



California Regional Water Quality Control Board

Santa Ana Region



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Matthew Rodriquez
Secretary for
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Edmund G. Brown Jr.
Governor

October 18, 2011

Mr. Granville M. Bowman
San Bernardino County Stormwater Program
825 East Third Street
San Bernardino, CA 92413-0835

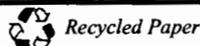
COMMENTS ON THE TECHNICAL GUIDANCE DOCUMENT FOR WATER QUALITY MANAGEMENT PLANS, WATER QUALITY MANAGEMENT PLAN TEMPLATE, AND ROAD PROJECT BMP GUIDANCE FOR THE COUNTY OF SAN BERNARDINO AND THE INCORPORATED CITIES; ORDER NO. R8-2010-0036, NPDES NO. CAS618036

Dear Mr. Bowman:

Section XI.D.2 of Order No. R8-2010-0036, NPDES No. CAS618036 (Order or MS4 Permit), requires the Permittees to submit a revised Water Quality Management Plan (WQMP) Guidance and Template within 18 months of Permit adoption that incorporates new elements in the Order. On July 29, 2011, the Permittees submitted a Technical Guidance Document for Water Quality Management Plans (TGD-WQMP), WQMP Template (Template), and the Road Project BMP Guidance. We commend the Permittees for developing these as user-friendly documents with due diligence and care. We have a few comments on these documents:

1. Table 1-1 of the TGD-WQMP (page 1-6) lists all the priority projects that are subject to the WQMP requirements. However, please note that the non-priority projects may be subject to site design and source control BMPs.
2. Page 4-3 of the TGD-WQMP specifies the use of either the San Bernardino County Hydrology Manual or Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986) for conducting hydrologic analysis. It also states in Section 4.2.1 that where inconsistencies in curve numbers exist between the two methods, the San Bernardino County Hydrology Manual should take precedence. If the Permittees have already conducted an evaluation of the two methods, please discuss the results of this evaluation and the conditions under which significant deviations could be expected. It should also state if one method is preferred over the other under certain conditions.
3. The hyperlink for the NRCS Technical Release 55 (TR-55) method listed in Section 1.4 of the TGD-WQMP (page 1-4) and Section 4.2 of the Template may not be correct; please check and correct.

California Environmental Protection Agency



4. Section 5.3.2.1 of the TGD-WQMP (page 5-9) lists several conditions that would prohibit the use of infiltration BMPs. However, the plan failed to address a portion of the groundwater protection requirements that are listed in Section XI.D.8.a-i of the MS4 Permit. Please indicate if these requirements are addressed elsewhere in the document.
5. Figure 5-1 of the TGD-WQMP (page 5-8): The On-site LID BMP Selection and Evaluation Flowchart shows a decision point in the middle of the flow chart stating that if less than 50% of the design capture volume (DCV) is addressed using infiltration or harvest and use BMPs, on-site retention is infeasible and biotreatment BMPs should be used for the full DCV. This is also repeated on pages 5-29 and 5-30, Section 5.5. In this scenario, it appears that if retention BMPs or biotreatment BMPs can only address less than 50% of the DCV, then retention and biotreatment BMPs are deemed infeasible (see first sentence in Paragraph 5 of Section 5.5, page 5-29). This is not consistent with the Permit requirements. This section references the Orange County Technical Guidance Document. Please note that the Orange County Technical Guidance Document uses a 40% threshold and this section of the Orange County Technical Guidance Document is currently being debated and may undergo further changes. Also, explanation in Step 3 below the flowchart on Page 5-8 does not fully agree with the flow chart. It states that if onsite retention of the full DCV is not feasible, then biotreatment BMPs must be selected and evaluated for the remaining DCV, if feasible. This bullet indicates a combination of retention and biotreatment in accordance with the hierarchy established in the Permit. These discrepancies should be rectified and these sections should be made consistent with the Permit requirements.
6. Section 5.3.2.2 of the TGD-WQMP (page 5-10), Harvest and Use BMPs: This section identifies that harvest and use BMPs need not be considered if it is in conflict with local codes or ordinances. Please note that the Permittees are required to review their codes and ordinances that are an impediment to LID and other storm water BMP implementation. Section XI.E.1 of the MS4 Permit requires Permittees to evaluate potential barriers and facilitate implementation of LID principles.
7. Table 5-4 of the TGD-WQMP (page 5-13) specifies use of the default 48 hour drawdown time for infiltration BMPs. Please provide a rationale for this drawdown time as most vector districts accept a drawdown time from 72 to 96 hours.
8. Section 5.4.4.2 of the TGD-WQMP (page 5-27), 2nd paragraph, states that "flow-based BMPs was evaluated using a simplified continuous simulation analysis of precipitation, runoff, treatment, and overflow..." Please clarify whether the

precipitation mentioned in this statement refers to a single storm event or a long-term average annual runoff. Also, explain how the overflow was determined.

9. Section 5.4.4.2, 1st and 2nd paragraphs, of the TGD-WQMP (page 5-27) includes a discussion regarding the flow-based biotreatment BMPs and how the flow capacity for sizing these BMPs (Figure 5-2) is derived. Although we find this information useful, the discussion seems incomplete and some of the technical information (see comment No. 8, above) appears to be missing. We suggest that additional information regarding the analysis be included in the discussion or added in an appendix.
10. The TGD-WQMP should include a statement that states that any non-substantive updates to the TGD-WQMP, Template, and Road Project BMP Guidance and Template will be provided in the annual report. Substantive updates must be submitted to Regional Board staff for review and approval prior to implementation.
11. The TGD-WQMP fails to mention when the requirements will become effective once the updated TGD-WQMP and Template are approved (Section XI.E.9 states that these would become effective within 90 days of approval).
12. Section 5.6.2.1, 3rd paragraph (page 5-35) states "detention/retention basins should be designed to receive from developed areas only...to avoid intercepting coarse sediments from open space that should ideally be passed through to the stream channel." While we agree with this approach for unimproved open space not impacted by anthropogenic activities, the definition for open space in the MS4 Permit includes open space use for outdoor recreation. Runoff from outdoor recreational areas could be routed to detention/retention basins.
13. Section 6.2.1 of the TGD-WQMP (page 6-4) indicates that "developments that contribute to an urban runoff fund" can be considered for water quality credits. However, it is not included in Section XI.G.4 of the MS4 Permit and Table 6-1 of the TGD-WQMP. It is not clear how such credits will be applied or if the water quality credit system is appropriate for this and other categories of projects identified on this page.
14. Pages 5-11 and 7-6 of the TGD-WQMP reference the requirements of the Water Conservation in Landscaping Act of 2006, Assembly Bill 1881. Section XI.E.2 of the MS4 Permit requires that each Permittee provide the Regional Board a copy of its report to Department of Water Resources regarding the State Model Water Efficient Landscape Ordinance. Please discuss the status of this report.

15. Form 3-3 of the Template refers to the San Bernardino County's Geodatabase for information regarding the receiving waters and 303(d) listed impairments, but it appears that some of this information is not available in the current version of the Geodatabase. Although the Geodatabase does provide information regarding nearby drainage facilities and storm drains, it does not provide sufficient information for a project proponent to determine which receiving water a particular site will drain to. In addition, the Geodatabase provides a data layer that lists all the water bodies that are currently listed on the 303(d) list but no information regarding pollutants causing the impairment is given. If that information is available in the Geodatabase, but not readily apparent, some explanation should be included in the Template to facilitate access to the information.

16. The following typographical errors in the TGD-WQMP and Template should be corrected:

- In Table 5-6 of the TGS-WQMP (page 5-26), BMP type "Bioswale/Vegetated filter strip", the variable *d* should equal to depth of flow (ft), vegetated filter strip not to exceed 1", bioswale not to exceed 2" if ~~mowed~~ **mowed** or 4" is **if** not mowed.
- Page 2-1, Appendix B, WQMP Template: Delete the letter "d" in Form 2.1-1 (item #5).
- Page 4-1, Appendix B, WQMP Template: The word "Forms" is repeated in Section 4.1.1, 2nd paragraph.
- Page 4-1, Appendix B, WQMP Template: Delete the repeated phrase "Proceed to" in Form 4.3-1 (item #9).

17. We found the following discrepancies between the formulas shown in the TGD-WQMP and the WQMP Template in Appendix B:

- Form 4.3-2, item #19: The formula shown in the form is inconsistent with the formula listed in Table 5-4 of the TGD-WQMP.
- Form 4.3-3, item #7: The formula shown in the form is inconsistent with the formula listed in Table 5-4 of the TGD-WQMP.
- Form 4.3-4, item #12: The formula for determining whether the use of harvest and use BMPs is feasible should be:

[Item 5 6 / (Form 3-2 Item 2 / 43560)]

- Form 4.3-5, item #1: The formula for calculating the remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMPs for potential biotreatment should be:

Form 4.2-1 Item 7 - Form 4.3-2 Item 28 **30** – Form 4.3-3 item 15 – Form 4.3-4 Item 9

- Form 4.3-6, item #14: The formula shown in the form is inconsistent with the formula listed in Table 5-6 of the TGD-WQMP.

18. The wording for Form 4.3-5, item #8 of the WQMP Template is not clear. Please revise to state "Fraction of remaining unmet LID DCV *achieved with on-site volume-based biotreatment BMPs.*" Also, we cannot find Form 4.4-7 referenced in this section.

19. Page 1-2 of Appendix A, Road Project BMP Guidance, Project Stage: Please explain the non-applicability of the Road Guidance to projects that have received CEQA approval, including shelved projects where construction has not yet started. The response must consider the requirements of Section XI.F.2 of the Order that specifies that the Permittees implement the standard design and post-development plan for all municipal road projects within six months of approval by the Executive Officer.

20. The Road Project BMP Guidance and Template needs to include more details to demonstrate that a project meets the performance criteria for site design/LID BMPs, source control and treatment control BMPs and does not cause a hydrologic condition of concern (HCOC) as specified in Section XI.F.1 of the MS4 Permit.

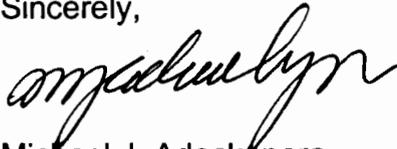
21. Page 3-2, Appendix A, Minimizing Street Widths: Item b. references the USEPA Municipal Handbook, Managing Wet Weather with Green Infrastructure: Green Streets for examples of minimum widths for several cities in the U.S. Please discuss and reference via a hyperlink if similar alternative street design standards, details and specifications have been developed within the Permit area. Section XI.F.1 of the MS4 Permit requires development of "standard design" as part of the post-development BMP guidance for road projects.

22. Appendix A, Pages 3-2 and 3-3: These pages identify the green streets principles for drainage swales, bioretention curb extensions, reverse parkway drains, curb cuts, sidewalk planters, permeable pavement, sidewalk trees and tree boxes in the

green streets handbook. To meet the permit requirements and promote implementation of these principles, specification and standard design details must be included as required in Section XI.F.1 of the MS4 Permit.

If you have any question regarding this matter, please contact Milasol Gaslan at mgaslan@waterboards.ca.gov or (951) 782-4419 or Kathleen Fong at kyfong@waterboards.ca.gov or (951) 774-0114.

Sincerely,



Michael J. Adackapara
Division Chief

cc: Pavlova Vitale, Stormwater Program Manager, San Bernardino County Flood Control District, pavlova.vitale@dpw.sbcounty.gov

