

**FINAL EXPRESS TERMS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
REGARDING THE 2013 CALIFORNIA GREEN BUILDING STANDARDS CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11  
(OUTDOOR POTABLE WATER USE REDUCTION STANDARDS)  
(HCD EF 01-15)**

The Department of Housing and Community Development (HCD) proposes to make necessary changes to be included in the 2013 edition of the California Green Building Standards Code (CGBC), also known as CALGreen, as presented on the following pages:

1. **Existing California text or language being modified:** All language is shown in normal Arial 9 point; modified language is underlined or shown in ~~strikeout~~.
2. **Existing text not being modified:** All language not displayed in full is shown as “...” (i.e., ellipsis).
3. **Repealed text:** All language appears in ~~strikeout~~.
4. **Notation:** Authority and Reference citations are provided at the end of each section.

**SUMMARY OF REGULATORY ACTION**

**HCD PROPOSES TO:**

- Adopt new California Amendments into the 2013 California Green Building Standards Code.
- These amendments, in part, complete the certifying rulemaking process following the approved adoption of emergency regulations to the 2013 California Green Building Standards Code on May 29, 2015 and October 21, 2015. These amendments also accommodate changes, effective September 25, 2015, to the referenced Model Water Efficient Landscape Ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7, Section 490 et seq.) by the California Department of Water Resources subsequent to the adoption of the emergency regulations.

**1. HCD proposes amendments in Chapter 2, Definitions, for adoption into the 2013 California Green Building Code as follows:**

**CHAPTER 2  
DEFINITIONS**

**HYDROZONE.** A portion of the landscaped area having plants with similar water needs.

**LANDSCAPE (PLANT) COEFFICIENT (*K<sub>L</sub>*).** The product of the species factor multiplied by the density factor and the microclimate factor. ( $K_L = K_s \times K_d \times K_{mc}$ ) The landscape coefficient is used in the landscape water budget calculation. (UCGE, 2000)

**LANDSCAPE WATER METER.** An inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

**REFERENCE EVAPOTRANSPIRATION (*E<sub>T0</sub>*).** ~~[HCD] Evapotranspiration is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity. Reference evapotranspiration (*E<sub>T0</sub>*) is the industry standard for determining irrigation requirements. *E<sub>T0</sub>* is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered.~~

**NOTE:**

Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

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**2. HCD proposes amendments in Chapter 4, Division 4.3 Water Efficiency and Conservation, for adoption into the 2013 California Green Building Code as follows:**

**CHAPTER 4  
DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION  
SECTION 4.304 OUTDOOR WATER USE**

**4.304.1 Irrigation controllers.** Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

- ~~1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.~~
- ~~2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.~~

**Note:** More information regarding irrigation controller function and specifications is available from the Irrigation Association.

**4.304.1 Outdoor potable water use in landscape areas.** 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 2500 square feet may comply with the MWELo's Appendix D Prescriptive Compliance Option.

**Notes:**

1. The Model Water Efficient Landscape Ordinance (MWELo) and supporting documents are available at: <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>
2. A water budget calculator is available at: <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

**NOTE:**

Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

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**3. HCD proposes amendments to Appendix A4, Division A4.3 Water Efficiency and Conservation, for adoption into the 2013 California Green Building Code as follows:**

**APPENDIX A4 RESIDENTIAL VOLUNTARY MEASURES  
DIVISION A4.3 WATER EFFICIENCY AND CONSERVATION**

**SECTION A4.304 OUTDOOR WATER USE**

**~~A4.304.1 Low-water consumption irrigation system.~~** Install a low-water consumption irrigation system which minimizes the use of spray type heads. Spray type irrigation may only be used at turf areas. The remaining irrigation systems shall use only the following types of low-volume irrigation systems:

- ~~1. Drip irrigation.~~
- ~~2. Bubblers.~~
- ~~3. Drip emitters.~~
- ~~4. Soaker hose.~~
- ~~5. Stream rotator spray heads.~~
- ~~6. Other systems acceptable to the enforcing agency.~~

**~~A4.304.2 A4.304.1 Rainwater catchment systems.~~** An approved rainwater catchment system is designed and installed to use rainwater generated by at least 65 percent of the available roof area. Rainwater catchment systems shall be designed and installed in accordance with the *California Plumbing Code*.

**~~A4.304.3 Water budget.~~** When landscaping is provided by the builder, a water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.

**~~A4.304.4 Potable water reduction.~~** When landscaping is provided by the builder, a water efficient landscape irrigation system shall be installed that reduces potable water use. The potable water use reduction shall be calculated beyond the initial requirements for plant installation and establishment. Calculations for the reduction shall be based on the water budget developed pursuant to Section A4.304.3.

**~~Tier 1.~~** Reduce the use of potable water to a quantity that does not exceed 65 percent of ETo times the landscape area.

**~~Tier 2.~~** Reduce the use of potable water to a quantity that does not exceed 60 percent of ETo times the landscape area.

**~~Note:~~** Methods used to comply with this section must be designed to meet the requirements of the other parts of the California Building Standards Code and may include, but are not limited to, the following:

- ~~1. Plant coefficient.~~
- ~~2. Irrigation efficiency and distribution uniformity.~~
- ~~3. Use of captured rainwater.~~
- ~~4. Use of recycled water.~~
- ~~5. Water treated for irrigation purposes and conveyed by a water district or public entity.~~
- ~~6. Use of graywater.~~

**~~A4.304.5 A4.304.2 Potable water elimination.~~** When landscaping is provided by the builder and as allowed by local ordinance, a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment. Methods used to accomplish the requirements of this section must be designed to the requirements of the *California Building Standards Code* and shall include, but not be limited to, the following:

- ~~1. Plant coefficient.~~
- ~~2. Irrigation efficiency and distribution uniformity.~~

- ~~3-1.~~ Use of captured rainwater.
- ~~4-2.~~ Use of recycled water.
- ~~5-3.~~ Water treated for irrigation purposes and conveyed by a water district or public entity.
- ~~6-4.~~ Use of graywater.

~~A4.304.6~~ **A4.304.3 Irrigation metering device Landscape water meters.** For new water service connections, landscaped irrigated areas ~~more than 2,500~~ less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.

**NOTE:**

Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

**4. HCD proposes amendments to Appendix A4, Division A4.6 Tier 1 and Tier 2, for adoption into the 2013 California Green Building Code as follows:**

**APPENDIX A4 RESIDENTIAL VOLUNTARY MEASURES  
DIVISION A4.6 TIER 1 AND TIER 2**

**SECTION A4.601  
GENERAL**

**A4.601.1 Scope.** (No change to text)

**A4.601.2 Prerequisite measures.** (No change to text)

**A4.601.3 Elective measures.** (No change to text)

**A4.601.4 Tier 1.**

**To achieve Tier 1 status a project must comply with the following:**

**A4.601.4.1 Mandatory measures for Tier 1.** (No change to text)

**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:

1. From Division A4.1, Planning and Design. (No change to text)
2. From Division A4.2, Energy Efficiency. (No change to text)
3. From Division A4.3, Water Efficiency and Conservation.
  - ~~3.1.~~ Comply with the landscape irrigation water budget requirement in Section A4.304.3.
  - ~~3.2.~~ Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4.
  - ~~3-3~~ 3.1 Comply with at least two elective measures selected from Division A4.3.
4. From Division A4.4, Material Conservation and Resource Efficiency. (No change to text)
5. From Division A4.5, Environmental Quality. (No change to text)

**A4.601.5 Tier 2.** To achieve Tier 2 status a project must comply with the following.

**Note:** (No change to text)

**A4.601.5.1 Mandatory measures for Tier 2.** (No change to text)

**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:

1. From Division A4.1, Planning and Design. (No change to text)
2. From Division A4.2, Energy Efficiency. (No change to text)
3. From Division A4.3, Water Efficiency and Conservation.

- ~~3.1~~ Comply with the landscape irrigation water budget requirement in Section A4.304.3.
- ~~3.2~~ Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.304.4.
- ~~3.3~~ 3.1 Comply with at least three elective measures selected from Division A4.3.
- 4. From Division A4.4, Material Conservation and Resource Efficiency. (No change to text)
- 5. From Division A4.5, Environmental Quality. (No change to text)

**5. HCD proposes amendments to the Residential Occupancies Application Checklist for adoption into the 2013 California Green Building Code as follows:**

**RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST  
(APPENDIX A4, SECTION A4.602)**

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
	Mandatory	Prerequisites and electives <sup>1</sup>		Enforcing Agency <input type="checkbox"/> All	Installer or Designer <input type="checkbox"/> All	Third party <input type="checkbox"/> All
		Tier 1	Tier 2			
<b>WATER EFFICIENCY AND CONSERVATION</b>						
<b>Outdoor water Use</b>						
<b>4.304.1</b> Automatic irrigation systems controllers installed at the time of final inspection shall be weather or soil moisture based.	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.304.1</b> 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 2500 square feet may comply with the MWELo's Appendix D Prescriptive Compliance Option.	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A4.304.1</b></del> Install a low water consumption irrigation system which minimizes the use of spray type heads.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A4.304.2</b></del> <b>A4.304.1</b> A rainwater capture, storage and re-use system is designed and installed.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A4.304.3</b></del> A water budget shall be developed for landscape irrigation.		<input checked="" type="checkbox"/> <sup>2</sup>	<input checked="" type="checkbox"/> <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A4.304.4</b></del> Provide water efficient landscape irrigation design that reduces the use of potable water. Tier 1. Does not exceed 65 percent of ETo times the landscape area. Tier 2. Does not exceed 60 percent of ETo times the landscape area.		<input checked="" type="checkbox"/> <sup>2</sup>	<input checked="" type="checkbox"/> <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A4.304.5</b></del> <b>A4.304.2</b> A landscape design is installed which does not utilize potable water.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<del><b>A304.6</b></del> <b>A4.304.3</b> For new water service connections, landscaped irrigated areas more than 2,500 less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>