



# B A S M A A

Alameda Countywide  
Clean Water Program

Contra Costa  
Clean Water Program

Fairfield-Suisun  
Urban Runoff  
Management Program

Marin County  
Stormwater Pollution  
Prevention Program

Napa County  
Stormwater Pollution  
Prevention Program

San Mateo Countywide  
Water Pollution  
Prevention Program

Santa Clara Valley  
Urban Runoff Pollution  
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To Whom It May Concern:

We certify under penalty of law that this document was prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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# Annual Reporting for FY 2011-2012

## Regional Supplement for New Development and Redevelopment

### San Francisco Bay Area Municipal Regional Stormwater Permit



September 2012

**MRP Regional Supplement for New Development and Redevelopment  
Annual Reporting for FY 2011-2012**

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**LIST OF ATTACHMENTS:**

**C.3.c.iii.(2) Status Report on Application of Feasibility/Infeasibility Criteria**

Draft Outline - Status Report on Application of Feasibility/Infeasibility Criteria

# **MRP Regional Supplement for New Development and Redevelopment Annual Reporting for FY 2011-2012**

## **INTRODUCTION**

This Regional Supplement has been prepared to report on regionally implemented activities complying with portions of the Municipal Regional Stormwater Permit (MRP), issued to 76 municipalities and special districts (Permittees) by the San Francisco Bay Regional Water Quality Control Board (Water Board). The Regional Supplement covers new development and redevelopment activities related to the following MRP provisions:

- Provision C.3.c.iii.(1) LID Feasibility/Infeasibility Criteria Report,
- Provision C.3.c.iii.(2) Status Report on Application of Feasibility/Infeasibility Criteria, and
- Provision C.3.i.(iv) Site Design Measures for Small Projects and Detached Single-Family Home Projects.

These regionally implemented activities are conducted under the auspices of the Bay Area Stormwater Management Agencies Association (BASMAA), a 501(c)(3) non-profit organization comprised of the municipal stormwater programs in the San Francisco Bay Area. Most of the 2012 annual reporting requirements of the specific MRP Provisions covered in this Supplement are completely met by BASMAA Regional Project activities, except where otherwise noted herein or by Permittees in their reports. Scopes, budgets and contracting or in-kind project implementation mechanisms for BASMAA Regional Projects follow BASMAA's Operational Policies and Procedures as approved by the BASMAA Board of Directors. MRP Permittees, through their program representatives on the Board of Directors and its committees, collaboratively authorize and participate in BASMAA Regional Projects or Regional Tasks. Depending on the Regional Project or Task, either all BASMAA members or Phase I programs that are subject to the MRP share regional costs.

## **Low Impact Development**

### **C.3.c.iii.(1) Feasibility/Infeasibility Criteria Report**

This provision requires Permittees to submit to the Regional Water Board by May 1, 2011, a report on the feasibility/infeasibility of infiltration, harvesting and use, and evapotranspiration at development sites. BASMAA submitted such a report on May 1, 2011. Water Board staff provided comments in a July 12, 2011 letter. BASMAA provided a formal written response on April 30, 2012.

### **C.3.c.iii.(2) Status Report on Application of Feasibility/Infeasibility Criteria**

MRP Provision C.3.c.iii.(2) requires MRP permittees to submit to the Regional Water Board, by December 1, 2013, a Status Report on the Application of Feasibility / Infeasibility Criteria. A BASMAA Development Committee Work Group drafted the attached draft outline of the Status Report with the intent that the outline be incorporated into the 2012 Annual Report, fulfilling a promise made in BASMAA's April 30, 2012 letter. The letter states:

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“As part of the FY 11-12 Annual Report, BASMAA representatives will provide: (1) an outline for the December 2013 report; and (2) clearer definition of the type of data that will be collected and the analyses that will be conducted over the next two years on Water Board staff issues that still need to be addressed. These include: analyzing identified barriers to LID; maximizing infiltration on-site where feasible; tracking and encouraging plumbing code changes related to rainwater harvesting use; and presenting options for ensuring pervious pavement is properly maintained....”

### **Standard Specifications**

#### **C.3.i.(iv) Site Design Measures for Small Projects and Detached Single-Family Home Projects**

This provision requires Permittees to develop standard specifications for lot-scale site design and treatment measures (e.g., for roof runoff and paved areas) as a resource for single-family homes and small development projects. This task may be fulfilled by the Permittees cooperating on a countywide or regional basis. A report containing the standard specifications for lot-scale treatment measures is to be submitted by December 1, 2012. A related requirement, Provision C.3.i.i., states that permittees shall require small development projects that create and/or replace  $\geq 2,500$  ft<sup>2</sup> to  $< 10,000$  ft<sup>2</sup> of impervious surface, and detached single family home projects that create and/or replace 2,500 ft<sup>2</sup> or more of impervious surface, to install one or more of the following measures:

- Direct roof runoff into cisterns or rain barrels for reuse.
- Direct roof runoff onto vegetated areas.
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
- Construct sidewalks, walkways, and/or patios with permeable surfaces.
- Construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.

In FY 11-12, the BASMAA Development Committee initiated a regional project to develop fact sheets describing the lot-scale BMPs, using the fact sheets in the City of Los Angeles stormwater manual Appendix E as a model, but tailoring the Los Angeles approach to MRP requirements and preparing appropriate design details. The Development Committee reviewed the City of Los Angeles' fact sheets, agreed on desired changes to reflect MRP and Bay Area requirements, and contracted with a consultant to prepare user-friendly design details. The result is a set of four fact sheets on the following measures:

- Landscape Dispersion of Runoff
- Pervious Paving
- Rain Barrels
- Rain Gardens

The first three fact sheets fulfill the requirement to develop standard specifications for lot-scale site design and treatment measures as a resource for small development and single-family home projects. They collectively address the six options listed in Provision

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C.3.i.(iv). The fourth fact sheet on rain gardens was developed to offer small project applicants another option for storing and infiltrating runoff, similar to the approach of landscape dispersion but in a smaller footprint.

The fact sheets have been provided to Permittees in MS Word version so that Permittees that use them to comply with Provision C.3.i may add customized logos, contact information, and any local requirements. Over the next several months, the Permittees will be modifying their development review procedures in order to achieve full implementation of Provision C.3.i by December 1, 2012. Permittees will submit reports including the standard specifications for lot-scale treatment measures by December 1, 2012. Permittees will report on the implementation of Provision C.3.i in their FY 12-13 Annual Reports.

**Status Report on Application of Feasibility/Infeasibility Criteria**  
**December 1, 2013**

**Draft Outline**

- I. Background**
  - A. Regulatory requirements**
  - B. BASMAA submittals to date**
  - C. Discussions with Water Board staff and key issues raised**
    - 1. Maximize retention on-site before using biotreatment**
    - 2. Analyze increased footprint and depth of infiltration facilities**
    - 3. Rainwater vs. recycled water use**
    - 4. Maintenance of self-treating and self-retaining areas**
  
- II. LID Implementation Efforts to Date**
  - A. Application of Current Feasibility and Infeasibility Criteria**
    - 1. Method of feasibility/infeasibility analysis (checklists, other guidance)**
    - 2. Permittees' application of feasibility/infeasibility criteria to projects during 12/11 through 6/13**
      - a. Data collection effort**
        - i. Based on FYs 11-12 and 12-13 Annual Report data for approved projects**
        - ii. Survey of permittees for additional information on projects where infiltration and rainwater harvesting was feasible**
      - b. Results of survey**
        - i. Number of projects for which infiltration of C.3.d volume was feasible and types of infiltration measures used**
        - ii. Number of projects for which rainwater harvesting of C.3.d volume was feasible and information on demand, sizing, and design**
        - iii. Number of projects using bioretention and feasibility/infeasibility criteria typically employed**
    - 3. Discussion of most common feasibility and infeasibility criteria employed since implementation of Provision C.3.c requirements**
      - a. Infiltration capability of site soils**
      - b. Demand for rainwater harvest and use**
      - c. Availability of plumbing and building codes and treatment standards for rainwater harvest and use systems for indoor use**
    - 4. Site-specific examples of infiltration and rainwater harvesting systems**
      - a. Results and conclusions from CCCWP monitoring studies evaluating HM performance and infiltration capacity of bioretention facilities**
      - b. Examples of infiltration treatment measures other than bioretention**
      - c. Examples of rainwater harvesting systems**

## **B. Barriers to Implementation of Current Requirements**

- 1. Barriers to infiltration**
  - a. Technical**
    - i. Infiltration rates of Bay area soils
  - b. Institutional**
    - i. Variation in geotechnical engineers' experience and requirements
    - ii. Developer and municipal agency concerns about liability
- 2. Barriers to rainwater harvesting**
  - a. Technical**
    - i. Collection system, treatment, and distribution system components and complexity of system (particularly for indoor use)
    - ii. Lack of sufficient irrigation demand for C.3.d volume in wet season
    - iii. Issues related to compatibility of rainwater distribution systems with other potable and non-potable water systems
  - b. Institutional**
    - i. Status of State plumbing and building codes
    - ii. Barriers identified in CASQA Prop 84 project "Removing Barriers to LID in Local and State Codes: Technical Assistance for Municipal Code Updates and Evaluation of the California Building Standards Code (CALGreen)"
- 3. Other barriers and lessons learned**
  - a. Cost comparison to bioretention**
  - b. Complexity of and confusion about the requirements**
  - c. Effectiveness of rainwater harvesting for water supply vs. stormwater management**

## **III. Future LID Implementation Efforts**

- A. Strategies for addressing LID barriers (local, regional, State-wide, and nation-wide)**
  - 1. Track and support efforts to update State and local plumbing and building codes**
  - 2. Other efforts based on results of permittee survey**
- B. Proposed changes to feasibility and infeasibility criteria (if needed) and rationale for the changes**
- C. Guidance for Permittees on consistent application of revised criteria**
- D. Guidance for Permittees on mechanisms for ensuring preservation and maintenance of self-treating and self-retaining areas**
- E. Regional efforts for education and outreach on LID practices**