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October 31, 2008

Lisa McCann, Environmental Programs Manager  
Matt Thompson, Water Resource Control Engineer  
California Regional Water Quality Control Board  
Central Coast Region  
895 Aerovista Place, Suite 101  
San Luis Obispo, California 93401-7906

Via e-mail: [lmcann@waterboards.ca.gov](mailto:lmcann@waterboards.ca.gov); [mthompson@waterboards.ca.gov](mailto:mthompson@waterboards.ca.gov)

Re: City of Salinas Design Standards

Dear Ms. McCann, and Mr. Thompson;

With required revision, the Central Coast Regional Water Quality Control Board (Board) approved the Salinas Design Standards on September 4, 2008. There was discussion over two major points: 1) reducing redundancy and 2) removing a set of source control BMPs. Underlying the discussion was the intent that low impact development (LID) was a requirement.

The Board discussion resulted in a modification of required revision 3 (redundancy discussion) and the deletion of the required source control BMPs contained in required revision 4.

The Monterey Coastkeeper expressed concern both during and immediately after the discussion that by modifying required revision 3 the Board had mistakenly removed the requirement for studies detailing pre- and post project pollutant loads and flows<sup>1</sup> and the requirement for LID. Further, the Monterey Coastkeeper maintains that required source control BMPs for long known and understood pollution sources is the appropriate way to meet MEP.

The day after the approval the Monterey Coastkeeper retained both a stormwater consultant, Mr. Dan Cloak P.E., and an attorney, Mr. Mike Lozeou, Esq.

The Monterey Coastkeeper has appealed the Board's decision based on Mr. Cloak's analysis that the modification of required revision 3 indeed removes the LID requisite (Attachment 1). Further, as stated above, the Monterey Coastkeeper believes that required source control BMPs (with the exception that agricultural processing is allowed to occur outdoors as requested by Salinas Mayor Donohue and other comments) are the appropriate way to reach MEP.

Subsequent to the Board decision, CCRWQCB staff has restored the requirement for LID to the table of required revisions, consistent with Board intent. It became immediately apparent that Salinas did not agree with the CCRWQCB staff restoring the intent of required revision 3. The portion of our appeal dealing with required revision 3 is addressed by restoring the requirement for studies detailing pre- and post- project pollutant loads and flows and restoring the requirement for LID (including early planning and source control).

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<sup>1</sup> NPDES Permit R3-2004-135 at Attachment 4, page 6, #4.

The Board's intent to require LID has been stated clearly and repeatedly to Salinas as far back as December 23, 2005 in a letter from Executive Officer Briggs to Salinas Mayor Caballero, Council Members, and Salinas City Staff (Attachment 2). In our opinion, the disconnect between CCRWQCB staff and Salinas appears to be that Salinas interprets LID as treatment and does not recognize the importance of site planning and source control. In fact, in a report to the Salinas City Council, City Staff states "The NPDES permit requires that these new Stormwater Development Standards require the installation of stormwater treatment devices to capture and treat stormwater runoff in new development and significant redevelopment per numeric criteria listed in the Permit."

The second point of our appeal to the State Board refers to the stripping of the source control BMPs from required revision 4. The original supplemental sheet and table of required revisions includes the BMPs with accompanying text that states: "The source control best management practices contained in staff's required revisions are necessary to bring the Salinas development standards up to the MEP standard, and make the standards consistent with other Phase 1 municipalities in California." We find it difficult to understand how after a negotiation between CCRWQCB staff and Salinas' staff these BMPs appear to no longer be necessary. While some of these BMPs may be referred to in other sections of the document, Chapter 1 - where the original required revision inserts the BMPs - is the statement of requirements.

The day before the September 4 CCRWQCB meeting, a new supplemental was released striking the list of BMPs for new development. These BMPs require known and proven source controls such as:

A. Interior floor drains, elevator shaft sump pumps, and parking garge floor drains will be plumbed to the sanitary sewer.

D. Restaurants, grocery stores, and other food service operations shall have indoors or in a covered location outdoors, a floor sink or other area for cleaning mats, containers, and other equipment, plumbed to the sanitary sewer.

E. Refuse areas will be covered, graded, and paved to prevent run-on and bermed to prevent run-off, and any drains within these areas will be plumbed to the sanitary sewer.

These are known widely adopted source controls. As noted by Mr. Cloak and our original comments, most cities find these BMPs helpful because they reduce the costs of plan-checking. We request these BMPs be re-inserted into the table of required changes (Attachment 3).

The majority of outside comments objected to the BMP that states:

F. All industrial processes and activities are to be performed indoors, and no processes may drain to the exterior or the storm drain system.

We agree that this provision is problematic for agricultural processing operations that are sometimes performed outdoors. We can support language which states:

F. All industrial processes and activities, with the exception of agricultural processing and packing, are to be performed indoors, and no processes may drain to the exterior or the storm drain system. (Note: Our Attachment 3 reflects this change).

Thank you for your consideration. We look forward to being able to review a draft final table of required revisions before the December meeting.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. Shimek", with a stylized flourish at the end.

Steve Shimek  
Monterey Coastkeeper

# Dan Cloak Environmental Consulting

9 September 2008

Steve Shimek  
Executive Director  
Monterey Coastkeeper  
The Otter Project  
475A Washington Street  
Monterey, CA 93940-3060

Subject: Follow-up Comments on  
City of Salinas *Storm Water Development Standards*  
25 July 2008 Revision

Dear Steve:

This is to follow up our conversations last week and this morning regarding your recent discussions with Regional Water Board staff about changes to the City of Salinas Storm Water Development Standards.

You asked that I review the following two documents:

1. Item No. 8, Attachment No. 5, September 4-5 Meeting, Salinas Stormwater Development Standards (Attachment to Resolution R3-2008-0068)—“Attachment”.
2. Sections 4.4.2 and 4.4.3 of the July 25, 2008 Revision to the City of Salinas Storm Water Development Standards —“SWDS”.

with regard to whether the language in each is equivalent in intent or effect.

## **Attachment**

In the Attachment, Reference 3, Item 4 states:

For all new development and redevelopment projects that result in an increase of one acre or more of impervious surface, the project applicant shall demonstrate post-project runoff rates and durations do not exceed pre-project runoff rates and durations where such increases could accelerate downstream erosion or harm beneficial uses. The project applicant may demonstrate compliance with this requirement by either of the following methods:

- A. For each discrete drainage area, show runoff from impervious areas produced by the first 0.6 inches of rainfall is either (1) detained and infiltrated or (2) detained and allowed to infiltrate and/or seep away slowly, as occurs in a bioretention facility designed with a minimum 18 inches of soil, a design surface loading rate not exceeding 5 inches/hour, and a total volume (including surface detention, soil interstices, and subsurface storage) equal to the volume of runoff produced by the first 0.6 inches of rainfall on the drainage area tributary to the facility.
- B. Create [a] computer continuous simulation of runoff in the pre-project and post-project condition using 30 years or more of local hourly rainfall data. Analyze the resulting hourly runoff flows to show peaks and durations of runoff from the development will not increase significantly, or alternatively, show any increases of peaks and durations of flow in waterways downstream of the development will not accelerate stream erosion or harm beneficial uses.

## **SWDS**

In the SWDS, Section 4.4.2, "Volume-based Treatment Control BMPs" states in part:

The Salinas NPDES Permit indicates that volume-based treatment control BMPs must be designed to infiltrate or treat the calculated volume using one of the following methods:

- The volume of runoff produced by the 24-hour 85<sup>th</sup> percentile storm event (based on local rainfall records) using the maximized stormwater quality capture volume method (WEF/ASCE method 1998)
- An equivalent numeric sizing criteria as approved by the City Engineer

Section 4.4.3, "Flow-based Treatment Control BMPs" states in part:

The Salinas NPDES Permit indicates that flow-based treatment BMPs must be designed to infiltrate or treat the maximum flow rate produced by a rain event equal to two times the 85<sup>th</sup> percentile hourly rainfall intensity based on local rainfall records (CASQA method 2003). An approved equivalent numeric sizing criteria can also be adopted by the City.

## **Comparison**

The language in the Attachment and the language in the SWDS have different purposes and intent. They are neither equivalent in implementation nor equivalent in effect.

The language in the Attachment provides for hydromodification management and allows the use of LID to achieve hydromodification management (and treatment as well). In contrast, Sections 4.4.2 and 4.4.3 in the SWDS provide criteria for treatment.

These treatment standards are independent and separate from standards for hydromodification management and for LID and cannot be substituted for those standards.

The treatment standards referenced in the SWDS have been used since the 1990s and were never intended to provide hydromodification management. This is why the Regional Water Boards and State Water Board have been adding hydromodification management and LID standards to NPDES permits in addition to treatment standards.

The volume-based standard in Section 4.4.2 is based on detaining a portion of average annual runoff in a basin with a 48 hour drawdown time. The intent is to allow sufficient detention time for some of the pollutants to settle to the bottom of the detention basin prior to discharge from the basin. The standard does not ensure that discharges from the basin will mimic pre-project hydrologic conditions, nor that they discharge rates will be low enough to avoid downstream erosion. In fact, it is possible in some circumstances that basins can exacerbate downstream erosion by increasing the duration of erosive flows.

The flow-based standard in Section 4.4.3 simply provides a rate which must be accommodated by a treatment facility. The facility actually need provide little or no detention or mitigation of flow rates. (In practice, small “swirl concentrators,” which provide no mitigation of flow rates, and which are not effective in removing pollutants associated with small particles, are often used to meet this standard.)

Because the applicant has the option of using either the volume-based standard or the flow-based standard, Sections 4.4.2 and 4.4.3—taken together—provide zero assurance that hydrograph modification management or LID will be implemented on a particular project.

If the proposed hydromodification and LID standards are removed and the volume-based and a reference to the flow-based treatment standards in Sections 4.4.2 and 4.4.3 substituted in their place, then that would effectively eliminate the requirement for on-site hydrograph modification management in the SWDS. (The

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peak-flow-based standard in SWDS Section 1.5.3 does not provide for effective on-site flow control, for the reasons stated in my 5 August 2008 letter.)

Very truly yours,  
DAN CLOAK ENVIRONMENTAL CONSULTING

A handwritten signature in black ink that reads "Dan Cloak". The signature is written in a cursive, flowing style.

Dan Cloak  
Principal



Alan C. Lloyd, Ph.D.  
Agency Secretary

# California Regional Water Quality Control Board

## Central Coast Region



Arnold Schwarzenegger  
Governor

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December 23, 2005

Ms. Caballero:

**RE: CITY OF SALINAS STORM WATER PERMIT MAXIMUM EXTENT PRACTICABLE STANDARD AND LOW IMPACT DEVELOPMENT TECHNIQUES; R3-2004-0135; MONTEREY COUNTY**

The City of Salinas (City) representatives have verbally asked what the baseline Design Standards and Ordinances must encompass to comply with the Waste Discharge Requirements for the City of Salinas Municipal Storm Water Discharges ("Salinas Permit", which includes Order No. R3-2004-0135 and all Attachments). Additionally, the City has informally inquired whether Low Impact Development technology is a requirement for new and re-development. To answer these questions, we have compiled excerpts from the Salinas Permit. The City must abide by all aspects of the Salinas Permit, however the following Permit sections will provide background for the discussion to follow.

The Salinas Permit states:

- a. "Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance... in waters of the State of California are prohibited." (Salinas Order, Discharge Prohibition A.1);
- b. "Discharges from MS4s containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP) are prohibited." (Salinas Order, Discharge Prohibition A.2);
- c. "...The Code of Federal Regulations (40 CFR 122.26(d)(2)(iv)) requires storm water permittees to implement BMPs to reduce pollutants in storm water discharges to the maximum extent practicable. BMPs are described in the Permittee's SWMP." (Salinas Order, Effluent Discharge Limitations B.1);
- d. "Discharges from the MS4 of storm water, or non-storm water for which a Permittee is responsible, shall not cause or contribute to a condition of nuisance in Receiving Waters." (Salinas Order, Receiving Water Limitations C.2);
- e. "The SWMP shall be designed to achieve compliance with Receiving Water Limitation(s) to the MEP." (Salinas Order, Receiving Water Limitations C.3);

**California Environmental Protection Agency**



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- f. "MEP is generally a result of *emphasizing pollution prevention and source control BMPs as the first lines of defense* in combination with structural and treatment methods where appropriate serving as additional lines of defense. The MEP approach is an ever evolving, flexible, and advancing concept, which considers *technical and economic feasibility*. For purposes of this Permit, the Regional Board will determine compliance with the MEP standard based on the terms of the Permit, including Attachment 4; and State Board decisions or guidance, *EPA regulations and guidance* and applicable case law defining MEP." (Salinas Order, Finding 16, italics added).

Traditional development and re-development techniques typically cause and threaten to cause pollution, contamination, and nuisance through increased storm water runoff volumes, rates, and temperatures. Excess storm water runoff also acts to carry urban pollutants to receiving waters quickly and efficiently (which is not desirable). Traditional methods of storm water conveyance and end-of-pipe basins are marginally effective at mitigating erosion, sedimentation, urban pollutant removal, and thermal impacts in receiving waters. The Salinas Permit Attachment 4 is very specific about particular site plan development principles that must be incorporated to meet MEP in order to address urban runoff impacts. In particular are the following excerpts from Attachment 4 of the Salinas Permit (italics added):

1. *Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and use on-site infiltration of runoff* in areas with appropriate soils where the infiltration of storm water would not pose a potential threat to groundwater quality (Attachment 4, III.a.i.1);
2. Implement pollution prevention methods supplemented by pollutant source controls, and if source controls are not practicable, by treatment controls. Where practical, use strategies that control the sources of pollutants or constituents to *minimize the transport of storm water and pollutants offsite* and into MS4s (Attachment 4, III.a.i.2);
3. *Preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands and buffer zones* (Attachment 4, III.a.i.3);
4. *Limit disturbances of natural water bodies and natural drainage systems* caused by development within Permittee's jurisdictional authority, including roads, highways, and bridges (Attachment 4, III.a.i.4);
5. Require developers to prepare and submit studies analyzing pre- and post-project pollutant loads (including sediment) and flows resulting from projected future development. Require incorporation of structural and non-structural *BMPs to mitigate the projected increases in pollutant loads in runoff* (Attachment 4, III.a.i.5);
6. Implement source and/or treatment controls as necessary to *protect downstream receiving water quality from increased pollutant loads in runoff flows from new development and significant redevelopment* (Attachment 4, III.a.i.7); and
7. *Control the post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat* (Attachment 4, III.a.i.8).

The US Environmental Protection Agency (EPA) published the "National Management Measures to Control Nonpoint Source Pollution from Urban Areas" (November 2005, EPA-841-B-05-004) which also

gives specific guidance on new and re-development principles. The first few pages of Chapter 4, "Site Development", and Chapter 5, "New Development Runoff Treatment" contain a list of the primary principles, and are copied and attached to this letter.<sup>1</sup> **The overriding concern in the Salinas Permit and EPA guidelines is reducing urban impacts to receiving waters by maintaining predevelopment hydrology, which in turn minimizes urban pollutants reaching waterways. These goals are achieved by designing sites that disturb (starting from the site layout, and grading and compaction phases of construction) only the smallest area necessary, minimize soil compaction and imperviousness, preserve natural drainages, vegetation, and buffer zones, and utilize on-site, lot-sized storm water treatment techniques. These principles and techniques are collectively known as "Low Impact Development, (LID)".** At the core, LID technology is a collection of methods, beginning with site design, which a developer may choose from in order to reach **the ultimate goal of having post-development hydrology match pre-development hydrology.** The added goal of minimizing pollutant transport and maximizing on-site pollutant treatment is an added benefit gained from utilizing LID techniques. LID techniques have been employed by various municipalities nationwide, and worldwide, and have been shown to be effective and feasible methods of preventing urban development impacts to receiving waters. In many cases, the cost of low-impact development is lower than traditional development, both in terms of construction costs and costs to maintain infrastructure and BMPs. Because LID techniques are effective, feasible and economically practicable, they meet the MEP definition. The Salinas Permit requires the City to meet MEP. MEP is defined by what is required in the Permit, EPA guidance, and current applied and available methods and technology. The methods collectively called "Low Impact Development" meet the MEP definition. The City must, therefore, incorporate LID methodology into new and redevelopment ordinances and design standards unless the City can demonstrate that conventional BMPs are equally effective, or that conventional BMPs would result in a substantial cost savings while still adequately protecting water quality. In order to justify using conventional BMPs based on cost, the City would have to show that the cost of low impact development would be prohibitive because the "cost would exceed any benefit to be derived." (State Water Resources Control Board Order No. WQ 2000-11.) The City must provide convincing arguments if the City fails to incorporate low impact development principles. Conventional site layouts, construction methods, storm water conveyance systems with "end of pipe" basins and treatment systems that do not address the changes in volume and rates of storm water runoff and urban pollutants (including thermal pollution) do not meet MEP standards where low impact development is more effective at reducing pollutants in storm water runoff at a practicable cost.

We hope that the information in this letter helps clarify the requirements of the Salinas Permit. If you have questions, please contact Donette Dunaway at (805) 549-3698 or [ddunaway@waterboards.ca.gov](mailto:ddunaway@waterboards.ca.gov).

Sincerely,



Roger W. Briggs  
Executive Officer

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<sup>1</sup> A complete copy of the EPA document is available at  
[http://www.epa.gov/owow/nps/urbanmm/pdf/urban\\_guidance.pdf](http://www.epa.gov/owow/nps/urbanmm/pdf/urban_guidance.pdf)

Attachment: EPA document, "National Management Measures to Control Nonpoint Source Pollution from Urban Areas", excerpts from Chapters 4 and 5.

Cc: City Council Members:

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## **Attachment 3**

### **Section 1.5.5 BMP Implementation**

The BMPs selected for implementation for new development and significant redevelopment projects shall:

1. Have pollutant prevention and minimize the exposure of potential pollutants to rainwater (source control BMPs) as the first consideration in stormwater design. The applicant's Storm Water Control Plan shall identify each potential source within the project and incorporate corresponding source control BMPs into the project design, including the following:
  - A. Interior floor drains, elevator shaft sump pumps, and parking garage floor drains will be plumbed to the sanitary sewer.
  - B. Landscaping shall use pest-resistant plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions so as to minimize the need for fertilizers and pesticides.
  - C. Pools, spas, ponds, decorative fountains, and other water features shall have a sanitary sewer cleanout located in an accessible area within 10 feet.
  - D. Restaurants, grocery stores, and other food service operations shall have indoors or in a covered location outdoors, a floor sink or other area for cleaning floor mats, containers, and other equipment, plumbed to the sanitary sewer.
  - E. Refuse areas will be covered, graded, and paved to prevent run-on and bermed to prevent runoff, and any drains within these areas will be plumbed to the sanitary sewer.
  - F. All industrial processes and activities, with the exception of agricultural processing and packing, are to be performed indoors, and no processes may drain to the exterior or the storm drain system.
  - G. Outdoor storage areas shall be covered, graded, and bermed to prevent run-on or run-off from the area. Storage of hazardous materials or hazardous wastes must be in compliance with local ordinances and the Hazardous Materials Management Plan for the site.
  - H. Vehicle washing shall be prohibited on-site unless an area designed for that purpose (that does not drain to the storm drain system) is provided.
  - I. No vehicle repair or maintenance may be done outdoors.
  - J. Fueling areas must be paved with Portland cement concrete or other equivalently smooth and impermeable surface and equipped with an overhanging roof or canopy that extends beyond grade breaks around the fueling area.
  - K. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area.

L. Where fire sprinklers are blown down, a means must be provided to avoid discharge of fire sprinkler test water to storm drains.

M. Boiler drain lines, condensate drain lines, rooftop mounted equipment, and drainage sumps may not discharge to storm drains.