

DIVISION A4.6 - TIER 1 AND TIER 2-continued

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST

	APPLICANT TO	VE ENFORCING VERIF	SPECIFY HOD			
FEATURE OR MEASURE		Prerequisites	and electives ¹	Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2			
PLANNING AND DESIGN						
Site Selection						
 A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized Brownfield site is selected. 						
 A4.103.2 Facilitate community connectivity by one of the following methods: 1. Locate project within a ¹/₄-mile true walking distance of at least 4 basic services; 2. Locate project within ¹/₂-mile true walking distance of at least 7 						
basic services; 3. Other methods increasing access to additional resources.						
Site Preservation			•	1		1
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.						
Deconstruction and Reuse of Existing Materials						
 A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: Light fixtures Plumbing fixtures Doors and trim Masonry Electrical devices Appliances Foundations or portions of foundations 						
Site Development			<u>.</u>			
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.						
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.						
4.106.4 Provide capability for electric vehicle charging for one- and two-family dwellings; townhouses with attached private garages; multifamily dwellings; and hotels/motels in accordance with Sections 4.106.4.1, 4.106.4.2, and 4.106.4.3, as applicable.						
A4.106.1 Reserved	l .					

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RESIDENTIAL OCCUPANC	APPLICANT TO S	LEVELS		RIFICATIONS AGENCY TO ICATION MET	SPECIFY	
FEATURE OR MEASURE		Prerequisites and electives ¹			Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2			
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings utilized in the structural design of the building.						
 A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following: 1. Natural drainage patterns are evaluated and erosion controls are implemented to minimize erosion during construction and after occupancy. 						
2. Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways.						
 Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed and the soil is replaced using accepted compaction methods. 						
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section.						
Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.			\mathbf{X}^2			
Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.			\mathbf{X}^2			
A4.106.3 Postconstruction landscape designs accomplish one or more of the following:1. Areas disrupted during construction are restored to be consistent						
with native vegetation species and patterns.2. Utilize at least 75 percent native California or drought tolerant plant and tree species appropriate for the climate zone region.						
A4.106.4 Permeable paving is utilized for the parking, walking or patio surfaces in compliance with the following: Tier 1. Not less than 20 percent of the total parking, walking or patio surfaces shall be permeable. Tier 2. Not less than 30 percent of the total parking, walking or patio surfaces shall be permeable.		(X) ²	\mathbf{X}^2			
A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5.1(1) and A4.106.5.1(2) for low-rise residential buildings and Tables A4.106.5.1(3) and A4.106.5.1(4) for high rise residential buildings.						
Low-rise Residential Tier 1 roof covering shall meet or exceed the values contained in						
Table A4.106.5.1(1). Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5.1(2).			\mathbf{X}^2			
High-rise Residential, Hotels and Motels Tier 1 roof covering shall meet or exceed the values contained in						
Table A4.106.5.1(3).					_	_
Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5.1(4).			\mathbf{X}^2			

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

	APPLICANT TO S	LEVELS SELECT ELECTI	VE MEASURES	VE ENFORCING VERIF	SPECIFY		
FEATURE OR MEASURE		Prerequisites	and electives ¹	Enforcing Agency	Installer or Designer	Third party	
	Mandatory	Tier 1	Tier 2				
A4.106.6 Install a vegetated roof for at least 50 percent of the roof area. Vegetated roofs shall comply with requirements for roof gardens and landscaped roofs in the <i>California Building Code</i> , Chapters 15 and 16.							
A4.106.7 Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.							
A4.106.8.1 Tier 1 and Tier 2 for one- and two-family dwellings and townhouses with attached private garages. Install a dedicated 208/240-volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit.		(X) ²	\mathbf{X}^2				<
A4.106.8.2 Tier 1 and Tier 2 for multifamily dwellings. Provide capability for future electric vehicle charging in 5 percent of total parking spaces, as specified.			\mathbb{X}^2				<
A4.106.9 Provide bicycle parking facilities as noted below or meet a local ordinance, whichever is more stringent. Number of bicycle parking spaces may be reduced, as approved by the enforcing agency, due to building site characteristics, including but not limited to, isolation from other development.							
 Provide short-term bicycle parking, per Section A4.106.9.1. Provide long-term bicycle parking for multifamly buildings, per 							
 Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.2. Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.3. 							
 A4.106.10 [HR] Outdoor lighting systems shall be designed and installed to comply with: 1. The minimum requirements in the <i>California Energy Code</i> for Lighting Zones 1-4; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and 							
3. Allowable BUG ratings not exceeding those shown in Table A4.106.10; or Comply with a lawfully enacted local ordinance, whichever is more stringent.							

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

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SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

	APPLICANT TO	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES VERIFICATION ME		AGENCY TO	SPECIFY	
FEATURE OR MEASURE		Prerequisites	and electives ¹	Enforcing Agency	Installer or Designer	Third
	Mandatory	Tier 1	Tier 2		All	party □ All
Innovative Concepts and Local Environmental Conditions						
A4.108.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1						
Item 2						
Item 3						
ENERGY EFFICIENCY						
General						
4.201.1 Building meets or exceeds the requirements of the <i>California Building Energy Efficiency Standards</i> ³ .		<mark>区</mark> 2)	\mathbf{X}^2			
Performance Approach for Newly Constructed Buildings						
A4.203.1.1.1 An Energy Design Rating for the Proposed Design Building is included in the Certificate of Compliance documentation.		<mark>(</mark>)	\mathbf{X}^2			
A4.203.1.1.2 QII procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5 are completed.			$[X]^2$			
A4.203.1.2.1 Tier 1: Buildings complying with the first level of advanced energy efficiency shall have either an Energy Budget that is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 15% or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.		⊠ ²				
A4.203.1.2.2 Tier 2: Buildings complying with the second level of advanced energy efficiency shall have either an Energy Budget that is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 30% or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.			X ²			
 A4.203.1.2.3 Zero Net Energy Design (elective): Shall comply with all of the following: 1. Section A4.203.1.1 (Prerequisite) and 2. Section A4.203.1.2.1 for single-family buildings in Climate Zones 6 and 7, and low-rise multifamily buildings in Climate Zones 3, 5, 6, and 7 or Section A4.203.1.2.2 for single-family buildings in Climate Zones 1-5 and 8-16, and low-rise multifamily buildings in Climate Zones 1, 2, 4, and 8-16 B. Energy Design Rating of zero (0) or less 						
Performance Approach for Additions						
A4.204.1.1 Tier 1. If only one mechanical system is added or modified, the Energy Budget is no greater than 95 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building. If two or more mechanical systems are added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building.		⊠²				
A4.204.1.2 Tier 2. If only one mechanical system is added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building. If two or more mechanical systems are added or modified, the Energy Budget is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building.			\mathbf{X}^2			

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

	APPLICANT TO	LEVELS SELECT ELECTI	VE MEASURES	ENFORCING	ERIFICATIONS G AGENCY TO ICATION MET	SPECIFY
FEATURE OR MEASURE				Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2			D All
WATER EFFICIENCY AND CONSERVATION						
Indoor Water Use						
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.4.						
4.303.2 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the <i>California Plumbing Code</i> , and shall meet the applicable referenced standards.	X					
 A4.303.1 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. 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 1.5 gallons per minute at 60 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction. 						
A4.303.2 Alternate water source for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the <i>California Plumbing Code</i> .						
A4.303.3 Install at least one qualified ENERGY STAR dishwasher or clothes washer.						
A4.303.4 Nonwater urinals or waterless toilets are installed.						
A4.303.5 One- and two-family dwellings shall be equipped with a demand hot water recirculation system.						
Outdoor Water Use		-	•			
4.304.1 After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with one of the following options: 1. A local water efficient landscape ordinance or the current						
California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent; or 2. Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option.						
$\ensuremath{\textbf{A4.304.1}}\xspace$ A rainwater capture, storage and re-use system is designed and installed.						
${\bf A4.304.2}$ A landscape design is installed, which does not utilize potable water.						
A4.304.3 For new water service connections, landscaped irrigated areas less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.						

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	APPLICANT TO S	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIF VERIFICATION METHOD			
FEATURE OR MEASURE		Prerequisites and electives ¹			Installer or Designer	Third party		
	Mandatory	Tier 1	Tier 2		D All	D All		
WATER REUSE SYSTEMS		•	•					
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.								
A4.305.2 Recycled water piping is installed.								
A4.305.3 Recycled water is used for landscape irrigation.								
Innovative Concepts and Local Environmental Conditions		•	•					
A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.								
Item 1								
Item 2								
Item 3								
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY		·						
Foundation Systems								
A4.403.1 A Frost-protected Shallow Foundation (FPSF) is designed and constructed.								
A4.403.2 Cement use in foundation mix design is reduced. Tier 1. Not less than a 20 percent reduction in cement use. Tier 2. Not less than a 25 percent reduction in cement use.		(X) ²	$[\mathbf{X}]^2$					
Efficient Framing Techniques								
A4.404.1 Beams and headers and trimmers are the minimum size to adequately support the load.								
A4.404.2 Building dimensions and layouts are designed to minimize waste.								
A4.404.3 Use premanufactured building systems to eliminate solid sawn lumber whenever possible.								
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.								

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

	APPLICANT TO S	APPLICANT TO SELECT ELECTIVE MEASURES				SPECIFY HOD
FEATURE OR MEASURE		Prerequisites and electives ¹		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2		D All	
Material Sources						
 A4.405.1 One or more of the following building materials, that do not require additional resources for finishing are used: 1. Exterior trim not requiring paint or stain 2. Windows not requiring paint or stain 3. Siding or exterior wall coverings which do not require paint or stain 						
A4.405.2 Floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors.						
A4.405.3 Postconsumer or preconsumer recycled content value (RCV) materials are used on the project. Tier 1. Not less than a 10-percent recycled content value. Tier 2. Not less than a 15-percent recycled content value.		<mark>ک</mark> 2	$[\mathbf{X}]^2$			
A4.405.4 Renewable source building products are used.						
Enhanced Durability and Reduced Maintenance		-				
4.406.1 Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.						
Water Resistance and Moisture Management			L			
A4.407.1 Install foundation and landscape drains.						
A4.407.2 Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.						
A4.407.3 Provide flashing details on the building plans and comply with accepted industry standards or manufacturer's instructions.						
A4.407.4 Protect building materials delivered to the construction site from rain and other sources of moisture.						
A4.407.5 In Climate Zone 16 an ice/water barrier is installed at roof valleys, eaves and wall to roof intersections.						
A4.407.6 Exterior doors to the dwelling are protected to prevent water intrusion.						
A4.407.7 A permanent overhang or awning at least 2 feet in depth is provided.						

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

		LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO VERIFICATION METI		O SPECIFY	
	FEATURE OR MEASURE	-	Prerequisites	and electives ¹	Enforcing	Installer or	Third	
		Mandatory	Tier 1	Tier 2	Agency D All	Designer D All	party □ All	
	Construction Waste Reduction, Disposal and Recycling							
	 4.408.1 Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with one of the following: 1. Comply with a more stringent local construction and demolition waste management ordinance; or 2. A construction waste management plan, per Section 4.408.2; or 3. A waste management company, per Section 4.408.3; or 4. The waste stream reduction alternative, per Section 4.408.4. 							
Ņ	 A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with one of the following: 1. Tier 1 at least a 65 percent reduction with a third-party verification. 2. Tier 2 at least a 75 percent reduction with a third-party verification. Exception: Equivalent waste reduction methods are developed by working with local agencies. 		⊠²	\mathbf{X}^2				
	Building Maintenance and Operation							
	4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.							
> 	 4.410.2 Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. will also be exempt from the organic waste portion of this section. 							
	Innovative Concepts and Local Environmental Conditions		•	•	•			
	A4.411.1 Items in this section are necessary to address innovative concepts or local environmental conditions.							
	Item 1							
	Item 2							
	Item 3							
	ENVIRONMENTAL QUALITY							
	Fireplaces							
	4.503.1 Any installed gas fireplace shall be a direct-vent sealed- combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.	⊠						
	Pollutant Control							
	4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.							
	4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.							
	4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.							
	4.504.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.							
	4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.							

	APPLICANT TO	LEVELS SELECT ELECTI	VE MEASURES	ENFORCING	RIFICATIONS AGENCY TO	SPECIFY	
FEATURE OR MEASURE		Prerequisites	and electives ¹	Enforcing Agency	Installer or Designer	Third party	
	Mandatory	Tier 1	Tier 2				
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.							
4.504.4 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.							
4.504.5 Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.							
A4.504.1 Use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.							
A4.504.2 Install VOC compliant resilient flooring systems. Tier 1. At least 90 percent of the resilient flooring installed shall comply. Tier 2. At least 100 percent of the resilient flooring installed shall comply.		(X) ²	\mathbf{X}^2				
A4.504.3 Thermal insulation installed in the building shall meet the following requirements: Tier 1. Install thermal insulation in compliance with VOC limits. Tier 2. Install insulation which contains No-Added Formaldehyde (NAF) and is in compliance with Tier 1.		⊠ ²	$[X]^2$				
Interior Moisture Control					11		1
4.505.2 Vapor retarder and capillary break is installed at slab-on-grade foundations.							1
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.							1
Indoor Air Quality and Exhaust							1
A4.506.1 Return air filters with a value greater than MERV 6 shall be installed on HVAC systems. Pressure drop across the filter shall not exceed 0.1 inches water column.							
A4.506.2 [HR] Provide filters on return air openings rated MERV 6 or higher during construction when it is necessary to use HVAC equipment.							
A4.506.3 Direct-vent appliances shall be used when equipment is located in conditioned space; or the equipment must be installed in an isolated mechanical room.							

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

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	APPLICANT TO S	VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD				
FEATURE OR MEASURE		Prerequisites and electives ¹			Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2		D All	D All
Environmental Comfort						
 4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2011 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D-2014 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 or equivalent. 	⊠					
Outdoor Air Quality Reserved			•			
Innovative Concepts and Local Environmental Conditions						
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1						
Item 2						
Item 3						
Installer and Special Inspector Qualifications						
Qualifications						
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.						
702.2 Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.						
Verifications						
703.1 Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.						

SECTION A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST—continued

1. Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.

Required prerequisite for this Tier.
 These measures are currently required elsewhere in statute or in regulation.