



California Stormwater Quality Association

Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

April 10, 2009

Ms. Tracy Egoscue
Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Tentative Order - MS4 NPDES Permit for the Ventura Countywide Stormwater Program

Dear Ms. Egoscue:

Thank you for this opportunity to comment on the February 24, 2009 Tentative Order - MS4 NPDES Permit for the Ventura Countywide Stormwater Program (Tentative Order). Please accept these comments regarding the Tentative Order submitted by the California Stormwater Quality Association (CASQA)¹ on behalf of its members.

CASQA has previously provided comments on the Ventura Countywide draft permits in our 3/7/07, 10/15/07, and 5/29/08 letters to the Regional Board. We have also attended and provided testimony at the 4/5/07 and 9/20/07 workshops regarding the draft Permits. Our comments for the most part were directed to requirements that CASQA believed to have precedential implications for other municipal stormwater permits and programs in California. The three requirements we addressed were:

- Municipal Action Levels (MALs)
- Effective Impervious Area (ELA) Metrics
- Best management practice (BMP) design performance criteria

Municipal Action Levels (MALs)

We concur with the approach proposed in the Tentative Order. As noted previously, CASQA supports the development of quantifiable metrics to assess the effectiveness of stormwater programs including the concept of Action Levels as recommended by the State's Blue-Ribbon Panel². The Panel's recommendations include:

¹ CASQA is composed of stormwater quality management organizations and individuals, including cities, counties, special districts, industries, and consulting firms throughout California. Our membership provides stormwater quality management services to over 26 million people in California and includes most every Phase I and many Phase II municipal programs in the State. CASQA was formed in 1989 to recommend approaches for stormwater quality management to the State Water Resources Control Board.

² The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, June 2006.

1. Set action levels to identify “bad actors” discharges;
2. Use action levels to trigger aggressive efforts by the permittees to investigate the cause of high runoff concentrations and implement appropriate corrective actions; and
3. Derive action levels from a database that is most relevant to the watershed, including local datasets if sufficient.

We believe the Tentative Order correctly addresses each of these recommendations. First, the MALs, as proposed in the Tentative Order, are set at the 80th percentile values for constituents relevant to the Ventura Program. Next, the MALs were derived from a USEPA rain zone 6 database, which reflects the arid/semi-arid conditions we have in Southern California. Finally, the MALs will be used to identify problematic drainage sheds in Ventura County and create an accounting process whereby the MS4s must aggressively investigate the sources and/or causes of the discharges. Thus, the Tentative Order mirrors the State’s Blue-Ribbon Panel’s recommendations regarding action levels, and will provide the tools for municipalities to focus resources on problematic discharges, as well as provide an appropriate metric for assessing program effectiveness by addressing problematic discharges.

Effective Impervious Area (EIA) Metrics

The Tentative Order continues to include an “Effective Impervious Area” threshold requirement for new development and redevelopment projects as a “driver” for Low Impact Development (LID). While the Tentative Order has been modified to include a LID sizing requirement, the Tentative Order still uses the “EIA” requirement. The use of EIA as a regulatory metric for LID implementation is the subject of considerable debate and concern within the stormwater quality management/science community as well as among urban planners and practicing landscape architects. Specific aspects of this concern include whether this EIA criterion should be used, and, if used, whether it should be applied on a site-by-site basis, and its implications with urban redevelopment, smart growth, and urban sprawl. The proposed EIA criterion needs to be further vetted to ensure that environmentally beneficial societal goals, such as redevelopment, brownfield development, and infill development are encouraged, by the permit, rather than further complicated. CASQA would submit that the stormwater manager must have the flexibility to develop program requirements that will result in the most environmental benefit for the cost.

Another key consideration is to understand the nature of a “cure” of the problem. While there is considerable research that demonstrates a correlation between a decline in stream ecology and an increase in impervious cover (the problem), there is considerable debate on whether a watershed with full implementation of stormwater controls would in fact mitigate the impact of impervious cover³. Current research in this area is limited. What is known is that pollutant loads increase in direct proportion to an increase in runoff volume. Thus if the runoff volume can be mitigated then the discharge of pollutant loads to receiving waters will be reduced.

³ Impacts of Impervious Cover on Aquatic Systems, Center for Watershed Protection, March 2003.

Consequently, we submit that volume reduction is an appropriate LID metric that relates more directly to the protection of the water quality than an indirect method of EIA⁴.

The other point that CASQA would like to highlight is the apparent implication that the full water quality volume must be retained on-site (see Part 5.E.III.1.(c)-(d)). It appears that in order to meet the 5% EIA, projects must retain the water quality volume on-site through either infiltration or storage and reuse. This approach has serious technical issues, as well as implementation challenges, as discussed below.

First, it is important to consider the definition of low impact development. USEPA uses the following definition:

A comprehensive stormwater management and site-design technique. Within the LID framework, the goal of any construction project is to design a hydrologically functional site that mimics predevelopment conditions. This is achieved by using design techniques that infiltrate, filter, evaporate, and store runoff close to its source.
<http://cfpub1.epa.gov/npdes/greeninfrastructure/information.cfm#glossary> . 03/24/09

This definition suggests that the post development hydrograph reflects (or mimics) the pre-development hydrograph, which means the post development runoff flow and volume is similar to the pre-development runoff flow and volume. As noted above, the Tentative Order appears to require that the entire post development volume must be retained onsite, even if there was some surface runoff in the pre-development condition. We submit that such an approach is inconsistent with the intent of LID and will ultimately lead to a reengineering of the water balance within a watershed.

Given the state of knowledge and the definition of LID, CASQA recommends the following actions:

1. Convene a working group with the Water Boards, permittees, CASQA, researchers, and stakeholders to:
 - Identify an initial list of LID strategies that must be considered for all development and redevelopment projects.
 - Develop an effectual performance standard for LID strategies. This performance standard should consider the lessons learned from actual local projects that used LID strategies and recommendations from other drivers such as urban design (e.g., LEED-ND standard).
 - Produce findings that can form the basis of future permit provisions and LID guidance.

⁴ The Ventura County and Orange County review of this issue "Low Impact Development Metrics in Stormwater Permitting" showed that the use of EIA as a LID compliance metric can be severely abused unless a volume reduction standard is also provided.

2. In the meantime, modify the Tentative Order to reflect these concepts:
 - LID BMPs shall be designed to retain the change in runoff volume from pre-development to post development (“delta v”) for the 85th percentile, 24 hour storm event.
 - The goal is to retain the full “delta v” by using the following hierarchy of LID strategies:
 - Infiltration based BMPs
 - Capture and reuse BMPs
 - Evapotranspiration BMPs
 - Any water quality volume that is not retained on site by the LID strategies shall be treated using treatment control BMPs, including biofilters, wetlands, and proprietary BMPs.
 - A rigorous feasibility and performance criteria should be established to support implementation of the BMP hierarchy.

BMP Design Performance Criteria

As noted previously, CASQA generally supports the development of design performance standards for assessing treatment control BMPs. We believe the Tentative Order has been significantly improved from the earlier draft permits by establishing design performance standards for BMP categories instead of by constituents. Such an approach will facilitate program implementation and still provide the permittees with the design performance standards for reviewing and selecting appropriate BMPs. However, we caution the Board in using BMP effluent quality data to establish design performance standards as this raises a series of technical questions and implementation issues that have not been studied by or vetted among the stormwater quality management or science community. It is one thing to define the expected performance of a BMP using a median effluent value, but it is another thing to understand the design criteria to support that performance. BMP performance is a function of the amount of runoff captured for treatment in combination with various design criteria that relate to how water flows through the BMP (for example, drawdown time), along with other design criteria. Current research that directly relates design criteria to effluent concentrations is limited. In fact, on this topic, the State’s Blue-Ribbon Panel noted:

“It will take a substantial research effort, including data gathering on well-designed BMPs, to develop design criteria...”

Thus, CASQA recommends that the BMP design performance standard in the Tentative Order be written:

- As a goal rather than as an absolute requirement; and
- To encourage permittees to work with other permittees in the state as well as with CASQA and others to research and develop design criteria for treatment control BMP performance.

CASQA comments to Los Angeles Regional Water Board
regarding Ventura 2-24-09 Tentative Order

April 10, 2009

We thank you again for the opportunity to submit these comments and to provide our thoughts in developing a more proactive and constructive stormwater quality management permit. If you have questions regarding our comments or recommendations please contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read 'C. Crompton', written in a cursive style.

Chris Crompton, Chair
California Stormwater Quality Association

cc: Sam Unger, Supervisor-Regional Programs, Los Angeles Regional Water Board
Charlie Hoppin, Chair, State Water Board
Frances Spivy-Weber, Vice-Chair, State Water Board/Liaison, Los Angeles Regional Water Board
Dorothy Rice, Executive Director, State Water Board
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