

EXECUTIVE OFFICER'S SUMMARY REPORT
8:30 a.m., Thursday, October 1, 2009
David C. Joseph Board Room
5550 Skylane Boulevard, Suite A
Santa Rosa, California

ITEM: 4

SUBJECT: **LATE REVISIONS**
Order No. R1-2009-0050
Santa Rosa, Sonoma County, and the Sonoma County Water Agency
NPDES MS4 Storm Water Permit

On September 28 and 29, 2009, staff discussed the draft Order with the Sonoma County Fire Chief's Association, the City of Santa Rosa and the United States Environmental Protection Agency. Based on these discussions, staff made late revisions to the draft Permit, Monitoring and Reporting Program, and Fact Sheet to address the concerns of the above parties. The late revisions are in underline/strikeout format and only the pages that have been revised are attached. At the public hearing, staff will discuss the late revisions with the Regional Water Board following staff's presentation.

PRELIMINARY STAFF
RECOMMENDATION:

Regional Water Board staff recommends adopting the draft Order as proposed with these late revisions.

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Administrator or the State determines appropriate for the control of such pollutants.
(See CWA §402(p)(3)(B)).

On November 16, 1990, pursuant to CWA § 402(p), the United States Environmental Protection Agency (U.S.EPA) promulgated regulations at section 122.26 of title 40 of the Code of Federal Regulations which established requirements for storm water discharges under the NPDES program. U.S.EPA defines storm water at 40 CFR 122.26 (b)(13) as 'storm water runoff, snow melt runoff, and surface runoff and drainage' (related to storm events or snow melt) (See also 55 Fed. Reg. 47990, 47995). Non-storm water discharges to the MS4 are to be "effectively prohibited" by the MS4 operator. "Effective prohibition" meant that the MS4 permittee was to implement programs to eliminate "illicit discharges" to the storm drain system unless authorized under NPDES permits issued independent of the MS4 permit.¹ (55 Fed. Reg. 47995). The storm water regulations also intended to not hold MS4 permittees responsible for certain categories of non-storm water discharges such as uncontaminated ground water infiltration, natural springs, rising groundwater, and stream diversions from the MS4. Such discharges might need to be addressed under independent NPDES permits when specifically identified on a case-by-case basis by the MS4 permittees or the permitting authority.

U.S.EPA intended that storm water discharges from the MS4 be primarily addressed through the implementation of Best Management Practices (BMPs) on an iterative approach because of the intermittent and variable nature of storm flows and pollutant concentrations as well as insufficient available effluent and receiving water data rather than numerical effluent limitations (61 FR 43761). However, U.S.EPA's scheme for non-storm water discharges from the MS4 is to bring them under the existing framework of the NPDES program at 40 CFR 122.44(d). (55 Fed. Reg. 47995). In any case, if the permittee fails to implement adequate BMPs to prevent exceedance of receiving water objectives, the permitting authority "may have to consider other approaches to water quality protection" (61 Fed. Reg. 43761; *Interim Permitting Approach*, Response #6, EPA 833-D-96-00, 1996).

Legal Authority

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R1-2009-0050:

- (a) Clean Water Act (CWA);
- (b) California Water Code (Water Code);
- (c) 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule);

¹ While MS4 permits generally contain exceptions for some non-storm water discharges, these exceptions do not extend to non-storm water discharges identified as a source of pollutants. (State Water Resources Control Board WQO No. 2009-0008, p. 9-10.)

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- (b) A Co-Permittee shall require that non-storm water flows infiltrate into the ground where possible and perform public outreach and education intended to reduce or eliminate such discharges as one of the BMPs associated with each type of non-storm water discharge that they seek authorization from the Executive Officer to allow into the MS4.
- (c) As described in A - 5(a), above, a Co-Permittee may submit a BMP plan to apply for authorization from the Executive Officer to allow specific non-storm water flows into the MS4. The BMP plan submitted by a Co-Permittee shall be noticed for public review prior to authorization by the Executive Officer.
- (d) The Co-Permittees shall either ~~have an approved~~ submit a BMP plan ~~in place~~ for Executive Officer approval or prohibit the non-storm water discharges in Table 1 by May 15, 2010. The Co-Permittees shall implement Part 10 – Illicit Connections and Discharges Elimination Program to effectively prohibit non-storm water discharges into the MS4 until ~~May 15, 2010, or until~~ an approved BMP plan or prohibition is in place, ~~whichever occurs earlier~~.
- (e) The Executive Officer will consider authorizing the discharge of non-storm water flows that are listed below in Table 1 (BMPs for Non-Storm Water Discharges), and are not a significant source of pollutants. Upon request by a Co-Permittee, the Executive Officer may consider authorizing the discharge of categories of non-storm water flows in addition to those described in Table 1.

Table 1. BMPs for Non-Storm Water Discharges

Type of Discharges:	Conditions under which allowed:	BMP plans shall include, but not be limited to:
Stream diversions permitted by the State or Regional Water Board where such flows are intentionally diverted into the MS4.	Shall comply with all conditions in the Executive Officer's authorization.	Erosion, sediment, and velocity controls to keep the diverted flows from discharging sediment to the MS4 and to prevent storm drain sediment scour.
Natural springs and rising ground water that are intentionally diverted into the MS4.	<ol style="list-style-type: none"> 1. Shall comply with all conditions in the Executive Officer's authorization. 2. Ground water dewatering (from construction or pumped sources) may require a separate NPDES permit. 	<ol style="list-style-type: none"> 1. No sources of ground water contamination near the diversion site. 2. Segregate flow to prevent introduction of pollutants. 3. Sediments removed from discharge through settling or filtration. 4. Control flow rate of discharge to minimize erosion potential. 5. BMPs such as sand bags shall be utilized to prevent erosion and sediment transport.

Type of Discharges:	Conditions under which allowed:	BMP plans shall include, but not be limited to:
		6. All sediments shall be collected and disposed of in a legal and appropriate manner.
Uncontaminated ground water infiltration into structures [as defined by 40 CFR 35.2005(20)] ¹ (Utility vault dewatering requires a separate NPDES permit) where flows are diverted into the MS4.	Shall comply with all conditions in the Executive Officer's authorization.	No sources of ground water contamination near the extraction site.
Overflows from riparian habitats or wetlands where such flows are intentionally diverted into the MS4.	<ol style="list-style-type: none"> 1. Shall comply with all conditions in the Executive Officer's authorization. 2. Provided that all necessary permits or authorizations are received prior to diverting the flow. 	Dewatering that would impact beneficial uses of wetlands and other state waters shall be prohibited unless approved by the Regional Water Board.
Flows from emergency fire fighting activity.	No authorization from the Executive Officer needed.	<ol style="list-style-type: none"> 1. BMPs shall be used whenever possible. 2. Pooled water after fire shall be controlled (non-emergency repair or training flows are not allowed). 3. Runoff controls shall be considered for fires at industrial or other facilities where hazardous materials may be onsite.
Flows from fire fighting training and equipment repair activities.	Shall comply with all conditions in the Executive Officer's authorization.	<ol style="list-style-type: none"> 1. Must be dechlorinated using aeration and/or sodium thiosulfate and/or other appropriate means and/or be allowed to <u>including infiltrate-infiltration</u> into the ground. 2. Sediment and solids removed from discharge through settling or filtration. 3. Control flow rate of discharge to minimize erosion potential. 4. BMPs such as sand bags shall be utilized to prevent erosion and

¹ NPDES permit for ground water dewatering is required within the North Coast Region including Sonoma County.

- (b) Public Reporting
 - (1) Co-Permittees shall include contact information in outreach efforts for reporting clogged ~~catch-basin~~storm drain inlets and illicit discharges/dumping, faded or missing ~~catch-basin~~storm drain inlet labels, and general storm water management information. This information must be updated by July 1st of each year in public information media, such as the government pages of the telephone book, and internet web sites. Each Co-Permittee is responsible for keeping current, updated contact information in an easily accessible page on their web sites.
- (c) Outreach and Education
 - (1) Co-Permittees shall implement the following activities:
 - (A) Conduct a storm water pollution prevention advertising campaign;
 - (B) Conduct storm water pollution prevention public service announcements;
 - (C) Distribute storm water pollution prevention public education materials to:
 - (i) Automotive parts stores;
 - (ii) Home improvement centers, lumber yards, hardware stores, landscape supply stores, nurseries, and stores where fertilizers and pesticides are sold;
 - (iii) Pet shops and feed stores; and
 - (iv) Local fairs and events.
 - (D) Public education materials shall include, but are not limited to information on the proper disposal, storage, and use of:
 - (i) Vehicle waste fluids;
 - (ii) Household waste materials;
 - (iii) Construction waste materials;
 - (iv) Pesticides and fertilizers (including integrated pest management practices-IPM);
 - (v) Litter;
 - (vi) Green waste (including lawn clippings and leaves); and
 - (vii) Animal wastes.
 - (E) Using previously conducted public survey results, work with existing local watershed groups, or organize watershed citizen advisory groups or committees to educate the public about storm water pollution; and
 - (F) Organize or participate in events targeted to residents.
 - (2) The Co-Permittees shall develop a strategy to educate Spanish-speaking communities through culturally effective methods. Details of this strategy should be incorporated into the PIPP, and implemented, no later than October 1, 2010;

- (J) Integrated water resources management practices;
 - (K) LID design and flow modeling guidance;
 - (L) Hydrologic analysis; and
 - (M) LID offset credits.
- (4) The Co-Permittees shall provide Regional Water Board staff quarterly or more frequently if needed, verbal updates on the progress of the LID technical guidance manual and invite Regional Water Board staff to all meetings held to develop the LID technical guidance manual.
- (5) The Co-Permittees shall facilitate implementation of LID by providing key industry, regulatory, and other stakeholders with information regarding LID objectives and specifications contained in the LID technical guidance manual (Part 5) through an LID training program. The LID training program shall begin by April 1, 2012, and include the following:
- (A) LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders that describe LID techniques;
 - (B) Information, data, materials, and case studies regarding national efforts and local experience gained through LID pilot projects and demonstration projects;
 - (C) Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements;
 - (D) Guidance on how to integrate LID measures at various project scales; and
 - (E) Guidance on the relationship among LID strategies, source control BMPs, treatment control BMPs, and hydromodification control requirements.
- (b) Post-Construction BMP Choice Methodology
- (1) The Co-Permittees shall ensure that all storm water runoff from projects that meet the new development and redevelopment criteria in Part 4 and/or the hydromodification criteria in Part 5 - 2(c), below, is treated using LID design and landscape-based BMPs. For purposes of this section, LID priority projects identified in Part 5 – 2(b)2(A) and (B) below shall be designed to treat the design storm volume as specified for the treatment criteria (~~defined~~ in Part 4 – 4(a) and shall be designed so as to not exceed the pre-development water balance for flows up to the treatment design storm volume.
- (2) The priority for approval of post-construction BMPs by the Co-Permittees shall be given in the following order:
- (A) Bioretention BMPs that do not utilize underdrains, such as raingardens, green roofs, tree boxes (water quality treatment only), vegetated planters, and bioretention swales;

- (B) Other Low Impact Development strategies that do not utilize underdrains that and are based on the following concepts:
 - (i) Non-mechanical landscape/soil filtration based BMPs;
 - (ii) Infiltration and dispersal BMPs (including pervious pavements where no underdrain is installed);
 - (iii) BMPs that incorporate vegetation to remove pollutants and reduce storm water runoff volume; and
 - (iv) BMPs that store and reuse storm water runoff.
 - (C) Approved modular/proprietary treatment control BMPs that are based on bioretention or LID concepts and that meet pollution removal goals;
 - (D) Other BMPs that do not achieve LID goals (required to be used in combination with LID BMPs or an offset project) such as structural modular/proprietary separator BMP units, trash excluders, and non-LID filter systems;
 - (E) Regional Water Board Executive Officer and Co-Permittee approved offset project; or
 - (F) Detention ponds (hydromodification control only).
- (3) If it is technically infeasible for a project to cannot comply with Part 5 - 2(b)(2)(A) or (B) above (bioretention BMPs or LID BMPs) for the specified design storm, in order to comply with this Order's LID requirements, the Co-Permittees shall obtain Regional Water Board Executive Officer approval prior to approving BMPs included in Part 5 – 2(b)(2)(C), (D), (E), or (F) above (modular/proprietary BMPs, offset project, or detention pond). A combination of on-site and off-site BMPs may be included in a proposal for Executive Officer approval. An infeasibility determination shall be based on an analysis of site-specific circumstances pursuant to Feasibility Criteria developed by the Co-Permittees. These Feasibility Criteria shall be submitted to the Executive Officer for review and approval and public review in the updated SUSMP manual¹⁷ as part of the selection and prioritization of LID BMPs (see Part 5 – 2(a)(2), and Part 6 – 5(a)(4)). When approval for the use of BMPs included in Part 5 – 2(b)(2)(C), (D), (E), or (F) is sought, the Co-Permittees shall submit adequate documentation and justification to the Regional Water Board Executive Officer to facilitate review and approval. The Executive Officer may find during the term of this Order that the Co-Permittees have developed an adequate program to require BMPs in compliance with Part 5 – 2(b)(2)(A) and (B) and the Executive Officer may waive this requirement for advance approval. If such a waiver is granted, the Co-Permittees shall

¹⁷ Or equivalent document.

document in their Annual Reports any approvals of projects using BMPs included in Part 5 – 2(b)(C), (D), (E), or (F).

- (c) Hydromodification (Flow/Volume/Duration) Control Criteria
- (1) Each Co-Permittee shall require all new development and redevelopment projects identified in Special Provisions E Part 4 to ~~implement~~ consider hydrologic control measures, to prevent accelerated downstream erosion, minimize flooding and public nuisance conditions, to recharge ground water and to protect stream habitat in receiving waters. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration where such discharges would adversely impact receiving waters. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates, and duration. Pre-development hydrology shall be based on an analysis of natural infiltration, soils storage and evapotranspiration rates. The Co-Permittees shall also ensure that total storm water runoff volumes remain the same or lower as the pre-development volumes, when possible.
- (A) All new development or redevelopment projects (both public and private) with 1.0 acre or more of impervious surface shall ~~implement hydromodification control~~ consider potential hydromodification impacts to receiving water.
- (B) Hydromodification control may include one, or a combination of on-site, regional or subregional hydromodification control BMPs, LID strategies, or stream restoration measures, with preference given to LID strategies and on-site hydromodification control BMPs. Any in-stream restoration measures that are proposed in conjunction with hydromodification BMPs, shall not adversely affect the beneficial uses of the receiving waters and appropriate permits shall be obtained prior to starting any restoration projects.
- (C) The Co-Permittees shall develop and implement a Hydromodification Control Plan approved by the Regional Water Board Executive Officer with input from local stakeholders no later than October 1, 2013,¹⁸ to address hydromodification based on accepted practices. The plan shall be consistent with the requirements of this Order and shall include one or more of the following:
- (i) A simplified method using LID BMPs with accepted sizing criteria to provide hydromodification control;

¹⁸ The Executive Officer may administratively extend this deadline if the Executive Officer determines that an extension will result in a superior plan, adequate progress has been made in developing a plan, and the interim requirements being used by the Co-Permittees are adequate.

- (D) An approved watershed management plan, or an integrated water resources management plan, or a regional storm water mitigation plan, or a wetlands recovery plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation; and
 - (E) Mitigation projects are funded and implemented prior to the impact from the development project.
5. Standard Urban Stormwater Mitigation Plan (SUSMP)
- (a) The Co-Permittees shall update their SUSMP¹⁹ or incorporate appendices or references by April 1, 2011,²⁰ and thereafter as needed, for Executive Officer approval, to include, at a minimum, the following:
 - (1) Conditions to require compliance with Parts 4, 5 and 6 of this Order;
 - (2) The New Development and Redevelopment Integrated Water Quality and Water Resource Plan (Part 5);
 - (3) Expected BMP pollutant removal performance including effluent quality and removal efficiency ranges (ASCE/U.S. EPA International BMP Database, CASQA New Development BMP Handbook, technical reports, local data on BMP performance, and the scientific literature appropriate for northern California geography and climate);
 - (4) Selection and prioritization of appropriate BMPs for storm water pollutants of concern and in accordance with the New Development and Redevelopment Integrated Water Quality and Water Resource Plan (Part 5);
 - (5) Data on observed local effectiveness and performance of implemented BMPs;
 - (6) BMP maintenance information;
 - (7) Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including consideration of water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits;
 - (8) Updated analysis of the local design storm criteria; and
 - (9) Other requirements to be consistent with this Order.
6. Project Coordination
- (a) Each Co-Permittee shall facilitate a process for effective approval of post-construction storm water control measures. The process shall include:

¹⁹ Or equivalent document.

²⁰ Unless otherwise specified in this Order.

Activity Specific BMPs	Page
Tow Truck Operations	B-63
Electrical	B-65
Sawcutting for Loop Installation	B-65
Traffic Guidance	B-67
Thermoplastic Striping and Marking	B-67
Paint Striping and Marking	B-68
Raised/Recessed Pavement Marker Application and Removal	B-70
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Storage of Hazardous Materials (Working Stock)	B-82
Material Storage Control (Hazardous Waste)	B-84
Outdoor Storage of Raw Materials	B-85
Vehicle and Equipment Fueling	B-86
Vehicle and Equipment Cleaning	B-87
Vehicle and Equipment Maintenance and Repair	B-88
Aboveground and Underground Tank Leak and Spill Control	B-90

(b) Each Co-Permittee shall obtain coverage under the Construction General Permit no later than April 1, 2010 for long-term maintenance projects, including maintenance or replacement of streets, sidewalks, roads, and any other project that a Co-Permittee undertakes including all Capital Improvement Projects (CIP) if either one or more acres of land are disturbed by grading, clearing or excavation activities.

3. [Sonoma County](#) [The Co-Permittees](#) shall implement the Fishnet 4-C [or an equivalent](#) manual for road maintenance projects as well as the BMPs described below.
4. Roadway Paving or Repaving Operations (For Private or Public Projects)
 - (a) Each Co-Permittee shall require that for any project that includes roadbed or street paving, repaving, patching, digouts, or resurfacing

- (F) Adoption and verification of implementation policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IPM techniques (including beneficial insects) in the Co-Permittees' overall operations and on municipal property;
 - (G) Policies, procedures, and ordinances shall include commitments and timelines to reduce the use of pesticides that cause impairment of surface waters by implementing the following procedures:
 - (i) Quantify pesticide use by its staff and hired contractors;
 - (ii) Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units
 - (iii) Continue programs to reduce pesticide use to MEP; and
 - (iv) Demonstrate reductions in pesticide use.
- (b) Each Co-Permittee shall implement the following requirements no later than January 1, 2010:
- (1) Use a standardized protocol for the routine and non-routine application of pesticides (including pre-emergents), and fertilizers;
 - (2) Ensure pesticides or fertilizers are not applied to an area immediately prior to, during, or immediately after a rain event, or when water is flowing off the area;
 - (3) Ensure that no banned or unregistered pesticides are stored or applied;
 - (4) Ensure that all staff applying pesticides are certified in the appropriate category by the California Department of Pesticide Regulation, or are under the direct supervision of a pesticide applicator certified in the appropriate category;
 - (5) Implement procedures to encourage the retention and planting of native vegetation to reduce water, pesticide and fertilizer needs;
 - (6) Store pesticides and fertilizers indoors or under cover on paved surfaces or use secondary containment, and:
 - (A) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - (B) Regularly inspect storage areas.

9. Storm Drain Operation and Management and Trash Management

- (a) Catch Basin³⁰ Cleaning
 - (1) Each Co-Permittee shall designate catch basin inlets within its jurisdiction as one of the following:

³⁰ [Catch basins are storm drain inlets that include a sump to trap debris.](#)

- (A) Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris;
 - (B) Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris; or
 - (C) Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.
 - (2) Each Co-Permittee shall submit a catch basin cleanout plan that describes the criteria used to categorize catch basins in the priority system described above, including number of catch basins included in each priority level for Executive Officer approval by October 1, 2010.
 - (3) Each Co-Permittee shall inspect and clean catch basins as necessary, but at least consistent with the following schedule:
 - (A) Priority A: A minimum of 2 times during the wet season and once during the dry season every year;
 - (B) Priority B: A minimum of once per year; and
 - (C) Priority C: As needed, but not less than a minimum of once per permit term.
 - (4) In addition to the preceding schedule, Co-Permittees shall ensure that any catch basin that is at least 25% full of trash and/or debris shall be cleaned out.
- (b) Trash Management at Public Events
 - (1) Each Co-Permittee shall require for any public event, permitted private event or wherever it is foreseeable that substantial quantities of trash and litter may be generated, that the following measures are implemented:
 - (A) Conditions be placed on any special use permit issued for such event to control and clean up trash; and
 - (B) Require the proper management of trash and litter generated; and
 - (C) Arrange for temporary screens to be placed on ~~catch basins~~storm drain inlets; or
 - (D) Clean out ~~catch basins~~storm drain inlets, trash receptacles, and grounds as needed in the event area in a timely manner.
- (c) Trash Receptacles
 - (1) Each Co-Permittee shall install trash receptacles in areas subject to high trash generation (such as transit stops and schools) within its jurisdiction no later than October 1, 2011; and
 - (2) Each Co-Permittee shall ensure that trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.
- (d) ~~Catch Basin~~Storm Drain Inlet Labels
 - (1) Each Co-Permittee shall inspect 20% of the ~~catch basins~~storm drain inlets on an annual basis for the legibility of the ~~catch basin~~

- stencil or label nearest each ~~catch basin and~~ inlet when performing storm drain inspections and maintenance.
- (2) Each Co-Permittee shall record and re-stencil or re-label within 15 days of inspection, ~~catch basins~~storm drain inlets with illegible stencils.
- (e) Trash Excluders
- (1) The Co-Permittees shall consider installing trash excluders, or equivalent devices on ~~catch basins~~storm drain inlets or outlets to prevent the discharge of trash to the storm drain system or from the storm drain system if a grant or other funding source becomes available.
- (f) Storm Drain Maintenance
- (1) Each Co-Permittee shall implement a program for storm drain maintenance no later than October 1, 2010 that includes the following:
- (A) Visual monitoring of prioritized Co-Permittee-owned open channels and other drainage structures for debris at least annually;
- (B) Remove trash, debris and sediment as needed from open channels and roadside ditches in priority areas a minimum of once per year before the storm season;
- (C) Use adequate BMPs to eliminate the discharge of contaminants during MS4 maintenance and clean outs; and
- (D) Quantify the amount of materials removed using best estimates and ensure the materials are properly disposed of.
- (g) Spill Response Plan
- (1) Each Co-Permittee shall implement a response plan for spills to the MS4 within their respective jurisdiction. The response plan shall clearly identify agencies required to respond, telephone numbers and e-mail addresses for contact and shall contain at a minimum the following:
- (A) Initiation of investigation of all complaints received within one (1) business day or 24 hours, if there is an immediate threat to public health or beneficial uses, of the incident report;
- (B) Response within 2 hours upon notification of spills; and
- (C) Immediate notification of spills to appropriate sewer and public health agencies, Sonoma County Department of Emergency Services (DES) and the California Emergency Management Agency (CalEMA).
- (h) Co-Permittee Owned Treatment Control BMPs
- (1) Each Co-Permittee shall implement an inspection and maintenance program for all Co-Permittee owned treatment control BMPs, including post-construction treatment control BMPs.

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California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program No. R1-2009-0050
NPDES No. CA0025054

For

The City of Santa Rosa, the County of Sonoma, and
the Sonoma County Water Agency

Storm Water and Non-Storm Water Discharges from Municipal Separate Storm Sewer
Systems

Sonoma County

Monitoring Program

1. The primary objectives of the Monitoring Program include, but are not limited to:
 - (a) Assessing the chemical, and biological impacts of storm water discharges on receiving waters resulting from urban storm water discharges;
 - (b) Assessing the overall health and evaluating long-term trends in receiving water quality;
 - (c) Assessing compliance with water quality standards;
 - (d) Characterization of the quality of storm water discharges;
 - (e) Identifying sources of pollutants; and
 - (f) Measuring and improving the effectiveness of requirements implemented under this Order and assessing the resultant reductions in pollutant loads.
2. The results of the monitoring requirements outlined below shall be used to refine BMPs for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters in Sonoma County.
3. The Co-Permittees shall implement the Monitoring Program described below.

A. Chemical Monitoring

1. Outfall Mass Chemical Monitoring
 - (a) For each outfall, samples shall be collected in accordance with 40 CFR 122.21(g)(7).
 - (b) [The Co-Permittees shall submit detection limits to the Regional Water Board for annual approval in the Annual Reports.](#)
 - (c) Frequency: The Co-Permittees will be responsible for annually monitoring six outfalls within the Laguna de Santa Rosa watershed. Wet weather samples shall be flow weighted composites, collected during the first 24 hours or for the duration of the storm event if it is less than 24 hours. Samples shall be collected from an outfall discharge resulting from a storm event that is 0.25 inches or greater. The flow-weighted composite sample for a storm water discharge shall be taken with a continuous sampler, or it shall be taken as a combination of a minimum of 3 sample aliquots, taken in each hour of discharge for the first 24 hours of the discharge or for the entire discharge if the storm event is less than 24 hours, with each aliquot being separated by a minimum of 15 minutes

within each hour of discharge. The outfall locations shall be developed in consultation with Regional Water Board staff and shall be submitted to the Executive Officer for approval by January 1, 2010. The monitoring shall include four events per year (two events during the wet season and two events during the dry season) at each outfall. Flow may be estimated using U.S.EPA methods at sites where flow measurement devices are not feasible. Grab samples (or instantaneous automatic measurements) shall be taken only for pathogen indicators, hardness (as mg/L CaCO₃), pH, temperature, and DO.

(d) Outfall Chemical Monitoring Constituents:

Total Suspended Solids (TSS)	Total Phosphorus
pH	Orthophosphate
Temperature	13 Priority Pollutant Metals USEPA Method 200 ¹ or 6000/7000
Biological Oxygen Demand (BOD)	Fecal Coliform
Total Kjeldahl Nitrogen (TKN)	E. Coli
Nitrate as N	Enterococcus
Nitrite as N	Hardness as CaCO ₃
Ammonia	Dissolved Oxygen (DO)

2. Receiving Water Chemical Monitoring

~~For each sampling location, samples shall be collected in accordance with 40 CFR 122.21(g)(7).~~

- (a) The Co-Permittees shall submit detection limits to the Regional Water Board for annual approval in the Annual Reports.
- (b) Frequency: monthly grab samples on Santa Rosa Creek - one site upstream and one site downstream of the urban area of the City of Santa Rosa.
- (c) Receiving Water Monitoring Constituents:

TSS	Ammonia
pH	Total Phosphorus
Temperature	Orthophosphate
BOD	Fecal Coliform
TKN	E. Coli
Nitrate as N	Enterococcus
Nitrite as N	DO

B. Aquatic Toxicity Monitoring

- 1. The objective of aquatic toxicity monitoring is to evaluate if discharges from the MS4 are causing or contributing to aquatic life toxicity in receiving waters.
- 2. Chronic Bioassays

¹ Frequency is once during the term of this Order.