

SIDE BY SIDE COMPARISON OF PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING AN AMENDMENT TO THE FOLLOWING CALIFORNIA CODE:
2010 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBC)
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<p>1. HCD proposes to amend Section 202 as follows:</p>	<p>No current definitions for these items.</p>	<p>ARB (CARB). The California Air Resources Board.</p> <p>TIME DEPENDENT VALUATION (TDV) ENERGY. The time varying energy caused to be used by the building to provide space conditioning and water heating and for specified buildings lighting. TDV energy accounts for the energy used at the building site and consumed in producing and in delivering energy to a site, including, but not limited to, power generation, transmission and distribution losses.</p>
<p>2. HCD proposes to amend Section 304.1.1 as follows:</p>	<p>304.1.1 Tiers. The provisions of Appendices A4 and A5 outline means of achieving enhanced construction levels by incorporating additional measures. Buildings complying with tiers specified for each occupancy contain additional prerequisite and elective green building measures necessary to meet the threshold of each tier.</p>	<p>304.1.1 Tiers. The provisions of Divisions A4.6 and A5.6 outline means, in the form of voluntary tiers, for achieving enhanced construction levels by incorporating additional measures for residential and nonresidential new construction. Voluntary tiers may be adopted by local governments and, when adopted, enforced by local enforcing agencies. Buildings complying with tiers specified for each occupancy contain additional prerequisite and elective green building measures necessary to meet the threshold of each tier. See Section 101.7 of this code for procedures and requirements related to local amendments, additions or deletions, including changes to energy standards.</p>
<p>3. HCD proposes to amend Section 4.106.3 as follows:</p>	<p>4.106.3. Surface drainage. The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how the site grading or drainage system will manage surface water flows. Examples of methods to manage surface water include, but are not limited to, the following:</p>	<p>4.106.3. Grading and paving. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:</p>
<p>4. HCD proposes to amend Section 4.303.1 as follows:</p>	<p>4.303.1 Twenty percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by at least 20 percent shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the <i>California Building Standards Code</i>. The 20 percent reduction in potable water use shall be demonstrated by one of the following methods:</p> <ol style="list-style-type: none"> 1. Each plumbing fixture and fitting shall meet reduced flow rates specified in Table 4.303.2; or 2. A calculation demonstrating a 20 percent reduction in the building “water use” baseline as established in Table 4.303.1 shall be provided. For low-rise residential occupancies, the calculation shall be limited to the following plumbing fixture and fitting types: water closets, urinals, lavatory faucets and 	<p>4.303.1 Twenty percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by at least 20 percent shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 20 percent reduction in potable water use shall be demonstrated by one of the following methods:</p> <ol style="list-style-type: none"> 1. Prescriptive Method. Each plumbing fixture and fitting shall not exceed the Maximum Flow Rate at ≥ 20 Percent Reduction column in Table 4.303.2; or 2. Performance Method. A calculation demonstrating a 20 percent reduction in the building “water use” baseline as established in Table 4.303.1 shall be provided. For low-rise residential occupancies, the calculation shall be limited to the following

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	showerheads.	plumbing fixture and fitting types: showerheads, lavatory faucets, water closets, and urinals.
5. HCD proposes to amend Section 4.303.2 as follows:	4.303.2 Multiple showerheads serving one shower. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20 percent reduction column contained in Table 4.303.2 or the shower shall be designed to only allow one showerhead to be in operation at a time. Exception: The maximum flow rate for showerheads when using the calculation method specified in Section 4.303.1, Item 2, is 2.5 gpm @ 80 psi.	4.303.2 Multiple showerheads serving one shower. When single shower fixtures are a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed the Maximum Flow Rates at ≥ 20 Percent Reduction column specified in the 20 percent reduction column contained in Table 4.303.2 or the shower shall be designed to only allow one showerhead to be in operation at a time. Exception: The maximum flow rate for showerheads when using the calculation performance method specified in Section 4.303.1, Item 2, is 2.5 gpm @ 80 psi.
6. HCD proposes to amend Table 4.303.1 as follows:	1. Use Worksheet WS-1 to calculate baseline water use. 2. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 3. The daily use number shall be increased to three if urinals are not installed in the room.	Lavatory faucets, nonresidential 0.5 gpm @ 60 psi 1. Use Worksheet WS-1 to calculate baseline water use. 2. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 3. The daily use number shall be increased to three if urinals are not installed in the room.
HCD proposes to amend Table 4.303.2 footnotes as follows:	1. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less. Single flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2. Dual flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14. 2. Lavatory faucets shall not have a flow rate less than 0.8 gpm at 20 psi.	Lavatory faucet, nonresidential 0.5 gpm @ 60 psi, 20% reduction 0.4 gpm @ 60 psi ² .1. Lavatory faucets shall not have a flow rate less than 0.8 gpm at 20 psi. 2. Where complying faucets are unavailable, aerators rated at .35 gpm or other means may be used to achieve reduction. 3. Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2 gpm @ 60 psi and must default to a maximum flow rate of 1.8 gpm @ 60 psi. 4. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less. Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2. Dual Flush Toilets - The effective flush volume shall not exceed 1.28

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		gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.
8. HCD proposes to amend Table 4.303.3 as follows:	No standards currently referenced for showerheads	Showerheads: Maximum flow rate – 2.5 gal (9.5 L/min) ASME A112.18.1/CSA B125.1
9. HCD proposes to amend Section 4.406.1 as follows:	<p>4.406.1 Joints and openings. Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate gas, plumbing, electrical lines and other necessary penetrations must be sealed in compliance with the California Energy Code.</p> <p>Exception: 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 a similar method acceptable to the enforcing agency.</p>	4.406.1 Rodent proofing. 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.
10. HCD proposes to amend Sections 4.408.1, 4.408.2 and 4.408.2.1, adopt Sections 4.408.3 and 4.408.4, and repeal Section 4.408.2.2 as follows:	<p>4.408.1 Construction waste reduction of at least 50 percent. Recycle and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. <p>4.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency that:</p> <ol style="list-style-type: none"> 1. Identifies the materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale. 2. Specifies if materials will be sorted on-site or mixed for 	<p>4.408.1 Construction waste. Recycle and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. <p>4.408.2 Construction waste management plan. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be accessible during construction</p>

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	<p>transportation to a diversion facility.</p> <p>3. Identifies the diversion facility where the material collected will be taken.</p> <p>4. Identifies construction methods employed to reduce the amount of waste generated.</p> <p>5. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.</p> <p>4.408.2.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.</p> <p>4.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.</p> <p>Notes:</p> <p>1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan.</p> <p>2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).</p>	<p>for examination by the enforcing agency.</p> <ol style="list-style-type: none"> 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale. 2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). 3. Identify diversion facilities where the construction and demolition waste material will be taken. 4. Identify construction methods employed to reduce the amount of construction and demolition waste generated. 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. <p>4.408.3 Waste management company. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.</p> <p>Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.</p> <p>4.408.4 Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (4) lbs./sq. ft. of the building area shall meet the minimum 50 percent construction waste reduction requirement in Section 4.408.1.</p> <p>4.408.5 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4.</p> <p>Notes:</p> <p><u>1.</u> Sample forms found in “A Guide to the California Green Building Standards Code (Low-Rise Residential)” located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.</p>

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<p>11. HCD proposes to amend Section 4.502.1 as follows:</p>	<p>4.502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.</p> <p>COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. Composite wood products does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber as specified in “Structural Glue Laminated Timber” (ANSI A190.1-2002) or prefabricated wood I-joists.</p> <p>VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR, Title 17, Section 94508(a).</p> <p>Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.</p>	<p>Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).</p> <p>4.502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.</p> <p>COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. “Composite wood products” does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber, all as specified in CCR, Title 17, Section 93120.1(a).</p> <p>VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR, Title 17, Section 94508(a).</p> <p>Note: Where specific regulations are cited from different agencies such as the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (ARB or CARB), etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.</p>
<p>12. HCD proposes to amend Section 4.504.1 as follows:</p>	<p>4.504.1 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of, dust or debris, which may collect in the system.</p>	<p>4.504.1 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris, which may enter the system.</p>
<p>13. HCD proposes to amend Section 4.504.3 as follows:</p>	<p>4.504.3 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:</p>	<p>4.504.3 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:</p>

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	<ol style="list-style-type: none"> 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health Standard Practice 3. NSF/ANSI 140 at the Gold level. 4. Scientific Certifications Systems Indoor Advantage™ Gold. 	<ol style="list-style-type: none"> 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350.) 3. NSF/ANSI 140 at the Gold level. 4. Scientific Certifications Systems Indoor Advantage™ Gold.
14. HCD proposes to amend Section 4.504.3.1 as follows:	4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.	4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
15. HCD proposes to amend Section 4.504.4 as follows:	4.504.4 Resilient flooring systems. Where resilient flooring is installed, at least 50 percent of floor area receiving resilient flooring shall comply with the VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.	4.504.4 Resilient flooring systems. Where resilient flooring is installed, at least 50 percent of floor area receiving resilient flooring shall comply with one or more of the following: <ol style="list-style-type: none"> 1. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program. 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350.)
16. HCD proposes to amend Section 4.504.5.1 as follows:	4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: <ol style="list-style-type: none"> 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Other methods acceptable to the enforcing agency. 	4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: <ol style="list-style-type: none"> 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, <i>et seq.</i>) 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards. 5. Other methods acceptable to the enforcing agency.

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17. HCD proposes to amend Section 4.505.2 as follows:	4.505.2 Concrete slab foundations. Concrete slab foundations required to have a vapor retarder by <i>California Building Code</i> , CCR, Title 24, Part 2, Chapter 19, shall also comply with this section.	4.505.2 Concrete slab foundations. Concrete slab foundations required to have a vapor retarder by the <i>California Building Code</i> , Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the <i>California Residential Code</i> , Chapter 5, shall also comply with this section.
18. HCD proposes to amend Section 4.505.3 as follows:	<p>4.505.3 Moisture content of building materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:</p> <ol style="list-style-type: none"> 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece to be verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. <p>Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.</p>	<p>4.505.3 Moisture content of building materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:</p> <ol style="list-style-type: none"> 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code. 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece to be verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. <p>Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.</p>
19. HCD proposes to amend Section 4.506.1 as follows:	<p>4.506.1 Bathroom exhaust fans. Mechanical exhaust fans which exhaust directly from bathrooms shall comply with the following:</p> <ol style="list-style-type: none"> 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible. <ol style="list-style-type: none"> 1. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. <p>Note: For the purposes of this section, a bathroom is a room which</p>	<p>4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:</p> <ol style="list-style-type: none"> 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> 1. Humidity controls shall be capable of adjustment between a relative humidity range of equal to or less than 50 percent, but shall not exceed 80 percent. A humidity control may be a separate component to the exhaust fan and is not

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	contains a bathtub, shower, or tub/shower combination.	required to be integral (i.e., built-in). Notes: <u>1.</u> For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. <u>2.</u> Lighting integral to bathroom exhaust fans shall comply with the <i>California Energy Code</i> .
20. HCD proposes to amend Section 4.507 as follows:	4.507.2 Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ACCA Manual J, ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods. Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.	4.507.2 Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J – 2004 (<i>Residential Load Calculation</i>), ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ANSI/ACCA 1 Manual D – 2009 (<i>Residential Duct Systems</i>), ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S – 2004 (<i>Residential Equipment Selection</i>) or other equivalent design software or methods. Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.
21. HCD proposes to amend “ACCA” and “ANSI” in Chapter 6 as follows:	Table references have been updated to reflect changes made in Item No. 20 above.	Table references have been updated to reflect changes made in Item No. 20 above.

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<p>22. HCD proposes to add explanatory text and amend Worksheet (WS-1) “BASELINE WATER USE” and Worksheet (WS-2) “20 PERCENT REDUCTION WATER USE” in Chapter 8 as follows:</p>	<p>Worksheet (WS-1) “BASELINE WATER USE” footnotes.</p> <ol style="list-style-type: none"> 1. The daily use number shall be increased to three if urinals are not installed in the room. 2. he flow rate is from the CEC Appliance Efficiency Standards, Title 20, <i>California Code of Regulations</i>; where a conflict occurs, the CEC standards shall apply. 3. or low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 4. or nonresidential occupancies, refer to Table A, Chapter 4, 2010 <i>California Plumbing Code</i>, for occupant load factors. <p>Worksheet (WS-2) “20 PERCENT REDUCTION WATER USE” footnotes.</p> <ol style="list-style-type: none"> 1. The daily use number shall be increased to three if urinals are not installed in the room. 2. The flow rate is from the CEC Appliance Efficiency Standards, Title 20, <i>California Code of Regulations</i>; where a conflict occurs, the CEC standards shall apply. 3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 4. For nonresidential occupancies, refer to Table A, Chapter 4, 2010 <i>California Plumbing Code</i>, for occupant load factors. 5. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less. <ul style="list-style-type: none"> Single flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2. Dual flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14. 	<p>[HCD 1] Sample forms found in “A Guide to the California Green Building Standards Code (Low-Rise Residential)” located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with the waste management plan.</p> <p>Worksheet (WS-1) “BASELINE WATER USE” footnotes.</p> <ol style="list-style-type: none"> 1. or low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 2. or nonresidential occupancies, refer to Table A, Chapter 4, 2010 <i>California Plumbing Code</i>, for occupant load factors. 3. he daily use number shall be increased to three if urinals are not installed in the room. <p>Worksheet (WS-2) “20 PERCENT REDUCTION WATER USE” footnotes.</p> <ol style="list-style-type: none"> 1. The flow rate values shall not exceed the baseline flow rates from the <i>California Code of Regulations</i>, Title 20, 2010 Appliance Efficiency Regulations. 2. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom. 3. For nonresidential occupancies, refer to Table A, Chapter 4, 2010 <i>California Plumbing Code</i>, for occupant load factors. 4. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less. <ul style="list-style-type: none"> Single flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2. Dual flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14. 5. The daily use number shall be increased to three if urinals are not installed in the room.
<p>23. HCD proposes to repeal the Construction Waste</p>	<p>HCD proposes to repeal the Construction Waste Management (CWM) Plan, Construction Waste Management (CWM) Worksheet, and Construction Waste</p>	<p>HCD is not proposing a replacement for these worksheets in CALGreen. Sample worksheets are available in the CALGreen Guide and on HCD’s website.</p>

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Management (CWM) Plan”, “Construction Waste Management (CWM) Worksheet”, and “Construction Waste Management (CWM) Acknowledgment” in Chapter 8 as follows:	Management (CWM) Acknowledgment	
24. HCD proposes to amend Section A4.106.5 of Appendix A4 as follows:	A4.106.5 Cool roof. Roofing materials for Tier 1 and Tier 2 buildings shall comply with this section: Exception: Install roof constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb/sf.	A4.106.5 Cool roof. Roofing materials for Tier 1 and Tier 2 buildings shall comply with this section: Exception: <u>Roof</u> constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb/sf.
25. HCD proposes to amend Section A4.106.5.3 of Appendix A4 as follows:	<p>A4.106.5.3 Solar reflectance index alternative. Solar Reflectance Index (SRI) equal to or greater than the values specified in Table A4.106.5(1) for Tier 1 and Table A4.106.5(2) for Tier 2 may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance.</p> <p>SRI values used to comply with this section shall be calculated using the Solar Reflective Index (SRI) Calculation Worksheet (SRI-WS) developed by the California Energy Commission or in compliance with ASTM E1980-01 as specified in Title 24, Part 6, , Section 118(i)3. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in Section A4.106.5.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.</p> <p>Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.</p> <p>Note: The Solar Reflective Index Calculation Worksheet (SRI-WS) is available by contacting the Energy Standard Hotline at 1-</p>	<p>A4.106.5.3 Solar reflectance index alternative. Solar Reflectance Index (SRI) equal to or greater than the values specified in Table A4.106.5(1) for Tier 1 and Table A4.106.5(2) for Tier 2 may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance.</p> <p>SRI values used to comply with this section shall be calculated using the Solar Reflectance Index (SRI) Calculation Worksheet (SRI-WS) developed by the California Energy Commission or in compliance with ASTM E1980-01 as specified in the <i>California Energy Code</i>, Section 118(i)3. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in Section A4.106.5.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.</p> <p>Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.</p> <p>Note: The Solar Reflectance Index Calculation Worksheet (SRI-WS) is available by contacting the Energy Standard Hotline at 1-</p>

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	800-772-3300 or by email at.	800-772-3300, website at www.energy.ca.gov or by email at Title24@energy.state.ca.us .
<p>25-A. HCD proposes to adopt Section A4.106.6 of Appendix A4 as follows:</p>	<p>There is no current section which covers EV charging.</p>	<p>A4.106.6. Electric vehicle charging. Provide facilities meeting Section 406.7 (Electric Vehicle) of the California Building Code and as follows:</p> <p>A4.106.6.1 Dedicated electric vehicle supply equipment circuit. For each single-family residence, circuit breaker(s), conduit and wiring for a 240VAC, 40 amp dedicated circuit shall be installed from the residence service panel and terminate within 5 feet of a residence's parking area (garage, carport, driveway), to accommodate the future installation of residential electric vehicle supply equipment.</p> <p>Note: Utilities may have additional options related to supply metering and should be consulted prior to installation.</p> <p>A4.106.6.1.1 Labeling requirement. At the service panel and receptacle, a label shall be provided as follows: "EV READY."</p> <p>A4.106.6.2 Electric vehicle parking stalls in multi-family residences. For parking stalls in shared parking areas that are for use by owners or occupants of multi-family dwelling units, ten percent (10%) of all parking stalls, rounded up to the nearest whole number, shall have the capability for supporting electric vehicle supply equipment.</p> <p>To accommodate electric vehicle charging at electric vehicle parking stalls, at a minimum, circuit breakers, conduit and dedicated circuit for 208/240VAC, 40 amp shall be installed from the electric service panel to each electric vehicle parking stall. Each circuit shall terminate within five feet of each electric vehicle parking stall. The electric service panel shall have sufficient capacity for simultaneous charging at full rated amperage of electrical vehicles at each reserved stall.</p> <p>Note: Utilities may have additional options related to supply metering and should be consulted prior to installation.</p> <p>A4.106.6.2.1 Labeling requirement. At the service panel and parking stall, a label shall be provided as follows: "EV READY."</p>
<p>26. HCD proposes to amend Section A4.203 of Appendix A4 as follows:</p>	<p>A4.203.1 Energy performance. Using an Alternative Calculation Method (ACM) approved by the California Energy Commission, calculate each building's energy and CO₂ emissions, and compare it to the standard or "budget" building) to achieve the following:</p>	<p>A4.203.1 Energy performance. Using an Alternative Calculation Method (ACM) approved by the California Energy Commission, calculate the annual Time Dependent Valuation (TDV) energy for each proposed building and compare it to the TDV energy budget</p>

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	<p>Tier 1. Exceed the <i>California Energy Code</i> based on the 2008 energy standards requirements by 15 percent.</p> <p>Tier 2. Exceed the <i>California Energy Code</i> based on the 2008 energy standards requirements by 30 percent.</p> <p>Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Reference Appendices.</p>	<p>(standard building) to achieve the following:</p> <p>Tier 1. Exceed the 2010 <i>California Energy Code</i> requirements by 15 percent.</p> <p>Tier 2. Exceed the 2010 <i>California Energy Code</i> requirements by 30 percent.</p> <p>Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Reference Appendices.</p>
<p>27. HCD proposes to amend Section A4.211.1 of Appendix A4 as follows:</p>	<p>A4.211.1 New solar homes partnership. Install a solar photovoltaic (PV) system in compliance with the California Energy Commission New Solar Homes Partnership (NSHP).^{1,2} Install energy efficiency measures meeting either Tier I or Tier II below.</p> <p>Tier I. Exceed the <i>California Energy Code</i> requirements, based on the 2008 Energy Efficiency Standards by 15 percent.</p> <p>Tier II. Exceed the <i>California Energy Code</i> requirements, based on the 2008 Energy Efficiency Standards by 30 percent.</p> <p>Solar water heating may be used to assist in meeting the energy efficiency requirements of either Tier I or Tier II.</p> <p>1. In addition, for either Tier I or II, each appliance provided by the builder must be ENERGY STAR if an ENERGY STAR designation is applicable for that appliance.</p> <p>2. Information on NSHP incentives available through the California Energy Commission may be obtained at the “Go Solar California” website.</p>	<p>A4.211.1 New solar homes partnership. Install a solar photovoltaic (PV) system in compliance with the California Energy Commission New Solar Homes Partnership (NSHP).^{1,2,3} Install energy efficiency measures meeting either Tier I or Tier II below.</p> <p>Tier I. Exceed the 2010 <i>California Energy Code</i> requirements, by 15 percent.</p> <p>Tier II. Exceed the 2010 <i>California Energy Code</i> requirements, by 30 percent.</p> <p>Solar water heating may be used to assist in meeting the energy efficiency requirements of either Tier I or Tier II.</p> <p>1. In addition, for either Tier I or II, each appliance provided by the builder must be ENERGY STAR if an ENERGY STAR designation is applicable for that appliance.</p> <p>2. Tier II requires a 30 percent reduction in the building's space cooling (air conditioning) energy compared to the 2010 <i>California Energy Code</i>.</p> <p>3. Information on NSHP incentives available through the California Energy Commission may be obtained at the “Go Solar California” website.</p>
<p>28. HCD proposes to amend Section A4.211.2 of Appendix A4 as follows:</p>	<p>A4.211.2 Solar water heating system. A Solar Rating and Certification Corporation (SRCC) OG 300 solar water heating system is installed. The SRCC Solar Energy Factor (SE) shall be used to determine the Solar Fraction (SF). The SF shall be at least 0.5.</p>	<p>A4.211.2 Solar water heating system. A Solar Rating and Certification Corporation (SRCC) OG 100 solar collector or OG 300 solar water heating system is installed. The SRCC Solar Energy Factor (SE) shall be used to determine the Solar Fraction (SF), which shall be at least 0.5 as determined using the California F-Chart available at the “gosolarcalifornia” website or through the California Energy Commission.</p>
<p>28-A. HCD proposes to amend Section A4.402 of Appendix A4 as follows:</p>	<p>No current definitions for these items.</p>	<p>ASSEMBLY (ASSEMBLY PRODUCT). An assembly (assembly product) includes or has been formulated using multiple materials.</p> <p>POST-CONSUMER CONTENT. Any material which has been used by a consumer and then recycled for use in a new material or product.</p>

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		<p>PRE-CONSUMER (OR POST-INDUSTRIAL) CONTENT. Material diverted from the waste stream during one manufacturing process, including scraps, damaged goods, and excess production that is reclaimed and used in another manufacturing process. Excluded is reutilization of materials such as re-work, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated those wastes.</p> <p>PROPORTIONAL RECYCLED CONTENT (PRC_M). The amount of recycled content of a material in an assembly as related to the percentage of the material in an assembly product. PRC_M is derived by multiplying the percentage of each material in an assembly by the percentage of recycled content in the material.</p> <p>RECYCLED CONTENT (RC). The amount of recycled material in an assembly product or material. Refer to International Organization for Standardization ISO 14021 – Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling).</p> <p>RECYCLED CONTENT VALUE (RCV).</p> <p>Assembly products (RCV_A). Assembly product cost multiplied by the recycled content of the assembly based on all of the postconsumer content and 50 percent of the preconsumer content.</p> <p>Materials (RCV_M). Material cost multiplied by recycled content of the material based on all of the postconsumer content and 50 percent of the preconsumer content.</p>
<p>29. HCD proposes to amend Section A4.404.3 of Appendix A4 as follows:</p>	<p>A4.404.3 Building systems. Use premanufactured building systems to eliminate solid sawn lumber whenever possible. One or more of the following premanufactured building systems is used:</p> <ol style="list-style-type: none"> 1. Composite floor joist or premanufactured floor truss framing. 2. Composite roof rafters or premanufactured roof truss framing. 3. Panelized (SIPS, ICF or similar) wall framing system. 4. Other methods approved by the enforcing agency. 	<p>A4.404.3 Building systems. Use premanufactured building systems to eliminate solid sawn lumber whenever possible. One or more of the following premanufactured building systems is used:</p> <ol style="list-style-type: none"> 1. Composite floor joist or premanufactured floor framing system. 2. Composite roof rafters or premanufactured roof framing system. 3. Panelized (SIPS, ICF or similar) framing systems. 4. Other methods approved by the enforcing agency.
<p>29-A. HCD proposes to amend Sections A4.405.3, A4.405.3.1, and A4.404.4; and adopt Sections</p>	<p>A4.405.3 Recycled content. Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.</p> <p>Tier 1. Not less than a 10 percent recycled content value.</p>	<p>A4.405.3 Recycled content and renewable materials. Comply with the requirements for recycled content in Section A4.405.3.1; or a combination of recycled content and renewable materials in Section A4.405.3.2.</p> <p>A4.405.3.1 Recycled content. Use materials, equivalent in performance to virgin materials with a total (combined) recycled</p>

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<p>A4.405.3.1.1, A4.405.3.1.2, A4.405.3.1.3, A4.405.3.1.4, A4.405.3.1.5, A4.405.3.2 of Appendix A4 as follows:</p>	<p>Tier 2. Not less than a 15 percent recycled content value. Note: Sources and recycled content of some recycled materials can be obtained from CalRecycle. A4.405.3.1 Determination of recycled content value (RCV). The following equation shall be used to calculate recycled content value. $RCV = (\text{percent PC} \times \text{material cost}) + 0.5 (\text{percent PI} \times \text{material cost})$ Notes: 1. PC means post consumer waste 2. PI means post industrial waste</p> <p>A4.405.4 Use of building materials from renewable sources. One or more of the following materials manufactured from rapidly renewable sources or agricultural by-products is used:</p> <ol style="list-style-type: none"> 1. Insulation 2. Bamboo or cork 3. Engineered wood products 4. Agricultural based products 5. Solid wood products 6. Other products acceptable to the enforcing agency <p>Note: The intent of this section is to utilize building materials and products which are typically harvested within a 10-year or shorter cycle.</p>	<p>content value (RCV) of: Tier 1. The RCV shall not be less than 10 percent of the total material cost of the project. $\text{Required Total RCV (dollars)} = \text{Total Material Cost (dollars)} \times 10 \text{ percent}$ (Equation A4. 4-1) Tier 2. The RCV shall not be less than 15 percent of the total material cost of the project. $\text{Required Total RCV (dollars)} = \text{Total Material Cost (dollars)} \times 15 \text{ percent}$ (Equation A4. 4-2)</p> <p>Notes: 1. Sample forms which allow user input and automatic calculation are located at www.hcd.ca.gov/CALGreen.html and may be used to simplify documenting compliance with this section and for calculating recycled content value of materials or assembly products. 2. Sources and recycled content of some recycled materials can be obtained from CalRecycle if not provided by the manufacturer.</p> <p>A4.405.3.1.1 Total material cost. Total material cost is the total estimated or actual cost of materials and assembly products used in the project. The required total recycled content value for the project (in dollars) shall be determined by Equation A4.4-1 or Equation A4.4-2. Total material cost shall be calculated by using one of the methods specified below: 1. Simplified method. To obtain the total cost of the project multiply the square footage of the residential structure by the square foot valuation established pursuant to Table A4.405.3 or as established by the enforcing agency. The total material cost is 45 percent of the total cost of the project. Use Equations A4.4-3A or A4.4-3B to determine total material costs using the simplified method.</p> <p>Total material costs = Project square footage x square foot valuation x 45 percent (Equation A4.4-3A)</p> <p>Total estimated or actual cost of project x 45 percent (Equation A4.4-3B)</p> <p style="text-align: center;">TABLE A4.405.3 SQUARE FOOT VALUATION</p>

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		<p style="text-align: right;">Single-family detached \$92.94 Multi-family attached \$101.90</p> <p>Note: Minimum square foot construction costs for residential single-family; and multi-family dwellings are from the International Code Council's (ICC) <i>Building Valuation Data (BVD)</i>-- February 2011.</p> <p>2. Detailed method. Add the estimated and/or actual costs of materials used for the project including the structure (steel, concrete, wood or masonry); the enclosure (roof, windows, doors and exterior walls); the interior walls, ceilings and finishes (gypsum board, ceiling tiles, etc.). The total estimated and/or actual costs shall not include fees, labor and installation costs, overhead, appliances, equipment, furniture or furnishings.</p> <p>A4.405.3.1.2 Determination of total recycled content value (RCV). Total RCV may be determined either by dollars or percentage as noted below.</p> <p>1. Total recycled content value for the project (in dollars). This is the sum of the recycled content value of the materials and/or assemblies considered and shall be determined by Equation A4.4-4. The result of this calculation may be directly compared to Equations A4.4-1 and A4.4-2 to determine compliance with Tier 1 or Tier 2 prerequisites.</p> <p style="text-align: center;">Total Recycled Content Value (dollars) = $(RCV_M + RCV_A)$ (Equation A4.4-4)</p> <p>2. Total recycled content value for the project (by percentage). This is expressed as a percentage of the total material cost and shall be determined by Equation A4.4-4 and Equation A4.4-5. The result of this calculation may be directly compared for compliance with Tier 1 (10 percent) or Tier 2 (15 percent) prerequisites.</p> <p style="text-align: center;">Total Recycled Content Value (percent) = $[\text{Total Recycled Content Value (dollars)} \div \text{Total Material Cost (dollars)}] \times 100$ (Equation A4. 4-5)</p> <p>A4.405.3.1.3 Determination of recycled content value of</p>

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		<p>materials (RCV_M). The recycled content value of each material (RCV_M) is calculated by multiplying the cost of material, as defined by the recycled content. See Equations A4.4-6 and A4.4-7.</p> <p>RCV_M (dollars) = Material cost (dollars) x RC_M (percent) (Equation A4. 4-6)</p> <p>RC_M (percent) = Post-consumer content percentage + (½) Pre-consumer content percentage</p> <p>Notes:</p> <p>1. If the post-consumer and pre-consumer recycled content is provided in pounds, Equation A4.4-7 may be used, but the final result (in pounds) must be multiplied by 100 to show RC_M as a percentage.</p> <p>2. If the manufacturer reports total recycled content of a material, in lieu of separately reporting pre-consumer and post-consumer values, the reported value shall be inserted directly into Equation A4.4-6.</p> <p>A4.405.3.1.4. Determination of recycled content value of assemblies – (RCV_A). Recycled content value of assemblies is calculated by multiplying the total cost of assembly by the total recycled content of assembly (RC_A), and shall be determined by Equation A4.4-8.</p> <p>RCV_A dollars) = Assembly cost (dollars) x Total RC_A (percent) (Equation A4.4.8)</p> <p>If not provided by the manufacturer, Total RC_A (percent) is the sum (Σ) of the Proportional Recycled Content (PRC_M) of each material in the assembly. RC_A shall be determined by Equation A4.4-9.</p> <p>RC_A = Σ PRC_M (Equation A4.4-9)</p> <p>PRC_M of each material may be calculated by one of two methods using the following formulas:</p> <p>Method 1: Recycled content (Post-consumer and Pre-consumer) of each material provided in percentages</p>

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		<p>PRC_M (percent) = Weight of material (percent) x RC_M (percent) Equation A4.4-10)</p> <p>Weight of material (percent) = [Weight of material (lbs) ÷ Weight of assembly (lbs)] x 100 (Equation A4.4-11)</p> <p>RC_M (percent) = Post-consumer content percentage + (½) Pre-consumer content percentage (See Equation A4.4-7)</p> <p>Method 2: Recycled content (Post-consumer and Pre-consumer) provided in pounds</p> <p>PRC_M (percent) = [RC_M (lbs) ÷ Weight of material (lbs)] x 100 (Equation A4.4-12)</p> <p>RC_M (lbs) = Post-consumer content (lbs) + (½) Pre-consumer content (lbs) (Equation A4.4-13)</p> <p>NOTE: If the manufacturer reports total recycled content of a material, in lieu of separately reporting pre-consumer and post-consumer values, the reported value shall be inserted directly into Equation A4.4-10 and Equation A4.4-12, respectively.</p> <p>A4.405.3.1.5. Alternate method for concrete. When Supplementary Cementitious Materials (SCMs), such as fly ash or ground blast furnace slag cement, are used in concrete, an alternate method of calculating and reporting recycled content in concrete products shall be permitted. When determining the recycled content value, the percent recycled content shall be multiplied by the cost of the cementitious materials only, not the total cost of the concrete.</p> <p>A4.405.3.2 Use of renewable building materials. Use renewable materials or products and materials with recycled content in compliance with the following: Tier 1. Renewable building materials shall not be less than 8 percent and recycled content value (RCV) shall not be less than 5 percent of the total material cost of the project.</p>

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		<p>Tier 2. Renewable building materials shall not be less than 8 percent and recycled content value (RCV) shall not be less than 10 percent of the total material cost of the project.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. For purposes of this section, renewable building materials are materials made from forest products that include solid- sawn and structural sawn lumber used in the structural frame but do not include material made from pre-consumer and/or post-consumer content. 2. Total material cost may be calculated by using the methods established in Section A4.405.3.1.1. <p>A4.405.4 Use of building materials from rapidly renewable sources. One or more of the following materials manufactured from rapidly renewable sources or agricultural by-products is used:</p> <ol style="list-style-type: none"> 1. Insulation 2. Bamboo or cork 3. Engineered wood products 4. Agricultural based products 5. Solid wood products 6. Other products acceptable to the enforcing agency <p>Note: The intent of this section is to utilize building materials and products which are typically harvested within a 10-year or shorter cycle.</p>
<p>30. HCD proposes to amend Section A4.408.1.1 of Appendix A4 as follows:</p>	<p>A4.408.1.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with this section. Documentation shall be in compliance with Section 4.408.2.</p>	<p>A4.408.1.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with this section. Documentation shall be in compliance with Section 4.408.5.</p>
<p>31. HCD proposes to amend Section A4.502 of Appendix A4 as follows:</p>	<p>NO ADDED FORMALDEHYDE RESIN (NAF). Resin formulated with no added formaldehyde as part of the cross linking structure for making hardwood plywood, particle board or medium density fiberboard. No added formaldehyde resins include, but are not limited to, resins made from soy, polyvinyl acetate, or methylene diisocyanate.</p>	<p>NO ADDED FORMALDEHYDE (NAF) BASED RESINS. Resins formulated with no added formaldehyde as part of the resin cross linking structure for making hardwood plywood, particle board or medium density fiberboard. “No added formaldehyde based resins” include, but are not limited to, resins made from soy, polyvinyl acetate, or methylene diisocyanate.</p>
<p>32. HCD proposes</p>	<p>A4.504.2 Resilient flooring systems. Resilient flooring systems</p>	<p>A4.504.2 Resilient flooring systems. Resilient flooring systems</p>

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<p>to amend Section A4.504.2 of Appendix A4 as follows:</p>	<p>installed in the building shall meet the percentages specified in this section and comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.</p> <p>Tier 1. At least 80 percent of the total area of resilient flooring installed shall comply.</p> <p>Tier 2. At least 90 percent of the total area of resilient flooring installed shall comply.</p> <p>Notes:</p> <p>1. Information regarding CHPS Low-emitting Materials List High Performance may be found at www.chpsregistry.com/live or http://www.chps.net/dev/Drupal/node/381.</p> <p>2. Information regarding RFCI certified products may be found at http://www.rfci.com/int_FSProdCert.htm.</p> <p>3. Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in this section.</p>	<p>installed in the building shall meet the percentages specified in this section and comply with the VOC-emission limits defined in at least one of the following:</p> <ol style="list-style-type: none"> 1. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program. 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 4. Meet the California Department of Public Health, "Standard Method for Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350.) <p>Tier 1. At least 80 percent of the total area of resilient flooring installed shall comply.</p> <p>Tier 2. At least 90 percent of the total area of resilient flooring installed shall comply.</p> <p>Note:</p> <p>Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in this section.</p>

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<p>33. HCD proposes to amend Section A4.504.3 of Appendix A4 as follows:</p>	<p>A4.504.3 Thermal insulation. Thermal insulation installed in the building shall meet the following requirements: Tier 1. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List. Tier 2. Install insulation which contains No-Added Formaldehyde (NAF) and is in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List.</p>	<p>A4.504.3 Thermal insulation. Thermal insulation installed in the building shall meet the following requirements: Tier 1. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; or meet California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350). Tier 2. Install insulation which complies with Tier 1 plus does not contain any added formaldehyde.</p>
<p>34. HCD proposes to amend Section A4.601.4.2 of Appendix A4 as follows:</p>	<p>A4.601.4.2 Prerequisite and elective measures for Tier 1. In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 1 status:</p> <ol style="list-style-type: none"> 1. From Division A4.1, Planning and Design. <ol style="list-style-type: none"> 1.1 Comply with the topsoil protection requirements in Section A4.106.2.3. 1.2 Comply with the 20 percent permeable paving requirements in Section A4.106.4. 1.3 Comply with the cool roof requirements in Section A4.106.5. 1.4 Comply with at least two elective measures selected from Division A4.1. 2. From Division A4.2, Energy Efficiency. <ol style="list-style-type: none"> 2.1 Exceed the <i>California Energy Code</i> requirements, based on the 2008 Energy Efficiency Standards by 15 percent. 2.2 Comply with at least four elective measures selected from Division A4.2. 3. From Division A4.3, Water Efficiency and Conservation. <ol style="list-style-type: none"> 3.1 Comply with the reduced flow rate for kitchen sink faucets in Section A4.303.1. 3.2 Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4. 3.3 Comply with at least one elective measure selected from Division A4.3. 4. From Division A4.4, Material Conservation and Resource Efficiency. <ol style="list-style-type: none"> 4.1 Comply with the 20 percent cement reduction requirements in 	<p>A4.601.4.2 Prerequisite and elective measures for Tier 1. In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 1 status:</p> <ol style="list-style-type: none"> 1. From Division A4.1, Planning and Design. <ol style="list-style-type: none"> 1.1 Comply with the topsoil protection requirements in Section A4.106.2.3. 1.2 Comply with the 20 percent permeable paving requirements in Section A4.106.4. 1.3 Comply with the cool roof requirements in Section A4.106.5. 1.4 Comply with at least two elective measures selected from Division A4.1. 2. From Division A4.2, Energy Efficiency. <ol style="list-style-type: none"> 2.1 Exceed the 2010 <i>California Energy Code</i> requirements by 15 percent. 2.2 Comply with at least four elective measures selected from Division A4.2. 3. From Division A4.3, Water Efficiency and Conservation. <ol style="list-style-type: none"> 3.1 Comply with the reduced flow rate for kitchen sink faucets in Section A4.303.1. 4. From Division A4.4, Material Conservation and Resource Efficiency. <ol style="list-style-type: none"> 4.1 Comply with the 20 percent cement reduction requirements in Section A4.403.2. 4.2 Comply with the 10 percent recycled content requirements in Section A4.405.3. 4.3 Comply with the 65 percent reduction in construction waste in

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	<p>Section A4.403.2. 4.2 Comply with the 10 percent recycled content requirements in Section A4.405.3. 4.3 Comply with the 65 percent reduction in construction waste in Section A4.408.1. 4.4 Comply with at least two elective measures selected from Division A4.4. 5. From Division A4.5, Environmental Quality. 5.1 Comply with the 80 percent resilient flooring systems requirements in Section A4.504.2. 5.2 Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3. 5.3 Comply with at least one elective measure selected from Division A4.5.</p> <p>Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.</p>	<p>Section A4.408.1. 4.4 Comply with at least two elective measures selected from Division A4.4. 5. From Division A4.5, Environmental Quality. 5.1 Comply with the 80 percent resilient flooring systems requirements in Section A4.504.2. 5.2 Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3. 5.3 Comply with at least one elective measure selected from Division A4.5.</p> <p>Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.</p>

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<p>35. HCD proposes to amend Section A4.601.5.2 of Appendix A4 as follows:</p>	<p>A4.601.5.2 Prerequisite and elective measures for Tier 2. In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 2 status.</p> <ol style="list-style-type: none"> 1. From Division A4.1, Planning and Design. <ol style="list-style-type: none"> 1.1 Comply with the topsoil protection requirements for Tier 1 and Tier 2 in Section A4.106.2.3. 1.2 Comply with the 30 percent permeable paving requirements in Section A4.106.4. 1.3 Comply with the cool roof requirements in Section A4.106.5. 1.4 Comply with at least four elective measures selected from Division A4.1. 2. From Division A4.2, Energy Efficiency. <ol style="list-style-type: none"> 2.1 Exceed the <i>California Energy Code</i> requirements, based on the 2008 Energy Efficiency Standards by 30 percent. 2.2 Comply with at least six elective measures selected from Division A4.2. 3. From Division A4.3, Water Efficiency and Conservation. <ol style="list-style-type: none"> 3.1 Comply with the Tier 1 reduced flow rate for kitchen sink faucets in Section A4.303.1. 3.2 Comply with the Tier 2 dishwasher requirements in Section A4.303.1. 3.3 Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.304.4. 3.4 Comply with at least two elective measures selected from Division A4.3. 4. From Division A4.4, Material Conservation and Resource Efficiency. <ol style="list-style-type: none"> 4.1 Comply with the 25 percent cement reduction requirements in Section A4.403.2. 4.2 Comply with the 15 percent recycled content requirements in Section A4.405.3. 4.3 Comply with the 75 percent reduction in construction waste in Section A4.408.1. 4.4 Comply with at least four elective measures selected from Division A4.4. 5. From Division A4.5, Environmental Quality. <ol style="list-style-type: none"> 5.1 Comply with the 90 percent resilient flooring systems requirements in Section A4.504.2. 5.2 Comply with the thermal insulation requirements for Tier 1 	<p>A4.601.5.2 Prerequisite and elective measures for Tier 2. In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 2 status.</p> <ol style="list-style-type: none"> 1. From Division A4.1, Planning and Design. <ol style="list-style-type: none"> 1.1 Comply with the topsoil protection requirements for Tier 1 and Tier 2 in Section A4.106.2.3. 1.2 Comply with the 30 percent permeable paving requirements in Section A4.106.4. 1.3 Comply with the cool roof requirements in Section A4.106.5. 1.4 Comply with at least four elective measures selected from Division A4.1. 2. From Division A4.2, Energy Efficiency. <ol style="list-style-type: none"> 2.1 Exceed the 2010 <i>California Energy Code</i> requirements by 30 percent. 2.2 Comply with at least six elective measures selected from Division A4.2. 3. From Division A4.3, Water Efficiency and Conservation. <ol style="list-style-type: none"> 3.1 Comply with the Tier 1 reduced flow rate for kitchen sink faucets in Section A4.303.1. 3.2 Comply with the Tier 2 dishwasher requirements in Section A4.303.1. 3.3 Comply with the landscape irrigation water budget requirement in Section A4.304.3. 3.4 Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.304.4. 3.5 Comply with at least two elective measures selected from Division A4.3. 4. From Division A4.4, Material Conservation and Resource Efficiency. <ol style="list-style-type: none"> 4.1 Comply with the 25 percent cement reduction requirements in Section A4.403.2. 4.2 Comply with the 15 percent recycled content requirements in Section A4.405.3.1; or 8 percent renewable materials and 10 percent recycled content requirement in Section A4.405.3.2. 4.3 Comply with the 75 percent reduction in construction waste in Section A4.408.1. 4.4 Comply with at least four elective measures selected from Division A4.4. 5. From Division A4.5, Environmental Quality.

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	<p>and Tier 2 in Section A4.504.3. 5.3 Comply with at least one elective measure selected from Division A4.5. Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.</p>	<p>5.1 Comply with the 90 percent resilient flooring systems requirements in Section A4.504.2. 5.2 Comply with the thermal insulation requirements for Tier 1 and Tier 2 in Section A4.504.3. 5.3 Comply with at least one elective measure selected from Division A4.5. Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.</p>
<p>36. HCD proposes to amend Section A4.602 of Appendix A4 as follows:</p>		<p>Amendments are proposed to the Application checklist to reflect Items 1 through 35 contained in this document.</p>