



**Development Resource Consultants, Inc.**  
 Civil Engineering/Land Surveying/Land Planning  
 CONTROL BOARD

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160 North Riverview Drive, Ste. 100  
 Anaheim Hills, California 92808  
 Phone: 714-685-6860  
 Fax: 714-685-6801

Chad Lotten

May 22, 2009

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Mr. John H. Robertus  
 Executive Officer  
**California Regional Water Quality Control Board**  
**San Diego Region**  
 9174 Sky Park Court, Suite 100  
 San Diego, CA 92123-4353  
 Tel: 858-467-2952

**RE: Revised Tentative Order No. R9-2009-0002, NPDES CAS0108740**  
**Orange County Municipal Storm Water Permit Reissuance**  
**Reference: NWU:658018:bneil**

Dear Mr. Robertus:

Development Resource Consultants, Inc. (DRC) is a civil engineering firm that is engaged in land development services for all types of projects located throughout Southern California. This letter provides our comments and recommendations resulting from our review of Tentative Order No. R9-2009-0002, Supplemental Fact Sheet dated April 15, 2009.

**Finding C14**

This Finding seeks to prohibit all types of non-storm water (dry weather) discharges from a project site. Specifically, landscape irrigation, irrigation water and lawn water will no longer be allowed to enter an MS4 stormwater conveyance system. This runoff has been established to carry pollutants that can be detrimental to the downstream receiving waters.

**Comments.** The first question that arises is how can this prohibition be practically achieved? Also, will this prohibition apply to both existing and proposed developments? Will compliance involve application of efficient irrigation techniques and simple reduction of watering times for each zone? Or, will compliance require upgrading existing irrigation system components (i.e. heads and controllers) so that overspray and surplus runoff are minimized? Compliance may possibly require the capture of low flows and irrigation flows in basins or underground chambers so that the dry weather runoff does not leave the site. What is certain is that some capital expenditures will be required for both existing and new developments to eliminate the prohibited discharges. Doing so, however, would appear impossible from a practical viewpoint.

**Recommendation.** *As written, the prohibition of "no non-storm water (dry weather) discharges," including irrigation runoff, is too restrictive and too rigid. It would be reasonable to apply a percent reduction to non-storm water discharges rather than requiring total elimination. The regulation should include the framework of a program stating how this measure will be achieved, what levels of discharge are considered compliant, who will be responsible for the implementing the program, and how the program can be phased over time. If the permit was adopted as written, there would be thousands of residential and commercial properties operating in violation of the regulations. In comments prepared by Orange County, they recommend leaving the reduction of irrigation runoff in the realm of public education and water conservation. DRC agrees with that assessment.*

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**Finding D.1.h**

Municipal Action Levels (MALs) will establish the requirement for numeric effluent limits for specific stormwater runoff pollutants.

Comments. It is not clear who is responsible for compliance with MAL levels, the co-permittee (i.e. city or county) or the private land owner. The text does not establish the time interval for sampling and monitoring. Is it one time after project completion, or on an annual basis? It is likely that the co-permittees will enact ordinances that will require the discharger to take samples of stormwater discharges and process them with a certified lab in accordance with accepted testing protocols. The Fact Sheet states that exceedance of MALs could result in enforcement actions such as stop work orders or cease and desist orders. Even if current treatment measures are adequate to satisfy the numeric effluent criteria, periodic sampling and testing will result in significant costs to the discharger.

Recommendation. *The application of MALs is not justified or warranted according to comments from the County of Orange. They describe the Tentative Order's proposed use of MALs as not being legal in the manner proposed, and not technically supportable or valid. In fact, the Blue Ribbon Panel Report referred to in the Supplemental Fact Sheet does not support the use of numeric effluent criteria on stormwater discharges at this time. We would recommend the deletion of MALs and numeric effluent limits from the proposed General Permit changes. It will be cost prohibitive to comply with, unenforceable based on its scope and size, and not justified according to current CWA interpretations.*

**Finding D.2.c**

Sets the requirement that Low Impact Development (LID) site design strategies will be incorporated into new and existing projects.

Comments. Based on this change, LID will need to be considered in the early stages of site planning. As a developer works with an architect on a development proposal, it will be important to bring the civil engineer and landscape architect into the project at an early stage, in order to ensure that LID, Site Design BMPs and Treatment Control BMPs for stormwater quality are incorporated into the design layout. The cost impact from LID is the potential loss of developable land and the cost of additional treatment control BMPs.

Recommendation. *While LID can be applied to new projects, there needs to be flexibility in how it is applied to a project based on site specific needs and constraints. The proposed changes should not impose compliance standards with respect to incorporating LID into a project design. LID should not be applied to retrofitting existing projects because the Regional Board and the co-permittees do not have the right to force private property owners to make improvements to their property at their expense.*

**Finding D.2.g**

Requires a development to analyze and mitigate potential impacts due to increased volume, velocity, frequency and discharge duration of stormwater. The objective here is to minimize hydromodification impacts to the downstream drainage courses and downstream habitat.

Comments. This is a difficult criteria to satisfy from an engineering standpoint because land development does in fact alter the natural drainage patterns on a site. Increased volume, higher velocities and earlier time of concentration are the result of introducing rooftops, paved parking lots, streets and hardscape. The use of detention basins is one of the main tools engineers employ to control the site discharge and limit it to the pre-development peak runoff rate. This Finding expands on the solutions to be applied to site development including hydrologic distribution using LID features, determining effective impervious area and preparation of a Hydromodification Management Plan. Mitigating these factors may require extraordinary storm drainage measures and off-site improvements. Expenses will increase as the need for physical mitigation measures increase.

Recommendation. *This regulation cannot be reasonably satisfied when developing a project site. Hydromodification impacts from a project site need to be limited to industry standard of practice which is to regulate the developed condition discharge rate, in cubic feet per second, to be no greater than the undeveloped condition discharge rate. The project can also reduce velocities at the discharge point to non-erosive rates in order to minimize downstream erosion potential and habitat impact. What should not be controlled by regulation are the total volume of runoff and the duration of discharge into a natural drainage course or unimproved channel. These parameters are not easily modified to match the undeveloped condition and doing so places an unreasonable burden on the property owner and developer.*

#### **Finding D.3.i**

Requires the cooperation of existing land owners to retrofit projects for the preservation, restoration and enhancement of water quality.

Comments. The main question here is how does the co-permittee identify which existing properties need to be retrofitted and who will pay for the cost of the required retrofit? The Regional Board and the co-permittees do not have the right to force a private property owner to make improvements to their property at their expense.

Recommendation. *This Finding should be deleted from the General Permit because it cannot be effectively implemented.*

#### **Finding E.10**

This Finding moves to establish Total Maximum Daily Loads (TMDLs) for 303(d) impaired water bodies in Orange County. We understand this to mean that measurement of pollutants in a water body will be taken at the most downstream point of the watershed and compared with numeric limits set for each pollutant originating from the subject watershed. The Supplemental Fact Sheet lists bacteria, phosphorous, toxicity and turbidity as target pollutants. Cease and desist orders or cleanup and abatement orders would be the primary enforcement mechanisms under the TMDL regulation.

Comments. The EPA has been working to implement TMDLs for many years now and originally started with major water courses such as the Los Angeles River and Santa Ana River. Progress has been slow and is behind schedule because of the complexities of analysis and implementation. One main obstacle is determining who is responsible for reducing the pollutant load in the watershed. How to equitably apply reduction measures that involve thousands of property owners and numerous cities is another significant problem to solve.

According to a presentation given by Dr. Cindy Lin with the EPA on April 16, 2008 in Corona, CA, the TMDL process requires identifying the problem pollutants, setting numeric targets for maximum concentrations, determining the sources of the pollutants in the watershed, linking the target pollutants and sources, and allocating pollutant loads to the sources. The last part is the hardest one to complete. In order to set a maximum discharge rate for a specific discharger, you need to have knowledge of the entire watershed and the point source and non-point source origins of the target pollutant. The process requires analysis of watershed subareas along with the cooperation of counties, municipalities and individual stakeholders. Assuming the Regional Board can set the TMDLs for the several 303(d) water bodies within their jurisdiction and the State and EPA approve them, it is not possible to determine the impact that this regulation would have on individual property owners.

Recommendation. *The introduction of TMDLs into the General Permit should only be done if the entire program can be clearly identified. DRC recommends that TMDL Programs should be instituted via separate Board actions that address only one impaired water body and its associated watershed at a time. As presented, monitoring TMDL loads and effectively implementing pollutant reduction measures is unworkable. You only need to look at the efforts that have been underway for years on the Santa Ana River Watershed TMDL Program to know that this stormwater quality parameter is unworkable and impractical to impose on Orange County, its co-permittees and property owners.*

### **Section III, Directives, of the Supplemental Fact Sheet**

#### **Finding F.1.h**

For interim projects, a limit on the Effective Impervious Area (EIP) of 5% has been added.

Comments: Taken literally, this Finding appears to limit the amount of impervious area on a project site to 5% of the total area. This is a completely unreasonable standard to impose on any project. Even if a project employed a green roof system, porous pavement and minimal concrete walks, this threshold would be extremely difficult to achieve. Under the USGBC LEED New Construction Reference Guide, Version 2.2, the credit for maximizing open space only requires 20% of the site to be set aside for vegetated open space. That leaves 80% of the site that can be impervious surfaces.

Recommendation. *The Regional Board should eliminate the 5% EIP limit from the General Permit. If an EIP limit must be established, it should be in a reasonable range of 50% to 75% of the available site area. Setting development restrictions that cannot be practically achieved is simply not acceptable.*


#### **Closing Comments**

The proposed NPDES regulations and the changes to the General Permit by the San Diego RWQCB will result in increased responsibilities and higher costs to the County of Orange, the several municipal co-permittees and the many land owners within their jurisdiction. While the goal of improving water quality and ensuring healthy ecosystems for plants and animals is a worthy one, it must be balanced by practical strategies that can be cost-effectively implemented.

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In working closely with the development community, DRC finds that it is critical that laws and regulations are written clearly and in a way that the public can understand what is required to comply with the law. The changes being proposed in Tentative Order No. R9-2009-0002 by the San Diego RWQCB, do not provide that clear direction. As written, the public and the development community have no way to ascertain what actions are required to comply with the law, and cannot foresee the cost of complying with the law, once specific actions are determined. Also, the regulations should not go beyond the requirements of the CWA code. Before this change is adopted, the language of the regulation needs to address these concerns for clarity and identify the actions that will achieve the desired goals.

Sincerely,  
**Development Resource Consultants, Inc.**



Ronald W. Sklepko, P.E., LEED AP  
Vice President

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