

section 303, including State narrative criteria for water quality." The term "water quality standards" in this context refers to the beneficial uses of waters, water quality objectives, and antidegradation policies.

#### Legal Authority for Discharge Prohibitions

Water Code Section 13241 requires each regional board to "establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]."

Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

Water Code Section 13263(a) provides that waste discharge requirements prescribed by the Regional Water Board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]chieve water quality standards established under CWA Section 303, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

#### Legal Authority for Development Planning Requirements

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that permittees develop and implement a management program which is to include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plans shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed."

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]chieve water quality standards established under CWA Section 303, including State narrative criteria for water quality."

#### Legal Authority for Construction Requirements

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include "A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include "A description of procedures for site planning which incorporate consideration of potential water quality impacts."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that a permittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the purposes of this subsection: ... (x) Construction activity including cleaning, grading and excavation activities ...."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be

discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

#### Legal Authority for Municipal Operation Requirements

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include "A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems..."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include "A description of procedures to assure that flood management projects assess the impacts on water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

## **Statutory and Regulatory Considerations**

### Agency Coordination

The CWA authorizes U.S.EPA to permit a state to serve as the NPDES permitting authority in lieu of U.S.EPA. The State of California has in-lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Water Board, through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State. The State Water Board entered into a Memorandum of Agreement with U.S.EPA, on September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

U.S.EPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service (also jointly referred to as "the Services") for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act, and the CWA's water quality standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by U.S.EPA, the Services, and CWA delegated States on CWA permit issuance under § 402 of the CWA [66 Fed. Reg. 11202-11217].

This Order is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to MEP from the MS4 subject to the jurisdiction of the City of Santa Rosa, County of Sonoma, and the Sonoma County Water Agency (Co-Permittees) to surface waters subject to the jurisdiction of the Regional Water Board.

Federal regulations (40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C)) require that MS4 Co-Permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that Co-Permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This Order, consistent with U.S.EPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Water Board and the Co-Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges.

The State Water Board has issued NPDES General Permits for the regulation of storm water discharges associated with industrial and construction activities. In addition, the Regional Water Board has adopted a General Permit Order No. R1-2009-0045 for low threat discharges to surface waters. Under the CWA, the Co-Permittees cannot enforce these NPDES permits. However, the Co-Permittees are required to enforce local storm water ordinances and permit conditions at industrial facilities and construction sites. If

the Co-Permittees become aware of industrial or construction site discharges that are in violation of statewide general NPDES permits, the Regional Water Board will rely on the Co-Permittees to promptly report such incidents to Regional Water Board staff for appropriate follow-up actions. In those areas where the local and state requirements overlap, the staffs of the respective agencies will work together to gain compliance in a streamlined manner.

It is the Regional Water Board's intent that this Order shall ensure attainment of water quality standards, applicable water quality objectives, and protection of beneficial uses of receiving waters. This Order therefore prohibits discharges from causing violations of water quality objectives or causing conditions to occur that create a condition of nuisance or water quality impairment in receiving waters as a result of MS4 discharge. Accordingly, these requirements shall be addressed through the effective implementation of BMPs to reduce pollutants in storm water discharges.

There may be federal or state entities within the Co-Permittees' boundaries that operate storm drain facilities and/or discharge storm water to storm drain systems regulated by this Order. The Co-Permittees may lack legal jurisdiction over these entities.

Consequently, the Regional Water Board recognizes that the Co-Permittees should not be held directly responsible for such federal or state facilities and/or discharges, if the Co-Permittees have exercised due diligence to reduce or eliminate the discharge of pollutants. Some of these entities have their own MS4-type discharges to surface waters and are required to obtain storm water permit coverage in accordance with U.S.EPA Phase II storm water program. If these entities are not required to obtain permit coverage under Phase II but are found to be discharging storm water that causes or threatens to cause a violation of water quality objectives, they may be required to obtain an individual storm water discharge permit from the Regional Water Board. The California Department of Transportation (Caltrans) is a state agency that discharges storm water within the permit boundary. On July 15, 1999, the State Water Resources Control Board issued a separate NPDES storm water permit to Caltrans (NPDES No. CAS000003 - Order No. 99-06-DWQ.)

Small MS4s, such as those serving universities and community colleges, exist within the watersheds included in this Order. While these MS4s are not subject to this Order, they are subject to the Phase II NPDES storm water regulations. Over time, these MS4s will be designated for coverage under the State Water Board's statewide general storm water permit for small MS4s.

#### MS4 Pollutants and Non-Storm Water Discharges

As operators of the MS4s, the Co-Permittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the United States, a Co-Permittee essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These

discharges may cause or contribute to a condition of pollution, contamination or a violation of water quality standards.

CWA section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters without any sort of treatment. If a municipality does not effectively prohibit unauthorized non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service.

Furthermore, third party discharges may cause a municipality to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Co-Permittee must prohibit and/or control discharges from third parties to its MS4. U.S.EPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."<sup>2</sup>

Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the United States unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into MS4s must be reduced to the MEP using a combination of management measures, including source control, and an effective MS4 maintenance program implemented by each Co-Permittee.

Enforcement of local storm water runoff related ordinances, permits, and plans is an essential component of every storm water runoff management program and is specifically required in the federal storm water regulations and this Order. Each Co-Permittee is individually responsible for adoption and enforcement of ordinances and or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital,

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<sup>2</sup> Federal Register/Vol. 64, No. 235/Wednesday, December 8, 1999/Rules and Regulations. p. 68765-68766.

operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of storm water runoff from third party activities and land uses to their MS4.<sup>3</sup> In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing storm water runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When a Co-Permittee determines a violation of its storm water ordinance, it must pursue correction of the violation.

Without enforcement, third parties do not have incentive to correct violations. U.S.EPA supports enforcement by municipalities when it states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described."<sup>4</sup>

### State Regulations

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Section 6217(g), requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. In September 1995, the State Water Board and the California Coastal Commission submitted the state's response to the CZARA requirements. In lieu of a separate state program for the coastal zone, the state decided to apply the CZARA requirements on a statewide basis. This Order does address some CZARA requirements (urban and hydromodification) within the permit area however, this Order does not address the CZARA management measures required for the coastal areas of Sonoma County that are not included within the permit boundary. Compliance with requirements specified in this Order does not relieve the Co-Permittees from developing a non-point source plan for other programs identified under CZARA.

On May 18, 2000, U.S.EPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR) 65 Fed. Reg. 31682 (40 CFR 131.38)) for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays and estuaries. On March

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<sup>3</sup> U.S.EPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

<sup>4</sup> U.S.EPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.

2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (SIP) for implementation of the CTR (State Water Board Resolution No. 2000-15, as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL derived load allocations for a CTR criterion as soon as possible, but no later than 20 years from the effective date of the policy.

The Regional Water Board supports watershed management planning to address water quality protection in the region. The objective of watershed management planning is to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships among regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

State Water Board Resolution No. 68-16 contains the State Antidegradation Policy, titled "Statement of Policy with Respect to Maintaining High Quality Waters in California" (Resolution 68-16); this policy applies to all waters of the State, including ground waters of the State, whose quality meets or exceeds (is better than) water quality objectives. Resolution No. 68-16 incorporates the federal Antidegradation Policy (40 CFR section 131.12) where the federal policy applies, (State Water Board Order WQO 86-17). Both state and federal antidegradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

- (a) Federal Antidegradation Policy (40 CFR 131.12) states that the State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:
- (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
  - (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

- (3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

State Water Board Resolution No. 68-16 establishes essentially a 2-step process for compliance with the state anti-degradation policy.

- (a) Step 1: if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality:
  - (1) Will be consistent with maximum benefit to the people of the State;
  - (2) Will not unreasonably affect present and anticipated beneficial use of such water; and
  - (3) Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).
- (b) Step 2: any activities that result in discharges to high quality waters are required to:
  - (1) Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance.
  - (2) Maintain the highest water quality consistent with the maximum benefit to the people of the State.
    - (A) If such treatment or control results in a discharge that maintains the existing water quality, then a lowering of water quality would not be consistent with State Antidegradation Policy.
    - (B) Likewise, the discharge could not be allowed under State Antidegradation Policy if:
      - (i) The discharge, even after treatment, would unreasonably affect beneficial uses; or
      - (ii) The discharge, would not comply with applicable provisions of Water Quality Control Plans.

The Hydromodification Control and Low Impact Development (LID) provisions of this Order are intended to promote the State Water Board and Federal Antidegradation policies by preventing water quality and habitat degradation, consistent with beneficial uses identified in the Basin Plan.

On June 17, 1999, the State Water Board adopted Order No. WQ 99-05, which specifies standard receiving water limitation language to be included in all municipal storm water permits issued by the State and Regional Water Boards.

The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. It applies to point and nonpoint source discharges. The Ocean Plan identifies the applicable beneficial uses of marine waters

that include preservation and enhancement of designated Areas of Special Biological Significance (ASBS) (now called "State Water Quality Protection Areas") and establishes a set of narrative and numerical water quality objectives designed to protect beneficial uses. The State Water Board adopted the California Ocean Plan and amendments thereto, and both the State Water Board and the six coastal Regional Water Boards implement and interpret the California Ocean Plan.

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. 'Water quality standards' (WQS) means beneficial use designations, water quality objectives based upon those beneficial uses, an antidegradation policy, and certain policies generally affecting the application and implementation of water quality standards. (40 CFR §§ 131.6(a), (c), and (d); 40 CFR § 131.13.) Water quality objective(s) means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area. (Water Code §13050(h).) Water quality objectives and standards are referred to collectively in this Order as WQS, and generally consist of narrative or numeric water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, State Implementation Policy for the California Toxics Rule, and other state or federally approved surface water quality plans. This Order implements applicable sections of the Basin Plan.

Beneficial uses applicable to the receiving waters within the permit boundary and downstream waters are contained in Attachment A.

In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

This Order incorporates BMPs referenced in the *California Stormwater Quality Association (CASQA) Storm Water Best Management Practice Handbook Construction (January 2003<sup>5</sup>)* (website: <http://www.cabmphandbooks.com/Construction.asp>) and from the *Stormwater Quality Handbooks, Project Planning and Design Guide, Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual, Construction Site Best Management Practices (BMPs) Reference Manual, March 2007* (Caltrans Document Number CTSW-RT-06-171.11-1) (website: <http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm>), and other CASQA handbooks (website: <http://www.cabmphandbooks.com/>)

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<sup>5</sup> Including future updates and revisions.

On May 6, 2008, the State Water Board adopted Resolution No. 2008-30 Requiring Sustainable Water Resources Management. It was resolved that the State Water Board:

- (a) Continues to commit to sustainability as a core value for all Water Boards' activities and programs;
- (b) Directs Water Boards' staff to require sustainable water resources management such as LID and climate change considerations, in all future policies, guidelines, and regulatory actions; and
- (c) Directs Regional Water Boards to aggressively promote measures such as recycled water, conservation, and LID Best Management Practices where appropriate and work with Dischargers to ensure proposed compliance documents include appropriate, sustainable water management strategies.

On May 15, 2008, the California Ocean Protection Council (OPC) adopted the Resolution Regarding Low Impact Development. In the Resolution, OPC:

- (a) Resolves to promote the policy that new developments and redevelopments should be designed consistent with LID principles so that storm water pollution and the peaks and durations of runoff are significantly reduced and, in the case of a new development, are substantially the same as before development occurred on the site;
- (b) Finds that LID is a practicable and superior approach that new and redevelopment projects can implement to minimize and mitigate increases in runoff and runoff pollutants and the resulting impacts on downstream uses, coastal resources and communities; and
- (c) Resolves to advance LID implementation in California through NPDES Permit Requirements: When crafting storm water NPDES permit requirements, the State Water Board and Regional Water Boards should ensure that LID designs are utilized as the primary approach to satisfying post-construction runoff control requirements and that LID designs can be utilized to control pollutants and the rate and volume of runoff.

The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code, section 21000 et seq.) in accordance with section 13389 of the Water Code. The renewal of this NPDES permit is also exempt from CEQA pursuant to Title 14, California Code of Regulations, section 15301, because it is for an existing facility.

This Order does not authorize any take of endangered species. To ensure that endangered species issues have been raised to responsible agencies, the Regional Water Board notified the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, and the California Department of Fish and Game of the Regional Water Board's consideration of this Order.

Order No. R1-2009-0050 is an essential mechanism for achieving the water quality objectives and water quality standards that have been established for protecting the beneficial uses of the water resources in the Laguna de Santa Rosa and Mark West Creek watersheds and the urban clusters outside of Healdsburg and Graton.

#### Permit is Not an Unfunded State Mandate

This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal CWA section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.) The authority exercised under this Order is not reserved state authority under the CWA's savings clause (*cf. Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Second, the Co-Permittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the CWA regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (Wat. Code, § 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58.)

The CWA and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for MS4s, the CWA requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C.

§ 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (9<sup>th</sup> Cir. 1999) 191 F.3d 1159, 1164-1165.) As discussed in prior State Water Board decisions, this Order does not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Third, the Co-Permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The Fact Sheet demonstrates that numerous activities contribute to the pollutant loading in the MS4. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842.) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Co-Permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal CWA section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their discharges. To the extent the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (*Accord County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.) Likewise, the Co-Permittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limits approach. (See *City of Abilene v. U.S. E.P.A.* (5th Cir. 2003) 325 F.3d 657, 662-663.) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See *Environmental Defense Center v. U.S.EPA* (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, section (6) of the California Constitution.

### **Discharge Characteristics**

In general, the substances that are found in municipal storm water runoff can harm human health and aquatic ecosystems. The National Urban Runoff Program (NURP) study reported that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in storm water runoff. It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. In addition, the State Water Board Urban Runoff Technical Advisory Committee (TAC) finds that storm water runoff pollutants

include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.<sup>6</sup> Runoff that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the North Coast Region.

The 1992, 1994, and 1996, National Water Quality Inventory Reports to Congress prepared by U.S.EPA showed a trend of impairment in the nation's waters from contaminated storm water runoff.<sup>7</sup> The 1998 National Water Quality Inventory Report states that ocean shoreline impairment due to storm water runoff increased from 55 percent in 1996 to 63 percent in 1998. The report notes that storm water runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams.

Storm water runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans. Pollutants such as heavy metals and pesticides, which are commonly found in storm water runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.<sup>8</sup>

Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. U.S.EPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."<sup>9</sup>

Watershed development and urbanization result in increased pollutant loading, runoff volume and discharge velocity to receiving waters. In many cases, development results in naturally vegetated, pervious areas being converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. In addition, development and urbanization results in natural ground surfaces being graded or otherwise disturbed and subject to compaction, erosion, and sediment discharge. Land development creates

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<sup>6</sup> State Water Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

<sup>7</sup> U.S.EPA, 2000. Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress – U.S.EPA 841-S-00-001; Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress – U.S.EPA 841-F-00-006.

<sup>8</sup> Abel, P.D, 1996. Water Pollution Biology.

<sup>9</sup> U.S.EPA, 2000. Storm Water Phase II Compliance Assistance Guide. Washington D.C. EPA 833-R-00-002.

new pollution sources as the increased density of human population brings proportionately higher amounts of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Storm water runoff from these developed areas can collect and mobilize these pollutants. Storm water runoff from these developed areas are usually conveyed by a system of roads, gutters, pipes and drainage ditches and discharged directly to streams and rivers, without treatment. Retaining naturally vegetated soil can both absorb rainwater and act to remove pollutants, thereby providing an effective natural purification process. In contrast, pavement and concrete have limited ability to absorb water and remove pollutants, and thus the natural purification characteristics are lost. Retaining natural soil helps capture and slowly infiltrate runoff and also aids in sequestering carbon. The pool of organic carbon in the soil is approximately twice as large as that of the atmosphere. Soils can contain as much or more carbon than the vegetation they support. For example, 97 percent of the 335 billion tons of carbon stored in grassland ecosystems is held in the soil. Soil carbon storage can help offset release of carbon dioxide, a major greenhouse gas that contributes to global climate change.

The quality and quantity of MS4 discharges vary considerably because of the effects of hydrology, geology, land use, seasonality, and sequence and duration of precipitation events. Storm water runoff discharges typically contain pollutants that lower the quality of receiving waters and impact beneficial uses of receiving waters. Nationwide and local studies have shown exceedances of water quality standards including instances of aquatic toxicity in receiving waters associated with storm water discharges. Specific pollutants that are contained in storm water include, but are not limited to, heavy metals from sources such as automobiles and metal pipes; mercury from atmospheric fallout and improper disposal of mercury switches; lead from fuels, paints, automotive parts; copper from brake pad wear and roofing materials; zinc from tire wear and galvanized sheeting and fencing; bis (2-ethylhexyl) phthalate from the break down of plastic products; sediment from land disturbance and erosion; dioxins as products of combustion; petroleum hydrocarbons from sources such as leaking automobiles and minor spills; microbial pathogens from sewer overflows, pet waste, and failing domestic wastewater systems; pesticides from over application and spills; nutrients from fertilizer application and decomposing plant material; and litter.

Storm water is frequently a significant source of nutrient loading to receiving waters, well above background levels. In fact, the TMDL and Waste Reduction Strategy for the Laguna de Santa Rosa, Sonoma County developed by Regional Water Board staff and approved by U.S.EPA in 1995, identifies storm water runoff as a significant source of the nutrient loading in the Laguna watershed. This increase in nutrient loading can impair beneficial uses in several different ways. Nutrients are a primary driving factor in excess algal growth, low dissolved oxygen, extreme diurnal pH and dissolved oxygen cycles which can contribute to shifts in composition of aquatic species that are a primary component of a beneficial use. Ammonia as Nitrogen, and Nitrate plus Nitrite Nitrogen

are biostimulatory substances that can cause or contribute to eutrophic effects impairing warm freshwater and wildlife habitats. Ammonia is highly toxic to fish and other aquatic life. Excessive ammonia can cause aquatic life toxicity. Currently the Laguna de Santa Rosa is listed as impaired for nitrogen, phosphorus, low dissolved oxygen, sediment, temperature, indicator bacteria, and mercury.

Elevated bacterial indicator densities impair the water contact recreation (REC-1) beneficial use at beaches, rivers, creeks, estuaries, lagoons, and marinas. Swimming in waters with elevated bacterial indicator densities has been associated with adverse health effects. Specifically, epidemiological studies indicate that there is a causal relationship between recreational water quality, as measured by bacterial indicator densities, and adverse health effects. Sources of elevated bacteria to marine and fresh waters may also include illegal discharges from improperly maintained onsite water treatment systems and illicit discharges from private drains. Santa Rosa Creek is listed as impaired under section 303(d) of the CWA for pathogens as denoted by indicator bacteria. The sources of pathogens are currently unknown, but storm water runoff is a common contributor of pathogens and bacteria to watersheds. Regional Water Board staff will develop a TMDL to address the listed impairment.

Pesticides are substances used to prevent, destroy, repel or mitigate pests such as insects, weeds, and microorganisms. Their effects can be direct (e.g. fish die from a pesticide entering waterways, or birds do not reproduce after ingesting contaminated fish), or indirect (a hawk becomes sick from eating a mouse dying from pesticide poisoning). Pesticide categories include: Organochlorine, Organophosphorus, Organophosphate, and Pyrethroid. Storm water runoff can carry these substances into waterways.

Polychlorinated Byphenyls (PCBs) are a subset of the synthetic organic chemicals known as chlorinated hydrocarbons. Concern over PCBs toxicity, persistence (chemical stability) in the environment, and demonstrated ability to bioconcentrate has led to prohibitions on PCBs.

#### Storm Water Pollutants and Hydromodification

The high volumes and velocities of storm water discharged from MS4s into natural watercourses can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and physical modifications. These changes can also result in increased flooding, impacting downstream property owners and creating an added burden to flood control agencies. These changes are collectively termed hydromodification. Municipal point source discharges from urbanized areas remain a leading cause of impairment of surface waters in California.

The Natural Resources Defense Council (NRDC) 1999 Report, "*Stormwater Strategies, Community Responses to Runoff Pollution*" identifies two main causes of the storm

water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

- (a) Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop; (ii) transportation imperviousness; and (iii) non-porous (impervious) ground surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants as well as altering the timing and magnitude of the flood hydrograph.
- (b) The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in storm water runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, and trash.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

By accommodating the traditional approach to storm water management, urbanization has also altered the flow regime (rate, magnitude, frequency, timing, and flashiness of runoff) that supports aquatic and riparian habitats.

These hydrologic changes are driven by the loss of water storage capacity in the watersheds,<sup>10</sup> and exacerbated by physical alterations of the stream channel network.<sup>11</sup> This relationship between urbanization and stream channel integrity has been documented nationally and in localized studies.

Hydrologic changes from urban development also directly and indirectly adversely affect wetlands. Natural wetlands support many beneficial uses and provide important water-quality related ecological services, including pollutant removal, flood attenuation, and groundwater recharge.<sup>12</sup> The Center for Watershed Protection recently provided U.S.EPA with a synthesis of more than 100 scientific studies on the direct and indirect impacts of urbanization on wetlands and the role wetlands play in watershed quality. The report found that the three changes from land development with the most potential

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<sup>10</sup> Konrad, Christopher P. and Derek K. Booth, 2005. *Hydrologic Changes in Urban Streams and Their Ecological Significance*. American Fisheries Society Symposium Vol. 47 p.157-177.

<sup>11</sup> Poff, N.L. et al. 1997. The Natural Flow Regime: A paradigm for river conservation and restoration. *Bioscience* Vol. 47, No. 11, p.769-784.

<sup>12</sup> Water Quality Control Plan for the North Coast Region, Ch. 2 "Beneficial Uses," p. 2-16.00. Wright, Tiffany, et al. 2006. "Direct and Indirect Impacts of Urbanization on Wetland Quality." Prepared by the Center for Watershed Protection. Available at: <http://www.cwp.org>.

to impact wetlands include: increased storm water runoff, decreased ground water recharge, and flow constriction. Each of these changes may often be avoided or minimized by implementing site design and hydromodification BMPs.

When development reduces riparian buffers or flood plains are confined within levees, habitat loss and hydromodification can result. Modified flow characteristics, higher flow velocities and increased channel erosion are some of the impacts to receiving waters that may result from reduction of riparian buffers and loss of flood plain.

Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.<sup>13</sup> One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness in the watershed as low as 10 to 20 percent. Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness within the watershed greater than or equal to 25 percent.

Non-urban land use changes such as agriculture, grazing, timber harvesting, and low density residential development may also have significant hydromodification impacts on receiving waters due to removal of natural vegetation, reduction of riparian vegetation and riparian buffers, and soil compaction. These non-urban land uses, cumulatively, may have similar hydromodification impacts to receiving waters as urban development.

Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the State Water Board Urban Runoff Technical Advisory Committee (TAC) report, increases in population density and imperviousness result in changes to stream hydrology including:

- (a) Increased peak discharges compared to pre-development levels;
- (b) Increased volume of storm water runoff with each storm compared to pre-development levels;
- (c) Decreased travel time to reach receiving water; increased frequency and severity of floods;
- (d) Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;
- (e) Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and
- (f) Decreased infiltration and diminished ground water recharge.

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<sup>13</sup> U.S.EPA, 1999. Part II. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, Final Rule. Federal Register.

Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including:

- (a) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil);
- (b) taking reasonable steps to prevent the illegal disposal of wastes;
- (c) protecting footings and foundations;
- (d) ensuring that each drainage feature is adequately maintained in perpetuity; and
- (e) pretreatment.

Water quality assessments conducted by the Regional Water Board and others have identified impairment, or threatened impairment, of beneficial uses of water bodies within the permit boundary. The causes of impairments include pollutants of concern that are typically contained in municipal storm water discharges. Pollutants of concern within the Mark West Creek and Laguna watersheds include: sediments; temperature; nutrients; mercury and pathogens.

A one-time annual pollutant loading estimate was submitted in the Co-Permittees' Part II storm water permit application (1996). Annual loading estimates for Santa Rosa Creek were determined for sediments and nutrients (TSS: 21,400 tons; TDS: 9,600 tons; Phosphorus: 31 tons; Nitrate: 36 tons; TKN: 85 tons; Total Organic Nitrogen: 78 tons). This estimate was based on limited monitoring data and was not intended to quantify loadings for other runoff years or for areas outside of the City of Santa Rosa. Implementation of the MS4 program since 1997 is expected to have resulted in reductions in pollutant loadings to receiving waters. As with all municipal storm water programs, the goal is that the permit and municipal compliance efforts will evolve over time. Each new permit builds on program efforts that are proven to be effective in reducing storm water pollution and adds new programs where necessary. This Order contains additional program elements specifically intended to focus on sediment and nutrient pollutant reduction.

Certain pollutants present in storm water runoff may be derived from extraneous sources that the Co-Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polycyclic aromatic hydrocarbons (PAHs) which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and naturally occurring minerals from local geology. However, the presence of urban development and the MS4 system is responsible for delivering these pollutants to the receiving water. The implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

Municipal storm water and non-storm water discharges may contain pollutants that cause or threaten to cause an exceedance of water quality standards, as outlined in the Basin Plan. Wet weather and dry weather discharges are subject to the conditions and requirements established in the Basin Plan for point source discharges. Additionally, discharges from the MS4 that cause or contribute to exceedances of water quality standards within the receiving water are prohibited.

### **Sediment and Temperature**

Storm water can be a significant source of sediment in waterways through two primary mechanisms: (1) External - direct transport of large volumes of sediment from impervious and developed landscapes into stream channels; and (2) Internal - destabilization of the stream channel and stream bed from excess hydraulic energy leading to high rates of erosion within the stream channel.

Some types of sediment (sands and gravels) are natural components of stream systems and often provide benefits for aquatic habitat. However, excessive fine sediments, common in storm water runoff, may impact beneficial uses in several ways: (1) Filling in the stream channel and thus reducing the number and depth of pools and complexity of stream habitat features; (2) Creating a shallower stream environment that is more susceptible to increased temperature; (3) Increased nutrient loading, shallow pools, impaired flows all of which contribute to nuisance algal conditions; and (4) Direct effects from smothering of spawning gravels and benthic macroinvertebrate communities.

Natural peak flows may be beneficial to stream systems for sediment transport, promoting deeper pools with cooler water. Storm water flows may alter the natural temperature regime of receiving waters by changing the channel morphology and through direct differences in runoff temperature versus natural flows. Often direct flows are much warmer than the receiving water and can lead to temperature stress in many cold water aquatic species. For example, increased runoff from impervious surfaces such as paved areas and rooftops may increase the temperature of receiving waters. The impact of warmer flows can also be less direct, for example it can cause the stream to have less oxygen because warmer water has a lower oxygen saturation potential and therefore lower dissolved oxygen. These temperature changes can impact the biotic community within an aquatic ecosystem. Additionally, stream and aquatic ecosystems may already be stressed in summer due to lack of vegetation and ground water infiltration.

The majority of surface waters of Sonoma County within North Coast Regional Water Board jurisdiction are impaired for excess sediment and temperature. The Regional Water Board has adopted Board Resolution R1-2004-0087 which directs Regional Water Board staff to utilize existing regulatory programs, including storm water permitting, to address sources of sediment within sediment impaired watersheds.

Development patterns in the County indicate that development will continue, thereby increasing MS4 discharges into impaired waters.

### Impaired Water Bodies and TMDLs

CWA section 303(d) and 40 CFR 130.7 require States to identify water quality-impaired water bodies and pollutants of concern and develop TMDLs. A TMDL is a numerical calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing sources (point sources, which are given Waste Load Allocations (WLAs) and non-point sources, which are given Load Allocations (LAs)). Storm water and non-storm water discharges from MS4s are considered point sources.

The Regional Water Board is currently in the process of developing TMDLs for listed water bodies within the Region. The Co-Permittees' discharge of storm water into an impaired water body will be subject to load allocations and implementation plans established under any TMDLs adopted by the Regional Water Board and approved by U.S.EPA. Certain early actions and/or assessments by the Co-Permittees to address 303(d) listed water bodies and pollutants of concern are warranted and required by this Order. The impaired water bodies that are within or downstream of the permit boundary are listed below in Table 1.

Table 1. Impaired Waters

<b>Hydrologic Drainage</b>	<b>Pollutant</b>
Russian River HU, Lower Russian River HA, Austin Creek HSA	Sediment Temperature
Russian River HU, Lower Russian River HA, Guerneville HSA	Pathogens <sup>14</sup> pH <sup>15</sup> Sediment Temperature
Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	Low Dissolved Oxygen Mercury Nitrogen Phosphorous Sediment Temperature

<sup>14</sup> Listing covers only the Monte Rio area of this watershed from the confluence of Dutch Bill Creek to the confluence of Fife Creek and Healdsburg Memorial Beach from the Hwy 101 crossing to the railroad crossing upstream of the Beach.

<sup>15</sup> Listing only applies to Pocket Canyon Creek, a tributary to the lower Russian River within the greater Guerneville HSA.

Hydrologic Drainage	Pollutant
Russian River HU, Middle Russian River HA, Mark West Creek HSA	Sediment Temperature
Russian River HU, Middle Russian River HA, Santa Rosa Creek	Pathogens Sediment Temperature

Where reasonable potential has been established for a pollutant through the TMDL process, WLAs must be translated to water quality-based effluent limitations (WQBELs).

Laguna de Santa Rosa TMDL

On March 1, 1995, the Regional Water Board approved a TMDL for the Laguna watershed that assigned numeric, seasonal targeted reductions and net load goals for Total Nitrogen and Total Ammonia in urban storm water in four areas of the Laguna watershed. The Waste Reduction Strategy for the Laguna de Santa Rosa (Strategy) was approved on the same day to implement the TMDL. On May 4, 1995, U.S.EPA approved the TMDL and Strategy as a phased-approach TMDL. The Strategy anticipated attaining the targeted reductions and net load goals by July, 2000, to address excess nutrient and low dissolved oxygen impairment in the Laguna watershed. The Strategy found that storm water and non-storm water runoff contributed to the impairment of the Laguna de Santa Rosa.

The Strategy implements the TMDL using four programs aimed at reducing nitrogen and organic matter inputs to the Laguna. One of these programs is the storm water permit program to eliminate or reduce the discharge of pollutants from storm water systems. The estimated waste loads were separated into storm event, non-storm loadings and summer loadings.

The Strategy identified the City of Santa Rosa, the City of Rohnert Park, the City of Cotati, the City of Sebastopol, and the Town of Windsor as contributing urban storm water to the Laguna watershed, and it recommended that all urban areas reduce nutrient loads to the Laguna watershed. The Strategy states, "Urban development has increased rapidly in the greater Santa Rosa area and contributes to the water quality problems in the Laguna." Sonoma County was identified in the Strategy for development of a storm water program as a Co-Permittee with Santa Rosa because of their discharges of storm water to the Laguna watershed and the interconnectedness of the City and County's storm drain system.

The Strategy anticipated that TMDL implementation would reduce the total nitrogen, ammonia, total phosphate and organic matter discharges to the Laguna, and lead to a reduction of algal productivity and reduce the daily dissolved oxygen and pH excursions in the Laguna.

The Strategy was based on a watershed approach, and proposed targeting specific pollutant sources found within different areas of the watershed. The Laguna watershed was divided into four attainment areas, the lowermost point in the stream for each area being the point of attainment. Attainment point one is located in the Laguna at Trenton-Healdsburg Road, attainment point two at Guerneville Road, attainment point three at Occidental Road, and attainment point four at Stony Point Road.

These net load goals are not enforceable and are included in this Fact Sheet for reference only, because the Strategy did not include a firm compliance date. These goals will be replaced with updated waste load allocations when the updated Laguna TMDL is adopted.

Table 2. Laguna TMDL Net Load Goals for Total Nitrogen (pounds/season) in Urban Runoff

Attainment Point	Winter Net <sup>16</sup>	Spring Net	Summer Net	Fall Net
1. Trenton-Healdsburg Road	182,353	11,789	0	7,718
2. Guerneville Road	129,960	5,321	0	2,543
3. Occidental Road	42,025	1,161	0	514
4. Stony Point Road	17,054	1,161	0	514

Table 3. Laguna TMDL Net Load Goals for Total Ammonia (pounds/season) in Urban Runoff

Attainment Point	Winter Net <sup>17</sup>	Spring Net	Summer Net	Fall Net
1. Trenton-Healdsburg Road	16,174	942	0	539
2. Guerneville Road	11,593	376	0	140
3. Occidental Road	3,589	50	0	10
4. Stony Point Road	1,318	50	0	10

<sup>16</sup> Net Load in (pounds/season).

<sup>17</sup> Net Load in (pounds/season).

Until adoption of this Order, the storm water program did not include monitoring to determine compliance with the waste loads for each attainment point. This Order includes a Monitoring and Reporting Program with outfall monitoring to collect data related to Strategy compliance.

This Order includes several programs to implement the Strategy, such as treatment requirements for new development, inspections for nurseries, information and outreach for businesses and the public on fertilizer use and storage, municipal operations fertilizer use and catch basin clean out, new outfall monitoring, BMPs to control non-storm water flows, and special studies. Section A. Discharge Prohibitions and Section E. Special Provisions of this Order include requirements to meet the goals of the Laguna TMDL for storm water and non-storm water discharges. Monitoring and Reporting Program No. R1-2009-0050 includes requirements to monitor MS4 outfalls to compare with the goals of the TMDL.

Regional Water Board staff is currently developing an updated TMDL for the Laguna watershed and anticipates that it will be adopted within the term of this Order. This Order includes a requirement in year five to submit a report on compliance with Strategy goals, unless the updated TMDL is adopted prior to the due date of the report.

In support of the TMDL effort, Regional Water Board staff recently collaborated with the Laguna de Santa Rosa Foundation to conduct an assessment of existing water quality, hydrology, sediment transport, and ecosystem function to develop a conceptual framework for conducting the updated Laguna TMDL. The Altered Laguna, A Conceptual Model for Watershed Stewardship, published in 2007, was developed with a Technical Advisory Committee and was peer reviewed by the San Francisco Estuary Institute. The Altered Laguna confirmed the impaired conditions within the Laguna relative to temperature, nutrients, sediments, and dissolved oxygen.

The Altered Laguna identified urban storm water discharges during the wet season and urban non-storm water discharges during the dry season as potentially significant sources of all pollutants of concern (POCs). The updated TMDL analyses will better define the contributions of the MS4s that discharge to the Laguna and will provide allocations to the system for each parameter and include an implementation plan with recommendations on how the allocations can be achieved.

The updated TMDL will also need to address the role of impervious surfaces within the Laguna watershed. Impervious surfaces are linked to increased delivery of sediments, nutrients, and other oxygen consuming wastes to waterways within the Laguna. In addition, the hydrological modification that has resulted from high levels of impervious surfaces within the Laguna watershed has contributed to degraded stream channel, stream bank, and riparian conditions which are important risk co-factors for impairment related to bio-stimulatory substances. The effect of a greater area of impervious

surface is two-fold: increased loading of pollutants and decreased assimilative capacity of stream ecosystems.

This Order requires the use of post-construction storm water treatment BMPs and requires consideration and preference of LID strategies for new development to reduce the impact of new development to the Laguna and other impaired waterbodies.

### **Storm Water Management Plan and Report of Waste Discharge**

The Co-Permittees submitted a request for permit renewal (Report of Waste Discharge) on December 21, 2007 and it contained a proposed Storm Water Management Plan and Monitoring Program (Management Plan) to be considered by the Regional Water Board for incorporation into an MS4 NPDES Permit to demonstrate compliance with federal law. The Co-Permittees are entitled, but did not elect to pursue a permit with numeric end-of-pipe limits for storm water discharges, which would have required them to satisfy specific effluent limitations rather than implement storm water management programs. Where an MS4 permittee voluntarily chooses a Best Management Practice (BMP) based storm water management program rather than end-of-pipe numeric effluent limits, there exists no compulsion of a specific regulatory scheme that would violate the 10<sup>th</sup> Amendment to the United States Constitution. (City of Abilene v. EPA, 325 F.3d 657 (5th Cir. 2003)).

The intent of the Management Plan is to identify specific tasks and programs to reduce the discharge of pollutants in storm water to the MEP in a manner designed to achieve compliance with water quality standards and objectives. The Management Plan was developed during discussions between the Co-Permittees and Regional Water Board staff. Based on these discussions, the Co-Permittees submitted a Management Plan including their recommendations on how to achieve MEP. The Regional Water Board is requiring that the Management Plan be revised in this Order to meet the MEP standard. Modifications to the Management Plan could include additional measurable goals, improvements in program elements to reduce pollutant discharge to impaired waters, and/or modifications to implementation schedules. The Management Plan fulfills the Regional Water Board's permit application requirements subject to the condition that it will be improved and revised in accordance with the provisions of this Order. Each of the Co-Permittees developed individual plans that were incorporated into the Management Plan. The Management Plan defines the actions and sets measurable goals that will meet the MEP standard, when revised as required by this Order.

The Management Plan submitted on December 21, 2007, is incorporated into this Order and is an enforceable component of this Order. A summary of the Management Plan submitted on December 21, 2007, is included with this Order as Attachment D. Updates to the Management Plan shall be approved by the Regional Water Board as needed and will be an enforceable component of this Order.

The Management Plan describes a framework for management of storm water discharges during the term of this Order. The Management Plan describes the program's goals, objectives and activities, and the annual reporting and program evaluation process. Measurable goals and associated implementation dates, which represent the baseline level of effort required of each of the Co-Permittees, are contained in the Management Plan. They will serve as a reference point upon which to base overall program effectiveness evaluations. Each of the Co-Permittees is individually responsible for implementing their own individual Management Plan components to reduce, control and/or otherwise address sources of pollutants within their jurisdiction. These components contain individual strategies for storm water runoff control and elimination or reduction of non-storm water flows, including specific measurable goals, BMPs and implementation schedules, and procedures that detail how these control measures will be achieved.

Joint program activities that are described in the Management Plan include:

- (a) Program Management – This program's goals are to facilitate communication and coordination among the Co-Permittees, Regional Water Board and other appropriate entities; ensure the Management Plan elements are implemented on schedule; and ensure that all requirements of the permit are met. Program management includes annual reporting and effectiveness evaluations.
- (b) Santa Rosa Area Standard Urban Storm Water Mitigation Plan – This program outlines post construction storm water control, treatment and disposal measures for new development and significant redevelopment. Program goals are to manage storm water runoff from new development and significant redevelopment for both quality and quantity, as close to the point of origin as possible, through design and engineered measures.
- (c) Monitoring Program – This program includes monitoring of outfalls and receiving waters to assess receiving water quality and direct efforts to control POCs.

Specific program activities are focused on the following elements:

- (a) Legal Authority
- (b) Private Construction
- (c) Industrial and Commercial Discharge Sources
- (d) Municipal Operations
- (e) Public Construction Activities Management
- (f) Landscape and Recreational Facilities Management
- (g) Storm Drain System Operation and Management
- (h) Street and Road Maintenance
- (i) Parking Facilities Management
- (j) Emergency Procedures
- (k) Illicit Discharge Detection and Elimination
- (l) Public Education and Outreach
- (m) Industrial/Commercial Outreach
- (n) School Education

- (o) Effectiveness Evaluation
- (p) Fiscal Analysis

The Management Plan contains specific measurable goals that the Co-Permittees believe would achieve pollution reductions to the MEP. The selection of the measurable goals was made using projections of future revenues to fund the implementation of these goals. Those revenue projections may change considerably over the permit term, especially when considering forecasts for the state budget as a whole. If the state makes budgetary changes that reduce available discretionary funding for the municipalities, certain measurable goals now required by the Management Plan may become cost prohibitive. The Regional Water Board has delayed the implementation of the majority of the requirements in the Order to April 1, 2011 or later. In such budgetary conditions, it may be necessary to delay the implementation of those measurable goals. If this situation occurs, the Co-Permittees may request a delay or modification of the measurable goals. It is expected that these requests will be included in the annual report for that year. The Co-Permittees will have the burden to demonstrate to the Regional Water Board that a delay in measurable goals is appropriate based on a showing of the applicable budgetary constraints, prior best efforts to secure financing, and a plan to prospectively restore the prior level measurable goal implementation. The Co-Permittees will identify the measurable goals proposed to be delayed and will discuss program priorities and funding limitations with Regional Water Board staff. Proposed modifications of the Management Plan to delay the implementation of cost prohibitive measurable goals would then be proposed for consideration by the Regional Water Board at a duly noticed public hearing.

Regional Water Board staff has worked with the Co-Permittees in order to develop a Management Plan that meets the MEP criteria, would be consistent with the iterative BMP implementation process and would include measurable goals to evaluate program performance. The submitted Management Plan contains many significant improvements over the Management Plan for the previous permit term. However, Regional Water Board staff has identified several other tasks that are necessary to help improve storm water quality and meet the MEP criteria. These tasks are consistent with permit language in other MS4 permits in California and reflect current storm water management practices, and are being required in this Order.

The storm water permit program is dedicated to a process of continuous program review and improvement, which includes seeking new opportunities to control storm water pollution and to protect beneficial uses. The Co-Permittees have committed to working with other agencies and individuals to form mutually beneficial partnerships. The Co-Permittees will look for opportunities to obtain grants and other funding sources to improve their storm water program. The Co-Permittees are encouraged to conduct and document peer review of their control and evaluation programs to ensure that they are cost-effective and meet design goals. The Co-Permittees will conduct ongoing evaluations of each relevant element of their program and revise activities, control

measures and BMPs as deemed necessary. These reviews can provide an opportunity for local staff to benefit from the experience of other storm water professionals and to explore statewide and national storm water program models that have been shown to be successful in other areas. Any program modifications from this evaluation would be formally proposed for inclusion in the Management Plan and approved by the Regional Water Board in accordance with provisions of this Order.

It is the intent of Regional Water Board staff to perform, in coordination with the Co-Permittees and interested persons, an annual performance review and evaluation of the storm water program and its activities. The reviews are a useful means of evaluating overall storm water program effectiveness, implementation of measurable goals, and continuous improvement opportunities. The following areas will be evaluated:

- (a) Overall Program effectiveness;
- (b) Adherence to measurable goal schedules;
- (c) Co-Permittees' coordination and implementation of watershed based management actions (e.g., flood management, new development and construction, industrial source controls, public information/participation, monitoring);
- (d) Partnership opportunities with other local storm water programs; and
- (e) Consistency in meeting MEP measures within the Program and with other compatible Regional, Statewide, and National municipal storm water management program elements, with respect to pollutants of concern.

### **Implementation of this Order**

CEQA (Cal. Pub. Resources Code section 2100 et seq.) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary (a governmental agency can use its judgment in deciding whether and how to carry out or approve a project (14 Cal. Code Regs., § 15357)) and does not apply to ministerial projects (the law requires a governmental agency to act on a project in a set way without allowing the agency to use its own judgment (14 Cal. Code Regs., § 15369)). A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. This process would change a ministerial permit into a discretionary permit. In the alternative, Co-Permittees may establish standards and objective criteria that mitigate the effects of storm water discharges that must be met to comply with this Order prior to the municipalities providing ministerial approvals for projects. For water quality purposes, regardless of whether approvals for projects that may cause storm water impacts are discretionary or ministerial, the Regional Water Board requires in this Order that all new development and significant redevelopment activity in specified categories incorporate storm water treatment requirements.

The objective of this Order is to protect the beneficial uses of receiving waters in that part of Sonoma County within the jurisdiction of the Regional Water Board. To meet this objective, the Order requires that BMPs will be implemented to reduce the discharge of pollutants in storm water to MEP, and achieve water quality objectives and standards. U.S.EPA envisioned that municipal storm water programs would be implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term. (*Interpretative Policy Memorandum on Reapplication Requirements for MS4 permits* - 61 Fed. Reg. 41697.) Municipalities are required to evaluate what is effective and make improvements in order to protect beneficial uses of receiving waters. This Order requires implementation of an effective combination of pollution control and pollution prevention measures, education, public outreach, planning, and implementation of source control BMPs and structural and treatment control BMPs. The prescribed BMPs combined with the performance objectives outlined in this Order have the purpose of attaining water quality objectives and standards (*Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*- 61 Fed. Reg. 43761).

The implementation of measures set forth in this Order is reasonably expected to reduce the discharge of pollutants conveyed in storm water and non-storm water discharges into receiving waters.

During the term of the Order, the Co-Permittees shall implement all necessary control measures to reduce pollutant(s) which may cause or contribute to water quality impairments, but for which TMDLs have not yet been developed or approved to eliminate the water quality impairment(s). Successful efforts to reverse MS4 related impairments during the permit term for such pollutants may avoid the need for a WLA or the need to develop a TMDL in the future.

This Order provides flexibility for Co-Permittees to petition the Regional Water Board Executive Officer to substitute a BMP program under this Order with an alternative BMP program, if they can provide information and documentation that the effectiveness of the alternative is equal to or greater than the prescribed BMP program in meeting the objectives of this Order.

Co-Permittees are to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system through inter-agency agreements or other formal arrangements.

Updating ordinances and approval processes is necessary in order for the Co-Permittees to control discharges to their MS4s. U.S.EPA supports updating ordinances and approval processes when it states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water

management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4."<sup>18</sup>

The State Water Board amended the Policy for the Implementation of Toxics Standards In Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy – SIP) on February 24, 2005. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the State Implementation Policy. The MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector control agencies in accordance with CA Health and Safety Code, § 116110 et seq. Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g., mosquitoes and rodents). This Order contemplates that the Co-Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

This Order contemplates that Co-Permittees will ensure that implemented BMPs will not pose a safety or health hazard to the public. This Order contemplates that Co-Permittees will ensure that the maintenance of implemented BMPs will comply with all applicable health and safety regulations, such as, but not limited to requirements for worker entry into confined spaces under OSHA Safety and Training education, § 1926.21(b)(6)(i).

### **Receiving Water Limits and Water Quality Standards**

The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by U.S.EPA and established in State Water Board Order 99-05, Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740, adopted by the State Water Board on June 17, 1999. The RWL in this Order require

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<sup>18</sup> U.S.EPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

compliance with water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.

The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality standards. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality standards. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality standards.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated in past years. The argument arises because CWA section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both:

- (a) the technology based standard of "best available technology economically achievable (BAT)"; and
- (b) applicable water quality standards.

On the issue of municipal discharges however, the statute states that municipal dischargers must meet:

- (a) the technology-based standard of MEP; and
- (b) "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants."

The statute fails, however, to specifically state that municipal dischargers must meet water quality standards. As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards, and that they only are required to meet MEP. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, U.S.EPA, the State Water Board, and the Regional Water Board have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, U.S.EPA, the State Water Board (in Order Nos. WQ 91-03 and WQ 91-04), and the Regional Water Board have maintained that MS4

permits can contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.<sup>19</sup>

In addition to relying on U.S.EPA's legal opinion concluding that MS4s must meet MEP and water quality standards, the State Water Board also relied on the CWA's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the State Water Board relied on provisions of the Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The State Water Board first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order No. WQ 91-03. In that Order, the State Water Board also concluded that it was appropriate for Regional Water Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. Later, in Order No. WQ 98-01, the State Water Board prescribed specific precedent setting RWL language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order No. WQ 99-05, the State Water Board modified its RWL language in Order No. WQ 98-01 to meet specific objections by U.S.EPA (the modifications resulted in stricter compliance with water quality standards). State Water Board Order No. WQ 99-05 sets out receiving water limitations, based upon U.S.EPA's objection to the receiving water limitation language in Order No. WQ 98-01 and its adoption of alternative language. That alternative language requires permittees to comply with discharge prohibitions and receiving water limitations through timely implementation of control measures and other actions to reduce pollutants in discharges in accordance with the storm water management plan (SWMP), which is designed to achieve compliance with receiving water limitations, and other requirements of the permit. If exceedances of water quality objectives or water quality standards (collectively referred to as WQS) persist notwithstanding implementation of the SWMP and other requirements of the permit, the permittees must assure compliance with discharge prohibitions and receiving water limitations by complying with a procedure that implements an iterative process that requires modification of BMPs and updates to the SWMP. In this Order, the Regional

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<sup>19</sup> For the most recent assessment, see Storm Water Panel Recommendations to the California State Water Resources Control Board, 2006. *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities.*

Water Board made a slight modification of the language from Order No. WQ 99-05. In that Order, the permittees are not required to repeat procedures for continuing or recurring exceedances of the same RWL unless directed by the Regional Water Board to develop additional BMPs. Based on the Regional Water Board staff's experience in the implementation of this section, the Regional Water Board changed the section to require that the Co-Permittees continue to implement the iterative process, using alternative BMPs or combination of BMPs unless otherwise directed by the Regional Water Board Executive Officer. The concern was that without the requirement to continue the iterative process unless otherwise directed, the Co-Permittees would stop the process of trying additional BMPs, and too much time would pass before the Regional Water Board would know of the continuing violation and be able to require additional BMPs. If, however, the Co-Permittees find that their efforts are futile, they can come to the Regional Water Board Executive Officer to request that they not be required to continue the iterative process.

In the 1999 case involving MS4 permits issued by U.S.EPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld U.S.EPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of U.S.EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that U.S.EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld U.S.EPA's use of iterative BMPs in place of numeric effluent limits.

On October 14, 1999, the State Water Board issued a legal opinion on the federal appellate decision and provided advice to the Regional Water Boards on how to proceed in the future. In the memorandum, the State Water Board concludes that the recent Ninth Circuit opinion upholds the authority of U.S.EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As TMDLs are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the State Water Board found that the Regional Water Boards should continue to include the RWL established in State Water Board Order No. WQ 99-05 in all future permits.

The issue of the RWL language was also central to the Building Industry Association's appeal of Order No. 2001-01 (San Diego MS4 permit). The Building Industry Association (BIA) contended that the MEP standard was a ceiling on what could be required of the Co-Permittees in implementing their storm water runoff management

programs, and that Order No. 2001-01's RWL requirements exceeded that ceiling. In other words, BIA argued that the Co-Permittees could not be required to comply with receiving water limitations if they necessitated efforts which went beyond the MEP standard. Again, the courts upheld the Regional Water Board's authority to require compliance with water quality standards in municipal storm water permits, without limitation. The Court of Appeal, Fourth Appellate District found that the Regional Water Board has "the authority to include a permit provision requiring compliance with water quality standards."<sup>20</sup> On further appeal by BIA, the California State Supreme Court declined to hear the matter.

While implementation of the iterative BMP process is a means to achieve compliance with WQS, it does not shield the discharger from enforcement actions for continued non-compliance with WQS. Consistent with U.S.EPA guidance,<sup>21</sup> regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No. R1-2009-0050.

### **Maximum Extent Practicable (MEP)**

Under CWA section 402(p), municipalities are required to reduce the discharge of pollutants from their MS4s to the maximum extent practicable (MEP). This Order specifies requirements necessary for the Co-Permittees to comply with MEP. However, since MEP is a dynamic performance standard which evolves over time as storm water runoff management knowledge increases, the Co-Permittees' storm water runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, BMPs, etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of storm water runoff management program implementation is expected to ultimately achieve compliance with water quality standards.

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- (a) Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
- (b) Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?

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<sup>20</sup> Building Industry Association et al., v. State Water Resources Control Board (2004) 124 Cal.App.4<sup>th</sup>, 866 871.

<sup>21</sup> U.S.EPA, 1998. Jan. 21, 1998 correspondence, "State Board/OCC File A-1041 for Orange County," from Alexis Strauss to Walt Petit, and March 17, 1998 correspondence from Alexis Strauss to Walt Petit.

- (c) Public Acceptance: Does the BMP have public support?
- (d) Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
- (e) Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, if that BMP would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply, and practical solutions may not be easily dismissed. In any case, the burden is on the municipal discharger to show compliance with its permit. After selecting BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.<sup>22</sup>

A definition of MEP is not provided in either the federal statute or regulations. The final determination regarding whether a municipality has reduced pollutants to the MEP can only be made by the Regional Water Board or the State Water Board, and not by the municipal discharger. While the Regional Water Board or the State Water Board ultimately defines MEP, it is the responsibility of the Co-Permittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Co-Permittees' storm water runoff management programs submitted in their Management Plan are the Co-Permittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their storm water runoff management programs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities. The Regional Water Board determined that additional activities and measurable goals were needed to meet the MEP standard. This Order provides a minimum framework to guide the Co-Permittees in meeting the MEP standard.

This Order contains new or modified requirements that are necessary to improve Co-Permittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the LID requirements, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during inspections, report reviews, and other Regional Water Board and U.S.EPA contracted compliance assessment activities. The

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<sup>22</sup> State Water Resources Control Board, 1993. Memo entitled Definition of Maximum Extent Practicable.