

BUILDING AND LANDSCAPE STANDARDS ENACTED IN RESPONSE TO THE GOVERNOR'S MANDATORY WATER RESTRICTIONS DEALING WITH THE DROUGHT AND THE POSSIBLE EFFECTS OF EL NIÑO

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Earlier this year, with California facing one of the most severe droughts on record, Governor Edmund G. Brown, Jr. issued Executive Order B-29-15 (the “Executive Order”) aimed at conserving water supplies and reducing water waste throughout California.¹ For the first time in California’s history, the Executive Order directed state agencies to implement immediate measures to save water, increase enforcement against water waste, invest in new technologies, and streamline governmental response to ongoing drought conditions.

In response, various state agencies proposed emergency changes to existing building and landscape standards in the California Green Building Standards Code (California Code of Regulations, title 24, part 11) (“CALGreen”) and the Model Water Efficient Landscape Ordinance (California Code of Regulations, title 23, part 11) (“Model Ordinance”) pertaining to the use of potable water. In July, the California Building Standards Commission and the California Water Commission adopted the proposed changes after public review and comment.

The following is a summary of relevant directives from the Executive Order which potentially impact builders of future residential and nonresidential development projects, as well as owners of existing commercial, industrial and institutional properties. The final sections highlight revisions to CALGreen and the Model Ordinance in response to the Executive Order, and assess the impact that anticipated El Niño storms may have on these conservation efforts.

1. The Executive Order.

a. Mandate for a 25% water use reduction.

The Executive Order mandated a **25% reduction in potable urban water usage** through February 2016, as compared to the amount used in 2013. (Directive 2.)² The Governor imposed numerous water saving measures and incentives that will impact all property owners and water right holders in California, including rate structures and pricing mechanisms that deter water waste and maximize water conservation (Directive 8), programs to replace lawns and ornamental turfs with drought tolerant landscapes (Directive 3), and appliance rebate programs (Directive 4).

For owners of “commercial, industrial, and institutional properties, such as campuses, golf courses and cemeteries,” the Executive Order specifically directed the State Water Resources Control Board (the “Water Board”) to “immediately implement water efficiency measures [(i.e., 25% reduction)].” (Directive 5.) The Executive Order also “prohibit[ed] irrigation with potable water outside of **newly constructed homes and buildings** that is not delivered by **drip or microspray systems.**” (Directive 7.)

¹ A copy of the Executive Order is available at http://gov.ca.gov/docs/4.1.15_Executive_Order.pdf

² All references to the “Directive” or “Directives” are from the Executive Order.

b. Increased enforcement against water waste.

The Executive Order also called for increased monitoring of water usage, conservation and enforcement efforts by (i) requiring that the Water Board collect monthly reports from the urban water suppliers on a permanent basis (Directive 9), (ii) requiring that the Water Board report on and inspect water diversion and use by water right holders and bring enforcement actions against illegal diverters and those engaged in wasteful and unreasonable use (Directive 10), (iii) requiring agricultural water suppliers to develop detailed drought management plans (Directives 12-14), and (v) requiring that local agencies in high and medium priority groundwater basins monitor and report on the conditions of the groundwater basins (Directive 15).

The Governor also directed the Department of Water Resources to *update the 2009 Model Ordinance* by increasing efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite stormwater capture, and limiting the portions of landscapes that may be covered in turf. (Directive 11.) The Model Ordinance was first adopted in 1992 to, among other things, “establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects.” (Cal. Code Regs., tit. 23, § 490, subd. (b).) Local agencies are required to either adopt the Model Ordinance or craft an ordinance to fit local conditions with provisions that are just as effective as the Model Ordinance in water conservation.

c. Investment in new technologies.

The Governor also established the Water Energy Technology (“WET”) program in an effort to accelerate the use of cutting-edge water management technologies by businesses, residents, industries and agriculture, such as on-site reuse systems, water use monitoring software, irrigation system timing and precision technology, and on-farm precision technology. (Directive 17.)

d. Streamlined government response.

The Executive Order also directed state permitting agencies to prioritize review and approval of water infrastructure projects and programs that increase water supplies, including projects involving stormwater capture and greywater systems. (Directive 19.)

2. New Building And Landscaping Standards Enacted In Response.

a. CALGreen.

The California Building Standards Commission, Department of Housing and Community Development, and Division of the State Architect developed the following revisions to the CALGreen³ building standards which are now in effect:

- For all residential landscape areas and nonresidential landscape⁴ areas greater than 2,500 square feet, the revisions call for up to a 35% reduction in Evaporation Transmission Adjustment Factor for landscape irrigation use. (CALGreen §§ 4.304.1 and 5.304.1.)
- The revisions recognize use of captured rainwater, recycled water, or greywater designed per the California Plumbing Code and use of water treated for irrigation purposes and conveyed by a water district or public entity. (CALGreen §§ 4.304.1.1 and 5.304.2.)
- All new residential landscape construction and existing nonresidential landscape areas of 1,000 to 2,500 square feet still require weather-based controllers, with integral rain sensors or connection to a wired or wireless rain sensor, or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs. (CALGreen §§ 4.304.2.)
- Separate submeters or metering devices are required for new nonresidential water service or additions/alterations requiring updated water service for areas 1,000 to 50,000 square feet. (CALGreen § 5.304.4.)

b. Model Ordinance.

The California Water Commission adopted the following revisions to the Model Ordinance concerning yards and commercial landscaping installed after December 1, 2015:⁵

- The Model Ordinance now applies to new projects with landscape areas greater than 500 square feet (previously 2,500 square feet). The Model Ordinance still applies to rehabilitation projects with aggregated areas totaling 2,500 square feet. (Model Ordinance, § 409.1.)
- Turf is prohibited in street medians and parkways less than 10 feet wide, unless adjacent to a parking strip and used to enter and exit vehicles. All turfs must be

³ Revisions to the CALGreen building standards, filed with the Secretary of State on July 23, 2015, are available at <http://www.documents.dgs.ca.gov/bsc/2015TriCycle/BSC-Meetings/Emergency-Regs/DSASS-EF-02-15-ET-Pt11.pdf>.

⁴ The term “nonresidential landscape” means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated areas. (Model Ordinance, § 491, subd. (zz).)

⁵ A copy of the revised Model Ordinance is available at http://www.water.ca.gov/wateruseefficiency/landscapeordinance/docs/E.OB_29_15_MWELO_Update_07-09-%202015_Draft_Final.pdf

irrigated by subsurface irrigation or other technology that creates no overspray or runoff. (Model Ordinance, §§ 492.6, subd. (a)(1)(E) and (F), and 492.7, subd. (a)(1)(T).)

- Recreational water features (swimming pools, splash pads or similar) must recirculate water. (Model Ordinance, § 492.6, subd. (a)(2)(E).)
- Before planting any materials, soils must be transformed to a friable condition, i.e., easily crumbled or loosely compacted down to minimum depth per planting material requirements, where roots will be allowed to spread unimpeded. (Model Ordinance, § 492.6, subd. (a)(3)(A).)
- Soil amendments must be incorporated as recommended in soil reports and as appropriate for the selected plants. (Model Ordinance, § 492.6, subd. (a)(3)(B).)
- For landscape installations, compost at a minimum rate of four cubic yards per 1,000 square feet of permeable area must be incorporated (unless contraindicated by soil test) to a depth of six inches into the soil. Soils with greater than 25% organic matter in the top six inches of soil are exempt. (Model Ordinance, § 492.6, subd. (a)(3)(C).)
- A minimum three-inch layer of mulch must be applied on all exposed soil surfaces of planting areas except for turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated. (Model Ordinance, § 492.6, subd. (a)(3)(D).)
- The Model Ordinance applies to landscaped areas requiring permanent irrigation, not temporary irrigation used solely for plant establishment. (Model Ordinance, § 492.7, subd. (a).)
- All nonresidential irrigated landscapes of 1,000 to 5,000 square feet require a dedicated landscape water meter, i.e., a customer service meter dedicated to landscape use provided by the local water agency, or a privately owned meter or submeter. (Model Ordinance, § 492.7, subd. (a)(1)(A).)
- Pressure regulator flow sensors that detect high flow conditions created by system damage or malfunction, and master shut-off valves, are required. (Model Ordinance, § 492.7, subd. (a)(1)(G) and (H).)
- Irrigation systems must be designed in such a manner that a precipitation rate of 1.0 inches per hour is not exceeded in any portion of the landscape. (Model Ordinance, § 492.7, subd. (a)(1)(M).)
- All landscape irrigation audits must be conducted by a local agency irrigation auditor or third party certified landscape irrigation auditor, not the designer or installer of the landscape. (Model Ordinance, § 492.12.)

- All model homes must be landscaped and use signs and written information to demonstrate the principles of water efficient landscapes described in the Model Ordinance. Signage must (i) identify the model as an example of water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to water efficiency, (ii) include information about the site water use as designed per the local ordinance, (iii) specify who designed and installed the water efficient landscape, and (iv) demonstrate low water use approaches to landscaping such as using native plants, greywater systems and rainwater catchment systems. (Model Ordinance, § 492.17, subd. (b).)
- Local agencies responsible for administering the ordinance must report on implementation and enforcement by December 31, 2015, and on January 31st of each subsequent year. (Model Ordinance, § 495.)

Given the severity of the drought and the Governor’s directives, state agencies have increased their efforts to enforce the Executive Order, touting a 27.1% reduction in water use since the emergency conservation measures took effect in June and publicizing their enforcement efforts against unauthorized water users and diverters. Recently, these agencies adopted additional revisions to water use standards, such as reducing water consumption in urinals (CALGreen § 5.303 and Cal. Code Regs., tit. 23, part 5 (“California Plumbing Code”), § 403.3.), and they are proposing further changes.

While California is preparing for a fifth year of drought this winter, it is simultaneously facing the possibility of weather events in the opposite extreme due to major storms driven by the warming trend in the Pacific Ocean known as El Niño.⁶ Even if El Niño brings heavy rain and snowfall this winter, however, experts have not predicted an end to the drought with any certainty and have, instead, suggested that California may be facing a “new normal” of extreme droughts and floods caused by climate change.⁷ Therefore, the conservation measures discussed in this article are expected to continue even if California experiences a wet winter.

Owners and builders are encouraged to review carefully the applicable building and landscape standards for their properties and/or projects.

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⁶ See November 13, 2015 Executive Order B-36-15 at https://www.gov.ca.gov/docs/11.13.15_EO_B-36-15.pdf

⁷ Association of California Water Agencies, Will El Niño End California’s Drought? (November 2015), <http://www.acwa.com/sites/default/files/news/water-supply-challenges/2015/11/acwa-el-nino-and-ca-drought-infographic.pdf>.