STANDARD NOTES RESIDENTIAL CONSTRUCTION
2025 CALIFORNIA GREEN BUILDING STANDARDS (5.0)

[Effective January 1, 2026]
Applies to new residential buildings, additions, and alterations that increase the conditioned area, volume, or size. For additions and alterations, requirements only apply to and/or within the area of the addition or alteration.

INSTRUCTIONS: Designer to place an "X" preceding each applicable section or indicate "N/A" if not applicable. All blank spaces are to be completed for all applicable sections.

BICYCLE PARKING

CALIFORNIA GREEN BUILDING CODE (CGBC) 4.106.4.4: Short-term and long-term bicycle parking applies to new multifamily buildings, hotels and motels.

Check the appropriate box and provide complete input for each selection as applicable:

_____ ☐ **Short-Term Bicycle Parking**

Requirement: 1 space per 10,000 sq. ft., *minimum of 2 spaces*.

A total of _____ short-term bicycle parking spaces are provided. See plan sheet(s) _____ showing bicycle racks.

- Location:
  - ☐ Within 200 ft of main building entrances
  - ☐ Visible to passers-by
- Type of Facilities Provided (check all that apply):
  - ☐ Permanently anchored bicycle racks/devices in open, unsheltered area
  - ☐ Covered enclosure with permanently anchored racks
  - ☐ Uncovered enclosure with permanently anchored racks

_____ ☐ **Long-Term Bicycle Parking - Multifamily Buildings** *(Complete only for multifamily projects)*

Requirement: 1 space per 2 dwelling units.

Number of dwelling units: _____. A total of _____ long-term spaces are required. A total of _____ long-term spaces are provided.

- Type of Facilities Provided (check all that apply):
  - ☐ Covered, lockable enclosure with permanently anchored racks
  - ☐ Lockable bicycle storage room with permanently anchored racks
  - ☐ Lockable, weatherproof, permanently anchored bicycle lockers

_____ ☐ **Long-Term Bicycle Parking - Hotels and Motels** *(Complete only for hotel/motel projects)*

Requirement: 1 space per 25,000 sq. ft., *minimum of 2 spaces*.

A total of _____ long-term spaces are required. A total of _____ long-term spaces are provided.

- Type of Facilities Provided (check all that apply):
  - ☐ Covered, lockable enclosure with permanently anchored racks
  - ☐ Lockable bicycle storage room with permanently anchored racks
  - ☐ Lockable, weatherproof, permanently anchored bicycle lockers

ELECTRIC VEHICLE (EV) CHARGING

CALIFORNIA GREEN BUILDING CODE (CGBC) 4.106.4: Applicable to new construction except new Accessory Dwelling Units (ADU) and new Junior Accessory Dwelling units (JADU) without additional parking facility.

☐ This project is exempt per CGBSC Section 4.106.4 exception 1. See sheet _____ for documentation from Southern California Edison verifying necessary alterations to the utility infrastructure are not feasible.

☐ **New one and two family dwellings and townhouses with attached private garages**, provide the following for each dwelling unit:

- A listed raceway not less than trade size 1 (nominal 1 inch inside diameter) to accommodate a future dedicated 208/240-volt branch circuit originating at the main service or subpanel, and terminating in a listed cabinet, box, or other enclosure in close proximity to the proposed EV charger within the attached garage.
  Exception: Raceway is not required if a minimum 40 amp 208/240 volt dedicated EV branch circuit is installed.
- Service panel or subpanel sized to accommodate original design load plus an added dedicated 40 amp minimum branch circuit for the future charging station.
- Service panel of subpanel shall have space reserved for the 40 amp branch circuit. Reserved space shall be labeled: "EV CAPABLE."

New Multifamily dwellings, hotels and motels and new residential parking facilities, Electric Vehicle Spaces (EVS) shall be provided for all type of parking facilities within the site. Calculations for the required number shall be rounded to the nearest whole number.

☐ A total of _____ **EV Ready, and** _____ **EV Charger** spaces are provided as shown on _____ plan sheet(s).

Existing Multifamily dwellings

☐ **Addition/alteration of parking facility serving the existing multifamily building**

A total of _____ low power Level 2 EV charging receptacle/charger spaces are provided as shown on _____ plan sheet(s).

1. EV Ready:
   a. **Multifamily parking facilities with assigned parking.** Where dwelling units are provided with assigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided at an assigned parking space for each dwelling unit.
      1. Where the total number of dwelling units exceeds the number of assigned parking spaces, all assigned parking spaces shall be provided with one low power Level 2 EV charging receptacle.

   b. **Multifamily parking facilities with unassigned parking.** Where dwelling units are provided with unassigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided at an unassigned parking space for each dwelling unit.
      1. Where the total number of dwelling units exceeds the number of unassigned parking spaces, all unassigned parking spaces shall be provided with one low power Level 2 EV charging receptacle.

   c. **Multifamily parking facilities with assigned and unassigned parking.** Where multifamily buildings are provided with both assigned and unassigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided for each dwelling unit at either the assigned or unassigned parking space, but not both.
      1. Where the total number of dwelling units exceeds the number of unassigned parking spaces, all unassigned parking spaces shall be provided with one low power Level 2 EV charging receptacle.

- **Exceptions for a & b:** Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.
- For multifamily parking facilities:
    a. Receptacle power source at assigned spaces shall be a dedicated branch circuit connected to the dwellings unit's electrical panel.
    b. Receptacle shall be 208/240 volt with one of the following configuration: NEMA 6-20R for 20 amps; NEMA 14-30R for 30 amps; or NEMA 14-50R for 50 amps.

2. EV Charger:
    - Multifamily parking facilities with unassigned or common use parking. In addition to the low power Level 2 EV charging receptacle requirements of Section 4.106.4.2.2 (1), twenty-five (25) percent of unassigned or common use parking spaces not already provided with low power Level 2 EV charging receptacles, pursuant to Section 4.106.4.2.2 (1), shall be equipped with Level 2 EV chargers and shall be made available for use by all residents or guests.
    - EV charger connectors. EV chargers shall be equipped with J1772 or J3400 connectors.
    - An automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EV chargers shall have a capacity of not less than 30 amperes.

3. EV spaces requirements:
    - Install a listed raceway capable of accommodating a 208/240 volt dedicated branch circuit. Raceway shall be minimum trade size 1 (nominal 1 inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. A raceway is not required if a minimum 40 amps. 208/240 volt dedicated EV branch circuit is installed in close proximity to the location of the EV space.
    - The service panel or subpanel circuit directory shall identify the overcurrent space reserve for future EV charging as “EV CAPABLE”.
    - Electric vehicle ready spaces shall be identified by signage or pavement markings in compliance with Caltrans Traffic Operations Policy Directive 13-01.

4. EVCS required per CGBC 4.106.4.2.2 item #2, except the ones serving public housing, public accommodations, motels and hotels, shall comply with the following:
    - EV space shall be 18 feet minimum length and 9 feet wide.
    - One in every twenty-five (25) charging spaces but not less than one shall also have an 8-foot-wide minimum aisle. A 5-foot aisle shall be permitted provided the minimum width of the EV space is 12 feet. Surface slope for this EV space and the aisle shall not exceed 1:48 in any direction. In addition, the EVCS space shall be located either on an accessible route or adjacent to an accessible parking space to allow use of the EV charger from the accessible parking.

WATER EFFICIENCY AND CONSERVATION (CGBSC 4.303)

INDOOR WATER USE

Plumbing fixtures and fittings shall comply with the following table:

FIXTURE FLOW RATES	
FIXTURE TYPES	**MAXIMUM FLOW RATE**
SHOWERHEADS	1.8 gpm @ 80 psi (see note 1)
PRIVATE LAVATORY FAUCETS	1.2 gpm @ 60 psi
LAVATORY FAUCETS IN COMMON AREAS	0.5 gpm @ 60 psi
METERING FAUCETS	0.2 gallons per cycle
KITCHEN FAUCETS	1.8 gpm @60 psi (see note 2)
WATER CLOSETS	1.28 gallons per flush (see note 3)

NOTES:

(1) When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at one time.

(2) Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. Additionally, where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

(3) The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

(4) When pre-rinse spray valves are installed, commercial pre-rinse spray valves shall meet the requirements in the California Plumbing Code, section 420.3.

OUTDOOR WATER USE - MWELO (CGBSC 4.304)

_____ ☐ This project is subject to MWELO requirements. See plan sheet _____ for completed City of Irvine Model Water Efficiency Landscape Ordinance work sheet, Form 40-81.

MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING (CGBSC 4.408)

Recycling of materials shall conform to the Construction and Demolition Materials Recycling Requirements of the City of Irvine Municipal Code (IMC) Sections 6-7-901 through 6-7-912.

BUILDING MAINTENANCE AND OPERATION

An operation and maintenance manual shall be provided to the building occupant or owner. The manual shall remain with the building throughout the life cycle of the home and shall contain but is not limited to the following items (CGBSC 4.410).

1. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, water-heating systems, and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
2. Information from local utility, water, and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
3. Public transportation and/or carpool options available in the area.
4. 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 level in that range.
5. Information about water conserving landscape and irrigation design and controllers which conserve water.
6. Instructions for maintaining gutters and downspouts and importance of diverting water at least 5 feet away from foundation.
7. Information on required routine maintenance measures, including but not limited to, caulking, painting, grading around building, etc.
8. Information about state solar energy and incentive programs available.
9. A copy of all CGBSC special inspection verifications required through the course of construction.
10. Information from CAL FIRE on maintenance of defensible space around residential structures.
11. Information and/or drawings identifying the location of grab bar reinforcement.

RECYCLING BY OCCUPANTS (Applies to projects having 5 or more multifamily dwelling units per common building site)

_____ ☐ Readily accessible area(s) are designated, as shown on plan sheet(s)_____ for depositing, storage, and collection of non-hazardous materials for recycling, including paper, corrugated cardboard, glass, plastic, organic waste, and metal.

ENVIRONMENTAL QUALITY

FIREPLACES

Wood burning devices including fireplaces are not permitted under Southern California Air Quality Management District (SCAQMD) Rule 445. Any installed gas fireplace shall be a direct-vent sealed-combustion type. (CGBSC 4.503.1)

MECHANICAL EQUIPMENT AND DUCT PROTECTION

To reduce the amount of water, dust, and debris collected in mechanical equipment and ducts, all duct openings and other related air distribution equipment component openings shall be covered from the time of delivery at the jobsite through the construction until final start up. (CGBSC 4.504.1)

FINISH MATERIAL POLLUTANT CONTROL

- **Adhesives, sealants, and caulks** shall meet the applicable standards of CGBSC 4.504.2.1 and tables 4.504.1 and 4.504.2 for VOC limits and content prohibitions.
- **Paints and coatings** shall meet the applicable standards of CGBSC 4.504.2.2 and table 4.504.3 for VOC limits.
- **Aerosol paints and coatings** shall meet the applicable standards of CGBSC 4.504.2.3**.**
- **Carpet systems** shall meet the applicable standards of CGBSC 4.504.3 including CGBSC 4.504.31 for **carpet cushions** and CGBSC 4.504.2 **carpet adhesives**.
- **Resilient flooring** shall meet the applicable standards of CGBSC 4.504.4**.**
- **Composite wood products** shall meet the applicable standards of CGBSC 4.504.5 and table 4.504.5.

INTERIOR MOISTURE CONTROL

- **Water damaged** building materials shall not be installed.
- **Moisture content of wood** used in wall and floor framing shall be verified not to exceed 19 percent prior to approval to cover (CGBSC 4.505.3). Verification testing shall be performed using a probe-type or contact-type meter at three random locations between 2 and 4 feet from the grade stamped end of the piece being checked.
- **Insulation** products shall be dry when covered. Wet-applied insulation products shall meet the manufacturer's recommendations prior to enclosure.

AIR QUALITY AND EXHAUST (CGBSC 4.506)

Mechanical exhaust fans which exhaust directly from a room containing a bathtub, shower or tub/shower combination shall be provided and shall:

- Terminate outside the building, for duct sizing based on fan capacity and length see Prescriptive Duct Sizing Requirements.
- Be ENERGY STAR compliant.
- Be controlled by a humidity control, and unless functioning as a component of a whole house fan system, be

capable of adjustment between a relative humidity range of less than or equal to 50 to 80 percent.
- Humidity control is not required to be an integral component to the exhaust fan.

- See below for supplemental requirements.

ADDITIONAL AIR QUALITY REQUIREMENTS

2025 CALIFORNIA ENERGY CODE (CEnC) (Applicable to residential single and two-family buildings and townhomes; Occupancy Group R3 only.)

Specific indoor air quality standards required by the California Energy Code, section 150.0(o), and reference document American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 62.2 apply as follows:

- Bathroom exhaust fan shall be provided having a minimum capacity of **50 cfm**, a sound rating of **3 sones** or less unless designed for continuous operation and installed to operate without occupant intervention. In which case, the minimum capacity must be **20 cfm** and a sound rating of **1 sone** or less.
- Kitchen exhaust fan in enclosed or non-enclosed kitchens shall be provided having a minimum capacity of **300 cfm** and a sound rating of **3 sones** or less unless exhaust fan in enclosed kitchen is designed for continuous operation and installed to operate without occupant intervention. Must be provided with a minimum capacity or **5** air changes per hour based on the kitchen volume and a sound rating of **1 sone** or less.
- Whole Building Ventilation shall be provided. Fan capacity (Qtot) shall meet the Required Mechanical Ventilation Rate per CEnC Section 150(o)1.C. Fans intended for continuous operation shall have a sound rating not exceeding **1 sone.**

$$Qtot = 0.03Afloor + 7.5(Nbr+1)$$

Qtot = Total Required Ventilation rate, cfm
Afloor= Dwelling Unit Floor Area, ft^2
Nbr = Number of Bedrooms (not less than 1)

NOTES:

(1) **Prior to passing rough mechanical inspection, the contractor shall complete and provide to the inspector for acceptance the first three pages of the CF2R-MCH-02 form to verify fan sizing requirements are met and to discuss proposed switching and control strategies.**

(2) A remote-mounted inline fan, or exterior-mounted exhaust fan, with a minimum of 4 feet of duct between the fan and the interior intake or supply grille does not require a sound rating.

(3) Fan ducts shall comply with Prescriptive Duct Sizing Requirements.

(4) Kitchen or bathroom exhaust fans intended for local exhaust only and designed for continuous operation shall operate automatically without occupant intervention. Such fans shall also be provided with readily accessible and identified override control.

(5) All fan listings must meet or exceed design specifications including air volume capacity at 0.25 inches of w.c., sound rating, and continuous operation as applicable.

(6) In lieu of a separate kitchen exhaust provide a range hood. The kitchen range hood airfow rate in enclosed and non-enclosed kitchens is determine according to dwelling unit square footage as follows:

DWELLING UNIT FLOOR AREA (ft^2)	HOOD OVER ELECTRIC RANGE	HOOD OVER NATURAL GAS RANGE
>1500	50% CE or 110 cfm	70% CE or 180 cfm
>1000-1500	50% CE or 110 cfm	80% CE or 250 cfm
750-1000	55% CE or 130 cfm	85% CE or 280 cfm
<750	65% CE or 160 cfm	85% CE or 280 cfm

(7) Whole Building Ventilation fans designed for continuous operation may operate automatically without occupant intervention, in which case such fans shall also be provided with readily accessible and identified override controls. As an alternate such fan may be switch controlled provided the switch is labeled using Arial 12 point font as follows:

> **To maintain minimum levels of outside air ventilation required for good health, the fan control should be on at all times when the building is occupied, unless there is severe outdoor air contamination**.

- Minimum efficiency MERV 13 filter(s) shall be provided such that all recirculated and mechanically supplied outdoor air is filtered before passing through thermal conditioning components.

This is temporary placeholder content

FAN SUMMARY

FAN LOCATION	CONTINUOUS/INTERMITTENT	SOUND RATING (sones)	REQUIRED AIR FLOW (CFM)
Kitchen			
Bathroom 1			
Bathroom 2			
Bathroom 3			
Other:			

- Applies when atmospherically vented combustion appliances or solid fuel-burning appliances are located inside the pressure boundary. Based on the calculation below per ASHRAE 62.2 section 6.4.

  There _____ atmospherically vented combustion appliances or solid fuel-burning appliances located inside the pressure boundary. *(If so, complete the following.)*

  {(Total net flow of the two largest fans) x (100)}/ Floor Area =

  {(_____ + _____) x 100} / _____ = _____

  Insert Fan 1 *Insert Fan 2* *Insert Total Floor Area* *Insert Calculated Value*

  Design outdoor air flow is:

  ☐ not required (if calculated value does not exceed 15)

  ☐ required (if calculated value exceeds 15). See sheet _____ for design details.

PRESCRIPTIVE DUCT SIZING REQUIREMENTS

(TABLE 5.3 Adapted from ASHRAE 62.2-2022)

DUCT TYPE	FLEX DUCT								SMOOTH DUCT							
FAN AIRFLOW RATING CFM @ 0.25in. of Water	50	80	100	125	150	200	250	300	50	80	100	125	150	200	250	300
DIAMETER[a], IN	**MAXIMUM LENGTH[b,c,d], FT**															
3	x	x	x	x	x	x	x	x	5	x	x	x	x	x	x	x
4	56	4	x	x	x	x	x	x	114	31	10	x	x	x	x	x
5	NL	81	42	16	2	x	x	x	NL	152	91	51	28	4	x	x
6	NL	NL	158	91	55	18	1	x	NL	NL	NL	168	112	53	25	9
7	NL	NL	NL	NL	161	78	40	19	NL	NL	NL	NL	NL	148	88	54
8 and above	NL	NL	NL	NL	NL	189	111	69	NL	NL	NL	NL	NL	NL	198	133

a. For noncircular ducts, calculate the diameter as four times the cross-sectional area divided by the perimeter.

b. This table assumes no elbows. Deduct 15ft. of allowable duct length for each elbow.

c. NL = no limit on duct length of this size.

d. x = not allowed; any length of duct of this size with assumed turns and fitting will exceed the rated pressure drop.