

**CALIFORNIA BUILDING STANDARDS COMMISSION (CBSC)  
GREEN BUILDING WORKSHOP  
May 31, 2016 - Agenda Item 5a**

**DRAFT EXPRESS TERMS for the 2016  
CALIFORNIA GREEN BUILDING STANDARDS CODE,  
(CALGreen), PART 11,  
CALIFORNIA BUILDING STANDARDS CODE,  
TITLE 24, CALIFORNIA CODE OF REGULATIONS  
Proposed code language for the 2016 Intervening Code Cycle**

**LEGEND FOR EXPRESS TERMS**

1. New California amendments: All such language appears underlined.
2. Repealed text: All such language appears in ~~strikeout~~.  
*[Information for the reader is bracketed and in red italics]*

**5.106 Site Development**

• **Statement of specific purpose, problem, rationale and benefits:**

The CBSC is proposing on behalf of California Water Resources Control Board (CWRCB) to amend portions of Chapter 5. Nonresidential Mandatory Measures, Section 5.106 Site Development and Appendix A5.106 Site Development. The proposed amendments will make CALGreen consistent with the objectives of the California Water Action Plan 2016 Update, Water Smart Landscapes recommendations by the California Urban Water Conservation Council, and the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

The California Water Action Plan states that "The administration will direct agencies and departments to evaluate existing programs and propose modifications to incentivize and co-fund multi-benefit projects that promote integrated water management, such as stormwater permits that emphasize stormwater capture and infiltration, which provide both flood protection and groundwater recharge benefits".<sup>1</sup>

These proposed changes will also address Recommendation 18 in the Water Smart Landscapes for California report by the California Urban Water Conservation Council<sup>2</sup>:

"Encourage the capture and retention of stormwater onsite to improve water use efficiency and reduce water quality problems."

The NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, issued by the State Water Resources Control Board, includes construction Best Management Practice (BMP) requirements, and maintenance of pre-project hydrology for any project resulting in a land disturbance of one acre or more, or less than one acre but part of a larger common plan of development or sale.

By referencing the stormwater management requirements in CALGreen, CWRCB aims to enhance on-site retention and infiltration, and/or use stormwater as a resource to aid in the mitigation of climate change and increase municipal water supply sources.

The inclusion of the requirement in CALGreen alongside the other site development requirements will facilitate the identification of multiple benefit projects, as identified as an objective of the California Water Action Plan. These modifications will make the integration of Construction Activities Storm Water General Permit requirements, when applicable, a mandatory part of the project design process,

<sup>1</sup> The [California Water Action Plan 2016 Update](#), pg 7.

<sup>2</sup> The California Urban Water Conservation Council. (2005, December). Recommendation 18 "[Water Smart Landscapes for California, AB 2717 Landscape Task Force Findings, Recommendations, & Actions.](#)", pg 6.

which will benefit developers by avoiding costly post-design revisions and/or construction change orders, if the permit requirements are not included in the initial design.

Section 5.106.1 – This section was amended to clearly apply only to projects that are not required to obtain an NPDES permit for construction activities.

Section 5.106.1.2 – There are additions to the soil loss and good housekeeping BMP requirements to clarify the scope of the requirement and options. The site stabilization requirement has been added.

Section 5.106.2 – This section was added to ensure that developers of projects that entail disturbance of an acre or more of land are aware that they must comply with the applicable NPDES stormwater permits for construction activities. A note was added to emphasize the need to address post-construction requirements for stormwater management as required by the NPDES stormwater permits and to identify appropriate low impact development (LID) options.

Section A5.106.2 – This section was amended to consolidate compliance with stormwater design by removing references to A5.106.2.1 and A5.106.2.2. Compliance is now proposed to be simply through local requirements or Section A5.106.3 Low impact development.

Sections A5.106.2.1 and A5.106.2.2 – These sections are being proposed for deletion because the modifications to Section A5.106.2 and A5.106.3 make these sections obsolete.

Section A5.106.3 – This section was amended to include parts of Section A5.106.2.2 and clarify the LID options.

The following terms are proposed for addition to Chapter 2. Definitions of CALGreen:

Dewatering: Pumping of uncontaminated groundwater for construction activities. Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Quality Control Boards.

Non-stormwater discharges: Dewatering activities, washout area discharge, vehicle and equipment cleaning, street cleaning, and irrigation runoff.

## Chapter 2 DEFINITIONS

### ... SECTION 202 DEFINITIONS

...  
DEVELOPMENT FOOTPRINT: ...

DEWATERING: Pumping of uncontaminated groundwater for construction activities. Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Quality Control Boards.

...  
NO ADDED FORMELDAHIVE...

NON-STORMWATER DISCHARGES: Dewatering activities, washout area discharge, vehicle and equipment cleaning, street cleaning, and irrigation runoff.

...

## SECTION 5.106 SITE DEVELOPMENT

**5.106.1 Stormwater pollution prevention for projects that disturb less than one acre of land.** Newly constructed projects and additions which disturb less than one acre of land and are not part of a larger common plan of development or sale shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures:

**5.106.1.1 Local Ordinance.** Comply with a lawfully enacted stormwater management and/or erosion control ordinance.

**5.106.1.2 Best management practices (BMP's).** Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control, good housekeeping BMP's, and site stabilization.

1. Soil loss BMP's that should be considered for implementation as appropriate for each project include but are not limited to, the following:

- a. Scheduling construction activity during dry periods, when feasible.
- b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
- c. Drainage swales or lined ditches to control storm water flow.
- d. Mulching or hydroseeding to stabilize disturbed soils.
- e. Erosion control to protect slopes.
- f. Protection of storm drain inlets (gravel bags or catch basins inserts).
- g. Perimeter sediment control (perimeter silt fence, fiber rolls).
- h. Sediment trap or sediment basin to retain sediment on site.
- i. Stabilize construction exits.
- j. Wind erosion control.
- k. Other soil loss BMP's acceptable to the enforcing agency.

2. Good housekeeping BMP's to manage construction equipment, materials, non-stormwater discharges, and wastes that should be considered for implementation as appropriate for each project include, but not limited to, the following:

- a. Dewatering activities.
- b. Material handling and waste management.
- c. Management of washout areas (concrete, paints, stucco, etc.)
- d. Control of Vehicle/equipment fueling to contractor's staging area.
- e. Vehicle and equipment cleaning performed off site.
- f. Spill prevention and control.
- g. Other housekeeping BMP's acceptable to the enforcing agency

3. Stabilize all areas that were disturbed by construction activities. A stabilized site that has completed construction shall not have any greater potential to release sediment or other pollutants than prior to the commencement of construction related and/or demolition activities. The site stabilization shall not be completed to the detriment of landscaping soil quality through excessive soil compaction.

**5.106.2 Stormwater pollution prevention for projects that disturb one or more acres of land.**

Projects that (1) disturb less than one acre of land but are part of a common plan of development or sale of an acre or more of land, or (2) that disturb an acre or more of land, are required to comply with the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit). These NPDES permits contain specific requirements that must be implemented to prevent the pollution of stormwater runoff from the construction activities.

Note: These NPDES permits also contain post-construction requirements that generally require that the amount of stormwater runoff from the site once construction is completed is similar to the amount of runoff from the site prior to construction. Consideration must be given to the post-construction requirements during the project design phase in order to integrate the appropriate features. The Lahontan permit generally requires that permanent stormwater infiltration facilities be designed and constructed to infiltrate runoff generated by the 20 year, 1-hour storm. The State Water Resources Control Board permit generally requires that the pre-project water balance for the smallest storms up to the 85<sup>th</sup> percentile storm event be replicated through the application of Low Impact Development (LID) practices, unless the project is required to comply with post-construction requirements imposed by local agency in accordance with a Stormwater Management Plan approved by the State Water Resources Control Board or the appropriate California regional water quality control board. The applicable post-construction requirements must be implemented. General LID practices include, but are not limited to the following:

1. Bioretention (rain gardens) / filtration planters;
2. Precipitation capture (cisterns, rain barrels);
3. Green roofs meeting the structural requirements of the building code;
4. Roof leader disconnection;
5. Permeable and porous paving;
6. Vegetated swales and filter strips;
7. Tree preservation and tree plantings;
8. Landscaping soil quality;
9. Stream buffer; and
10. Volume retention suitable for previously developed sites.

...

**APPENDIX A5  
SECTION A5.106  
SITE DEVELOPMENT**

**A5.106.2 Stormwater design.** Design stormwater runoff rate, and quantity, and quality in conformance with Section A5.106.3 Low Impact Development (LID) ~~Section A5.106.2.1 and storm water runoff quality by Section A5.106.3.2~~ or by local requirements, whichever are stricter.

~~**A5.106.2.1 Storm water runoff rate and quantity.** Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. **Exception:** If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25 percent decrease in rate and quantity.~~

~~**A5.106.2.2 Storm water runoff quality.** Use postconstruction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) stormwater runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).~~

~~**A5.106.3 Low Impact Development (LID).** Reduce peak runoff in compliance with Section 5.106.1. All newly constructed projects shall mitigate (infiltrate, filter or treat) storm water runoff from the 85th percentile 24-hour runoff event (for volume-based BMP's) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMP's) through the application of (LID) strategies. Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to:~~

1. Bioretention (rain gardens) / filtration planters;
2. Precipitation capture (Cisterns and rain barrels);
3. Green roofs meeting the structural requirements of the building code;
4. Roof leader disconnection;
5. Permeable and porous paving;
6. Vegetative swales and filter strips;
7. Tree preservation and tree plantings;
8. Landscaping soil quality;
9. Stream buffer; and
10. Volume retention suitable for previously developed sites.

...