scuppers shall have an area 3 times the roof drain, a minimum opening height of 4", and have an inlet flow line located 2" above the low point of the roof. [CRC R903.4.1]

J.9 Draftstops shall be provided in any concealed space where there is usable space both above and below the concealed space. The concealed space shall not exceed 1,000 square feet. [CRC R302.12]

J.10 Exposed attic floor insulation shall have a critical radiant flux of not less than 0.12 watt per square centimeter per ASTM E 970.

K. NOISE CONTROL

K1. Detail the sound attenuation (minimum STC & IIC rating of 45) between units and public space. Attach noise installation standards to the plans. [CRC AK 02 & AK103]

L. ENERGY CONSERVATION (2008 California Energy Standards Code, which is 2010 California Energy Code)

L1. Note: All plans submitted for plan check on or after January 1, 2010 are to be based on the 2008 California Energy Code.

L2. Submit a complete energy compliance package complying with 2008 CESC Section 150. [T24-1-10.103

L3. For new construction use prescriptive package D or provide a complete performance analysis. [2008 CESC 152(a)]

L4. Additions and alterations are required to comply with 2008 CESC Section 152. Submit an energy compliance package showing compliance with package D or a complete performance analysis. [T24-1-10.103]

L5. Additions to existing buildings using the prescriptive approach shall meet the following requirements. [2008 CESC 152(a) 1]:

a) Additions up to 100 square feet shall not exceed 50 square feet of glazing. The glazing U-factor shall not exceed 0.40, and the glazing Solar Heat Gain Coefficient shall not exceed the value specified in Alternative Component Package D and applicable parts of Table 151-C;

b) Additions up to 1000 square feet shall meet all the requirements of Package D [Section 151(f) and applicable parts of Table 151-C]. The total glazing area at addition is limited to the maximum allowed in Package D plus the glazing area that was removed by the addition. The wall insulation value need not exceed R-13.

c) Additions of 1000 square feet or greater shall meet all the requirements of Package D [Section 151(f) and applicable parts of Table 151-C]

L6. Additions to existing buildings using performance approach shall meet the requirements of Section 151(a) through (e), pursuant to either of the following [2008 CESC 152(a) 2]:

a) For additions alone, the addition complies if the addition meets the combined water-heating and space

conditioning energy budgets as specified in Section 151(b).

b) For existing plus addition plus alteration compliance. The energy use of the combination of the altered existing building plus the proposed addition shall be equal to or less than the energy use of the existing building with all alterations meeting the requirements of Section 152(b) 2, plus the standard energy budget of an addition that complies with Sections 151(a) through (e). When determining the standard design, the fenestration area shall be the smaller of the sum of the installed fenestration area up to 20 percent of the conditioned floor area of the addition plus glass removed from the existing building as a result of the construction of the addition or the proposed glass area in the addition.

L7. Alterations to existing buildings using the Prescriptive approach shall meet the applicable requirements of Sections 110 through 119, and 150(a) through (p) (for the altered area and new equipment); [2008 CESC 152(b)] AND

a) Alterations that add fenestration area to a building shall be limited to a maximum 0.40 U-factor and the Solar Heat Gain Coefficient for new fenestration product as specified in Alternative component Package D. [Tables 151-C]

EXCEPTION to Section 152(b) 1A: Alterations that add fenestration area of up to 50 square feet shall not be required to meet the total fenestration area and west-facing fenestration area requirements of Sections 151(f) 3B and C. The existing west-facing fenestration area shall not be increased by more than 50 square feet.

b) Replacement fenestration, where existing glazing is replaced with a new manufactured fenestration product in the same orientation and tilt, shall meet the U-factor and Solar Heat Gain Coefficient requirements of Package D (Sections 151(f) 3A and 151(f) 4 and Table 151-C).

NOTE: Glass replaced in an existing sash and frame, or replacement of a single sash in a multi-sash fenestration product are considered repairs

c) New or replacement space-conditioning systems shall:
i. Meet the requirements of Section 150(h), 150(i), 150(j)2, 151(f)6, 151(f)7, 151(f)9, and 151(f)11; AND

ii. Be limited to natural gas, liquefied petroleum gas, or the existing fuel type unless it can be demonstrated that the TDV energy use of the new system is more efficient than the existing system.

d) When more than 40 feet of new or replacement space-conditioning ducts are installed in unconditioned space, the new ducts shall meet the requirements of Section 150(m) and the duct insulation requirements of Package D Section 151(f) 10. If ducts are installed in climate zones 2, 9, 10, 11, 12, 13, 14, 15 or 16, the duct system shall be sealed, as confirmed through field verification and diagnostic testing in accordance with procedures for duct sealing of existing duct systems as specified in the Reference Residential Appendix RA3, to meet one of the following requirements.
i. If the new ducts form an entirely new duct system directly connected to the air handler, the measured duct leakage shall be less than 6 percent of fan flow and meet the airflow

requirements of Reference Residential Appendix RA3: OR

ii. If the new ducts are an extension of an existing duct system, the combined new and existing duct system shall meet one of the following requirements.

iii. The measured duct leakage shall be less than 15 percent of system fan flow; OR

iv. The measured duct leakage to outside shall be less then 10 percent of system fan flow; OR

v. The duct leakage shall be reduced by more than 60 percent relative to the leakage prior to the installation of the new ducts and a visual inspection, including a smoke test; shall demonstrate that all accessible leaks have been sealed; OR

vi. If it is not possible to meet the duct sealing requirements of subsection a, b, or c, all accessible leaks shall be sealed and verified through a visual inspection and a smoke test by a certified HERS rater.

EXCEPTION to Section 152(b) 1Dii: Existing duct systems that are extended, which are constructed, insulated or sealed with asbestos.

L8. Alterations to existing buildings using the Performance approach shall meet the applicable requirements of Sections 110 through 118 and 150 (for the altered area and new equipment). [2008 CESC 152(b) 2]; AND

a) Either the permitted space alone, which shall be a minimum of the square footage of the room in which the alteration is made, shall comply with Section 151; OR

b) The energy efficiency of the existing building shall be improved so that the building meets with the energy budget in Section 151 that would apply if the existing building was unchanged and the permitted space alone complied with the above item. The permitted space shall be a minimum of the square footage of the room in which alteration is made.

L.9 Fenestration products repaired or replaced, not as part of an alteration, need not comply with U-factor and Solar Heat Gain Coefficient requirements applicable to alterations. [2008 CESC 152(b) 1]

L10. The CF-1R form is to be signed by the Document Author and Building Designer and incorporated into the plans. [T24-1-10.103(a) 2A]

L11. The Mandatory Measures Checklist (MF-1R) form, showing compliance with 2008 CESC Section 150, is to be incorporated into the plans. [T24-1-10.103(a) 2A]

L12. Indicate all compliance measures from the energy compliance documentation on the plans. (i.e. Insulation for sections, U-factors SHGC). Revise door and window schedule or floor plans to show compliance. [T24-1-10.111]

L13. All new windows and doors shall have a label indicating the U-factor and SHGU. Comply with energy documentation requirements.

L14. The maximum U-factor for glazing is 0.40 for Climate Zones 6 thru10 for Package D. Revise plans to show compliance.

L15. The minimum Solar Heat Gain Coefficient (SHGC) is 0.4 for Climate Zones 6 thru 10 for Package D.

L16. The maximum U-factor is _____ based on information on plans. See Table 151-B or –C

L17. The maximum Solar Heat Gain Coefficient (SHGC) is _____ based on information on the plans. See Table 151-B or C

L18. Provide documentation to show that the proposed heating/cooling equipment complies with 2008 CESC Sections 150(h).

L19. Indicate mechanical equipment on plans, specify the make, model, capacities, and minimum efficiencies for both heating and cooling, and provide evidence of 2008 CESC certification. [2008 CESC 112 & 150(h)]

K20. Indicate water heater insulation requirements on the CF-1R form. Minimum external insulation is R-12 or internal insulation of R-16. [2008 CESC 150(j)]

L21. Revise framing plans to indicate insulation for walls R=13, ceiling R=30, and raise floor R=19 climate zones 6 and 8. [2008 CESC 150]

L22. Revise framing plans. Wall R=19, ceiling R=38, raised floor R=19, climate zones 11 thru 16. [2008 CESC 150]

L23. Insulation shown on the plans does not agree with CF-1R form; revise framing plans. Wall R=___, ceiling R=___, raised floor R=___.

L24. Revise framing plans to provide a radiant barrier at roof for Climate Zones 8 when using the prescriptive approach. [2008 CESC 151(f) 2]

L25. Provide specification for roof and wall insulations.

L26. Provide data for aged solar reflectance and thermal emittance values used on roofing products for steep slopes with a weight of 5 psf or more using the Prescriptive Method OR use default values used in Section 118i. [2008 CESC 151(f) 12]

L27. The energy analysis specifies a U-factor for the west facing glazing. Provide specification or notes to show compliance. [2008 CESC 151]

L28. High efficacy luminaries for residential lighting shall contain only high efficacy lamps shall not contain a medium screw base socket (E24/E26). A high efficacy lamp has a lamp efficacy that is no lower than efficacies contained in Table 150-C. Ballasts for lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.

L29. Note all high efficacy luminaries (including recessed can fixtures) shall contain pin-based sockets unless specifically approved by the Energy Commission. [2008 CESC 150(k) 1]

L30. Permanently installed luminaries in:

a) Kitchens shall be at least 50% of high efficacy luminaries with separated circuit.

b) Bathrooms, garage, laundry rooms, and utility rooms shall be high efficacy luminaries, OR controlled by an occupant sensor.

c) Other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaries, OR controlled by a dimmer switch, OR controlled by an occupant sensor.

d) Outdoor lighting mounted to the building shall be high efficacy OR

controlled by a photo control/motion sensor.

e) Common areas of multifamily buildings shall be either high efficacy OR controlled by an occupant sensor.

L31. All new HVAC equipment must have an efficiency rating of EER 13. [2008 CESC 112]

L32. Piping in unconditioned space, leading to and from water heater shall be insulated with an installed thermal resistance of at least R-4 for the 5 feet of pipe closest to the water heater or whatever shorter length is in the unconditioned space. [2008 CESC 150(j) 2]

L33. All heating systems shall have an automatic thermostat with a clock mechanism which the building occupant can manually program to automatically set back the thermostat set points at least 4 periods within 24 hours. [2008 CESC 150(i)]

L34. The air handling duct system shall be constructed, installed, and sealed as provided in Sections 601, 603, 604 & 605 of the California Mechanical Code. [2008 CESC 150(m)]

L35. Building cavities, support platforms for air handlers, and plenums constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. [CBC 150 (m)]

L36. Solar heat gain coefficients for interior shading devices used with fenestration products shall be 0.68 for vertical fenestration products and 1.0 for non-vertical fenestration products. [2008 CESC 151 (e) 5]

L37. All supply ducts shall either be in conditioned space or be insulated to a minimum installed level of R-4.2 and meet requirements of 2008 CESC 150(m). All duct systems shall be sealed as confirmed through field verification and diagnostic testing per ACM manual.

L38. If a masonry or factory-built fireplace is installed, it shall have the following: [2008 CESC 150(e)]

a) Closeable metal or glass doors covering the entire opening of the firebox;

b) A combustion air intake to draw air from the outside of the building directly into the firebox, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device; AND.

EXCEPTION: An outside combustion-air intake is not required if the fireplace will be installed over concrete slab flooring and the fireplace will not be located on an exterior wall.

c) A flue damper with a readily accessible control.

EXCEPTION: When a gas log, log lighter, or decorate gas appliance is installed in a fireplace, the flue damper shall be blocked open if required by the manufacturer=s installation instructions or the California Mechanical Code.

L39. For fireplaces, decorative gas appliances and gas logs -- continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the

outside of the building are prohibited.[2008 CESC150(e)2]

M. MECHANICAL

M1. Provide and show heating facilities per CRC R303.8.

M2. Provide and show the termination of environmental air ducts a minimum of 3 feet from the property line and 3 feet from openings into the building. CMC 504.5

M3. Provide and show clothes dryer moisture exhaust duct. Note on the plans "Min. 4" diameter to the outside, equipped with a back-draft damper. Duct length is limited to 14' with 2 elbows". Other lengths or sizes as permitted or required by the manufacturer's installation instructions may be approved by the Building Official. (Submit a request for modifications) CMC 504.3.2.2.

M4. Provide and show a minimum of 100 square inches for makeup air when a domestic clothes dryer is installed in a closet designed for the installation. CMC504.3.2

M5. Provide and show how heat-producing appliances in garage will be protected from automobile damage. [CMC 307]

M10. Provide a minimum of 18 inches high platform for water heater and FAU or other gas appliance located in the garage. [CMC 307.1]

M11. Provide and show sufficient clearances to provide a working space of 30" in depth, width and height for appliances installed in attics and crawl spaces.

M12 Show the location of a minimum 22"x30" attic access opening with a minimum of 30" clear height above. Attics with appliances installed in the attic shall have an opening of at least as large as the equipment with a minimum size of 22" x 30". CMC904.11.1

M13. Provide anchorage details for FAU units. [CMC 303.4]

M14. Provide combustion air for a water heater and/or an FAU located within 12 inches of top and bottom of the compartment. [CMC 701.10(4&6) & 701.3]

M15. Provide a 3-inch clearance on all sides, back and top and 6 inches in front of the furnace and water heater. [CMC 904.2]

M16. Enclosures housing an FAU or water heater cannot open into bedrooms, closets, or bathrooms unless enclosed in a fire rated enclosure. [CMC 904.1]

M17. For an FAU located in the attic provide a minimum access of 22 x 30 inches, a 24-inch wide walkway, a 30-inch deep work platform, and electric light outlet adjacent to the furnace and switched by the opening. [CMC 904.11 & 305]

M18. Show 22 x 30 inch clear access to the furnace. Provide a maximum of 20 feet from opening to furnace. [CMC 904]

M19. Revise plans to indicate how separate combustion air is provided for FAU located in attic. [CMC 701.3]

M20. Show exhaust hood and exhaust vent above cooking appliances at the kitchen. [CMC 504.2]

N. PLUMBING

N1. Minimum slope of sewer line and drainage piping is 2% [CPC 708]

N2. Detail and show the sleeve and venting requirements for underground gas installed beneath buildings per CPC section 1211.1.6.

N3. Provide complete routing plans for sewer drainage piping from the furthest most fixtures to sewer lateral. Revise plan to indicate slopes and cleanouts.

N4. Note on the plans: "An approved backwater valve is required for drainage piping serving fixtures located below the elevation of the next upstream manhole cover. Fixtures above such elevation shall not discharge through the backwater valve. Clean outs for drains that pass through a back water valve shall be clearly identified with a permanent label stating "backwater valve downstream"." [CPC 710.1]

N5. The finished floor is below the invert elevation of the public sewer. Provide complete plans and calculations for the sewer ejector system to show compliance with CPC 710.3.

N6. Basements and floors below the street flow line are required to have a drainage sump, pumps, and backwater valve. [CPC 1101.6 & 1101.5.5]

Detail and show on the plumbing plan, the sewage ejector or sump pump system including the size, manufacturer, model number and electrical requirements.

N7. Bathtub and shower floors and walls above bathtubs with installed shower head and in shower compartments shall be finished with a nonabsorbent surface. Such wall surface shall extend to a height of not less than 6' above the floor. [CRC R307.2]

N8. Water heater enclosures cannot open into bedrooms, closets, or bathrooms. [CPC 505.1]

N9. Show minimum shower area of 1024 square inches finished dimension and ability to encompass a 30-inch diameter circle. [CPC 411.7]

N10. All hose bibs must be protected by an anti siphon device. [CPC 603.1]

N11. Provide a minimum of 18 inches high platform for water heater and FAU or other gas appliance located in the garage. [CMC 307.1]

N12. Show location of the water heater on the plans and/or provide the following information on the plans:

a. Show combustion air, venting, location, drain pan and line per CPC 508.4.

b. Water heater burner, pilot light or igniter to be at 18" above garage floor if located in garage. CPC 508.14(1).

c. Provide a 3" ø steel pipe x 36" embedded in concrete slab for protection of water heater. CPC508.14(2)

d. Water heaters shall be anchored or strapped to the structure. Provide 1 ½" x 16 gauge straps at top and bottom with 3/8" ⌀. X 3" long lag bolt at each end. CPC 508.2

N13. Note and show on the plumbing plan, water heaters installed in attic spaces or floor ceiling/floor subfloor assemblies where damage may occur from a leaking water heater, a watertight pan of corrosion resistant materials shall be installed beneath the water heater with a minimum ¾" dia. drain to an approved location. CPC 508.4

N14. Note and show on the plumbing plan, water heaters located within

habitable space require the manufacturer's specifications detailing the combustion air supply and venting. Provide the specification cut sheet.

N15. Note and show on the plumbing plan, instantaneous gas water heaters (tankless) located within habitable space require manufacturer's specifications for combustion air supply and venting.

N16. Note and show on the plumbing plan, instantaneous gas water heaters (tankless) are not direct replacements for conventional tank type water heaters. Provide and show a dedicated gas line sized per the appliance specifications (provide cut sheet) or provide total dwelling gas load calculation to justify the additional gas load.

N17 Provide water distribution sizing calculations because of the size and complexity of the system (see attached form). CPC Section 610.0.

N18 Dimension on the plans, the 30" clear width for water closet compartments and 24" clearance in front of water closet. CPC Section 407.5.

N19 Water pressure, pressure regulators, pressure relief valves, and vacuum relief valves shall comply with the requirements of CPC Section 608.0.

N20 In a water heater enclosure, provide a minimum clear area of 50 square inches of combustion air vent within 12" of floor and ceiling or size openings. CPC Section 505.3.2.

N21 Water heaters which depend on the combustion of fuel for heat shall not be installed in a room used or designed to be used for sleeping purposes, bathroom, clothes closets or in a closet or other confined space opening into a bathroom or bedroom, unless the closet is provided with a listed, gasketed door assembly and a listed self-closing device complying with CPC Sections 505.1.1 and 505.1.2 or a vent type water heater. All combustion air for installations in closets shall be obtained from outdoors in accordance with CPC Section 507.4, and the closet shall be for the exclusive use of the water heater CPC Section 505.1.

N22 Indicate that shower valves shall be an individual control valve of the pressure balance or thermostatic mixing valve type. Handle position stops shall be provided on such valves to limit the mixed water to a maximum temperature of 120 degrees Fahrenheit. CPC Section 418.0.

N23. Indicate location and type of landscape irrigation system backflow prevention devices. [CPC 603.4.6]

N24. Bathtubs and whirlpool baths shall be provided with a trap door or access within 20 feet of the pump. [CPC 414.1]

O. ELECTRICAL

O1. Show on the electrical plan, the amperage and location of electrical service and/or subpanels and specify if it is a new or existing electric service and/or sub panel.

O2. Provide a PG&E service work order for proposed service change, relocation or replacement. Any work on the utility side of the electrical service will require a work order and disconnect/re-connect. Utility regulations do not allow service changes to be performed "HOT".

O3. Note and show on the electrical plan, "Utility Service to be underground" when the property

is developed with a new or re-located main building or alterations exceed 50% of value and/or area of the existing building.

O4. Provide and show rated protection for sub panel installed in rated wall.

O5. Justify new loads and provide load calculations if the existing service is less than 200 amps. Provide a panel schedule to justify the additional loads and circuits. Room must be available in the panel for the additional circuits. Double lugging of breakers is not approved.

O6. Provide a single line drawing and panel schedule for services of 400 amps or more.

O7. Show the required 30" minimum clearances around electric service and/or sub-panels.

O8. Provide UFER or other approved ground per CEC 250-50. Specify or detail specific requirements on the electrical and foundation plans.

O9. Provide and show at least one wall switch-controlled lighting outlet shall be installed in every habitable room, in bathrooms, hallways, stairways, attached garages, and detached garages with electric power, and at outdoor entrances or exits. CEC210.70 (A) (1)

O10. Provide and show receptacles on walls over 2 feet wide, within 6 feet of openings and so that no point along wall is more than 6 feet from a receptacle CEC 210.52 (A)

O11. Provide and show at least one outside weatherproof 120-volt receptacle outlet accessible while standing at grade level and located not more than 6-1/2 feet above grade installed at the front and back of dwelling unit. CEC 210-52(e)(1)

O12. Note on the electrical plan, outdoor receptacles shall be listed as weather resistant. New per section 406.8. This is a new requirement for 2010.

O13. Provide and show at least one outside weatherproof 120-volt receptacle outlet installed within the perimeter of the balcony, deck or porch and located not more than 6-1/2 feet above the finished surface. Exception: areas less than 20 square feet are not required to have a receptacle installed. CEC 210-52(e)(3) This is a new requirement for 2010.

O14. Provide and show G.F.C.I. protection to all 120 volt, 15 and 20 amp receptacles installed in bathrooms, garages and accessory buildings, outdoors, crawl spaces, unfinished basements, kitchens, laundry, utility and wet bar outlets located within 6 feet and boathouses. Exception: A receptacle supplying only a permanently installed fire alarm or burglar alarm CEC 210-8(a)

O15. Provide and show on plans receptacles shall be listed as tamper-resistant for all 15 and 20 ampere receptacles in dwelling unit family, dining, living, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms and areas per CEC sec 210.12. New section 406.11. This is a new requirement for 2010.

O16. Provide and show on plans " A.F.C.I. protection for all 15 and 20 ampere branch circuits supplying outlets in dwelling unit family, dining, living, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms and

areas per CEC sec 210.12. This is a new requirement for 2010.

O17. Provide & show at least one receptacle, in addition to those for specific equipment, shall be installed in each basement, in each attached garage and in each detached garage with electrical power. CEC 210-52(g)

O18. Provide and show the require work light, switch, and receptacle outlets for attics, under floor spaces, utility rooms, and basements where these spaces are used for storage or containing equipment requiring servicing. The lighting outlet shall be provided at or near the equipment requiring servicing. CEC 210.70(3)

O19. Provide & show at least one receptacle outlet in bathroom within 36 inches of the outside edge of each sink basin. Outlet shall be located on a wall or partition that is adjacent to the basin or installed on the side or face of the basin cabinet not more than 12" below the countertop. CEC 210.52 (d)

O20. Provide & note on plans "A minimum of (1) 20-amp circuit for bathroom(s) outlet. Such circuit shall have no other outlets. This circuit may serve more than one bathroom" CEC 210- 23(a).

O21. Provide and show, in the kitchen and dining area, a receptacle shall be provided for each counter space wider than 12" so that no point is more than 24" from an outlet. Countertops separated by range tops, refrigerators or sinks shall be considered as separate countertop spaces. CEC 210-52(C)(1).

O22. Provide and show, in the kitchen and dining area, a receptacle shall be provided for island countertop spaces with a long dimension of 24 inches or greater and a short dimension of 12 inches or greater. CEC 210-52(C)(2).

O23. Provide and show, in the kitchen and dining area, a receptacle shall be provided for the peninsular countertop spaces with a long dimension of 24 inches or greater and a short dimension of 12 inches or greater. A peninsular countertop is measured from the connecting edge. CEC 210-52(C)(3).

O24. Note on the electrical plan, "Provide a minimum of 2 – 20 amp small appliance circuits for the kitchen counter tops. Such circuit shall have no other outlets. Loads shall be balanced." CEC 210-52(B) (2).

025. Note on the electrical plan, "Provide a minimum of 1 – 20 amp laundry branch circuit. Such circuit shall have no other outlets." CEC 210-23(a).

O26. Specify that Ground Circuit Interrupter (GFI) outlets shall be provided in bathrooms, garages, basements, crawl spaces, outside, and at all kitchen counters and islands. [CEC 210.8(A)]

O272. Provide an electrical floor plan showing location of receptacle and lighting outlets. [CEC 210.52(A-H) & 210.70]

O28. Provide receptacles within 2 feet of kitchen sink and at 4 feet on-center at counters (12" or more in width) and islands. [CEC 210.52(C)]
N4. Provide at least one outlet for island or peninsular counter space. [CEC 210.52(C) 2&3]

O29. Provide panel schedule and load calculations in accordance with CEC Article 220.

O30. A minimum 100 amp service panel is required for all new dwellings. [CEC 230.79(C)]

O31. A minimum 60 amp service panel is required for each dwelling unit. [CEC 230.79(D)]

O32. Revise electrical plans to show receptacle outlets so that no point along the wall is further than 6 feet from an outlet. [CEC 210.52(A)]

O33. All power and lighting outlets in family rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, hallways and similar areas are to be protected by a "combination AFCI breaker". Kitchens, bathrooms, and basements are exempt from this requirement. [CEC 210.12(B)]

O34. Bathrooms and powder rooms are required to have at least one GFI receptacle outlet within 36 inches of each lavatory. [CEC 210.52(D)]

O35. At least one outlet to be installed at the front and rear of each dwelling unit. [CEC 210.52(E)]

O36. An accessible receptacle outlet is required on balconies, decks, or porches of dwelling units above grade level. [CEC 210.52(E) 3]

O37. Hallways longer than 10 feet are required to have at least one receptacle outlet. [CEC 210.52(H)]

O38. Lighting outlets are required in habitable rooms, bathroom, hallways, garages, and at exterior doors. Revise plans to show compliance. CEC 210.70(A)]

O39. Revise plans to show locations of light switches at both top and bottom of stairways. [CEC 210.70(A)]

O40. Provide an exterior light at all exterior doors switched by the door. [CEC 210.70(A)]

O41. All 15- and 20- ampere, 125- and 250-volt non-locking receptacles that are installed on the exterior of a dwelling unit and located in damp or wet locations, shall be listed as weather-resistant type. [CEC 406.8(A) (B)]

O42. Family dwelling guidelines:
a) Electronic ballasts if 13 watts or more.

b) Recessed cans in insulated ceilings "IC" type & certified airtight.

c) Switch all high-efficacy lights separately from low-efficacy lights.

d) All lights shall be high efficacy (15 watts or less provide 40 lumen per watt, 15-40 watts provide 50 lumens per watt, and over 40 watts provide 60 lumens per watt) unless:

i. In kitchens up to 50% of hardwired watts may be low-efficacy.
ii. In bathrooms, garages, laundry & utility rooms have a manual switch for ON and a vacancy-sensor for OFF.
iii. All other rooms (halls, stairs, dining, bedrooms) have a manual switch for ON and a vacancy-sensor for OFF OR have electric dimmer switches.
iv. Outdoor building lights have a motion sensor ON and photo-cell sensor OFF.

O43. Electrical panels or other over current devices, other than supplementary overcorrect protection, shall not be located in bathrooms or in the vicinity of easily ignitable material such as clothes closets. [CEC 230.70(A) & 240.24D&E]

O44. Any fixed appliance such as disposal, dishwasher, clothes washer, dryer, built-in heaters, or any other fixed appliance with 1/4 H.P. motor or larger, shall be on a separate #12 AWG wire branch circuit. Each dwelling unit shall have installed therein an individual disposal circuit supplied with minimum #12 AWG wire and a 15 AMP indicating-type switch. [CEC 210.23 & 220]

O45. There shall be a distribution panel in, and for, each apartment. Feeders for sub panels shall be enclosed in an approved raceway. [CEC 230.71]

O46. There shall be no more than six disconnecting means per service grouped in any one location without a main disconnect. [CEC 230.71]

O47. Show a concrete encased electrode (UFER ground) on the foundation plan, sized in accordance with Article 250.52A (3).

O49. Show location of bonding wire to metal water supply system, or ground rods. [CEC 2

<u>GREEN BUILDING CODE MANDATORY RESIDENTIAL REQUIREMENTS</u>

All new residential buildings that are three stories or less in height that are submitted after December 31, 2010 for building plan check must comply with the mandatory requirements of the 2010 California Green Building Standards Code. The following notes and tables will be required to be on plans for these types of buildings:

1. **Storm water drainage and retention during construction. Projects which disturb less than one acre of soil and are not part of a larger common plan of development shall mange storm water drainage during construction. Section 4.106.2**

2. **Surface drainage. Site shall be planned and developed to keep surface water from entering buildings. Section 4.106.3**

3. **Indoor water use.**

   A. A schedule of plumbing fixtures and fixtures that will reduce the overall use of potable water within the building by 20 percent shall be provided by one of the following methods : Section 4.303.1

      (1). Each plumbing fixture and fitting shall meet reduced flow rates specified in Table 4.303.2 (attached); or

      (2.) A calculation demonstrating a 20 percent reduction in the building "water use" baseline as established in Table 4.303.1 (attached) shall be provided. The calculation shall be limited to the following plumbing fixture and fitting types: water closets, urinals, lavatory faucets and showerheads.

   B. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20 percent reduction column contained in Table 4.303.2 or the shower shall be designed to only

allow one showerhead to be in operation at a time. Section 4.303.2.

Exception:
The maximum flow rate for showerheads when using the calculation Method specified in Item A(2.) above is 2.5 gpm @ 80 psi.

C. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards in Table 4.303.3 (attached).

4. Outdoor water use. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following: Section 4304.1

A. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

B. Weather-based controllers Without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

5. Joints and openings. Openings in the building envelope separating conditioned space from unconditioned space must be sealed per the California Energy Code. Annular space around pipes, electrical conduits, and other openings in the exterior shall be protected against the passage of rodents. Section 4.406.1.

6. Construction waste reduction of at least 50 %. Recycle and / or salvage for reuse a minimum of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Section 4.408.1

Exceptions:

Excavated soil and land clearing debris.

Alternate waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.

7. Operational and Maintenance Manual. At the time of final inspection, a manual, compact disc, web-based reference or other media which includes all of the following shall be placed in the building: Section 4410.1.

A. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.

B. Operational and maintenance instructions for the following:

(1) Equipment and appliances.

(2) Roof and yard drainage, including gutters and downspouts.
(3) Space conditioning systems, including condensers and air filters.
(4) Landscaping irrigation systems.
(5) Water reuse systems.

C. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.

D. Public transportation and/or carpool options available in the area.

E. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity in that range.

F. Information about water-conserving landscape and irrigation design and controllers which conserve water.

G. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.

H. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.

I. Information about state solar energy and incentive programs available.

J. A copy of all special inspection verifications required.

8. Fireplaces. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits. Section 4.503.1.

9. Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods. Section 4.504.1

10. Adhesives, sealants and caulks. Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards: Section 4.504.2.1.

A. Adhesives, adhesive Bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 (attached) or 4.504.2 (attached), as applicable.

Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds

(chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection B below.

B. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

11. Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 (attached) shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply. Section 4.504.2.2

11. Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522 (c) (2) and (d) (2) of California Code of Regulations, Title 17, commencing with Section 94520. Section 4.504.2.3.

12. Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following: Section 4.504.3.

A. Carpet and Rug Institute's Green Label Plus Program.

B. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350).

C. NSF/ANSI 140 at the Gold Level.

D. Scientific Certifications Systems Indoor Advantage Gold.

13. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. Section 4.504.3.1.

14. All carpet adhesive shall meet the requirements of Table 4.504.1 (attached). Section 4.504.3.2.

15. Resilient flooring systems. Where resilient flooring is installed, at least 50 percent of floor area receiving resilient flooring shall comply with the VOC emission limits defined in Collaborative for High Performance Schools (CHPS)

Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RCFI) Floor Score program. Section 4504.4.

16. Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5 (attached). Section 4504.5.

17. Capillary break at concrete building slabs. A capillary break shall be installed and shall consist of the following: a 4-inch thick base of ½ inch or larger clean aggregate shall be provided with a vapor barrier 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. An equivalent slab design by a design professional is acceptable. Section 4505.2.1

18. Moisture content of building materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following: Section 4505.3

A. Moisture content shall be determined with either a probe-type or contact-type moisture meter.

B. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified.

C. At least three random moisture readings shall be performed on wall and floor framing with documentation provided immediately prior to enclosure of the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

19. Bathroom exhaust fans. For bathrooms containing a bathtub, shower, or tub/shower combination, a mechanical exhaust fan which exhausts directly from the bathroom must be installed. Fans must be ENERGY STAR Compliant and be ducted to Terminate outside the building. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. Section 4.506.1

20. Whole house exhaust fans. Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.

21. Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods: Section 4.507.2

A. The heat loss and heat gain is established according to ACCA Manual J, ASHRAE handbooks or other equivalent design software methods.

B. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods.

C. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods. Use of alternate design temperatures necessary to ensure the systems function are acceptable.

22. Installer training. HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Section 702.1

Examples of acceptable HVAC training and certification include but are not limited to the following:

A. State certified apprenticeship programs.

B. Public utility training programs.

C. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.

D. Programs sponsored by Manufacturing organizations.

E. Other programs acceptable to the enforcing agency.

23. Special inspection. Special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting. Section 702.2.

24. Documentation. documentation of compliance shall include, but is not limited to, construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the local enforcing agency. Other specific documentation or special inspections necessary to verify compliance are specified in appropriate sections of CALGreen. Section 703.1