

PURLINS AND STRUTS SHALL BE SUPPORTED BY BEARING WALLS.

MEMBER UNLESS SPECIFIED IN (SEE FRAMING DETAILS - THIS SHEET)

REDUCED TO 1/300TH OF THE CEILING AREA. [§806.2 LACRC]

SURFACE. [§604.3 LACPC]

UNLESS JUSTIFIED BY AN ANALYSIS.

PROVIDE RAFTER TIES WHERE CEILING JOISTS AND RAFTERS ARE NOT PARALLEL.

0. IF 40%-50% OF THE REQUIRED VENT AREA IS LOCATED AT MOST 3 FEET BELOW THE

CUTTING, NOTCHING, OR BORING SHALL NOT EXCEED 25% OF THE STRUCTURAL

2. STUCCO WEEP SCREEDS SHALL BE MINIMUM 4" ABOVE SOIL OR 2" ABOVE PAVED

HIGHEST POINT OF THE SPACE W/ BALANCE AT THE EAVES, THEN THE AREA MAY BE

13. THE SIZE, HEIGHT, AND SPACING OF WOOD STUDS SHALL NOT EXCEED TABLE R602.3(5)

THICK MINIMUM PLATE WASHERS ON EACH ANCHOR BOLT.

PROVIDE UNDER-FLOOR VENTILATION EQUAL TO 1 sq. ft. FOR

SHALL BE APPROXIMATELY EQUALLY AND WITHIN 3 FEET OF

DAMPPROOF FOUNDATION WALLS ENCLOSING A BASEMENT

SUPPORTED DIRECTLY ON THE GROUND SHALL BE NOT LESS

PROVIDE 18" x 24" UNDER-FLOOR ACCESS OPENING.

BELOW FINISHED GRADE BY AN APPROVED METHOD.

THE MINIMUM THICKNESS FOR CONCRETE FLOOR SLABS

EACH CORNER.

THAN 3 1/2". [§R506.1 LACRC]

EACH 150 sq. ft. OF UNDER-FLOOR AREA. VENTILATION OPENINGS

This project shall comply with Title 24 and 2023 LA County Residential Code (LACRC), LA County Mechanical Code (LACMC), LA County Plumbing Code (LACPC), LA County Electrical Code (LACEC), and California Energy Code (CEnC).

FLOOR PLAN SHOWING USE OR OCCUPANCY OF ALL PARTS OF THE ADDITION, PLACEMENT OF ELECTRICAL, PLUMBING AND HEATING OUTLETS AND FIXTURES, DOOR WITH DIRECTION FOR SWING, AND LOCATIONS AND SIZE OF WINDOWS AND HEADERS. INCLUDE IMMEDIATELY ADJOINING ROOMS TO THE ADDITION, THE USE, EXISTING WINDOW SIZES AND ANY WINDOWS REMOVED, SHOW EXISTING, DEMO, AND NEW WALL LOCATIONS.

PROVIDE EXTERIOR GLAZED OPENINGS FOR 8% OF THE FLOOR AREA FOR NATURAL LIGHT IN HABITABLE ROOMS. [§R303.1 LACRC]

PROVIDE OPENABLE EXTERIOR OPENINGS OF 4% OF THE FLOOR AREA. FOR NATURAL VENTILATION IN HABITABLE ROOMS. [§R303.1 LACRC]

PROVIDE AT LEAST ONE WINDOW OR EXTERIOR DOOR APPROVED FOR EMERGENCY ESCAPE OR RESCUE FROM BASEMENTS AND FROM EVERY ROOM USED FOR SLEEPING PURPOSES. WINDOWS TO BE 20" MINIMUM WIDTH, 24" MINIMUM HEIGHT, 5.7 sq. ft. (5' FOR GRADE FLOOR), MINIMUM OPENING AREA, AND 44" MAXIMUM SILL HEIGHT ABOVE THE FINISHED FLOOR. (SEE MISC. DETAILS - THIS SHEET) [§R310 LACRC]

7'-0" MINIMUM HEADROOM IS REQUIRED IN HABITABLE AREAS. [§R305.1 LACRC]

MINIMUM ROOM SIZES: AT LEAST ONE 120 sq. ft. ROOM IS REQUIRED. OTHER HABITABLE ROOMS SHALL BE A MIN. 70 sq. ft. WITH A 7'-0" MINIMUM WIDTH IN ANY DIRECTION. (EXCEPT KITCHENS) [§R304.1 LACRC]

PROVIDE SAFETY GLAZING IN DOORS AND WINDOWS IN ANY WALL WITHIN A 24" ARC OF EITHER EDGE OF THE DOOR IN THE CLOSED POSITION, AND ANY GLAZING IN WALLS OR FENCES ENCLOSING, CONTAINING, OR FACING, WITHIN 5' HORIZONTALLY, HOT TUBS, SPAS SHOWERS, BATHTUBS, SWINGING AND SLIDING DOORS, ETC. WHERE THE BOTTOM EDGE IS LESS THAN 5' MEASURED VERTICALLY. SHOWER DOORS SHALL OPEN OUTWARD. TEMPERED GLASS WITHIN 18" TO FINISH FLOOR, TEMPERED GLASS ADJACENT TO STAIRWAYS AND RAMPS WITHIN 36" HORIZONTALLY OF WALKING SURFACE. TEMPERED GLAZING ADJACENT TO STAIRWAYS WITHIN 60" HORIZONTALLY OF BOTTOM TREAD. [§R308.4 LACRC]

THE GARAGE AND/ OR CARPORT SHALL BE SEPARATED FROM THE DWELLING UNIT AND ITS ATTIC AREA BY MEANS OF A MINIMUM ¹/₂" GYPBOARD APPLIED TO THE GARAGE/ CARPORTS SIDE. [§R302.6 LACRC].

EGRESS DOORSSHALL BE OPENABLE FROM INSIDE THE DWELLING WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OF EFFORT [§R311.2 LACRC]

LANDINGS AT THE REQUIRED EGRESS DOOR SHALL NOT BE MORE THAN 1-1/2" LOWER THAN THE TOP OF THE THRESHOLD. EXTERIOR LANDINGS WITH DOORS THAT DO NOT SWING OVER THE LANDING MAY HAVE A DIFFERENCE IN ELEVATION OF 7-3/4" MAXIMUM BELOW THE TOP OF THE THRESHOLD. [§R311.3.1 LACRC]. INTERIOR AND EXTERIOR STAIRWAYS SHALL BE

ILLUMINATED. [§R303.7 LACRC]. 12. PROVIDE LIGHT OVER STAIRS WITH SWITCH TOP AND

BOTTOM. [§R303.7 LACRC]. HANDRAILS ARE REQUIRED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS WITH FOUR OR MORE RISERS. SHOW STAIRWAY RAILING/ HANDRAIL

ON THE FLOOR PLAN. [§R311.7.8 LACRC]. ATTIC VENTS ARE REQUIRED TO BE PROTECTED WITH CORROSION RESISTANT WIRE CLOTH SCREENING. HARDWARE CLOTH, PERFORATED VINYL OR SIMILAR MATERIAL. THE OPENINGS SHALL BE A MINIMUM 18"

AND SHALL NOT EXCEED ¹/₄". [§R806.1 LACRC] SMOKE ALARM SYSTEM AND COMPONENTS SHALL BE CALIFORNIA STATE FIRE MARSHAL LISTED AND APPROVED. [§R314.1.1 LACRC]

CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 2034. COMBINATION CARBON MONOXIDE AND SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 2034 AND UL 217. [§R315.1.1

FLOORS OF GARAGES/ CARPORTS USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY. [§R309.1 LACRC]

18. WATER-RESISTANT GYPSUM BACKING BOARD COMPLYING WITH ASTM C 840 SHALL BE USED WHEN GYPSUM IS USED FOR A BASE FOR TILE OR WALL PANELS FOR A TUB, SHOWER, OR WATER CLOSET

COMPARTMENT WALLS. MIN. 6'. [§R307.2 LACRC] 19. ENCLOSED, USABLE SPACE UNDER STAIRS TO BE

PROTECTED WITH 1/2" GYP BOARD. [§R302.7 LACRC] NEW DWELLINGS AND/ OR REMODEL OR ADDITIONS w/ COST IN EXCESS OF \$1000.00 SHALL BE PROVIDED WITH APPROVED SMOKE DETECTORS AND CO DETECTORS. INSTALL SMOKE DETECTORS IN EACH STORY, HALLWAY, EACH SLEEPING ROOM, AND IN BASEMENTS. CARBON MONOXIDE ALARMS OUTSIDE EACH SLEEPING AREA, EVERY LEVEL, AND BASEMENTS. NEW CONSTRUCTION TO BE HARDWIRED & INTERCONNECTED. [§R314 & R315 LACRC] OPENINGS FROM GARAGES INTO ROOMS USED FOR SLEEPING PURPOSES ARE NOT PERMITTED. [§R302.5.1

LACRC1 5/8" TYPE "X" GWB (OR EQUIVALENT) IS REQUIRED TO SEPARATE GARAGE FROM HABITABLE ROOMS ABOVE. 1/2" FOR SUPPORT WALLS FOR AFFECTED CEILINGS. 1/2" FOR GARAGES LOCATED LESS THAN 3 FEET FROM

DWELLING ON SAME LOT. [§R302.6 LACRC] 23. USE FIRE DAMPERS, OR USE 26-GAUGE METAL DUCTS, WHERE FIREWALL OF GARAGE IS PIERCED BY F.A.U. DUCTS. [§R302.5.2 LACRC] 24. SPECIFY SELF-CLOSING, TIGHT-FITTING, 1 3/8" SOLID

WOOD DOOR OR 20 MINUTE LABELED DOOR FOR OPENING BETWEEN GARAGE AND DWELLING. [§R302.5.1 LACRC] STAIRWAYS: MAXIMUM RISE 7 3/4", MINIMUM TREAD 10".

MINIMUM HEADROOM 6'-8", MINIMUM WIDTH 36". [§R311.7.5 LACRC]

26. PROVIDE A 1 1/4"-2" DIA. GRIPPABLE HANDRAIL FOR STAIRWAYS ON AT LEAST ONE SIDE. TERMINATE AT A NEWEL POST, WALL, OR SAFETY TERMINAL. HANDRAILS SHALL HAVE A MIN. SPACE FROM WALL OF 1 1/2" AND BE BETWEEN 34"-38" ABOVE THE TREAD NOSING. [§R311.7.8 LACRC]

[§150.0(O) CEnC]

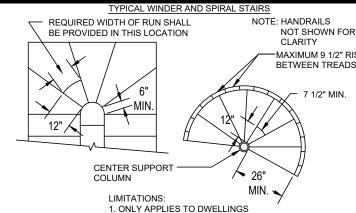
OF 100 CFM. [§150.0(O) CEnC].

EACH KITCHEN SHALL HAVE AN EXHAUST FAN DUCTED

TO THE OUTSIDE WITH A MINIMUM VENTILATION RATE

UNENCLOSED FLOOR AND ROOF OPENING, OPEN AND GLAZED SIDE OF STAIRWAYS, BALCONIES AND PORCHES 30" OR MORE ABOVE GRADE SHALL BE PROTECTED BY A GUARDRAIL OF 42" HEIGHT WITH OPENINGS LESS THAN 4" WIDE. [§R312 LACRC]

28. PROVIDE 36" LANDINGS AS MEASURED IN THE DIRECTION OF TRAVEL. LANDING WIDTH SHALL BE AS WIDE AS THE DOOR. [§R311.3 LACRC]



29. LOCATE THE TOP OF THE CHIMNEY AT LEAST 2 FEET ABOVE ANY ROOF WITHIN 10 FEET OF CHIMNEY AND 3 FEET ABOVE ROOF WHERE IT PASSES THROUGH. [§802.5.4

30. THE CHIMNEY SHALL BE EQUIPPED WITH A SPARK ARRESTER. THE NET FREE AREA OF THE SPARK ARRESTER SHALL BE NOT LESS THAN 4 TIMES THE NET FREE AREA OF THE OUTLET OF THE CHIMNEY. SPARK ARRESTER SCREEN SHALL BE CORROSION RESISTANT AND SHALL HAVE OPENINGS LESS THAN 1/2 INCH AND GREATER THAN 3/8 INCH IN SIZE. IT SHALL BE REMOVABLE FOR CLEANING. [§R1003.9.2 LACRC]

SPECIFY COPPER WATER LINES SHALL BE TYPE L MINIMUM. ABOVE & UNDERGROUND. [§604.3 LACPC] SHOWERS, BATH TUBS, WHIRLPOOL AND SHOWER-TUB COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE. ASSE 1070. [§408.3

HOSE BIBS SHALL BE FITTED WITH A NON-REMOVABLE BACK FLOW DEVICE. [§603.5.7 LACPC]

ANCHOR OR STRAP WATER HEATERS AT 1/3 FROM TOP AND BOTTOM. [§507.2 LACPC] PLUMBING WHEN CHANGING A WATER HEATER TO A TANKLESS HEATER. THE EXISTING PIPING SHALL BE

CHECKED TO DETERMINE IF IT IS ADEQUATE CAPACITY WHERE INADEQUATE. THE EXISTING SYSTEM SHALL BE ENLARGED AS NECESSARY, OR SEPERATE GAS PIPING OF ADEQUATE CAPACITY SHALL BE RUN FROM THE POINT OF DELIVERY TO THE APPLIANCE. [§1215 LACPC]

SHOWERS TO BE LARGE ENOUGH TO INSCRIBE MINIMUM 30" DIAMETER CIRCLE AND A MINIMUM OF 1,024 sq. in. SHOWER OPENING MIN. 22". [§408.6 LACPC] FLUSH VOLUMES FOR WATER CLOSETS SHALL NOT

EXCEED 1.28 GAL PER FLUSH. [§411.2 LACPC] SHOWER HEADS SHALL NOT EXCEED 1.8 GPM. [§408.2 LACPC] INSTALL BUILT-UP SHOWER PANS PER LACPC 408.7 OR USE AN APPROVED LISTED MATERIAL.

WATER HEATERS LOCATED IN AN ATTIC OR ABOVE A CEILING, FLOOR-CEILING OR FLOOR-SUB-FLOOR ASSEMBLY WHERE DAMAGE MAY RESULT FROM A LEAK, A WATERTIGHT PAN OF CORROSION RESISTANT MATERIALS SHALL BE INSTALLED BENEATH THE WATER HEATER WITH A MINIMUM 3/4" DRAIN TO AN APPROVED LOCATION. [§507.5 LACPC]

INSTALLATION INSTRUCTIONS. [§409.6 LACPC] GAS UTILIZATION EQUIPMENT LOCATED IN RESIDENTIAL GARAGES SHALL BE LOCATED OR PROTECTED SO IT IS NOT SUBJECT TO PHYSICAL DAMAGE BY A MOVING

BATHTUBS TO BE INSTALLED PER THE MANUFACTURER'S

VEHICLE. [§305, LACMC] 2. SANITARY DRAINAGE SYSTEMS TO BE SIZED AND INSTALLED PER LACPC, CHAPTER 7.

3. GAS PIPING TO BE SIZED PER TABLES 1215.2 AND INSTALLED PER LACPC, CHAPTER 12

14. NEW OR ALTERED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE PER LACPC, Sec. 609.9. 15. LAVATORY FAUCETS SHALL HAVE A FLOW RATE NOT

MORE THAN 1.2 GALLONS PER MINUTE. [§407.2 LACPC] KITCHEN FAUCETS SHALL HAVE A FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE. [§420 LACPC].

ELECTRICAL:

SHOW ON THE FLOOR PLAN OR ON A SEPARATE ELECTRICAL PLAN THE LOCATION OF MAIN AND SUB PANEL BOARDS ELECTRICAL RECEPTACLES AND LIGHTING FIXTURES. GENERALLY, RECEPTACLES ARE TO BE LOCATED IN A WALL EVERY 12 LINEAR FEET SO THAT A FIXTURE WILL NOT BE MORE THAN 6 FEET FROM ANY RECEPTACLE. [§210.52 LACEC]

PROVIDE GFCI PROTECTION FOR ALL RECEPTACLES IN THE FOLLOWING LOCATIONS PER LACEC SEC. 210.8 1. BATHROOM(S)

2. GARAGES AND ACCESSORY BUILDINGS. 3. OUTDOORS.

4. CRAWL SPACES - AT OR BELOW GRADE LEVEL.

5. UNFINISHED BASEMENTS.

6. KITCHENS SERVING COUNTERTOPS. 7. LAUNDRY, UTILITY, WET BAR SINKS, BATHTUBS, OR SHOWER STALLS WHERE RECEPTACLES ARE WITHIN 6FT.

8. BOAT HOUSES ALL 15 AND 20 AMP RECEPTICALS (INCLUDING GFCI'S) SHALL BE TAMPER-RESISTANT. [§406.12 LACEC] PROVIDE A MINIMUM OF ONE WALL SWITCH CONTROLLED LIGHTING OUTLET IN EVERY HABITABLE ROOM,

BATHROOMS, HALLWAYS, STAIRWAYS AND GARAGES PER LACEC SEC. 210.70 ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT BEDROOMS, FAMILY, LIVING, DINING ROOMS, PARLORS, LIBRARIES, DENS, RECRATION ROOMS CLOSETS, HALL WAYS, KITCHENS, LAUNDRY AREAS AND SIMULAR AREAS OR ROOMS SHALL BE PROTECTED BY A

LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUITS. [§210.12(A) LACEC] PROVIDE A CONCRETE-ENCASED ELECTRODE FOR NEW

ELECTRICAL PANELS (WHERE A NEW FOOTING IS AVAILABLE). [§250.52(A)(3) LACEC] A MINIMUM OF TWO 20-AMP SMALL APPLIANCE BRANCH

CIRCUITS SHALL BE PROVIDED FOR ALL RECEPTACLE

OUTLETS IN THE KITCHEN, DINING ROOM, PANTRY, OR OTHER SIMILAR AREAS. [§210.11(C)(1) LACEC]. AT LEAST ONE 20-AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY LAUNDRY RECEPTACLE OUTLETS.

SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. [§210.11(C)(2) LACEC]. PROVIDE AT LEAST ONE OUTSIDE WEATHERPROOF, GFI

PROTECTED RECEPTACLE AT THE FRONT AND THE BACK OF THE DWELLING UNIT. [§210.52 LACEC]. 10. COUNTERTOP RECEPTACLES, IN THE KITCHEN, SHALL BE

GFCI PROTECTED AND SHALL BE LOCATED IN A WALL EVERY 48 LINEAR INCHES. [§210.52 LACEC]. PROVIDE AT LEAST ONE GFCI PROTECTED OUTLET ALONG THE PERIMETER OF BALCONY, DECK, OR PORCH. [§210.52

12. A SWITCHED LIGHT SHALL BE INSTALLED AT ALL EXTERIOF DOORS. [§210.70 LACEC].

MECHANICAL

APPLIANCES INSTALLED IN GARAGES SUBJECT TO MECHANICAL DAMAGE SHALL BE GUARDED AGAINST BEING INSTALLED BEHIND PROTECTIVE BARRIERS OR BY BEING ELEVATED OR LOCATED OUTOF THE NORMA

PATH OF VEHICLES PER LACMC 305.1.1. HEATING AND COOLING EQUIPMENT LOCATED IN A GARAGE SHALL BE INSTALLED SO THAT BURNERS AND BURNER-IGNITION DEVICES ARE LOCATED NOT LESS THAN 18" INCHES ABOVE THE FLOOR UNLESS LISTED AS

FLAMMABLE VAPOR IGNITION RESISTANT. [§604.3 LACMC] DUCTS USED FOR DOMESTIC KITCHEN RANGE VENTILATION SHALL BE OF METAL AND SHALL HAVE SMOOTH INTERIOR SURFACES. DUCTS FOR DOMESTIC RANGE HOODS SHALL ONLY SERVE COOKING

APPLIANCES. [§504.3 LACMC] ENVIRONMENTAL AIR DUCT EXHAUST SHALL TERMINATE NOT LESS THAN 3 FT. FROM A PROPERTY LINE, 10 FT. FROM A FORCED AIR INLET, AND 3 FT. FROM OPENINGS INTO THE BUILDING. [§502.2.1 LACMC] UNLESS OTHERWISE PERMITTED OR REQUIRED BY TH

DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND APPROVED BY THE AUTHORITY HAVING JURISDICTION, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF FOURTEEN (14 · 当 # § FEET (4,263 mm), INCLUDING TWO (2) 90 DEGREE (1.57 rad) ELBOWS. TWO (2) FEET (610 mm) SHALL BE DEDUCTED FOR EACH 90 DEGREE (1.57 rad) ELBOW IN

EXCESS OF TWO. [§504.4.2.1 LACMC] AN ATTIC UNDER-FLOOR SPACE IN WHICH AN APPLIANCE IS INSTALLED SHALL BE ACCESSIBLE THROUGH AN OPENING AND PASSAGEWAY AT LEAST A LARGE AS THE LARGEST COMPONENT OF THE APPLIANCE, AND NOT LESS THAN TWENTY-TWO (22) INCHES x THIRTY (30) INCHES. (NFPA 54-09:9.5.1) LACMO 304.4 (A) WHERE THE HEIGHT OF THE PASSAGEWAY IS LESS THAN SIX (6) FEET. THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED TWENTY (20) FEET MEASURED ALONG THE CENTER LINE OF THE PASSAGEWAY. (NFPA 54-09:9.5.1. LACMC 304.4.1 (B) THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID FLOORING NOT LESS THAN TWENTY- FOUR (24) INCHES WIDE FROM THE ENTRANCE OPENING TO THE APPLIANCE. (NFPA 54:9.5.1.2) LACMC 304.4.2 (C) A LEVEL WORKING PLATFORM OR GRADE SURFACE NOT LESS THAN THIRT (30) INCHES BY THIRTY (30) INCHES SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. (NFPA 54:9.5.2) LACMC 304.4.3 (D) A PERMANENT 120-

VOLT RECEPTACLE OUTLET AND A LIGHTING FIXTURE

SWITCH CONTROLLING THE LIGHTING FIXTURE SHALL

LOCATED AT THE ENTRANCE TO THE PASSAGEWAY.

SHALL BE INSTALLED NEAR THE APPLIANCE. THE

(NFPA 54:9.5.3) LACMC 304.4.4 BUILDING CAVITIES, SUPPORT PLATFORMS FOR AIR HANDLERS AND PLENUMS CONSTRUCTED OF MATERIAL OTHER THAN SEALED SHEET METAL, DUCT BOARD OR FLEXIBLE DUCT SHALL NOT BE USED FOR CONVEYING CONDITIONED AIR PER CEnC, Sec. 150.0(m)1

GREEN BUILDING:

BUILDING DATA

STORIES:

FLOOR AREAS:

GARAGE AREA:

TOTAL AREA: _

STRUCTURAL DATA

BASIC WIND SPEED

SITE CLASS

ROOF/FLOOR LIVE LOAD

SEISMIC DESIGN CATEGORY

ELECTRICAL WORK AS APPLICABLE.

HEIGHT:

ASSESSORS PARCEL #

DESCRIPTION OF USE:

OCCUPANCY GROUP:

TYPE OF CONSTRUCTION:

SPRINKLERS: YES OR NO:

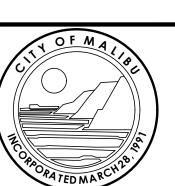
ALL GAS FIREPLACES SHALL BE DIRECT-VENT SEALED COMBUSTION TYPE. [§4.503.1 LAGBSC]. AN OPERATION AND MAINTENANCE MANUAL SHALL BE SUPPLIED AT FINAL INSPECTION COMPLYING WITH SECTION 4.410 OF THE LOS ANGELES COUNTY GREEN BUILDING STANDARDS CODE.

MATERIALS AND FINISHES SHALL COMPLY WITH POLLUTION CONTROL LIMITS PER SECTION 4.504 O THE LOS ANGELES COUNTY GREEN BUILDING STANDARDS CODE.

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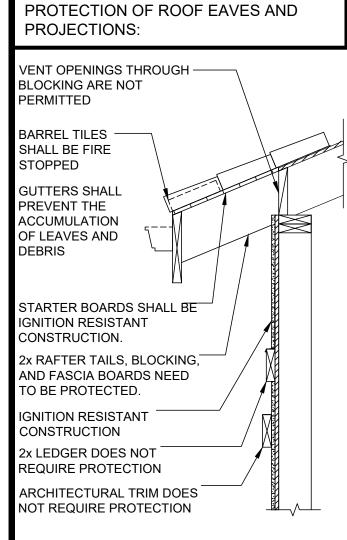


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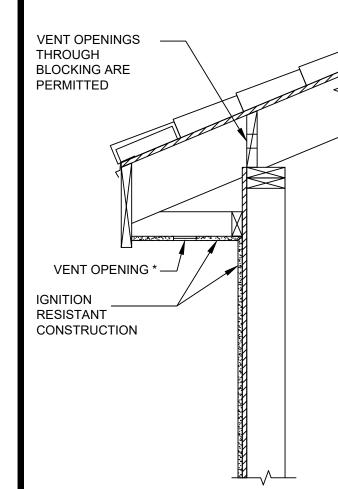
WIND EXPOSURE A SEPARATE PERMIT WILL BE REQUIRED FOR RETAINING

WALLS, FENCES, PLUMBING, MECHANICAL, AND

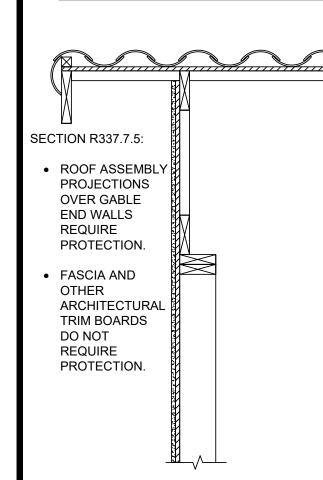
PROVIDE A COMPLETE DESCRIPTION OF THE SCOPE OF



OPEN ROOF EAVE



ENCLOSED ROOF EAVE AND ROOF SOFFIT



GABLE END PROJECTION

VENTILATION OPENINGS SHALL BE FULLY COVERED WITH WILDFIRE FLAME AND EMBER RESISTANT VENTS APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL, OR WUI VENTS TESTED TO ASTM E2886 AND LISTED. SECTION R337.6.2, LACRC.

SECTION R337.6.2.1, LACRC, OFF RIDGE AND RIDGE VENTS: VENTS THAT ARE INSTALLED ON A SLOPED ROOF, SUCH AS DORMER VENTS, SHALL COMPLY WITH THE FOLLOWING:

1. VENTS SHALL BE COVERED WITH A MESH WHERE THE DIMENSIONS OF THE MESH THEREIN SHALL BE A MINIMUM OF 1/16" AND SHALL NOT EXCEED 1/8" IN

- DIAMETER. 2. THE MESH MATERIAL SHALL BE
- NONCOMBUSTIBLE. 3. THE MESH MATERIAL SHALL BE CORROSION RESISTANT

2022 Single-Family Residential Mandatory Requirements Summary

Masonry walls must meet Tables 150.1-A or B. *

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.

(04/2022)	
uilding Envelope:	
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from

Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped. ^ Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be § 110.7: Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods § 110.8(a): Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g). § 110.8(g) Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing

§ 110.8(i): material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R. Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs. § 110.8(j): Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average Ufactor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have § 150.0(a): permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation

must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. * Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value. § 150.0(b): Wall Insulation, Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or § 150.0(c): have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102.

§ 150.0(d): Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. * Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical § 150.0(f): damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g). Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor § 150.0(g)1: retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d). Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all

insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation. Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45.

Fireplaces, Decorative Gas Appliances, and Gas Log: Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces. § 110.5(e) Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox. Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, 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.

§ 150.0(e)2: § 150.0(e)3: Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. * Space Conditioning, Water Heating, and Plumbing System: Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other

regulated appliances must be certified by the manufacturer to the California Energy Commission HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in § 110.2(b): which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. * Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a § 110.2(c):

setback thermostat. Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank

Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

2022 Single-Family Residential Mandatory Requirements Summary

Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFN per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts § 150.0(m)13: per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an airhandling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix

Ventilation	and	Indoor	Air	Quality:	

§ 150.0(o)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.*
§ 150.0(o)1B:	Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.

Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses . Single-family detached dwelling units, and § 150.0(o)1C: attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii. Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-

controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per § 150.0(o)1H&I: Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)1C must

be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C. Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and

§ 150.0(o)2: HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Pool and Spa Systems and Equipment:

	,
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
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Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover. Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods. **Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.

Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.

Lighting:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.

must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met. Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 § 150.0(k)1D: elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires. Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire § 150.0(k)1E: or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low

voltage wiring, or fan speed control. **Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).

2022 Single-Family Decidential Mandatory Requirements Summary

EMERGY COMMISSION	2022 Single-Family Residential Mandatory Requirements Summary
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and
	spa heaters. *
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment` maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.
ucts and Fans:	
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of masti and either mesh or tape must be used to seal openings greater than ¼", If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in

these spaces must not be compressed. Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, § 150.0(m)3: mastics, sealants, and other requirements specified for duct construction. Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic § 150.0(m)7: Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, § 150.0(m)8: manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents. Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular § 150.0(m)9: foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating. § 150.0(m)10: Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer

vapor barrier. Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1

Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter.

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Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.

Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8

elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(k)1G:

§ 150.0(k)1H:

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§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	Automatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	Dimmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.

Internally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 § 150.0(k)4: Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the § 150.0(k)5: applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0. **Solar Readiness:** ingle-family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, § 110.10(a)1: which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e). Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north. Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof § 110.10(b)3A: Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the

horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar § 110.10(b)3B: Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof § 110.10(b)4: dead load and roof live load must be clearly indicated on the construction documents. nterconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family § 110.10(c): residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be

§ 110.10(d): provided to the occupant. § 110.10(e)1: Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole § 110.10(e)2: circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE:

• New buildings, and any additions, alterations, or repairs made to existing buildings located in or moved within any Fire Hazard Severity Zone or any Wildland-Urban Interface (WUI) Fire Area designated by the Los Angeles County Fire Department constructed after the application date shall comply with the provisions of Section R337. [§R337.1.3, LACRC]

• Group U occupancy accessory buildings of any size located at least 50 feet from an applicable building on the same lot are exempt from Section R337. Accessory buildings and miscellaneous structures, including additions, alterations, or repairs, as specified in Section R337.10 shall comply only with the requirements of that Section. [§R337.1.3, LACRC]

• Where valley flashing is installed, the flashing shall be not less than 0.019-inch No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72-pound mineral-surfaced nonperforated cap sheet complying with ASTM D3909, at least 36-inch-wide running the full length of the valley. [§R337.5.3 LACRC]

• Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter. [§R337.5.4 LACRC]

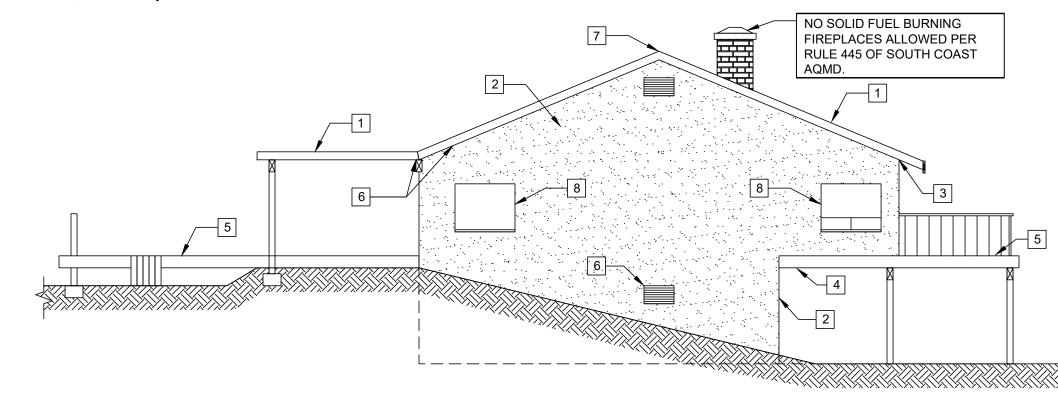
• Open Roof Eaves: The exposed roof deck on the underside of unenclosed roof eaves shall consist of one or more of the following: noncombustible material, ignition resistant material, fireretardant-treated wood, one layer of 5/8" Type X gypsum sheathing applied behind an exterior covering on the underside of the roof deck, or provide the exterior portion of a 1-hour fireresistance-rated exterior assembly, as tested in accordance with ASTM E119 or UL 263. [§R337.7.5 LACRC]

• Enclosed Roof Eaves and Roof Eave Soffits: The exposed underside of enclosed roof eaves having either a boxed-in roof eave soffit with a horizontal underside, or sloping rafter tails with an exterior covering applied to the underside of the rafter tails, shall be protected by one or more of the following: noncombustible material, ignition-resistant material, fire-retardant-treated wood, materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side tested in accordance with ASTM E119 or UL 263, one layer of 5/8" Type X gypsum sheathing applied behind the exterior covering or cladding on the underside of the rafter tails or soffit, boxed-in roof eave soffit assemblies with horizontal underside meeting Section R337.7.11 and meeting procedures set forth in ASTM E2957 or SFM standard 12-7A-3. [§R337.7.6 LACRC]

• Exterior Porch Ceilings: The exposed underside of exterior porch ceilings shall be protected by one or more of the following: noncombustible material, ignition-resistant material, fireretardant-treated wood, materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side tested in accordance with ASTM E119 or UL 263, one layer of 5/8" Type X gypsum sheathing applied behind the exterior covering or cladding on the underside of the ceiling, porch ceiling assemblies with horizontal underside meeting Section R337.7.11 and meeting procedures set forth in ASTM E2957or SFM standard 12-7A-3. [\$R337.7.7 LACRC]

• Floor Projections or Underfloor Protection: The exposed underside of a cantilevered floor projection where a floor assembly extends over an exterior wall or the underfloor area of elevated or overhanging buildings shall be protected by one or more of the following: noncombustible material, ignition-resistant material, fire-retardant-treated wood, materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side tested in accordance with ASTM E119 or UL 263, one layer of 5/8" Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection, the exterior portion of an approved one-hour wall assembly or have the horizontal underside meet the performance criteria of SFM 12-7A-3 or ASTM E2957. [§R337.7.8. R337.7.9 LACRC] Exception: Structural columns and beams do not require protection when they are constructed with sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches.

• Awnings shall have frames of noncombustible material, fire-retardant-treated wood, heavy timber, or one-hour construction with combustible or noncombustible covers. [§R337.10.2 LACRC, 3105 LACBC]



Roof coverings shall be Class A as specified in Section R902.1. Where the roofing profile has an airspace under the roof covering, installed over a combustible deck, a 72 lb. (32.7 kg) cap sheet complying with ASTM D3909 Standard Specification for "Asphalt Rolled Roofing (Glass Felt) Surfaced with Mineral Granules," shall be installed over the roof deck. Bird stops shall be used at the eaves when the profile fits, to prevent debris at the eave. Hip and ridge caps shall be mudded in to prevent intrusion of fire or embers. Exception: Cap sheet is not required when no less than 1 inch of mineral wool board or other noncombustible material is located between the roofing material and wood framing or deck. Alternately, a Class A fire rated roof underlayment, tested in accordance with ASTM E108, shall be permitted to be used. If the sheathing consists of exterior fire-retardant-treated wood, the underlayment shall not be required to comply with a Class A classification. Wood shingles and wood shakes are prohibited in any Fire Hazard Severity Zone regardless of classification. [§R337.5.2 LACRC]

Exterior wall coverings shall be approved noncombustible material, ignition-resistant material, or fire-retardant-treated wood. Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2 inch nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure. [§R337.7.3 LACRC]

Exterior wall assemblies of buildings or structures shall be constructed using one or more of the following methods, unless they are covered by an exterior wall covering complying with Section R337.7.3: Assemly of sawn lumber or glue-laminated wood with least dimension of 4 inches, log wall construction, assembly suitable for exterior fire exposure containing one layer of 5/8" Type X gypsum sheathing applied behind the exterior wall covering on the exterior side of the framing, or any of the following assemblies tested in accordance with: ASTM E2707, SFM Standard 12-7A-1, ASTM E119, UL 263. [§R337.7.4 LACRC]

See "Open Roof Eaves" or "Enclosed Roof Eaves and Roof Eave Soffits" above

See "Floor Projections or Underfloor Protection" above.

Walking surface material of decks, porches, balconies and stairs located within 10 feet of the building shall be constructed with one of the following materials: ignition-resistant material complying with Section R337.9.4, materials that comply with both SFM Standard 12-7A-4 and Section R337.4.3, material that complies with R337.9.4 when tested in accordance with both ASTM E2632 and ASTM E2726, exterior fire-retardant-treated wood, noncombustible material, any material complying with SFM Standard 12-7A-4 when exterior wall covering is also composed of noncombustible or ignition-resistant material, or any material complying with Section R337.9.5 when tested in accordance with ASTM E2632 and when exterior wall covering is also composed of noncombustible or ignition-resistant materials.[§R337.9.2, R337.9.3 LACRC]

[§R337.6.2 LACRC] Ventilation openings shall be fully covered with Wildfire Flame and Ember Resistant vents approved and listed by the California State Fire Marshal, or WUI vents tested to

ASTM E2886 and listed, by complying with all of the following requirements: 1. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.

2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.

3. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit. Roof and underfloor vents shall be protected by corrosion-resistant, noncombustible wire mesh with openings a minimum of 1/16-inch and shall not exceed 1/8-inch.

[§R337.6.2.1 LACRC] Vents that are installed on a sloped roof, such as dormer vents, shall comply with all the following:

1. Vents shall be covered with a mesh where the dimensions of the mesh therein shall be a minimum of 1/16" and shall not exceed 1/8" diameter.

2. The mesh material shall be noncombustible. 3. The mesh material shall be corrosion resistant.

Exterior windows and exterior glazed doors shall be multipane glazing with a minimum of one tempered pane, glass block units, have a fire resistance rating of not less than 20 minutes when tested in accordance with NFPA 257, or meet the requirements of SFM 12-7A-2. [§R337.8.2.1 LACRC] Exterior doors shall comply with one of the following: Exterior surface or cladding shall be of approved noncombustible construction or ignition-resistant material, solid core wood having stiles and rails not less than 1-3/8 inches thick with interior field panel thickness no less than 1-1/4 inches thick, shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252, meet requirements of R337.7.3.1 when tested in accordance with ASTM E2707, or meet the requirements of SFM Standard 12-7A-1. [§R337.8.3 LACRC]



2022 Single-Family Residential Mandatory Requirements Summary

Electric and Energy Storage Ready:

Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.

Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed § 150.0 t) 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For

Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V § 150.0 u) branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V

Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated § 150.0 v) unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

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