



Rancho Palos Verdes  
Residential Plan Check List  
310-265-7800

[www.palosverdes.com/rpv/building-safety](http://www.palosverdes.com/rpv/building-safety)

**Plan Check No:**

**Project Address:**

**Project Description:**

**Reviewed by:**

**Date:**

**INSTRUCTIONS**

- A. The plans shall indicate notes that the codes used are the 2010 California Residential Code (CRC), 2010 California Building Code (CBC), 2010 California Mechanical Code (CMC), 2010 California Plumbing Code (CPC), 2010 California Electrical Code (CEC), City Ordinances, and the 2008 California Energy Standards.
  - B. The **items listed require correction** or clarification. Return ALL correction materials, including this checklist and any marked up plans when resubmitting.
  - C. Note on this correction sheet or on a separate sheet the location of the completed correction. (i.e. Sheet No., detail, etc.)
  - D. Corrections shall be made and new prints submitted.
  - E. Applications for which no permit is issued within 180 days following the date of application shall expire by limitation. A maximum of 2 extensions of 90 days may be granted upon written request and payment of the applicable extension fee.
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**ADMINISTRATIVE**

1. The following approvals are required before a building permit can be issued:
  - a) Planning Division Approval.
  - b) Print a copy of approved Planning Conditions on the plans.
  - c) Geology/Geotechnical Approval (Consultant ZK) see separate comments.
  - d) Structural Approval (Consultant CAA) see separate comments.
  - e) Drainage Approval (Consultant CAA) see separate comments.
  - f) LA Co. Sanitation Sewer/Septic Approval
  - g) LA Co. Health Dept. Approval
  - h) LA Co. Fire Dept. Approval (Building Access, Fire Flow)
  - i) LA Co. Fire Dept. Approval (Fuel Modification/Landscape Plans)
  - j) NPDES/SWPP Approval (Consultant J. Hunter & Assoc).
  - k) Public Works Approval.
  - l) Construction Site Maintenance Agreement form to be signed by the owner. (BMP's).
  - m) School Fees Receipt/Waiver.
  - n) Complete Asbestos / Demolition (AQMD) notification, per rule 1403 form.
  - o) LA Co Fire Dept. Fuel Modification Unit approval of Landscape Plans
  - p) Approval of Final Grading required prior to permit issuance.
  - q) Cal-OSHA Permit required prior to permit issuance.
  - r) Construction in the public Right of Way / Separate Permit Required
  - s) Submit 1 additional final set for County Assessor (no stamps required)

**MUNICIPAL REQUIREMENTS**

- 1) Show on the plans that the project must comply with all current building codes since > 50% per RPVMC 17.84.060.
- 2) Provide Civil/Grading/Drainage Plans for Review.
- 3) Provide a note on the roof framing plan: Finished ridge height shall not exceed the elevation shown on the plot plan & ridge height shall be certified by a licensed surveyor prior to approval of the roof framing/sheathing inspection.
- 4) Provide a note on the foundation plan: The location and the elevation of the foundation forms shall be certified by a licensed surveyor prior to approval.
- 5) Provide and show on the plans a complete roof and yard drainage system including gutters and down spouts.

- 6) Show on the plans how the roof & yard areas will conduct all hard surface storm run-off to a street, storm drain or natural drainage course in non-erosive devices.
- 7) *Provide a note:* The yard drainage improvements shall be inspected and certified by the engineer of record prior to final approval.
- 8) *Provide a note:* Square footage shall be certified by a licensed surveyor or / registered Engineer before approval of the foundation.
- 9) Cross references all retaining walls and free standing block walls to appropriate details. Include drains behind retaining walls and top of retaining wall swales.
- 10) *Please call out fire retardant roof covering type to be used, with minimum Class "A" or non-combustible roof covering.*
- 11) *Please provide a note:* all construction waste and debris must be containerized at all times.
- 12) *Submit (2) wet stamped Soil reports with all corresponding addenda for review by the Geo-Consultant.*
- 13) *Provide a note:* All Contractors, Architects, Designers, & Engineers shall maintain a current City Business License.
- 14) Provide a copy of Plan Preparer's current City Business License or provide business license number.
- 15) Add note: "Approval is required by the Public Works Department for street improvements, curb cores, curbs/gutters, etc.
- 16) Add note: "Separate Public Works permit is required for driveways, approach to driveway, sewer laterals and work to be performed or located in the public right of way.
- 17) *Indicate* on the plan the name, address and telephone number of the Architect (or preparer of the plans).
- 18) Architect/ Engineer shall sign and wet stamp 2 sets of final plans.
- 19) On each page *denote* **legal** owner's name, job address, and provide a complete legal description on the plot plan / cover sheet.
- 20) *Show* existing, remodeled, and new proposed square footage on the cover page.
- 21) *Show* the location of private sewage disposal system on the plan. Provide clearance from improvements.
- 22) Where the number of bedrooms increased, indicate the capacity of the existing sewage disposal system.
- 23) *Provide a note:* Required swimming pool fencing & alarms must be maintained during construction or the pool shall be emptied.
- 24) *Provide* a fully dimensioned plot plan with location of all existing and proposed improvements shown.
- 25) Show property line in relation to streets, sidewalks or other public improvements.
- 26) *Show* topography of lot on plot plan. Extend topography lines 10 feet beyond property lines.
- 27) *Submit* a legible & complete floor plan. Identify all rooms on the floor plan.
- 28) *Show* elevations of all ridge lines, floor levels, slabs, walls and other improvements on the plot plan.
- 29) *Omit* projects which are not part of this approval.
- 30) *Omit* or cross out any notes or details which are not applicable to the project.
- 31) *Provide* "Scope of Work" on title page. Describe in detail.
- 32) *Provide* a sheet index on the title page.
- 33) *Provide* page numbers on the plans & calculations.
- 34) *Be specific* about the scope of work required for the completion of this project such as:
 

<input type="checkbox"/> Temporary power poles	<input type="checkbox"/> Window replacements
<input type="checkbox"/> Property line walls	<input type="checkbox"/> Sq. Ft. of remodeled area (show on cover page)
<input type="checkbox"/> Driveway approaches	<input type="checkbox"/> Sq. Ft. of addition area (show on cover page)
<input type="checkbox"/> Re-roofs	<input type="checkbox"/> Elect / plumb / mech. (N=New) (E=Existing)
<input type="checkbox"/> Sq. ft. of retaining wall	<input type="checkbox"/> Label all plumbing Fixtures
<input type="checkbox"/> Sq. or balcony, covered Patio	
<input type="checkbox"/> Trellis / Patio Cover	
<input type="checkbox"/> Sq. ft. of balcony, covered Patio	
- 35) *Show* that ceiling height for habitable rooms is a minimum of 7ft. 6in.

- 36) Show that ceiling height for laundry rooms, hallways, corridors, and bathrooms is a minimum of 7 feet.
- 37) Indicate grading on the plans by the number of cubic yards of cut and fill of surrounding areas, as well as for the proposed structure.
- 38) Provide a note on plans: Pre-grade meeting required with City Building Inspector, Contractor, Owner or Owners agent, Soils Engineer, Geologist (if applicable), and Planning Department representative prior to any work commencing on the site.
- 39) Plans shall be signed and wet stamped by Soils Engineer and/or Geologist.
- 40) Provide a note on the foundation plan: Foundation excavations shall be inspected and approved by both the Geological and Geotechnical consultants prior to placement of steel or concrete. A memorandum signed by both consultants indicating that this inspection and approval has been completed shall be available at the job site for the building inspector at the foundation inspection.
- 41) Provide engineering calculations for vertical and lateral loads.
- 42) All calculations are to be wet stamped & signed by a registered Civil Engineer or licensed Architect.
- 43) A survey shall be provided by a licensed surveyor on structures which define property lines, setbacks, designated parkland, easements, or street right-of-way.
- 44) Provide an Erosion Control and Sediment Retention Plan. Show on the plans how to contain storm water runoff.
- 45) Provide a haul route and the size of equipment to the Public Works department for review and approval, prior to building permit issuance.
- 46) Provide a note on plans: "Dust Control Measures" shall be maintained through out the duration of the project.
- 47) Show the nearest location of a fire hydrant on the plans.
- 48) Provide guardrail details on decks, walls, planters, etc. which exceed a 30" drop.  
**(Guardrail height to be minimum 42" high)**

## **FOUNDATIONS**

- 49) Within the PB or AC landslide areas, provide and show on the plans minimum 4000psi concrete for foundations per RPVMC.
- 50) Provide material specifications on the plans for :
 

	Concrete		Lumber
	Reinforcing Steel		Masonry
- 51) Provide a note on the Foundation Plan: all shear hardware and anchor bolts with non-standard spacing are to be fixed in place for the foundation inspection.
- 52) Indicate hold-down locations, anchor bolts with non-standard, length or spacing.
- 53) Show shear wall length on foundation & framing plan.
- 54) Indicate where 3 x sill plates are required.
- 55) Detail hold downs at existing foundation.
- 56) Provide all exterior walls with footings with a minimum depth of 24" below natural grade.
- 57) Provide all interior bearing walls with footings with a minimum of 18" deep & one # 4 bar top and bottom or as per approved soil report recommendation.
- 58) Expansive soil requires reinforced slab minimum 3-1/2" thick with # 4 bars at 18 O.C. each way. Provide a minimum of 4" of sand and 6, 10 or 15 mil. of moisture barrier membrane complying with ASTM E-1745 required.
- 59) Bolt foundation plates and sills to the foundations with 5/8" bolts spaced not more than 6'0" apart and within 12" of each end of each plate with 7" minimum embedment.
- 60) **Plate washers a minimum 3"by 3" by .0029 thick shall be used on each bolt.**
- 61) Provide under-floor ventilation equal to one square foot of net opening for each 150 Sq. ft. of under-floor area with ventilation openings equally distributed on at least two opposing sides.
- 62) Provide foundation section showing under-floor clearances.
- 63) Provide 18" x 24" (24" x24") under-floor access.
- 64) Dowel new foundations/slab to existing.
- 65) Provide a cross section which details how setback from slopes is to be achieved.
- 66) Show depth of foundation that is necessary to achieve the required setback.

- 67) *Foundation* cripple walls shall be framed and sheathed.
- 68) *Show* where foundation stem walls are deepened in order to provide setback from a descending slope.
- 69) *Provide a note on the plans:* Where foundation walls exceed 4'0" in height/ depth require reinforcing with minimum #4 @ 24" O. C. both ways.
- 70) *Provide* details for all Anchor Bolt installations in existing foundations. Details must include ICC Evaluation report # for all anchor bolts, red heads, wedge anchors, etc.
- 71) *Provide a note on the plans:* "Hold-down connectors shall be re-tightened just prior to covering the wall framing."
- 72) *Provide a note on the foundation plans:* All foundations shall bear upon like material.
- 73) *Show* the bolt embedment distance and end distance as per manufacture's specifications for all hold-down bolts and straps.
- 74) *Provide a note on foundation plans:* Pre-saturation memo from Soils Engineer is required prior to pre-slab inspection.
- 75) *Provide a note on the foundation plan* that all plumbing pipes must be sleeved where they penetrate the foundation.

### **FRAMING**

- 76) *Specify* special inspection for \_\_\_\_\_ on the plans.
- 77) *Specify* and detail all connections and fasteners.
- 78) *Specify* panel identification index, nailing size, and pattern for floor and roof sheathing.
- 79) *Provide* rafter ties where ceiling joists and rafters are not parallel.
- 80) Brace purlins to bearing walls.
- 81) *Specify* size and spacing of floor joist / ceiling joist.
- 82) Floor joist / ceiling joist appear over-spanned at \_\_\_\_\_.
- 83) *Provide* a structural section that shows typical framing conditions for this project.
- 84) *Show* header size for openings over 4' wide.
- 85) Clearly note all beam numbers and sizes on plans.
- 86) *Show* posts – size – specify connection at top and bottom.
- 87) Specify type of approved hardware.
- 88) *Provide* 22" x 30" minimum scuttle to attic with 30" minimum headroom.
- 89) *Show* sections through rake wall framing.
- 90) Maximum stud height is 14' with 2" x 4" on non-bearing walls.
- 91) *Detail* framing around skylight / floor framing / opening over 4'.
- 92) *Provide* double joist under parallel bearing partitions.
- 93) *Detail* shear wall connections and shear transfer from floor to roof and required drag lines.
- 94) *Detail* rafter connection at walls & at structural ridge beam.
- 95) Shear wall schedule is needed on the plans.
- 96) *Structural* observation by engineer of record will be required for:
  - A. Foundation
  - B. Framing
  - C. Retaining Walls
  - D. Other-\_\_\_\_\_
- 97) *Fasteners* in pressure-treated and fire-retardant, treated wood shall be of hot-dipped, zinc-coated galvanized steel, stainless steel, silicon bronze or copper.
- 98) *Provide a note:* "Fabrication of structural steel shall be by an approved fabricator or fabrication shall be continuously inspected by a registered special inspector."

### **GARAGE**

- 99) *Do not show* openings from a garage directly into a room used for sleeping purposes.
- 100) *Finish* garage walls, posts, beams and ceilings adjacent to or under dwelling with materials approved for one-hour fire-resistance.
- 101) *Show* one-hour protection extending to roof sheathing.
- 102) *Specify* self-closing, tight fitting 20 minute rated door for opening between garage and dwelling. (1-3/8" min thick solid core if of wood).
- 103) *Eighteen* inches above garage floor for all pilot lights.
- 104) *Provide* vehicular impact protection of all fuel burning appliances in garage.

## **FIREPLACES**

- 105) *Provide ICC approval number for proposed fireplace.*
- 106) *Note on plans that the fireplace shall be non-wood burning per AQMD rule # 445.*
- 107) *Provide complete details for construction of fireplace and chimney. Show chimney height as minimum 2' above roof / wall within 10'*
- 108) *Show spark arresters at top of chimney.*
- 109) *Detail framing at/around masonry fireplaces. Show clearances to combustibles.*

## **EXITS AND OPENINGS**

- 110) *Show a stairway or a ramp with maximum 1:12 slope leading to the right of public way.*
- 111) *Show window and door sizes.*
- 112) *Provide at least one window or exterior door approved for emergency escape or rescue for every room used for sleeping purposes and at basements. Please show on window schedule if one is not provided.*
- 113) *Provide mechanical ventilation for bathrooms with or without operable windows.*
- 114) *Windows and or doors shall be sized to provide sufficient light and ventilation at \_\_\_\_.*
- 115) *Show safety glass on window schedule on plans at window \_\_\_\_.*
- 116) *Provide the detail or ICBO number for proposed skylight/s*
- 117) *All exterior doors shall have a minimum of 36" landing in the direction of travel, on each side of door.*
- 118) *Provide attic ventilation equal to 1/150 of roof area minimum increased accordingly if combustion air is taken from the attic.*
- 119) *Provide and show ventilation for enclosed rafter spaces and/or attic assemblies.*
- 120) *Show on the plans that all new windows will be dual pane.*

## **EXTERIOR WALLS & PROJECTIONS**

- 121) *Exterior walls within 5 feet of the property line shall be of one-hour fire resistive construction, with protection provided on both sides of the wall assembly.*
- 122) *Detail the fire resistive wall construction on the plans.*
- 123) *No openings are permitted less than 3' to property line & openings less than 5' from the property line are limited to 25% of the wall area.*
- 124) *Show the setback distance of the walls, projections, and eaves from the property line.*
- 125) *Provide and show fire resistive eave construction where located less than 5' from the property line*

## **ENERGY**

- 126) *Provide calculations to show compliance with Title 24 energy requirements.*
- 127) *Incorporate compliance certificate (CF – 1R) into the plans. (Print report on the plans).*
- 128) *At least half the lighting watts in the kitchen must be high efficacy luminaries.*
- 129) *All Non-Florescent Lighting in bathrooms, laundry room and utility rooms shall be controlled by manual –on occupant sensors. Show on plans.*
- 130) *Lighting in hallways, dining room, family room, living room, nook, bedrooms and closets with an area of 70 Sq. Ft. or more shall be controlled by dimmer switch or motion sensor. Show on plans.*
- 131) *Outdoor lighting attached to the building shall be high efficacy (florescent) or must be controlled by a motion sensor with integral photo control. Shown on plans.*

## **STAIRS, HANDRAILS, & GUARDRAILS**

- 132) *Show on plans that stairways shall have a rise of 7-3/4" max. and a 10" min. tread.*
- 133) *Minimum width 36" and minimum headroom 6'-8".*
- 134) *Detail winding / spiral / circular stairway.*
- 135) *Enclosed usable space under stairs shall be protected with one-hour fire resistive protection.*
- 136) *Detail guardrail and attachment.*
- 137) *Show 42" minimum guard height and intermediate spacing of less than 4".*

## **CARBON MONOXIDE ALARMS**

- 138) *Show the location(s) of the required CO alarm(s) on the plans.*

## **SMOKE DETECTORS**

- 139) *Show on plans the required locations for smoke detectors in new and existing construction.*
- 140) *Detectors may be battery powered only in existing areas and only if no attic, basement, or crawl space exists. They must be hard wired with battery backup. Locations shall include hallways, top and bottom of stairways, bedrooms, basements, changes in ceiling height leading to bedrooms.*

## **FIRE PROTECTION**

- 141) *Provide and show on the cover sheet of the plans that a fire sprinkler system shall be installed.*
- 142) *Add a note to the plans to indicate that the fire sprinkler work will be done under separate plans and permit.*
- 143) *Fire sprinkler plans shall be submitted to the Fire Dept for review and approval. Once the plans are approved, bring the approved plans to Building & Safety for review, approval, and permit issuance.*

## **WEATHER PROTECTION**

- 144) *Show on the plans how to damp-proof foundation walls enclosing a basement below finished grade by an approved method or as per approved soils report and in compliance with the Green Building Standards code.*
- 145) *Please provide a note that two layers of Grade D paper are required under stucco applied over wood sheathing (shear walls).*
- 146) *Indicate on plans that mudsills are to be 8" above earth.*
- 147) *Show on the plans that a weep screed shall be provided at exterior walls which shall be a minimum of 2" above paved areas and 4" above unpaved areas.*

## **FIRE HAZARD REQUIREMENTS**

- 148) *Provide a statement on the cover sheet of the plans that the project has been designed to comply with CBC Chapter 7A.*
- 149) *Provide/Specify tempered glass window pane(s).*
- 150) *Provide enclosed eaves or approved materials where sheathing is exposed.*
- 151) *Provided approved ventilation openings with maximum 1/8" mesh.*
- 152) *Provide approved decking spaced maximum 1/4" apart.*
- 153) *Enclose perimeter of deck with approved exterior wall covering or fire protection.*
- 154) *Provide approved exterior wall coverings.*
- 155) *Provide a landscape plan and submit to LA County Fire for fuel modification review.*
- 156) *Provide ignition resistant material at \_\_\_\_\_.*
- 157) *Add note: Roof gutters shall be designed/screened to prevent the accumulation of leaves.*

## **GREEN BUILDING CODE MANDATORY RESIDENTIAL REQUIREMENTS**

The following notes and tables will be required to be on plans:

- 158) **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:
      - (1). Each plumbing fixture and fitting shall meet reduced flow rates 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. **Exception:** The maximum flow rate for showerheads when using the calculation Method specified in Item A(2.) above is 2.5 gpm @ 80 psi.
- Show notes on the plans that the plumbing fixtures shall have a maximum flow rates of:

- Showerheads 2gpm @ 80psi
  - Lavatory Faucets 1.8gpm @ 60 psi
  - Kitchen Faucets 1.8gpm @ 60 psi
  - Water Closets/Toilets 1.28gpm/flush
  - Urinals .5gallons/flush
- 146) 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:
- 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.
- 147) Joints and openings.** Openings in the building envelope separating conditioned space from unconditioned space must be sealed per the California Energy Code.
- 148) 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:
- 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:
  - C. Equipment and appliances.
  - D. Roof and yard drainage, including gutters and downspouts.
  - E. Space conditioning systems, including condensers and air filters.
  - F. Landscaping irrigation systems.
  - G. Water reuse systems.
  - H. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
  - I. Public transportation and/or carpool options available in the area.
  - J. 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.
  - K. Information about water-conserving landscape and irrigation design and controllers which conserve water.
  - L. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
  - M. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
  - N. Information about state solar energy and incentive programs available.
  - O. A copy of all special inspection verifications required.
- 149) Fireplaces.** Any installed gas fireplace shall be a direct-vent sealed-combustion type.
- 150) 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.
- 151) Adhesives, sealants and caulks.** Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards:
- A. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with SCAQMD limits.
  - 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.
- 152) Paints and coatings.** Architectural paints and coatings shall comply with VOC limits.
- 153) 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.

- 154) Carpet systems.** All carpet installed in the building interior shall meet the testing and product requirements of one of the following:
- 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. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. All carpet adhesive shall meet the requirements of Table 4.504.1(attached).
- 155) 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.
- 156) 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.
- 157) 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. An equivalent slab design by a design professional is acceptable.
- 158) 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:
- 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 framing.
  - D. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities.
- 159) 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.
- 160) 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.
- A. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods.
  - B. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods.
- 161) Provide verification certification that low VOC emitting materials were installed within the new construction.**
- 162) Show notes on the plans that at the time of final inspection, a manual, CD, or other media acceptable shall be placed in the building that includes all of the following:**
- A. Operation and maintenance instructions for equipment, appliances, HVAC systems, water heating, water saving devices and systems, drainage and irrigation systems.
  - B. Carpool & transportation options, educational materials related to the positive impacts of an interior relative humidity between 30-60%, solar energy incentives, and a copy of all special inspection verifications.

- 163) Include notes on the plans that indicate that the project must comply with a Construction Waste Management Plan & associated documentation must be submitted and approved prior to final approval. (Submit completed Construction/Demolition waste management forms which are available at the public counter and on the Building Safety website.

**CITY ORDINANCE GREEN BUILDING REQUIREMENTS**

- 164) Applicable to new homes and major remodels (Show a note on plans to install one or both of the following):
- A. Photovoltaic systems: Installation of conduit leading from an exterior south-facing, east-facing or west-facing roof, where a minimum of 4 hours of direct sunlight is achieved, to a stubbed junction box next to the electrical panel. All exposed conduit shall be capped and provided with adequate flashing. The conduit shall not be located on or in the direction of a north-facing roof. (roof reinforcements shall be addressed at the time of installation).
  - B. Solar Water Heating System: Installation of 3/4" hot and cold copper water pipes from a south-facing, east-facing or west-facing roof, where a minimum of 4 hours of direct sunlight can be achieved, to an existing water heater/tank. Both ends of the 3/4" copper pipes shall be stubbed out and shall not be located on or in the direction of a north-facing roof. All exposed pipes shall be capped and provided with adequate flashing (structural engineering and any roof reinforcements shall be addressed at the time of installation under separate plans and permit).

**(MEP) MECHANICAL ELECTRICAL & PLUMBING**

- 166) *Provide* an exhaust fan for each bathroom including those with windows & skylights.
- 167) *Provide* approved heating facilities. Show heater location/s. Do not show access to fuel burning appliances in a room used or designed to be used as a bedroom, bathroom, closet, or in any enclosed space with access only through such room or space.
- 168) *Show* water heater/s location/s.
- 169) *Show a minimum 4" sewer line on the plan.*
- 170) *Show* how water heater or furnace will be provided with combustion air and how combustion products will be vented to the outside.
- 171) *Clothes' dryer exhaust duct 14' with two 90 degrees elbows maximum.*
- 172) *Show* location of main electric panel and sub-panels.
- 173) No sub panels allowed in garage firewall or in clothes' closets.
- 174) *Indicate* that ground fault protection (GFCI) is required for all grade access exterior outlets. Outlets in bathrooms, kitchens, basements, crawl spaces, garages and within 6' of any water source.
- 175) *Provide a note:* All Branch Circuits that supply 125 volt, single phase, 15 and 20 ampere receptacle outlets shall be protected by (AFCI) arc-fault interrupters.
- 176) *Provide a note on the plans that indicates that all receptacle outlets shall be tamper resistant.*
- 177) *Show or include notes on the plans how* the BMP's (Best Management Procedures) will be utilized in the grading, building and final construction phases of the project. (You may include the attached BMP list on your plans).

**ADDITIONAL COMMENTS**

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## LIST OF BMPs (BEST MANAGEMENT PRACTICES)

1. **CA1 Dewatering Operations** – remove sediments from ground water
2. **CA2 Paving Operations** – reduce discharge of pollutants from paving operations.
3. **CA3 Structure Construction and Painting** – prevent & reduce discharge from construction sites & painting projects
4. **CA10 Material Delivery and Storage** – prevent & reduce discharge of pollutants to storm water from material delivery & storage.
5. **CA11 Material Use** – prevent & reduce discharge of pollutants to storm water from material use.
6. **CA12 Spill Prevention and Control Use** – prevent & reduce discharge of pollutants to storm water systems with good housekeeping.
7. **CA20 Solid Waste Management Use** – prevent & reduce discharge of pollutants to storm water systems from solid waste or construction
8. **CA21 Hazardous Waste Management** – prevent & reduce discharge of pollutants to storm water from toxic materials.
9. **CA22 Contaminated Soil Management** – prevent & reduce discharge of pollutants to storm water from contaminated soil
10. **CA23 Concrete Waste Management** – prevent & reduce discharge of pollutants to storm water from concrete waste.
11. **CA24 Sanitary / Septic Waste Management** – prevent & reduce discharge of pollutants to storm water sanitary & septic systems.
12. **CA30 Vehicle and Equipment Cleaning** – prevent & reduce discharge of pollutants to storm water from cleaning of vehicles and equipment.
13. **CA31 Vehicle and Equipment Fueling** - prevent & reduce discharge of pollutants to storm water from fueling of vehicles & equipment.
14. **CA32 Vehicle and Equipment Maintenance** – prevent & reduce discharge of pollutants to storm water from maintenance of vehicles & equipment.
15. **CA40 Employee / Subcontractor Training** – SWPPP Storm Water Pollution Prevention Plan.
16. **ESC1 Scheduling** – Sequencing the construction project to reduce the amount of soil exposed to erosion.
17. **ESC2 Preservation of Existing Vegetation** – minimize damage and erosion by preserving the existing vegetation.
18. **ESC10 Seeding and Planting** – minimize erosion with seeding and planting.
19. **ESC11 Mulching** – for stabilizing cleared and freshly seeded areas.
20. **ESC20 Geotextiles and Mats**- for stabilization of soils
21. **ESC21 Dust Controls** – reduce dust and soil erosion.
22. **ESC22 Temporary Stream Crossing** – recommendations for installing a temporary culvert, ford or bridge.
23. **ESC23 Construction Road Stabilization** – recommendations for dust and erosion control.
24. **ESC24 Stabilized Construction Entrance** – recommendations for dust, sediment and erosion control for public streets
25. **ESC30 Earth Dike**- temporary berm or ridge of compacted soil.
26. **ESC31 Temporary Drains and Swales** – to divert off-site runoff around a construction site.
27. **ESC32 Slope Drain** – temporary pipe to divert runoff from the top of a slope to the bottom without causing erosion.
28. **ESC40 Outlet Protection** – installing rip-rap to reduce sediment in the soil.
29. **ESC41 Check Dams** – reduces velocity of concentrated storm water flows and reduces erosion.
30. **ESC42 Slope Roughening / Terracing** – creates microclimates for establishing vegetation.
31. **ESC50 Silt Fence** – for sedimentation control.
32. **ESC51 Straw Bale Barriers** – for sedimentation control.
33. **ESC52 Sand Bag Barrier** – for sedimentation control.
34. **ESC53 Brush or Rock Filter** – for sedimentation control and velocity reduction
35. **ESC54 Storm Drain Inlet Protection** – devices which detain sediment laden runoff.
36. **ESC55 Sediment Trap** – small excavated or bermed area for sedimentation.
37. **ESC56 Sediment Basin** – pond created to allow excessive sediment to settle.

