



Linda S. Adams  
Agency Secretary

# California Regional Water Quality Control Board

## Central Coast Region



Arnold Schwarzenegger  
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November 13, 2008

Ms. Suzanne Healy  
City of Santa Cruz  
809 Center Street, Room 201  
Santa Cruz, CA 95060

Dear Ms. Healy:

### **WATER BOARD STAFF COMMENTS ON DRAFT STORM WATER MANAGEMENT PROGRAM DATED OCTOBER 24, 2008, CITY OF SANTA CRUZ, SANTA CRUZ COUNTY**

On October 23, 2008, the Central Coast Water Quality Control Board (Water Board) received the City of Santa Cruz (City) Draft Storm Water Management Plan (SWMP). Water Board staff has reviewed the October 24, 2008 Draft SWMP and we have identified improvements the City must make for us to recommend approval of the SWMP. Please see the attached draft Table of Required Revisions. Please respond with a further revised SWMP, or comments describing further revisions to the SWMP, prior to the Water Board's final review and consideration of public comment. The following sequence of events describes an optimal process for final review of the SWMP:

Water Board staff plans to:

- 1) Post the attached draft Table of Required Revisions on or prior to November 14, 2008, on the same webpage where the SWMP will be posted for the 60-day public comment period. Water Board staff will announce the web posting, including web address, to all known interested persons by email.
- 2) At the close of the 60-day public comment period on approximately January 13, 2009, Water Board staff will review comments received on the SWMP from the public, including comments from the City describing their revisions to the SWMP.
- 3) Water Board staff will prepare a final Table of Required Revisions and a final recommendation on the adequacy of the SWMP. Staff will also prepare a response to comments received during the 60-day public comment period.
- 4) If Water Board staff recommends approval of the SWMP, the Water Board's Executive Officer may approve the SWMP and coverage under the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (General Permit), contingent on the City making the required revisions to its SWMP by a date certain (generally within 60 days of the approval letter). The Executive Officer will post the approval letter with required revisions on the Water Board website.
- 5) Alternatively, if a member of the public or the City requests a Water Board hearing during the 60-day public comment period, Water Board staff will provide recommendations to the Water Board on the City's SWMP (with the required revisions) at the March 20, 2009 Water Board Meeting.

***California Environmental Protection Agency***



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## **Developing Interim Hydromodification Control Criteria as Effective as Water Board Staff's Proposed Criteria**

In this letter, we are also providing clarification regarding how interim hydromodification control criteria developed by the City will be reviewed by Water Board staff. At the recent Water Board public hearing for approval of the City of Lompoc's SWMP, Water Board staff was directed by the Water Board to ensure that any interim hydromodification control criteria developed by the City of Lompoc be as effective as the interim hydromodification control criteria we presented in our February 15, 2008 letter. Those criteria are as follows:

- For new and re-development projects, Effective Impervious Area shall be maintained at less than five percent (5%) of total project area.
- For new and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, the post-construction runoff hydrographs shall match within one percent (1%) the pre-construction runoff hydrographs, for a range of events with return periods from 1-year to 10-years.
- For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration.

Based on the Water Board's direction regarding the City of Lompoc's SWMP, Water Board staff has determined it appropriate to require similar language in other municipalities' SWMPs. Therefore, Water Board staff has included language in the attached draft Table of Required Revisions requiring your interim hydromodification criteria to be as effective as the criteria outlined above. Water Board staff expects that implementation of these criteria, together with other planning efforts that contribute to long-term watershed protection, will promote the following desired conditions of healthy watersheds:

- 1) Rainfall surface runoff at pre-development levels,
- 2) Watershed storage of runoff, through infiltration, recharge, baseflow, and interflow, at pre-development levels,
- 3) Watercourse geomorphic regimes within natural ranges (stream banks are stable within natural range; sediment supply and transport within natural ranges), and
- 4) Optimal riparian and aquatic habitats.

Interim hydromodification control criteria primarily focus on items 1 and 2 above. Therefore, Water Board staff will review interim hydromodification control criteria developed by MS4s to ensure that they:

- 1) Provide numeric thresholds that demonstrate optimization of infiltration in order to approximate natural infiltration levels (such as would be achieved by full implementation of all appropriate low-impact development practices), and
- 2) Achieve post-project runoff discharge rates and durations that do not exceed estimated pre-project levels, where increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses.

At the public hearing on the City of Lompoc SWMP, the Water Board also directed Water Board staff to provide an opportunity for comment on Water Board staff's eventual determination regarding the City of Lompoc's pending interim hydromodification control criteria, and a hearing, if requested, if any party is aggrieved by the determination. In other words, the criteria of the February 15, 2008 letter may only be used as a default set of criteria if the City of Lompoc does not, within one year, develop approvable interim hydromodification control criteria of their own that we agree are as effective as our stated interim criteria. If the City of Lompoc's proposed



criteria are not as effective and we must further condition our approval (either to the exact numerics of our interim criteria or something in-between), AND, the City of Lompoc still finds those conditions unacceptable, the City of Lompoc and other parties will have an opportunity for a Water Board hearing. Water Board staff has determined that this process is beneficial and should be expanded to other municipalities. Therefore, we intend to follow this process during review and approval of the City of Santa Cruz's SWMP. We have included language to this effect in the draft Table of Required Revisions and request you include it in your SWMP.

If you have questions regarding this matter, please contact **Phil Hammer** at (805) 549-3882, or Matt Thompson at (805) 549-3159.

Sincerely,



Roger W. Briggs  
Executive Officer

cc: Steve Shimek, Monterey Coastkeeper (by electronic mail)

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**DRAFT TABLE of REQUIRED REVISIONS**  
**City of Santa Cruz Draft Storm Water Management Program (SWMP)**

Acronyms/Abbreviations:

- BMP - Best Management Practice
- City - City of Santa Cruz
- LID - Low Impact Development
- SWMP - Storm Water Management Plan
- TMDL - Total Maximum Daily Load
- Water Board - Central Coast Regional Water Quality Control Board

<b>Item Number</b>	<b>SWMP Section</b>	<b>Subject</b>	<b>Issue</b>	<b>Required Revisions</b>
1	Municipal Facilities and Site Specific Operations	Inspections	The SWMP discusses inspections of municipal operations and facilities, but does not confirm that the inspections ensure adequate implementation of all applicable storm water BMPs.	Clarify that all inspections of municipal operations and facilities will ensure adequate implementation of all applicable storm water BMPs.
2	BMP # PP-2	Measurable Goals	The SWMP discusses the City initiating contact with several business groups and associations, but is unclear regarding the frequency of the contact. Table 3-1 mentions "annual contact," but it is not clear if each of these groups and associations will be contacted annually or if just some subset will be contacted annually.	Clarify in BMP # PP-2 the frequency of contact the City will conduct for each of the business groups and associations listed.
3	BMP # PE-5	BMP Brochures	The SWMP does not state how the City will distribute BMP brochures addressing restaurants and post-construction BMPs.	Explain in BMP # PE-5 how the City will distribute BMP brochures addressing restaurants and post-construction BMPs.
4	BMP # PE-18	Surveys	The SWMP is unclear regarding the type, number, and frequency of surveys the City will conduct.	Identify in BMP # PE-18 the type, number, and frequency of surveys the City will conduct.
5	BMP # CON-	Inspections	The SWMP states that construction	Include in BMPs # 4-3 and 4-4 a statement

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	1		<p>projects will be inspected following rain events. However, inspections conducted after rain events are too late to ensure adequate BMPs are in place while rain events are occurring. Inspections conducted prior to well-forecasted rain events are more likely to be effective in ensuring adequate BMP implementation during rain events.</p>	<p>that the City will conduct inspections prior to well-forecasted rain events at high priority construction projects.</p>
6	BMP # PC-3	Alternative Interim Hydromodification Criteria	<p>The schedule for developing alternative interim hydromodification criteria does not specify time for Water Board staff review. The SWMP also does not identify the goals and expected effectiveness of the alternative interim hydromodification criteria.</p>	<p>Revise the SWMP to include a schedule for developing interim hydromodification control criteria, including a period of no less than three (3) weeks to allow for Water Board staff's review of the proposed criteria. The revised SWMP shall state that any interim hydromodification control criteria (numeric and non-numeric) proposed by the City will be submitted within one year of enrollment and should take into account the ability to maximize infiltration of clean storm water, minimize runoff volume and rate, serve as a useful quantifiable measure of healthy watersheds, and be consistent with the intended goals of the Water Board including, but not limited to, healthier and more sustainable watersheds by 2025. The revised SWMP shall state the proposed criteria will be as effective as the following:</p> <ul style="list-style-type: none"> <li>• For new and re-development projects, Effective Impervious Area<sup>1</sup> shall be maintained at less than five</li> </ul>

<sup>1</sup> Effective Impervious Area is that portion of the impervious area that drains directly to a receiving surface waterbody via a hardened storm drain conveyance without first draining to a pervious area. In other words, impervious surfaces tributary to pervious areas are not considered Effective Impervious Area.

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				<p>percent (5%) of total project area.</p> <ul style="list-style-type: none"> <li>For new and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, the post-construction runoff hydrographs shall match within one percent (1%) the pre-construction<sup>2</sup> runoff hydrographs, for a range of events with return periods from 1-year to 10-years.</li> <li>For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream<sup>3</sup> or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration.</li> </ul> <p>The SWMP should also explain the following:                      The Water Board Executive Officer will notify the City and other interested persons of the acceptability of the City's proposed interim hydromodification control criteria for new and re-development. The Water Board shall provide interested persons the opportunity for comment and a hearing, if requested, before the Water Board if any party is</p>

<sup>2</sup> Pre-construction condition is defined as undeveloped soil type and vegetation.

<sup>3</sup> A first order stream is defined as a stream with no tributaries.

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				aggrieved by the Water Board staff's determination, prior to Water Board action being final.
7	BMP # PC-3	Alternative Interim Hydromodification Criteria	The SWMP is unclear regarding when the City will begin applying the alternative interim hydromodification criteria to new development and redevelopment projects.	Include a statement in BMP # 5-2 that the City will begin applying the alternative interim hydromodification criteria to new development and redevelopment projects within one year of approval of the SWMP by the Water Board.
8	Post-Construction	Application of New Design Standards	The SWMP does not identify the stage in the project planning, design, and funding process that the City will use as the cut-off point to determine which projects in the development review pipeline will be subject to new design requirements, such as alternative interim hydromodification criteria.	Identify the stage in the project planning, design, and funding process that the City will use as the cut-off point to determine which projects in the development review pipeline will be subject to new design requirements. For projects in the planning, design, and funding process at the time the new design requirements take effect, the cut-off point must be chosen in order to apply the new design requirements to as many projects as is feasible.
9	BMP # PC-4	Hydromodification Management Plan	The SWMP does not commit the City to having long-term hydromodification criteria in place and implemented by the end of Year 5.	Include a statement in the SWMP committing the City to having long-term hydromodification criteria in place and implemented by the end of Year 5.
10	BMP # PC-4	Hydromodification Management Plan	While the SWMP discusses development of alternative interim hydromodification criteria, it does not clearly describe the process the City will follow to develop long-term hydromodification criteria as part of a Hydromodification Management Plan.	Include a BMP describing how and when the City will develop long-term hydromodification criteria and control measures as part of a Hydromodification Management Plan that will be based on a technical assessment of the impacts of development on the City's watersheds. An adequate technical assessment will address the following: <ul style="list-style-type: none"> <li>• Hydrograph modification (flow volume, duration, and rate);</li> </ul>

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				<ul style="list-style-type: none"> <li>• A wide range of flow events and continuous flow modeling;</li> <li>• Effects of imperviousness;</li> <li>• Evaluation of downstream effects (stream stability);</li> <li>• Buffer zone requirements; and</li> <li>• Water quality impacts.</li> </ul> <p>The assessment should result in:</p> <ul style="list-style-type: none"> <li>• Numeric criteria for runoff rate, duration, and volume control for development and redevelopment projects;</li> <li>• Numeric criteria for stream stability impacts for development and redevelopment projects;</li> <li>• Identification of areas within the City where these criteria must be met;</li> <li>• Specific performance and monitoring criteria for installed hydromodification control infrastructure;</li> <li>• Riparian buffer zone requirements; and</li> <li>• Appropriate hydromodification control measures such as LID concepts, on-site hydrologic and water quality controls, and in-stream controls.</li> </ul> <p>Identify the key steps in the process that will be used to develop the Hydromodification Management Plan. Examples of steps that should be considered include:</p> <ul style="list-style-type: none"> <li>• Development of problem statement and objectives;</li> </ul>

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				<ul style="list-style-type: none"> <li>• Review of literature and data availability;</li> <li>• Characterization of watershed and future development patterns;</li> <li>• Determination of assessment methodology;</li> <li>• Development of criteria and guidance; and</li> <li>• Development of an implementation strategy.</li> </ul>
11	BMP # PC-5	Long-Term Watershed Protection	While the SWMP discusses long-term watershed protection within the context of the General Plan, it does not discuss incorporating long-term watershed protection into other planning processes (land use policies, plans, ordinances, guidance manuals, development project review procedures, etc.). To ensure the goal of long-term watershed protection is achieved, the City must develop quantifiable measures for watershed protection as part of this planning.	<p>Include in BMP # PC-5 a discussion stating how and when the City will:</p> <ul style="list-style-type: none"> <li>• Develop quantifiable measures that indicate how the City's watershed protection efforts achieve desired watershed conditions;</li> <li>• Evaluate existing watershed protection planning efforts, including: land use policies, plans, ordinances, guidance manuals, development project review procedures, etc.; and</li> <li>• Adapt or change the existing efforts as needed to achieve long-term watershed protection.</li> </ul>
12	Addressing TMDLs in the SWMP	Program Goals	The SWMP states that a "goal of the SWMP is not to target BMPs to specific geographic areas but to implement the BMPs throughout the management area in order to reduce controllable sources of sediment and pathogens associated with the storm drain system to the maximum extent practicable." However, the SWMP must also acknowledge another goal, which is to	Include in the SWMP the goal to achieve wasteload allocations in watersheds where TMDLs have been adopted.

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			<p>achieve wasteload allocations in watersheds where TMDLs have been adopted. The City may need to implement targeted BMPs to achieve this goal.</p>	
13	Addressing TMDLs in the SWMP	Wasteload Allocation Attainment Plans	<p>The SWMP contains a significant commitment to develop many components of Wasteload Allocation Attainment Plans for sediment and pathogens TMDLs within the City. However, the SWMP does not include commitments to implement several critical components of Wasteload Allocation Attainment Plans. The City must commit to implementing these Wasteload Allocation Attainment Plan components in order to help ensure wasteload allocations will be achieved within the specified timeframe.</p> <p>We strongly recommend compiling all aspects of the Wasteload Allocation Attainment Plans in a single location within the SWMP, to better support reporting and review of progress towards achieving wasteload allocations.</p>	<p>Include BMPs to develop and implement the following Wasteload Allocation Attainment Plan components:</p> <ul style="list-style-type: none"> <li>• A strategy that will be used to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations;</li> <li>• A method to analyze the connection between BMP implementation and wasteload allocation attainment, based on the expected wasteload reductions attributable to the BMPs to be implemented;</li> <li>• A method for modifying and improving BMPs determined to be ineffective during effectiveness assessments;</li> <li>• Reporting of BMP implementation, assessment, and other factors, as well as an evaluation of progress towards achieving wasteload allocations; and</li> <li>• Mechanisms to collaborate with other agencies, stakeholders, and the public on BMP development, implementation, and assessment.</li> </ul>
14	BMPs #	Non-Committal	The SWMP indicates that critical	Remove the words <i>possible</i> and <i>possibly</i>

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	TMDL-3 and 8	Language	aspects of these BMPs will <i>possibly</i> be implemented. Such language does not provide incentive for implementation of the BMPs and fails to ensure that the BMPs will be implemented.	from the BMP descriptions.
15	SWMP Program Management	Effectiveness Assessment	The SWMP states that an effectiveness assessment strategy will be developed in Year 4, but does not commit to continuing assessment of Level 1 outcomes during that time. At a minimum, Level 1 outcomes must continue to be assessed while an effectiveness assessment strategy is developed.	Include a statement that the City will continue to assess Level 1 outcomes during Year 4.
16	SWMP Program Management	Effectiveness Assessment	The SWMP includes a commitment by the City to use Level 1 outcomes, but does not identify the extent to which Level 1 outcomes will be used for assessment.	Include a statement that the City will use Level 1 outcomes to assess the effectiveness of all applicable BMPs.
17	SWMP Program Management	Effectiveness Assessment	The SWMP includes a commitment by the City to use the California Stormwater Quality Association's <i>Municipal Stormwater Program Effectiveness Assessment Guidance</i> as the basis for its effectiveness assessment strategy, but does not discuss integrated assessments, which are a critical component of the guidance. Integrated assessment, or the establishment of links between BMP/program implementation and improvement in water quality and beneficial use conditions, is necessary in order to have confidence that	Include a statement that the effectiveness assessment strategy will seek to identify links between BMP/program implementation and improvement in water quality and beneficial use conditions.

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			activities being implemented are having a positive effect on water quality and beneficial uses.	
18	Multiple	Non-Committal Language	The SWMP states that the City will develop several BMPs depending upon budget conditions. Such language does not provide incentive for implementation of the BMPs and fails to ensure that the BMPs will be implemented.	Remove the language <i>budget dependent</i> and similar language from BMPs # MO-3, MO-8, PE-17, PE-18, PC-7, and other BMPs where the language appears.