

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0181
NPDES NO. CAS083470

MONITORING AND REPORTING PROGRAM

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

I. **MONITORING AND REPORTING PROGRAM REQUIREMENTS**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267. Because the Permittees operate facilities that discharge waste subject to storm water regulations, MRP No. R5-2002-0181 is necessary to ensure compliance with Order No. R5-2002-0181.

The Permittees shall not implement any changes to this MRP unless and until the Regional Board or Executive Officer issues a revised MRP. Attachment A shows the City of Stockton limits and the San Joaquin County urbanized areas (collectively called Stockton Urbanized Area) which are covered under this Order. To save time and money, and avoid duplication of efforts, the Permittees shall coordinate their monitoring program with local, state, and federal agencies whenever possible.

- A. **MRP Work Plan:** By **1 April 2003**, each Permittee shall submit an MRP Work Plan that supports the development, implementation, and effectiveness of the approved Storm Water Management Plan (SWMP) and Order No. R5-2002-0181.
- B. **Annual Report:** The Permittees shall submit, in both electronic and paper formats and no later than **1 September** of each year beginning in year 2003, an Annual Report documenting the progress of the Permittees' implementation of the SWMP and the requirements of Order No. R5-2002-0181. The Annual Report shall cover each fiscal year from **1 July through 30 June**. As part of the Annual Report, each Permittee shall complete the attached form (Attachment B) or propose an alternative form in the revised SWMP to be used instead of the attached form. The status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, the Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in the SWMP and Order No. R5-2002-0181 shall be included for each

program area. Specific requirements that must be addressed in the Annual Reports are listed below.

1. An Executive Summary discussing the effectiveness of the SWMP to reduce storm water pollution to the MEP.
2. Summary of activities conducted by the Permittees;
3. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants;
4. Summary of monitoring data, including the identification of water quality improvements or degradation, and recommendations for improvements to the SWMP (including proposed BMPs) based on the monitoring results. All receiving water monitoring data shall be compared to applicable water quality standards in the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).
5. An assessment of each component of the MRP. The assessment shall include the identification of water quality improvements or degradation and a comparison with applicable water quality standards. The lowest applicable standard from the Basin Plan, CTR, and Title 22 shall be used for comparison. When the data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how Permittees plan to comply with **Provisions 1 and 2** of Order No. R5-2002-0181 shall be included. In addition, the analysis shall compare discharge data with water quality standards to identify and prioritize potential water quality problems. Based on the identification and prioritization of the potential water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources;
6. A summary of any Reports of Water Quality Exceedance (RWQEs) that have been completed during the year, and a status update for those in progress. The summary shall include the conclusions and recommendations of completed RWQEs and the status of any additional BMP implementation pursuant to RWQEs;
7. Pursuant to 40 CFR 122.42(c)(7), the Permittees shall identify water quality improvements in, or degradation of, urban storm water;
8. An estimation of total annual pollutant loads due to storm water/urban runoff for each sampling station;

9. For each monitoring component, maps of all monitoring station locations and descriptions of each location; and
 10. Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP to address potential receiving water quality exceedances and potential pollutant sources, and to meet the MEP standard.
- C. **Certification:** All work plans and reports submitted to the Regional Board shall be signed and certified pursuant to federal regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 200_, at _____.

(Signature)_____ (Title)_____";

The Permittees shall mail the original of each annual report to:

CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD – CENTRAL VALLEY REGION
3443 ROUTIER ROAD, SUITE A
SACRAMENTO, CA 95827

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. MONITORING PROGRAM

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SWMPs;
- Assessing the chemical, physical, and biological impacts on receiving waters resulting from urban runoff;
- Characterization of urban runoff;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SWMP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Stockton Urbanized Area.

The Permittees shall implement the Monitoring Program as follows:

A. Sampling Protocol

1. Samples from each receiving water and urban discharge station described below shall be analyzed for all constituents listed in Table 1. All sample collection and analyses shall follow standard U.S. Environmental Protection Agency (U.S. EPA) protocol.
2. If a constituent is not detected at the method detection limit for its respective test method listed in Table 1 in more than 75 percent of the first 12 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than receiving water quality standards. The Permittees shall conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station. However, if confirmation sampling shows non-detect for a constituent for two successive years, the Permittees may propose to the Regional Board staff that the constituent be removed from Table 1. If the constituent is detected, it must continue to be monitored.
3. The Permittees shall collect flow data at the time of sampling for all monitoring stations sampled during a given year. Receiving water or urban discharge flow may be estimated using U.S. EPA methods¹ at sites where flow measurement devices are not in place.

¹ NPDES Storm Water Sampling Guidance Document, U.S. EPA 833-B-92-001, July 1992

4. Turnaround times for receipt of analytical monitoring data shall not exceed 35 days.

B. Urban Discharge Monitoring

Since 1992, the Permittees have been monitoring five drainage basins, shown in Attachment A. Three of these basins are in residential areas. Two of these residential basins, MS-14 and MS-18, are in the same general vicinity and both discharge to Mosher Slough. Due to the similarity of monitoring data from these two residential basins and the fact that they both discharge to the same receiving water, this monitoring program requires monitoring of MS-14 only along Mosher Slough. Samples shall be taken from representative outfalls for the following drainage basins: CR-46, discharging to the Calaveras River; DC-65, discharging to Duck Creek; and MS-14, discharging to Mosher Slough. The locations of these basins are shown in Attachment A. Samples shall also be taken at a representative outfall for the urban area surrounding Smith Canal, and near the receiving water sampling location designated as SC-1R in Attachment A. The proposed locations of urban discharge monitoring stations shall be presented in the revised SWMP. If additional monitoring stations are needed, they shall be established under the direction of Board staff. A description of any additional stations shall be attached to this MRP. Urban discharge monitoring shall be consistent with Table 1. Each year, samples shall be collected **during two storm events and two monitoring events during the dry season.**

C. Receiving Water Monitoring

All receiving water samples shall be grab samples, collected at mid-depth, in mid-stream of the receiving water. Receiving water sampling may be postponed or eliminated if hazardous weather and/or river flow conditions prevent safe access to sampling location. Receiving water monitoring shall be taken after discharges from MS-14, SC-1, CR-46, and DC-65 have occurred and shall be consistent with the frequency and schedule shown on Table 1. Attachment A shows the approximate locations of the receiving water sampling stations. Each year, samples shall be collected **during two storm events and two monitoring events during the dry season.** Receiving water monitoring shall include at least the following:

<u>Station</u>	<u>Description/Location/Type of Basin</u>
MS-14 R	Mosher Slough in the vicinity of Mariners Drive; Residential
SC-1R	Smith Canal in the vicinity of the Pershing Avenue over-crossing; Mixed Land Uses
CR-46R	Calaveras River in the vicinity of the El Dorado Street overpass; Commercial

DC-65 R

Duck Creek in the vicinity of the El Dorado Street
overcrossing; Industrial

D. Water Column Toxicity Monitoring

The Permittees shall conduct short-term chronic toxicity testing at each receiving water monitoring station during two of the five fiscal years (July 1 of the current year to June 30 of the following year) of the Order. This testing shall be done in alternate years. Short-term chronic toxicity testing shall include (1) the analysis of samples from **two storm events (including the first storm of the year) and two monitoring events during the dry season** from each receiving water monitoring station; and (2) analysis of at least the following two freshwater test species for each storm event: Fathead minnow [*Pimephales promelas* (larval survival and growth test) and water flea [*Ceriodaphnia dubia* (survival and reproduction test)]. The testing shall be conducted in accordance with U.S. EPA's method (U.S. EPA 1994b).

If toxicity is detected in a sample, a dilution series shall be initiated (0.5x steps) ranging from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6.25 percent of the sample. Further, if toxicity is detected at a given monitoring station, the Permittees will continue conducting toxicity testing and TIEs until the nature and cause(s) of the toxicity are defined.

1. Toxicity Identification Evaluations (TIE)

The Permittees shall begin a Phase I TIE immediately on all samples that are substantially toxic to either test species. If a sample is substantially toxic to both species, a TIE shall be performed on the more sensitive species. TIEs are required until the cause of toxicity is determined. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE (i.e. TIEs require that a significant toxic signal be present and that toxicity of the sample not be rapidly degraded) TIE efforts shall be conducted to target pollutants expected in storm water. The Permittees shall indicate the person who will conduct the TIE (in-house expert or outside contractor).

2. Toxicity Reduction Evaluations (TRE)

- a. When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least three samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Permittees shall submit the TRE to

the Executive Officer for approval. At a minimum, the TRE shall include a discussion of the following items:

- i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity;
 - ii. The potential sources of pollutant(s) causing toxicity;
 - iii. A list of Permittees having jurisdiction over sources of pollutant(s) causing toxicity;
 - iv. Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - v. Proposed changes to the SWMP to reduce the pollutant(s) causing toxicity; and
 - vi. Suggested follow-up monitoring to demonstrate that toxicity has been removed.
- b. If TRE implementation for a specific pollutant coincides with Total Maximum Daily Load (TMDL) implementation for that pollutant, the efforts may be coordinated.
 - c. Upon approval by the Executive Officer, the Permittees(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
 - d. The Permittees shall develop a maximum of two TREs per year. If applicable, the Permittees may use the same TRE for the same toxic pollutant or pollutant class in different watersheds or basins. The TRE process shall be coordinated with TMDL development and implementation to avoid overlap.

E. Bioassessment

The Permittees shall participate and coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Water Resources Control Board (State Board) to complete this requirement. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of Index of Biological Integrity (IBI) development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to

pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Permittees shall participate in and coordinate with the SWAMP to identify the most appropriate locations for bioassessment stations within the Stockton Urbanized Area.
2. The Permittees shall propose a bioassessment monitoring program by **1 September 2003**. Sampling shall begin within 30 days of approval of the sampling stations by the Executive Officer.
3. The Permittees shall develop Standard Operation Procedures (SOPs) for the bioassessment monitoring program that describe all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory, data entry, and QA/QC procedures. A copy of the SOPs shall be available to the Executive Officer upon request.
4. Field sampling must conform to the SOPs established for the California Stream Bioassessment Procedure (CSBP)² when appropriate. A minimum of three replicate samples shall be collected at each bioassessment station once annually during the spring flow period (when flow is present) and possibly once during the fall pending flow conditions. For sampling of aquatic environments where the CSBP is not appropriate (e.g., an estuary or unwadable stream), the California Department of Fish and Game (DFG) and the Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and errors by the field crews, the receiving laboratory, and the Permittees. These forms shall be available to DFG or the Executive Officer upon request.
5. Taxonomic identification laboratories shall process the biological samples. This consists of sub-sampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Permittees can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be

² California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

decreased to 10% in year three upon approval by the Executive Officer.
External QA/QC should be arranged through the DFG's Aquatic Bioassessment Laboratory in Rancho Cordova.

6. The following results and information shall be included in the Annual Report:
 - a. All physical, chemical and biological data collected in the assessment;
 - b. Photographs and GPS locations of all stations;
 - c. Documentation of quality assurance and control procedures;
 - d. Analysis that shall include calculation of the metrics used in the CSBP;
 - e. Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f. Electronic data formatted to the DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database and development of an Index of Biological Integrity for the region; and
 - g. Copies of all QA/QC documents from laboratories.

F. Water Quality-Based Programs

1. By **1 April 2004**, the Permittees shall submit the following water quality based programs for approval by the Executive Officer: Dissolved Oxygen Plan, Pathogens Plan, and Pesticide Plan.
2. Pesticide Monitoring, which will be described in more detail as part of the Pesticide Plan of this Order, shall be conducted as part of the receiving water and urban runoff monitoring efforts. The purpose of pesticide monitoring is to:
 - a. Monitor trends in the levels of diazinon and chlorpyrifos in all 303(d) listed waters within the Permittees' jurisdictions [Calaveras River (chlorpyrifos and diazinon), Five-Mile Slough (chlorpyrifos and diazinon), Mormon Slough (chlorpyrifos and diazinon), and Mosher Slough (chlorpyrifos and diazinon) shall be monitored]. Sampling must take place, at a minimum, in one storm event during the dormant spray application season, one storm event following the dormant spray application season, and once during the dry season. The Permittees shall conduct this additional pesticide monitoring for a minimum of one year. Additional pesticide monitoring may be discontinued if the Permittees can demonstrate through an evaluation of all the pesticide monitoring conducted as part of the storm water discharge, receiving water, and this additional pesticide monitoring that the receiving water and discharge monitoring results are representative of chlorpyrifos and diazinon levels in those water bodies. The Permittees shall submit to the Executive Officer such an evaluation and the formal request for the reduction or discontinuation of additional pesticide monitoring.

- b. Monitor diazinon and chlorpyrifos in rainwater at sites within and outside of the Stockton Urbanized Area; and
- c. After the completion of F.2.a and b and, if necessary, conduct pesticide monitoring to identify sources of pesticides upstream of residential and commercial areas. Identify potential continuing sources of diazinon and chlorpyrifos within residential and commercial areas. Incorporate any findings regarding these sources into the Pesticide Plan.

The monitoring required under this section may be conducted in collaboration with the Regional Board and/or the Department of Pesticide Regulation.

III. SPECIAL STUDIES

A. Detention Basin Monitoring

The Permittees shall submit by **1 April 2003** a work plan to perform influent, effluent, and sediment chemistry monitoring of three detention basins, with one basin in a residential, commercial, and industrial watershed. Monitoring shall be conducted during the second and fourth years of the permit. Monitoring shall be designed to evaluate the effectiveness of the detention basins in removing pollutants of concern. The Permittees may propose a joint study with other Central Valley MS4 permittees if they can demonstrate that data collected in other jurisdictions is applicable to detention basins in the Permittees' jurisdictions.

B. BMP Effectiveness Study

The Permittees shall conduct or participate with Modesto and Sacramento-area Permittees in at least three studies to evaluate the effectiveness of source or treatment control BMPs. The Permittees may choose to conduct one BMP study each or may choose to contribute to studies by one of the Permittees. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water including, but not limited to, pathogen indicators, nutrients, heavy metals, and pesticides from a minimum of one BMP that has been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined (This effort may be combined with the Smith Canal study);
2. Evaluate the requirements for and installation and maintenance cost of each BMP; and

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in the Stockton Urbanized Area.

IV. STANDARD MONITORING PROVISIONS

All monitoring activities shall meet the following requirements:

A. Monitoring and Records [40 CFR 122.41(j)(1)]

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

B. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or U.S. EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

C. Monitoring and Records [40 CFR 122.41(j)(3)]. Records of monitoring information shall include:

1. Date, location, and time of sampling or measurements;
2. Individual(s) who performed the sampling or measurements;
3. Date analyses were performed;
4. Individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. Results of such analyses.

D. Monitoring and Records [40 CFR 122.41(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this Order.

E. Monitoring and Records [40 CFR 122.41(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a

- violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by both.
- F. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.
- G. For priority toxic pollutants that are identified in the CTR (65 Fed. Reg. 31682), the MLs published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000 (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Table 1. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Table 1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the Inland Surface Waters Plan.
- H. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:
1. An actual numerical value for sample results greater than or equal to the ML;
 2. "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or
 3. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.
- I. For priority toxic pollutants, if the Permittees can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Permittees must submit documentation from the laboratory to the Executive Officer for approval prior to raising the ML for any constituent.
- J. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]

If the Permittees monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in

the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Annual Report.

K. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

L. If no flow occurred during the reporting period, the Monitoring Report shall so state.

M. The Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

1. By petition of the Permittees or by petition of interested parties after the submittal of the Annual Report. Such petition shall be filed not later than 60 days after the Annual Report submittal date, or
2. As deemed necessary by the Executive Officer following notice to the Permittees.

Ordered by _____
THOMAS R. PINKOS, Acting Executive Officer

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0181

NPDES NO. CAS083470

WASTE DISCHARGE REQUIREMENTS

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. The City of Stockton and the County of San Joaquin's County Service Area 54, hereafter jointly referred to as Permittees, submitted a completed Report of Waste Discharge (RWD) on 4 August 1999, requesting reissuance of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES) area-wide municipal separate storm sewer system (MS4) permit to discharge storm water runoff from storm drains within their jurisdictions and to implement a Storm Water Management Program (SWMP).
2. Prior to issuance of this Order, the Permittees were covered under the NPDES area-wide MS4 permit, Order No. 95-035 (NPDES No. CA0082597), adopted on 24 February 1995.
3. The City of Stockton (hereafter City) is defined as a medium municipality (population greater than 100,000 but less than 250,000) in the Code of Federal Regulations (CFR) 40 CFR 122.26 (b)(7). As such, the City must obtain an NPDES municipal storm water permit.
4. The County of San Joaquin (hereafter County) contains urbanized areas and areas of potential growth, which are enclosed within the limits of the City or surround the City. The urbanized areas of the County that are enclosed within the City, the urbanized areas which surround the City, and the City of Stockton are hereafter referred to as the **Stockton Urbanized Area** and subject to the permit requirements. Due to the proximity of the County's urbanized areas to the City, their physical interconnections to the City's storm sewer system, and the locations of their discharges relative to the City's system, the County is designated as part of the medium MS4 in accordance with 40 CFR 122.26(b)(7)(iii). Attachment A shows the Stockton Urbanized Area.

5. The Permittees have jurisdiction over and/or maintenance responsibilities for storm drains in the Stockton Urbanized Area. The discharge consists of surface runoff generated from various land uses that discharge into storm drains, which in turn discharge to natural drainage watersheds. The major natural drainage watersheds in the Stockton Urbanized Area are Bear Creek, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, the Calaveras River, Smith Canal, the Deep Water Channel, Mormon Slough, Walker Slough, Duck Creek, and Little Johns Creek. Smith Canal and Five Mile Slough receive storm water runoff only from the Stockton Urbanized Area. In addition to storm water runoff from the Stockton Urbanized Area, Calaveras River, Mosher Slough, and Walker Slough also at times receive storm water runoff from agricultural areas and agricultural return (tailwater) upstream of the Stockton Urbanized Area. All of these water bodies discharge to the Sacramento-San Joaquin River Delta and are tidal freshwater within the Stockton Urbanized Area with a one- to three-foot tide. In most areas of the Stockton Urbanized Area, dry weather flow and storm water runoff are pumped to sloughs/rivers. These drain westerly into the San Joaquin River, which runs along the western side of the Stockton Urbanized Area. The quality and quantity of these discharges vary considerably and are affected by hydrology, geology, land use, season, and sequence and duration of hydrologic events.
6. The Permittees' land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. The Permittees are therefore responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable (MEP) from new development and redevelopment activities. In addition, the Permittees must exercise their legal authority to ensure that the increased pollutant loads and flows do not degrade the beneficial uses of the receiving water.
7. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with California Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control Best Management Practices (BMPs) if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order expects that the 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.
8. There are portions of the City and County that are mainly agricultural, rural, and open space lands. It is not the intent of the federal storm water regulations to regulate storm water discharges from land uses of these types. Therefore, these areas are exempt from the requirements of this Order unless they discharge directly to the Permittees' conveyance system.

9. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants.

10. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. [*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994)].

Discharge Characteristics

11. The quality and quantity of MS4 discharges vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of precipitation events. Urban storm water runoff may contain pollutants that may lower the quality of receiving waters and adversely impact beneficial uses of the San Joaquin River and Delta. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.

12. Pollutants that may be contained in storm water include, but are not limited to, certain heavy metals; sediments; petroleum hydrocarbons from sources such as used motor oil; microbial pathogens; pesticides; sources of acute and chronic aquatic toxicity; and nutrients that cause or contribute to the depletion of dissolved oxygen and/or toxic conditions in the receiving water. Excessive flow rates of storm water may cause or contribute to downstream erosion and/or excessive sediment discharge and deposition in stream channels. The terrain in the Stockton Urbanized Area is relatively flat and storm water is pumped from the lower developed areas into the local waterways. As a result it is unclear whether urban runoff from Stockton leads to downstream erosion and/or excessive sediment discharge and deposition in the stream channels.
13. Water quality assessments conducted by the Permittees, DeltaKeeper, and Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Stockton Urbanized Area. The causes of impairments include oxygen demanding substances, certain heavy metals, pesticides, and pathogens. Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
14. The discharge of washwaters and contaminated storm water from industries and businesses is an environmental threat, and can also adversely impact public health and safety. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations and have identified illicit discharges from automotive and food service facilities as a major cause of contamination and water quality problems.
15. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polynuclear aromatic hydrocarbons 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 natural-occurring minerals from local geology. However, 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.
16. Respectively, the City and County have identified 114 and 48 outfalls within their jurisdictions. The City of Stockton began monitoring of its storm water discharges as part of its original Part 1 and Part 2 permit application in 1992/93. Since receiving its storm water permit in February 1995, the City has sampled three storms per year at five locations representing Residential, Commercial, and Industrial storm water discharges. In addition, toxicity testing of receiving waters has occurred since 1995. These data have been reported in the City's annual report.

Statutory and Regulatory Considerations

17. The CWA authorizes the U.S. Environmental Protection Agency (U.S. EPA) to permit a state to serve as the NPDES permitting authority in lieu of the U.S. EPA. The State of California has in-lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act or California Water Code (CWC) authorizes the State Water Resources Control Board (State Board), through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. On 22 September 1989, the State Board entered into a memorandum of agreement with the U.S. EPA to administer the NPDES Program governing discharges to waters of the United States.
18. The Water Quality Act of 1987 added Section 402(p) to the Clean Water Act (CWA 33 U.S.C. § 1251-1387). This section requires the U.S. EPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.
 - The U.S. EPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (*55 Fed. Reg.* 47990).
 - The U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (*64 Fed. Reg.* 68722).
19. Section 402 (p) of the CWA [33 U.S.C. § 1342(p)(3)(B)(iii)] provides that MS4 permits must “require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and system, design and engineering methods, and such other provisions as the U.S. EPA Administrator or the State determines appropriate for the control of such pollutants.” The State Water Resources Control Board’s (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).
20. This permit 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 the MEP from the permitted areas in the Stockton Urbanized Area subject to the Permittees' jurisdiction.

21. Section 402(p)(3)(B)(ii) of the CWA requires that NPDES permits effectively prohibit non-storm water discharges into MS4s. Federal regulation 40 CFR 122.26(d)(2)(iv)(B)(1) requires control programs to prevent illicit discharges to MS4s and allows certain categories of non-storm water discharges to MS4s provided that the Permittees eliminate such discharges once they are identified as sources of pollutants to waters of the United States.
22. The State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (General Industrial Permit)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (General Construction Permit)]. The General Industrial Permit was reissued on April 17, 1997. The General Construction Permit was reissued on 19-August-1999. In addition, the Regional Board has issued General Permit Order No. 5-00-175 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by Permittees. This Order requires the Permittees to conduct compliance inspections at industries and construction sites that discharge to their MS4s. Many of these sites are currently covered under State NPDES General Permits.
23. The City and County have adopted Ordinance Nos. 013-95 and 005-97, respectively. These ordinances provide the Permittees the authority to protect and enhance the water quality of watercourses, water bodies, and wetlands in the Stockton Urbanized Area in a manner pursuant to and consistent with the CWA and the Porter-Cologne Water Quality Control Act.
24. Federal regulations 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 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. Federal regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the U.S. EPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
25. When industrial or construction site discharges occur in violation of local permits and ordinances, the Regional Board refers first to the municipality where the discharge occurs for appropriate actions. If the municipality has demonstrated a good faith effort to educate and enforce but remains unsuccessful, the Regional Board may then step in to enforce the applicable statewide General Permit. If the municipality has not demonstrated a good faith enforcement effort, the Regional Board may initiate enforcement action against both the industrial or construction discharger under the statewide General Permits, as well as against the authorizing municipal Permittee for violations of this Order. Each Permittee must also provide the first level of enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.

26. This Order shall assure compliance with water quality standards. This Order therefore includes requirements to the effect that discharges shall not cause or contribute to violations of water quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. The Regional Board is requiring that these requirements be addressed through the effective implementation of Best Management Practices (BMPs) to reduce pollutants in storm water.
27. Regulations in 40 CFR 122.26(d)(2)(iv) require that the Storm Water Management Plan (SWMP) be implemented during the entire duration of the permit, which is five years. The Permittees shall demonstrate substantial compliance with the SWMP and this Order through the information and data supplied in the Annual Report.
28. Federal, state, regional, or local entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge storm water to the storm drains covered by this Order. The Permittees may lack legal jurisdiction over these entities under applicable state and federal authorities. Consequently, the Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. The Port of Stockton and Caltrans are currently designated as such entities. On 28 February 1997, the Regional Board issued Order No. 97-042 (NPDES No. CA0084077), a separate NPDES municipal storm water permit for the Port of Stockton. On 15 July 2000, the State Board issued a separate statewide NPDES storm water permit to Caltrans (NPDES No. CAS000003, Order No. 99-06-DWQ). The Permittees have entered into cooperative agreements with the Port of Stockton and Caltrans for the purpose of maintaining mutually beneficial storm water management program coordination, cooperation and communication.
29. The State and Regional Boards may consider issuing separate NPDES storm water permits to other federal, state, or regional entities operating and discharging within the Permittees' boundaries that may not be subject to direct regulation by the Permittees. Federal agencies are not subject to municipal storm water requirements although they may be permitted as industrial dischargers.
30. The Regional Board adopted the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin 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. This Order implements the Basin Plan.
31. The beneficial uses of the San Joaquin River and Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply; industrial; and agricultural supply; contact and other non-contact recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources.

32. The beneficial uses of the underlying ground water beneath the Stockton Urbanized Area as identified in the Basin Plan, are municipal and domestic water supply, industrial service, industrial process, and agricultural supply.
33. It is not feasible at this time to establish numeric effluent limits for pollutants in storm water discharges from MS4s. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in storm water discharges to the MEP. In lieu of numeric effluent limitations, this Order requires the implementation of BMPs identified in the Permittees' SWMP to control and abate the discharge of pollutants in storm water discharges. Implementation of BMPs and compliance with performance standards in accordance with the Permittees' SWMP and its schedules constitutes compliance with the MEP standard.
34. It is not feasible at this time to establish numeric effluent limits for pollutants in non-storm water discharges from facilities owned or operated by the Permittees. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in non-storm water discharges through implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technologies (BCT). Until such time that effluent limits are developed, implementation of both structural and non-structural BMPs constitutes compliance with the CWA Section 301 for BAT/BCT effluent limitation standards.
35. The U.S. EPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.
36. On 12 March 2001, the U.S. Court of Appeals ruled that it is necessary to obtain an NPDES permit for application of aquatic pesticides to waterways [*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (Ninth Cir., 2001)]. This decision is controlling in California for nonagricultural applications of pesticides to waterways. On 19 July 2001, the State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) for public entities that discharge pollutants to waters of the United States associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.
37. On 17 June 1999, the State Board adopted Order No. WQ 99-05 (SBO 99-05), a precedent setting-decision, which identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, U.S. EPA policy, and the U.S. Court of Appeals decision in *Defenders of Wildlife v. Browner* (Ninth Cir., 1999). The State Board's OCC has determined that the federal court decision did not conflict with SBO 99-05 (memorandum dated October 14, 1999).

38. Federal regulation 40 CFR 122.42(c)(7) requires the Permittees to submit an annual report that identifies water quality improvements or degradation.
39. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code, Section 21100, et. seq.) in accordance with Section 13389 of the California Water Code.
40. This Order serves as an NPDES permit, pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 50 days from the date of hearing, provided that U.S. EPA has no objections.
41. This Order does not authorize any take of endangered species. To ensure that endangered species issues have been raised to the responsible agencies, the Regional Board notified the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Game of Regional Board consideration of this Order.

Storm Water Management Program

42. Federal regulation 40 CFR 122.26(d)(2)(iv) requires the Permittees to submit a SWMP to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into municipal storm drain systems within the Permittees' jurisdictions during the five-year duration of the permit. During this permit period, the Permittees shall demonstrate substantial compliance with their respective SWMP and this Order through the information and data supplied in the Permittee's Annual Report.
43. This Order requires evaluation of water quality impacts of storm water discharges from industrial and construction sites, existing urbanized areas, and new developments. This Order also requires implementation and evaluation of the SWMP and related programs to reduce the discharge of pollutants in storm water runoff to MEP and to improve water quality and protect beneficial uses.
44. The Permittees submitted a proposed SWMP in August 1999. The SWMP fulfills the Regional Board's permit application requirements subject to the condition that it will be improved and revised in accordance with the provisions of this Order. The SWMP describes the framework for management of storm water discharges during the term of this Order. The SWMP describes the goals and objectives, legal authorities, source identification process, funding sources, fiscal analysis, assessment controls, BMPs evaluation and improvement process, and monitoring plan of the Permittees' storm water management program. The SWMP includes program elements that each Permittee will implement to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into MS4s and watercourses within each Permittee's jurisdiction. The Permittee's SWMP is a site-specific modification of the existing Storm Water Management Program required under the previous MS4 permit, Order No. 95-035. The various components of the SWMP, taken as a whole rather than

individually, are expected to reduce pollutants in storm water and urban runoff to the MEP.

45. The goal of the Permittees' SWMP is to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan area of Stockton. These natural resources include the San Joaquin River and tributary streams, and regional groundwater aquifer. The objectives of the SWMP are:
 - a. To identify and control those pollutants in urban runoff that pose significant threats to these resources and their beneficial uses;
 - b. To comply with the federal regulations to eliminate or control, to the MEP, the discharge of pollutants from urban runoff associated with the metropolitan storm drainage system;
 - c. To achieve compliance with water quality standards;
 - d. To develop a cost-effective program which focuses on pollution prevention of urban storm water;
 - e. To seek cost effective alternative solutions where prevention is not a practical solution for a significant problem; and
 - f. To coordinate implementation of control measures with other agencies.

46. The SWMP outlined in the RWD and the additional and/or revised provisions contained in this Order emphasize pollution prevention through the following elements:
 - a. Program Management
 - b. Legal Authority
 - c. Construction Program
 - d. Industrial and commercial Program
 - e. Municipal Operations Program
 - f. Public Education Program
 - g. Illicit Discharge Program
 - h. Planning and Land Development Program
 - i. Performance and Effectiveness Evaluation
 - j. Fiscal Analysis
 - k. Monitoring Plan
 - l. Water Quality Based Programs

47. In accordance with Order No. 95-035 (NPDES No. CAS083470) and the SWMP, the City has completed the following components of its program: changes to its General Plan, formation of a development review committee, evaluation of existing structural controls, and adoption of conditions of approval for new development, a storm water quality control criteria plan, development review procedures, and a grading ordinance. With the exception of the evaluation of existing structural controls and changes to the General Plan, the County has not completed any of these program components.

48. The SWMP includes a Smith Canal Water Quality Improvement Program in which the Permittees propose to complete the following tasks:
 - a. Identify additional monitoring and modeling needs to further define the sources and extent of water quality problems in Smith Canal;
 - b. Evaluate potential BMPs including source and treatment controls that can be applied within the Smith Canal drainage area;
 - c. Outline a program to conduct treatment control feasibility studies and pilot testing of BMPs in the Smith Canal drainage area; and
 - d. Recommend an approach to monitor BMP performance and assess water quality trends.
49. The water quality improvement plan program proposed for Smith Canal and additional and/or revised provisions contained in this Order is intended to provide adequate annual monitoring that is necessary to track trends in water quality improvement.
50. This Order includes a Monitoring Program that incorporates analytical Minimum Levels (MLs) established under the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)*. The SIP's 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.
51. The Permittees' SWMP contains BMPs that each Permittee will implement to reduce the discharge of pollutants from their respective MS4s to the MEP. The Permittees are required to establish performance standards for each proposed BMP. For structural and source control BMPs, the Permittees will provide estimates of the expected reduction of pollutant loads. These estimates will be used as performance standards where appropriate; if these estimates do not provide appropriate performance standards, the Permittees will propose alternative performance standards in their SWMP. For non-structural BMPs (e.g., business outreach and construction site inspection), the Permittees will propose performance standards that represent the designated level of effort required to comply with this Order and the federal MEP standard.
52. Performance Standards include implementation of recommended BMPs (source and treatment controls) for new development and redevelopment projects as required by local development standards and included in applicable standard specifications, design and procedures, and guidance documents (hereafter collectively referred to as Development Standards). Each Permittee's Development Standards will be revised in accordance with the requirements of this Order.

53. The SWMP and modifications or revisions to the SWMP that are approved in accordance with this Order, are an integral and enforceable component of this Order.
54. This Order provides for an increase in urban storm water discharge due to continuing development within each Permittee's jurisdiction. The continued implementation of the Permittees' SWMP that comply with the requirements of this Order will reduce the potential for discharges from MS4s to cause or contribute to the degradation of the receiving water quality. Therefore, this Order is consistent with the anti-degradation provisions of 40 CFR 131.12 and the State Board Resolution 68-16.

Development Standards

55. On 5 October 2000, the State Board adopted Order WQ 2000-11, a precedent setting decision concerning the use of Standard Urban Storm Water Mitigation Plans, hereafter Development Standards, in municipal storm water permits for new developments and significant redevelopments by the private sector. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur (Gov. Code §11425.60). Due to the precedent setting nature of Order WQ 2000-11, the Regional Board's MS4 permits must be consistent with applicable portions of the State Board's decision and include Development Standards.
56. Federal regulation 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the United States. Authorizing the construction of a storm water/urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with Development Standards and any other requirements of this Order must occur prior to the discharge of storm water into a water of the United States.
57. On 16 April 1997, the City adopted Ordinance No. 010-97 (Ordinance) to implements its Storm Water Quality Control Criteria Plan for new development and significant redevelopment. The Ordinance establishes requirements for selection of post-construction storm water quality controls (BMPs) to reduce pollutants from new development and significant redevelopment to the MEP. The Ordinance also requires adoption of Administrative Guidelines to provide procedures for the evaluation and selection of post-construction BMPs. However, the City Ordinance does not contain standards which are adequate to meet the standards affirmed in Order WQ 2000-11.
58. Studies indicate that facilities with paved surfaces subject to frequent motor vehicle traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants*:

Assessment, Sources, and Treatability, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In *Innovative Urban Wet-Weather Flow Management Systems* (2000) Technomic Press, Field, R et al. editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler et al. Technical Report 343, Southern California Coastal Water Research Project (2001)].

59. Retail gasoline outlets (RGOs) are points of convergence for vehicle traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [Schueler and Shepp (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks (*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999).
60. The Los Angeles and San Diego Regional Water Quality Control Boards have jointly prepared a Technical Report on the applicability of new development BMP design criteria for RGOs, [*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)]. RGOs in Washington, Oregon, and other parts of the United States are already subject to numerical BMP design criteria under the MS4 program.
61. In March 1997, the California Storm Water Quality Task Force (SWQTF) published *Best Management Practice Guide – Retail Gasoline Outlets*.
62. State Board Order WQ 2000-11 directed the Los Angeles Regional Water Quality Control Board to mandate that RGOs employ the BMPs listed in SWQTF's March 1997 RGO BMP publication. Due to the potential threat to storm water quality from RGOs, Development Standards for RGOs are included in this Order.
63. Each Permittee is individually responsible for adopting and enforcing local ordinances necessary to implement effective BMPs to prevent or reduce pollutants in storm water, and for providing funds for capital, operation, and maintenance expenditures necessary to implement such BMPs for the storm drain system that it owns and/or operates. Enforcement actions concerning this Order will, whenever necessary, be pursued only against the individual Permittee responsible for specific violations of this Order.

Impaired Water Bodies

64. CWA Section 303(d) and 40 CFR 130.7 require states to identify water quality-impaired water bodies and pollutants of concern, and develop Total Maximum Daily Loads

(TMDLs). A TMDL is a quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Regional Board is currently in the process of developing TMDLs for listed water bodies within the Region. Once the Regional Board and U.S. EPA approve TMDLs, the Permittees' discharge of storm water into an impaired water body will be subject to load allocations and implementation plans established under the TMDLs. Certain early actions and/or assessments by the Permittees to address 303(d) listed water bodies and constituents are warranted and required by this Order.

65. Several streams within the Delta (Mosher Slough, Five-Mile Slough, Calaveras River, and Mormon Slough) have been identified as toxic hot spots due to the presence of diazinon and chlorpyrifos (Regional Board Resolution No. 99-001 and State Water Resources Control Board Resolution No. 99-065). The State's Clean Water Act Section 303(d) list identifies Five-Mile Slough and Mosher Slough as not attaining water quality standards due to elevated levels of diazinon and chlorpyrifos (303(d) listed waters). The stream reaches not in attainment of standards are all within San Joaquin County. An urban stormwater cleanup plan is required for diazinon and chlorpyrifos as a result of the hot spot designations and CWA Section 303(d) listings.

The Porter-Cologne Act (§ 13395) requires the reevaluation of waste discharge requirements for dischargers who have discharged pollutants causing all or part of the toxic hot spot. The waste discharge requirements must be revised to include requirements that "prevent the maintenance or further pollution of existing toxic hot spots." Further "(t)he Regional Board may determine it is not necessary to revise a waste discharge requirement only if it finds that the toxic hot spot resulted from practices no longer being conducted by the discharger... or that the discharger's contribution to the creation or maintenance of the toxic hot spot is not significant."

- a. The data are not available to determine the relative contribution of the Permittee's discharge (compared to upstream and atmospheric contributions from non-urban sources) to the diazinon and chlorpyrifos levels in 303(d) listed waters and toxic hot spots.
- b. The phase-out of the sale of diazinon and chlorpyrifos for most residential and commercial uses should significantly reduce or eliminate, over time, the contribution of the Permittee's discharge to the non-attainment of water quality standards in the 303(d) listed waters and the maintenance of the diazinon and chlorpyrifos hot spots.
- c. Monitoring of diazinon and chlorpyrifos is needed to determine the significance of the Permittees' contribution to diazinon and chlorpyrifos levels in 303(d) listed waters and the toxic hot spots. Monitoring is also needed to determine the effectiveness of the phase-out of urban uses of diazinon and chlorpyrifos; to assess whether the hot spots are maintained; and to assess whether water quality objectives are met.

- d. The Chemical Constituents, Pesticides, and Toxicity narrative water quality objectives contained in the Regional Board's Basin Plan for the Sacramento and San Joaquin River Basins are used to determine whether water quality standards are being attained in the 303(d) listed waters or whether the toxic hot spot is being maintained. The Basin Plan directs the Regional Board to review relevant guidelines and criteria from State, federal, and local agencies in making its determination as to whether the narrative water quality objectives are met.
- e. Chlorpyrifos and diazinon criteria developed by the California Department of Fish and Game for the protection of aquatic life are the most appropriate for assessing whether the objectives are being attained in the 303(d) listed waters or whether the toxic hot spot is being maintained.
- f. The California Department of Fish and Game criteria are: 80 nanograms per liter (ng/L or parts per trillion), one-hour average and 50 ng/L, four-day average for diazinon; 20 ng/L, one-hour average and 14 ng/L, four-day average for chlorpyrifos

If the criteria identified above are not attained or will not be attained with elimination of diazinon and chlorpyrifos from urban storm water runoff by the expiration date of this permit, the Regional Board will adopt a Basin Plan Amendment within two years of expiration of this Order to address other sources of diazinon and/or chlorpyrifos that are causing non-attainment of the criteria.

- 66. **Five-Mile Slough, Mosher Slough, Stockton Deep Water Channel, and the San Joaquin River** are listed as impaired water bodies pursuant to Section 303(d) of the CWA. The Delta Waterways, which are the receiving waters for the aforementioned rivers, are also listed. The Regional Board plans to develop TMDLs for these water bodies over the next decade. Once the Regional Board and U.S. EPA approve TMDLs, the Permittees' storm water discharge of urban runoff into an impaired water body will be subject to load allocations established by TMDLs. These impairments are based on identified exceedances of water quality standards.
- 67. The Regional Board considers storm water discharges from the Stockton Urbanized Area to be significant sources of pollutants. Under Section 303(d) of the CWA, **Five-Mile Slough (chlorpyrifos and diazinon), Mosher Slough (chlorpyrifos and diazinon), Stockton Deep Water Channel (dioxin, furans, and PCBs), and San Joaquin River (boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, selenium, and unknown toxicity)** are listed as water quality impaired by the pollutants shown in parentheses. These impairments are based on identified exceedances of water quality standards.
- 68. The State Board's 2 April 2002 staff report entitled *Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments* proposes to add several water bodies in the Stockton area to the 303(d) list. These water bodies and the cause(s) of their impairment include Calaveras River – dissolved oxygen (DO) and pathogens; Five-Mile

Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Mormon Slough – DO and pathogens; Mosher Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Smith Canal – DO, organophosphate pesticides, and pathogens; Stockton Deep Water Channel - pathogens in addition to dioxin, furans, and PCBs; and Walker Slough – pathogens. These impairments are based on identified exceedances of water quality standards.

Public Process

69. The Regional Board has notified the Permittees and interested parties of its intent to prescribe waste discharge requirements for this discharge. These parties have been given an opportunity to address the Regional Board at a public hearing and an opportunity to submit their written views and recommendations to the Regional Board.
70. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The attached Fact Sheet is part of this Order.
71. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 95-035 is rescinded, and that the Permittees, their agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions – Storm Water Discharges

1. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code are prohibited.
2. Discharges from MS4s, which cause or contribute to exceedances of receiving water quality standards for surface water or ground water are prohibited.
3. Discharges from MS4s containing pollutants which have not been reduced to the MEP are prohibited.

B. Discharge Prohibitions – Non-Storm Water Discharges

1. Each Permittee shall effectively prohibit all types of non-storm water discharges into its MS4s unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with this Order.

2. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering a MS4 if such categories of discharges are identified by the Permittees as a source of pollutants to waters of the United States:
 - a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration as defined by 40 CFR 35.2005(20);
 - d. Uncontaminated pumped ground water;
 - e. Foundation drains;
 - f. Springs;
 - g. Water from crawl space pumps;
 - h. Footing drains;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing;
 - l. Landscape irrigation;
 - m. Discharges from potable water sources other than water main breaks;
 - n. Irrigation water;
 - o. Individual residential car washing;
 - p. De-chlorinated swimming pool discharges;
 - q. Lawn watering; and
 - r. Street wash water.
3. When a discharge category above is identified as a source of pollutants to waters of the United States, the Permittees shall either:
 - a. Prohibit the discharge category from entering its MS4s; or
 - b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs which will reduce pollutants to the MEP;
4. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require immediate implementation of BMPs and are not prohibited. However, each Permittee should coordinate with other agencies to develop a response plan to minimize the impact of fire fighting flows to the environment. BMPs must be implemented to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes) identified by the Permittees to be significant sources of pollutants to waters of the State. The response plan and BMPs shall be updated as needed and submitted with the Annual Reports. This plan shall be developed by Permittees having a fire protection agency within their jurisdictional control.
5. Each Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring and Reporting Program of this Order to identify water quality problems that may be the result of any non-storm water discharge,

including any non-prohibited discharge category(ies). Follow-up investigations shall be conducted as necessary to identify and control any non-storm water discharges that are sources of pollutants. Non-prohibited discharges listed above containing pollutants that cannot be reduced to the MEP by the implementation of BMPs shall be prohibited on a categorical or case-by-case basis.

C. Receiving Water Limitations

1. Receiving water limitations are site-specific interpretations of water quality standards from applicable water quality control plans. As such they are required as part of the permit. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. The Regional Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred. Discharges from MS4s shall not cause the following in receiving waters:
 - a. Concentrations of dissolved oxygen to fall below 6.0 mg/l from 1 September through 30 November and 5.0 mg/l the remainder of the year.
 - b. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
 - c. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
 - d. Chlorine to be detected in the receiving water in concentrations equal to or greater than 0.01 mg/l.
 - e. Aesthetically undesirable discoloration.
 - f. Fungi, slimes, or other objectionable growths.
 - g. The 30-day average for turbidity to increase as follows:
 - i. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - ii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - iii. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - iv. More than 10 percent where natural turbidity is greater than 100 NTUs.
 - h. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 unit.
 - i. Deposition of material that causes nuisance or adversely affects beneficial uses.

- j. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
 - k. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of Radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
 - l. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
 - m. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
 - n. Pathogen concentrations to be present that exceed criteria or threaten public health.
 - o. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted thereunder.
2. The discharge shall not cause or contribute to a violation of any applicable water quality standard for receiving waters contained in the Basin Plan. If different applicable water quality standards are adopted after the date of adoption of this Order, the Regional Board may revise and modify this Order as appropriate.

D. Provisions

1. Each Permittee shall comply with this Order through the timely implementation of control measures and other actions to reduce pollutants in the discharge to the MEP in accordance with the SWMP, including any modifications, and other requirements of this Order. The SWMP shall be designed to achieve compliance with this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the SWMP and other requirements of this Order, the Permittees shall assure compliance with this Order by complying with the following procedure:
 - a. Upon determination by either the Permittee or Regional Board that storm water discharges have caused or are causing an exceedance of an applicable water quality standard, the Permittee shall notify the Regional Board **within 30 days**. Following notification by the Permittee that storm water discharges have caused or are causing an exceedance of an applicable water quality standard, the Permittee shall submit to

the Regional Board a Report of Water Quality Exceedance (RWQE) that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that have caused or are causing the exceedance of applicable water quality standards. The RWQE shall include a monitoring program and the rationale for new BMPs including a discussion of expected pollutant reductions and how implementation of these additional BMPs will prevent future water quality standard exceedances. The RWQE shall include an implementation schedule containing milestones and performance standards. The RWQE may be incorporated in the Annual Report revision to the SWMP unless the Regional Board directs an earlier submittal.

- b. Submit any modifications to the RWQE required by the Regional Board within **30 days** of notification;
 - c. Within **30 days** following approval of the RWQE by the Regional Board, the Permittee shall revise the SWMP and monitoring program to incorporate the approved BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and
 - d. Implement the revised SWMP and monitoring program in accordance with the approved schedule.
2. So long as the Permittees have complied with the procedures set forth above and are implementing the revised SWMP, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.
 3. By **1 November 2002**, the County shall complete the following tasks: (1) Establish Conditions of Approval for New Development and Significant Redevelopment; (2) Adopt Storm Water Quality Control Criteria Plan; (3) Establish Development Review Procedures; and (4) Adopt/Update Standard Specifications and Plans to incorporate Storm Water Quality provisions.
 4. Within its geographic jurisdiction, each Permittee shall:
 - a. Comply with the requirements of this Order, the SWMP, and any modifications to the SWMP;
 - b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SWMP applicable to such Permittee in an efficient and cost-effective manner;

- c. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SWMP.
- d. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - i. Program management
 - Administrative costs
 - ii. Program Implementation

Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

- Illicit connection/illicit discharge
 - Development planning
 - Development construction
 - Construction inspection activities
 - Industrial/Commercial inspection activities
 - Public Agency Activities
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - Municipal Street Sweeping
 - Catch basin clean-up
 - Trash collection
 - Capital costs
 - Percentage and dollar breakdown of storm water department staff as compared to staff from other departments conducting storm water activities.
 - Costs of the storm water program on an individual and household basis.
- iii. Public Information and Participation
 - iv. Monitoring Program
 - v. Miscellaneous Expenditures
 - vi. In addition to the Budget Summary, each Permittee shall report any supplemental dedicated budgets for the same categories.

Storm Water Management Program

5. Upon adoption of this Order, each Permittee shall modify its SWMP to address the requirements of this Order and submit the SWMP by **1 September 2003** for public review and comment, and Regional Board approval. New or revised BMPs may be based upon special studies or other activities conducted by the Permittees, literature

review, or special studies conducted by other programs or dischargers. The SWMP shall contain the rationale for any new or revised BMPs and may include a discussion of baseline conditions, expected reductions in mass loading, and methods to be used to verify that BMPs have been successfully implemented. The SWMP shall include an implementation schedule containing identifiable milestones, performance standards, and a compliance monitoring and reporting program. The Permittees shall incorporate newly developed or updated BMPs and assessment tools/Performance Standards into applicable annual revisions to the SWMP and adhere to implementation of the new/revised BMPs. The approved SWMP shall serve as the framework for identification, assignment, and implementation of BMPs. Each Permittee shall implement or require implementation of BMPs in the approved SWMP to ensure that pollutant discharges from its MS4s are prevented or reduced to the MEP. Each Permittee shall implement a SWMP that contains the following components:

- a. Legal Authority
- b. Program Management
- c. Core Programs
 - Construction Program
 - Planning and Development Program
 - Industrial and Commercial Program
 - Municipal Operations Program
 - Illicit/Illegal Discharge Program
 - Public Education and Outreach Program
- d. Water Quality Based Programs
- e. Fiscal Analysis
- f. Monitoring Program
 - Performance and Effectiveness Evaluation

Legal Authority

6. The Permittees shall establish, maintain, and enforce adequate legal authority to control pollutant discharges from their MS4s through ordinance, statute, permit, contract, or similar means. This legal authority must, at a minimum, authorize the Permittees to:

- a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to their MS4s. This requirement applies both to industrial and construction sites, which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites that do not require permit coverage.
- b. Effectively prohibit identified illegal discharges including but not limited to the following:
 - i. Sewage overflows;
 - ii. Discharges of wash water resulting from the hosing or cleaning of gas stations, vehicle repair services, or other types of automotive services facilities;
 - iii. Discharges resulting from the storage, cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and portable toilet servicing, etc.;
 - iv. Discharges of wash water from mobile operations such as mobile vehicle washing, steam cleaning, power washing, and carpet cleaning, etc.;
 - v. Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, and commercial areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
 - vi. Discharges of runoff from material storage areas containing equipment, chemicals, fuels, grease, oil, or other hazardous materials;
 - vii. Discharges of pool or fountain water containing chlorine or bromine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
 - viii. Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes;
 - ix. Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.);
 - x. Discharge of runoff from washing toxic materials from paved or unpaved areas; and

- xi. Discharge of materials such as litter, landscape debris, construction debris, or any state or federally banned pesticides.
 - c. Prohibit and eliminate illicit connections to the MS4s;
 - d. Prohibit the discharge of spills, dumping, or disposal of materials other than storm water to its MS4s;
 - e. Use enforcement mechanisms to require compliance with the Permittees storm water ordinances, permits, contracts, or orders;
 - f. Control the contribution of pollutants from one portion of the shared MS4s to another portion of the storm sewer system through interagency agreements among the Permittees (and other owners of the storm sewer system such as Caltrans or the Port of Stockton);
 - g. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits, including the prohibition on illicit discharges to the MS4s;
 - h. Require the use of BMPs to prevent or reduce the discharge of pollutants from MS4s to the MEP; and
 - i. Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
7. The Discharger shall amend and adopt (if necessary), no later than **1 April 2003**, a specific storm water and urban runoff ordinance to enforce all requirements of this Order. The enforcement ordinance will contain an implementable and progressive enforcement schedule.
8. Each Permittee shall provide to the Executive Officer a statement certified by its chief legal counsel that it has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall be submitted to the Executive Officer for approval and, subsequently, included in the **1 September 2003** Annual Report, which shall describe the following:
- a. Citation of urban runoff related ordinances and the reasons they are enforceable;
 - b. Progressive Enforcement Policy and how it will be effectively implemented;
 - c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;

- d. Description of how these ordinances are implemented and how enforcement actions under these ordinances may be appealed; and
- e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

Program Management

- 9. **Program Management:** Program management involves ensuring that all elements of the SWMP are implemented on schedule and all requirements of this Order are complied with.
 - a. **Annual Work Plan:** The Permittees shall submit an Annual Work Plan by **1 April** of each year. The Annual Work Plan shall provide the SWMP's and the Permittees' proposed activities for the upcoming year beginning 1 July of current year and ending 30 June the following year.
 - b. **Annual Report:** The Permittees shall submit an Annual Report consistent with Attachment B by **1 September** of each year. The Annual Report shall document the status of the SWMP's and the Permittees' activities during the previous fiscal year, including the results of a qualitative and quantitative field level assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SWMP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWMP and Annual Work Plan. In each Annual Report, the Permittees may propose pertinent updates, improvements, or revisions to the SWMP, which shall be complied with under this Order.
 - c. **SWMP Implementation:** Each Permittee shall have commenced full implementation of all requirements of the SWMP Section of this Order by **1 September 2004**, with the exception of the requirements included in the Development Standards provisions of this Order. The SWMP, with modifications, revisions, or amendments as may be approved by the Executive Officer or Regional Board, is an enforceable part of this Order.
 - d. **SWMP Modification:** The Permittees' SWMP may need to be modified, revised, or amended from time to time to respond to a change in conditions and to incorporate more effective approaches to pollutant control. Provisions of this Order require review and/or revision of the certain components of the Permittees' SWMP. Proposed SWMP revisions will be part of the annual review process and incorporated in the Annual Report. In addition, the Permittees shall revise their SWMP to comply with regional or watershed-specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies. A thirty-day public notice and comment period shall apply to all proposed revisions to the SWMP. Significant SWMP revisions shall

be brought before the Regional Board for review and approval. Minor SWMP revisions may be approved by the Executive Officer.

- e. **Memorandum of Understanding:** The Permittees shall **collaborate with each other** to address common issues, promote consistency among SWMP and Monitoring Programs, and to plan and coordinate activities required under this Order.
 - i. The Permittees shall review their existing Memorandum of Understanding (MOU) to ensure that it provides for a management structure that includes the items below, and submit to the Regional Board no later than **1 April 2003**, an updated MOU (if there are any deficiencies found) that addresses all of the listed items below:
 - a) Designation of Joint Responsibilities;
 - b) Decision making;
 - c) Information management of data and reports, including the requirements under this Order; and
 - d) Any and all other collaborative arrangements for compliance with this Order.
 - ii. The Permittees shall jointly develop a standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Permittees and shall include protocols for electronic reporting.
- f. **Departmental Coordination.** Identification of all departments within the jurisdiction that conduct storm water pollution prevention related activities and their roles and responsibilities under this Order. The annual progress report shall include an up-to-date organizational chart specifying these departments and key personnel responsible for issuance of enforcement actions.

Core Program Elements

10. Construction Program

- a. Each Permittee shall update and continue to implement the Construction Component of its SWMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the Construction Program shall address:
 - i. Pollution Prevention
 - ii. Grading Ordinance Modification
 - iii. Construction and Grading Approval Process
 - iv. Source Identification

- v. Threat to Water Quality Prioritization
 - vi. BMP Implementation
 - vii. Construction Site Inspections
 - viii. Enforcement Measures for Construction Sites
 - ix. Reporting of Non-compliant Sites
 - x. Education Focused on Construction Activities
- b. Each Permittee shall implement a program to control runoff from all construction sites required to get coverage under the NPDES General Construction Permit. The program shall ensure the following minimum requirements are effectively implemented at these construction sites:
- i. Sediments generated on the project site shall be retained using adequate Source Control or Structural BMPs;
 - ii. Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
 - iii. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site;
 - iv. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs such as limiting grading during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
 - v. Prior to issuing a grading permit for a construction site, require submittal of a Storm Water Pollution Prevention Plan (SWPPP) to the permitting agency that contains, at a minimum, the following:
 - a) If applicable to the site, a certification that a Notice of Intent has been submitted to the State Board.
 - b) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
 - c) A site map showing the construction project in detail, including the existing and planned paved areas and buildings; general topography both before and after construction; drainage patterns across the project area; and anticipated storm water discharge locations (i.e., the receiving water, a conduit to receiving water, and/or drain inlets);

- d) A description of the type and location of erosion and sediment control BMPs to be employed at the site; and
 - e) The name and telephone number of the qualified person responsible for implementing the SWPPP.
- vi. Inspect each construction site for compliance with local ordinances **at least once a month** until a notice of termination for coverage under the General Construction Permit is issued by the Regional Board.

The Permittees shall inspect these sites for compliance with the local ordinances and the SWPPP components described above. In addition, if the Permittees observe chronic violations of their respective storm water ordinances at a given construction site, they shall notify the Regional Board as described below. Each Permittee shall use its legal authority to promptly and effectively enforce its storm water ordinance to correct any violations observed during inspections.

c. Construction Site Referrals to the Regional Board

- i. The Permittees shall notify the Regional Board when a construction site receives its third notice for a significant violation with the Permittees' respective storm water ordinance within a 12-month period. The Permittees shall consider a significant violation to be one for which illicit discharges or evidence of illicit discharges are observed at a given construction site. Construction site referral to the Regional Board shall be made in writing within 30 days of the Permittee inspection that led to the third notice of violation.
- ii. Violations of the General Construction Permit Filing Requirements

The Permittees shall refer non-filers (i.e., those projects lacking WDID numbers) to the Regional Board, within 30 days of making a determination. In making such referrals, the Permittees shall include, at a minimum, the following documentation:

- Project location;
- Developer;
- Estimated project size; and
- Records of communication with the developer regarding filing requirements.

- d. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction

inspection staff) regarding the requirements of the storm water management program no later than **1 April 2003**, and annually thereafter.

11. **Industrial/Commercial Program:** Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of effectively prohibiting non-storm water runoff and reducing pollutants in storm water runoff to the MEP. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are significant sources of pollutants in storm water.

a. **Track Pollutant Sources**

- i. Each Permittee shall submit, as part of its modified SWMP, a list of top priority industries and businesses in its jurisdiction that will be subject to a program of routine inspections during the permit term. The SWMP shall include a description of the factors considered in prioritizing the industries and businesses, such as:
- Significance as a potential target pollutant source;
 - Potential for or known history of non-storm water discharges;
 - The facility is already inspected for compliance with HazMat, pretreatment or other regulations by agency inspectors;
 - Coverage under the State's General Industrial Permit;
 - Use or sale of hazardous materials; and/or
 - Generation of hazardous wastes
- ii. Each Permittee shall maintain an inventory or database of significant sources of unauthorized non-storm water discharges and/or storm water pollution within its jurisdiction as defined below:
- a) Industrial and commercial facilities or businesses identified as top priorities for the Permittees as described above ;
 - b) The inventory or database shall include the following industrial or commercial facilities: auto body shops, auto dealers, auto repair shops, dry cleaners, equipment rentals, nurseries, kennels, restaurants, and RGOs.
 - c) The inventory or database shall include the following businesses that create temporary or intermittent sources of unauthorized non-storm water discharges and/or storm water pollution in varied locations:

automotive washing and detailing, carpet cleaning, commercial pesticide application, concrete pouring contractors, concrete cutting, general building contractors, landscape installation and/or maintenance, paint contractors, portable toilet rental and maintenance, pressure washing, street sweepers, swimming pool contractors, and swimming pool maintenance providers.

- d) Facilities that require coverage under the General Industrial Permit.
- iii. Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:
 - a) Name and address of owner and operator;
 - b) Coverage under the General Industrial Permit or other individual or general NPDES permits; and
 - c) Narrative description and SIC code that best reflects the industrial or commercial activities at and principal products of each facility or business.

The Permittees may add other fields of information, such as material usage and/or industrial output, or discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity having potential to pollute storm water. In addition, the Permittees may use an automated database system such as a GIS or Internet-based system.

- iv. Each Permittee shall update its inventory of pollutant sources and include the updated inventory in the Annual Report. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits, etc.).

b. Inspect Facilities

Each Permittee shall inspect facilities at a level and frequency as specified below.

i. Significant Sources

Industrial and commercial facilities identified by the Permittees as significant sources of storm water pollution; these facilities shall include, but not be limited to, auto body shops, auto dealers, auto repair shops, dry cleaners, equipment rentals, kennels, nurseries, restaurants, and RGOs.

- a) **Frequency of Inspections:** Twice during the five-year term of this Order, provided that the first inspection occurs no later than **1 July 2005**, and that there is a minimum interval of one year between the first compliance inspection and the second compliance inspection. After the initial inspection the Permittees need not perform additional inspections at those facilities determined by the Permittee to have no risk of exposure of commercial/industrial activity to storm water. However, Permittees shall continue to track these businesses/facilities, noting in their pollutant source inventories their determination to discontinue inspections.
- b) **Level of inspections:** Inspections of industrial and commercial facilities shall be designed and conducted to verify the following:
- The facility operator has received educational materials on storm water pollution prevention practices and regulations;
 - The facility operator is in compliance with local storm water ordinances;
 - The potential for discharge of pollutants in storm water is reduced to the MEP; sources to be inspected may include industrial processes; equipment and vehicle maintenance and storage; equipment, vehicle, and surface washing; raw material and product handling and storage; solid waste handling and storage; and hazardous waste handling and storage;
 - Unauthorized non-storm water discharges do not occur at the facility; and
 - Illicit connections are not evident.

ii. **Facilities Requiring Coverage Under the General Industrial Permit**

The Permittees shall conduct compliance inspections as specified below. For the purpose of meeting this requirement, the Permittees may consider any facility inspections conducted by Regional Board staff as equivalent to a Permittee inspection. Also, at sites owned or operated by the Permittees, self-monitoring inspections conducted in compliance with the General Industrial Permit shall be deemed to satisfy the inspection requirements of this section.

- a) **Frequency of Inspection:** Twice during the five-year term of this Order, provided that the first inspection occurs no later than **1 July 2005**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection. The Permittees need not perform additional inspections at those facilities determined by Permittee inspection to have no risk of exposure of industrial activity to storm water.

- b) **Level of Inspection:** Each Permittee shall confirm that each operator (1) has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, (2) that a Storm Water Pollution Prevention Plan is available on site, and (3) that the operator is effectively implementing BMPs in compliance with local ordinances.

c. **Ensure Compliance of Pollutant Sources**

- i. **BMP Implementation:** The Permittees shall require, through ordinance or other means, commercial/industrial dischargers to control pollutants in storm water discharges to the MEP, and effectively prohibit unauthorized non-storm water discharges to the MS4. The Regional Board recognizes that, although the Permittees may provide guidance on BMP selection, the selection of specific BMPs to be implemented is the responsibility of the discharger.
- ii. **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with local ordinances and requirements within a reasonable period as specified below:
 - a) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, the Permittee shall take progressive enforcement action, which, at a minimum, shall include a follow-up inspection within four weeks from the date of the initial inspection.
 - b) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, the Permittee shall notify the Regional Board and take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - c) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.
- iii. **Interagency Coordination**
 - a) **Industrial Site Referrals to the Regional Board:** The Permittees shall notify the Regional Board if (1) an industrial facility receives a notice for a significant violation of the Permittees' respective storm water ordinance; or (2) they discover industrial sites that should be covered under the General Industrial Permit, but have failed to

submit a Notice of Intent (non-filers). The Permittees shall consider a significant notice of violation to be one for which illicit discharges or evidence of illicit discharges are observed at a given industrial site. Industrial site referral to the Regional Board shall be made in writing within 30 days of the Permittee inspection that led to the notice of violation or discovery of the non-filer. In making such referrals, the Permittees shall include, at a minimum, the following documentation:

- Name of the facility;
- Operator of the facility;
- Owner of the facility;
- The facility's industrial activities; and
- Records of communication with the facility operator regarding Permittee inspection activities.

The Permittees shall, at a minimum, make such referrals on a quarterly basis.

- b) **Investigation of Complaints:** Each Permittee shall initiate, within two business days, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint and determine if the facility is effectively complying with the applicable storm water/urban runoff ordinance, and to oversee corrective action.
- c) **Support of Regional Board Enforcement Actions:** The Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

12. **Municipal Program**

- a. **Components:** Each Permittee shall implement a Municipal Program to effectively prohibit non-storm water discharges and prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities. At a minimum the Municipal Program shall consist of:
- i. Sewage System Maintenance, Overflow, and Spill Prevention
 - ii. Public Construction Activities Management
 - iii. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- iv. Landscape and Recreational Facilities Management
- v. Storm Drain Operation and Management
- vi. Detention Basin Maintenance
- vii. Streets and Roads Maintenance
- viii. Parking Facilities Management
- ix. Public Industrial Activities Management
- x. Emergency Procedures
- xi. Treatment Feasibility Study

b. Discussion of Components

i. Sewage System Maintenance, Overflow, and Spill Prevention

- a) Within their respective jurisdictions, each Permittee shall implement a response plan for overflows of the sanitary sewer system which shall consist at a minimum of the following:
 - i) Investigation of any complaints received;
 - ii) Upon notification, immediate response to overflows for containment; and
 - iii) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
- b) In addition to b.i.a)i) through b.i.a)iii) above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:
 - i) Procedures to prevent sewage spills or leaks from entering the MS4; and
 - ii) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

ii. Public Construction Activities Management

- a) Each Permittee shall implement the Development Standard requirements at public construction projects.
- b) Each Permittee shall implement the Construction Program requirements at Permittee owned construction sites.
- c) Each Permittee shall obtain coverage under the General Permit for construction activity for public construction sites five acres or greater (or part of a larger area of development).

- d) By **10 March 2003**, each Permittee shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

iii. **Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management**

- a) Each Permittee shall develop and implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
- b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
- i) Good housekeeping practices;
 - ii) Material storage control;
 - iii) Vehicle leaks and spill control; and
 - iv) Illicit discharge control.
- c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
- i) For existing facilities that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:
 - Self-contained;
 - Equipped with a clarifier;
 - Equipped with an alternative pre-treatment device; or
 - Plumbed to the sanitary sewer.
 - ii) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and, if required, be equipped with a pre-treatment device in accordance with requirements of the sewer agency.

iv. **Landscape and Recreational Facilities Management**

Each Permittee shall implement the following requirements:

- a) A standardized protocol for application of pesticides, herbicides (including pre-emergents), and fertilizers;

- b) Consistency with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
 - c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event, when water is flowing off the area to be applied, or when fog is present (for spray application only);
 - d) Ensure no application or storage of banned or unregistered pesticides;
 - e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
 - f) Implement an IPM program requiring the use of less toxic or non-toxic approaches to pest management;
 - g) Implement procedures to 1) encourage retention and planting of native vegetation and 2) to reduce water, fertilizer, and pesticide needs;
 - h) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
 - i) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - j) Regularly inspect storage areas.
- v. **Storm Drains/Sumps Operation and Management**
- a) By **1 September 2003**, each Permittee shall develop maintenance procedures for catch basin inlets and sumps that include the following:
 - Prioritizing catch basins and sumps for cleaning based on accumulation of waste and presence or absence of downstream BMPs;
 - An inspection and cleaning schedule for removal of accumulated waste (e.g., sediment, trash, debris, and other pollutants) based on prioritization effort. At a minimum, cleaning of prioritized catch basins and sumps shall occur prior to the rainy season;

- Record keeping of cleaning and overall quantity of waste removed;
 - Proper disposal of waste removed pursuant to applicable laws; and
 - Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.
- b) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event.
- c) Each Permittee shall stencil or label (e.g., “No Dumping – Drains to Creek”) drain inlets within its jurisdiction and the urbanized permit area. Permittees with legible stenciling at 95 percent of their drain inlets at the end of the term of this Order shall be deemed to be in compliance with this requirement.
- d) As part of regular inspection and maintenance of storm drain inlets, each Permittee shall inspect the legibility of the drain inlet stencil or label nearest the inlet. Drain inlets with illegible warnings shall be recorded and re-stenciled or re-labeled within 180 days of inspection.
- e) Each Permittee shall keep records of catch basins cleaned and maintained.
- f) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:
- i) A program to visually monitor Permittee-owned drainage structures (detention basins and pump stations) for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
 - ii) A review of current maintenance activities to ensure that appropriate storm water BMPs are being utilized to protect water quality;
 - iii) A schedule for the removal of trash and debris from Permittee-owned drainage structures (detention basins and pump stations) based on the visual monitoring noted above. ;

- iv) Minimize the discharge of contaminants during MS4 maintenance and clean outs;
- v) Proper disposal of material removed; and
- vi) Record keeping of drainage structures cleaned and maintained.

vi. **Detention Basin Construction and Maintenance**

By **1 September 2003**, the Permittees shall prepare and implement guidelines for maintaining detention basins within their respective jurisdictions. These guidelines shall consider, at a minimum, the following: (1) inspection frequency; (2) maintenance frequency for removal of accumulated trash and debris; and (3) maintenance and stabilization of basin side slopes to prevent erosion and incorporation of additional sediment into outflow.

vii. **Streets and Roads Maintenance**

- a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.

Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.

Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.

- b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:

Priority A: These streets and/or street segments shall be swept at least two times per month.

Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.

Priority C: These streets and/or street segments shall be swept as necessary.

- c) Each Permittee shall ensure that wastewater from street sweeping and street sweeper rinse out is not discharged to the MS4.
- d) Each Permittee shall require that:
 - i) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;
 - ii) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - iii) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- e) By **1 April 2003**, each Permittee shall initiate employee training in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program as follows:
 - i) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
 - ii) Identify and select appropriate BMPs.

Training shall be completed by **1 April 2004**.

viii. **Parking Facilities Management**

Discharger-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup. The Discharger shall establish a cleaning and inspection frequency to minimize the discharge of pollutants. The schedule shall be submitted to the Executive Officer by **1 September 2003**.

ix. **Public Industrial Activities Management**

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the General Industrial Activity Storm Water Permit.

x. **Emergency Procedures**

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such

as earthquakes, fires, floods, landslides, or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

xi. **Treatment Feasibility Study**

The Permittees shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction that may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board by **1 September 2004**.

13. **Illicit Discharge Detection and Elimination Program**

- a. **General:** Each Permittee shall implement an Illicit Discharge Detection and Elimination Program containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:
- i. Dry Weather Analytical Monitoring
 - ii. Investigation/Inspection and Follow-up Procedures
 - iii. Elimination of Illicit Discharges and Connections
 - iv. Enforcement of Ordinance
 - v. Prevention and Response Procedures to Sewage Spills (including from private laterals) and Other Spills
 - vi. Public Reporting of Illicit Discharges and Connections – Public Hotline
 - vii. Appropriate Disposal of Used Oil and Toxic Materials
 - viii. Prevention of Infiltration from Sanitary Sewer to MS4s.
- b. **Tracking:** By **1 September 2003**, the Permittees shall develop and maintain a listing of reported illicit connections and illegal discharges on a map using a convenient scale and in a format that is easily discernible. This information shall be provided in the Annual Report. The Permittees shall use this information to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.
- c. **Training:** By **1 April 2003**, the Permittees shall train all their targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges.

d. **Illicit Connections**

- i. Screening for Illicit Connections. The permittees shall conduct dry weather monitoring that screens 20% of the Permittees' outfalls a year so that during the Permit term all outfalls will be screened at least once. The Permittees shall provide follow-up investigation to verify the presence of an illicit connection.
- ii. Response to Illicit Connections
 - a) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, the Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
 - b) Termination: Upon confirmation of the illicit nature of a storm drain connection, the Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

e. **Illicit Discharges**

- i. **Abatement and Cleanup:** The Permittees shall respond, within two business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.
- ii. **Investigation:** The Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate. Records of illicit discharges shall be maintained and shall include at a minimum; pollutant discharged, date, location, responsible party, previous occurrences at the same location or by the same responsible party, corrective action and any notification, referral or enforcement action.

14. **Public Outreach and Public Education (Collectively Public Outreach Program):**

Each Permittee shall implement a Public Outreach Program using all media as appropriate to (1) measurably increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. Each Permittee shall incorporate a mechanism for **public participation** in the implementation of the SWMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.).

The Permittees shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. To meet the SWMP objectives and requirements of this Order, at a minimum, the Public Outreach Program shall do the following:

- a. By **1 September 2003**, each Permittee shall establish a twenty-four hour **HOTLINE** that will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published.
- b. By **1 September 2003**, each Permittee shall implement a Public Outreach Program which must have the following components:
 - i. Advertising;
 - ii. Media relations;
 - iii. Public service announcements;
 - iv. "How To" instructional material distributed in a targeted and activity-related manner;
 - v. Business, community association, and environmental organization,; and
 - vi. Events targeted to specific activities, population subgroups, and urban watersheds.
- c. Address the following target communities:
 - i. Municipal Departments and Personnel
 - ii. Construction Site Owners and Developers
 - iii. Industrial/Commercial Owners and Operators
 - iv. General Public, and School Children;
 - v. Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.); and
 - vi. Residential Community - Activities that must be addressed include:
 - a) Automobile repair and maintenance;
 - b) Automobile washing;
 - c) Automobile parking;
 - d) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
 - e) Disposal of household hazardous waste (e.g., paints, cleaning products);
 - f) Disposal of pet waste;
 - g) Disposal of green waste;

- h) Any other residential source that the Permittees determine may contribute a significant pollutant load to the municipal separate storm sewer system; and
 - i) Any residence tributary to a CWA section 303(d) impaired water body or other environmentally sensitive areas.
- d. At least three times during the life of the permit, Permittees shall send how-to instructional material and other information related to problems caused by storm water runoff and potential solutions to each household within the service area.
- e. Based on approximately 230,000 residents in the Stockton Urbanized Area and 3-3.5 impressions per resident, the Permittees shall ensure that a minimum of 800,000 impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.
- f. Provide schools within each public school district in the Stockton Urbanized Area with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children in 5th grade every two years on storm water pollution.
- g. The Permittees shall continue to implement a business outreach program to educate and inform business owners and operators about storm water regulations and BMPs. Business outreach shall be conducted not less than twice during the five-year term of this Order, with the first outreach contact for appropriate businesses to begin no later than **1 April 2004**.

Businesses targeted for outreach shall include those that are (1) identified as significant sources of pollution as part of the Industrial/Commercial Program, and (2) difficult to routinely inspect because they create temporary or intermittent sources of unauthorized non-storm water discharges and/or storm water pollution in varied locations. Businesses targeted for outreach shall include at least the following: automotive washing and detailing, carpet cleaning, commercial pesticide application, concrete pouring contractors, concrete cutting, general building contractors, landscape installation and/or maintenance contractors, paint contractors, portable toilet rental, pressure washing, street sweepers, swimming pool contractors, and swimming pool maintenance providers.

At a minimum, the business outreach program shall include (1) educating owners and operators about storm water regulations; (2) distributing and discussing educational material regarding storm water pollution and BMPs; (3) providing owners and operators with suggestions to facilitate compliance with storm water regulations; and (4) explaining penalties for noncompliance.

- h. The Public Outreach Program shall include an outreach program for residential and commercial builders. This program shall, at a minimum, educate this group of builders on (1) statutes and regulations prohibiting discharge of sediment and other pollutants from their sites and into MS4s; (2) guidance documents available for selecting and installing BMPs; and (3) penalties for noncompliance.
 - i. The Permittees shall conduct surveys during the first, third, and fifth years of the Permit to determine the effectiveness of the outreach program.
- 15. **Monitoring and Reporting Program:** The Permittees shall comply with Monitoring and Reporting Program No. R5-2002-0181, which is part of this Order, and any revisions thereto approved by the Board. Because the Permittees operate facilities which discharge waste subject to this Order, this Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.
- 16. **Fiscal Analysis:** Each Permittee shall **secure the resources** necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SWMP Annual Report. This summary shall, for each fiscal year covered by this Order, identify the expenditures necessary to accomplish the activities of the SWMP. Such summary shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.
- 17. **Performance and Effectiveness Evaluation:** The Permittees shall assess the effectiveness of their SWMP in their Annual Reports. The assessment shall address specific direct and indirect measurements that the Permittees will use to track the long-term progress of their SWMP towards achieving improvements in receiving water quality. Direct and indirect measures of effectiveness shall include, but are not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of control measures, measurements or estimates of pollutant load reductions or increases, detailed accounting of SWMP accomplishments, and funds expended or staff hours utilized. In order to complete this assessment, the Permittees shall propose performance standards for BMPs included in their SWMP.

Methods to improve effectiveness in the implementation of tasks and activities including development of new, or modification of existing BMPs and Performance Standards, shall be identified through the SWMP effectiveness evaluation. Annual Reports shall also include each Permittee's self-assessment of compliance with performance standards and each component of the SWMP consistent with this Order.

Water Quality Based Programs

18. The Permittees shall implement a **water quality based control program** for pollutants of concern that have a reasonable potential to cause or contribute to exceedances of water quality standards. These control programs shall include the following:

- a. To address pesticide impairment of urban streams, the Permittees shall develop and implement a pesticide toxicity control plan (**Pesticide Plan**) that addresses their own use of pesticides including diazinon and chlorpyrifos, and the use of such pesticides by other sources within their jurisdictions. The Permittees may address this requirement by building upon their prior submissions to the Regional Board. They may also coordinate with other interested agencies and organizations.

The Pesticide Plan shall include a program to quantitatively identify each Permittee's pesticide use by preparing a periodically updated inventory of pesticides used by all internal departments, divisions, and other operational units as applicable to each Permittee. The Pesticide Plan shall include goals and actions to replace pesticide use (especially diazinon use) with less toxic alternatives. The Permittees shall adopt and implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and the use of Integrated Pest Management (IPM) techniques in the Permittees' operations. The Permittees shall ensure that all municipal employees who apply pesticides in the permitted area receive annual training and be under the supervision of a certified pesticide applicator. The training shall address pesticide-related surface water toxicity, proper use and disposal of such pesticides, and less toxic methods of pest prevention and control, including IPM. The Pesticide Plan shall also be subject to updates via the Permittees' continuous improvement process. To address other pesticide users within the Permittees' jurisdictions, the Pesticide Plan shall include the following elements:

- i. Public education and outreach programs. Such programs shall be designed for residential and commercial pesticide users and pest control operators. These programs shall be developed in coordination with the County Agriculture Commission and Extension Service and environmental organizations, and interested stakeholders and provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, less toxic methods of pest prevention and control, including IPM. These programs shall also target pesticide retailers to facilitate point-of-sale public outreach efforts. These programs may also recognize local less toxic pest management practitioners.

- ii. Coordination with household hazardous waste collection agencies. The Permittees shall support, enhance, and help publicize programs for proper pesticide disposal.
- iii. Mechanisms to encourage the consideration of pest-resistant landscaping and design features in the design, landscaping, and/or environmental reviews of proposed development projects. Education programs shall target individuals responsible for these reviews and focus on factors affecting water quality impairment.
- iv. An assessment of the relative contribution of urban storm water runoff to diazinon and chlorpyrifos levels in waters within its jurisdiction that are identified as a toxic hot spot (per § 13394 of Porter-Cologne) or are on the CWA 303(d) list. This assessment should take into account the contribution of sources outside of the urban area including contributions via atmospheric transport. This assessment shall include a determination as to whether urban storm water runoff continues to contribute to the maintenance of a toxic hot spot or to the non-attainment of water quality standards in CWA 303(d) listed waterbodies.
- v. A Diazinon and Chlorpyrifos Mitigation Program to address any remaining urban sources of diazinon and/or chlorpyrifos that could cause or contribute to the maintenance of a toxic hot spot or to the non-attainment of water quality standards in CWA 303(d) listed waterbodies. The first Diazinon and Chlorpyrifos Mitigation Program, if deemed necessary by the Executive Officer, must be submitted no later than **31 December 2005**. The Executive Officer will make the determination as to the necessity of the Diazinon and Chlorpyrifos Mitigation Program no later than **31 December 2004**.
- vi. The Permittees shall submit to the Executive Officer, by **1 April 2004**, the Pesticide Plan as part of the FY 2004-2005 Annual Work Plan. The Pesticide Plan shall include a time schedule for implementation and assessment. In addition, the Permittees shall distribute the Pesticide Plan to interested parties for a 30-day review period. Interested parties may send comments on the Pesticide Plan to the Executive Officer during this period. At the conclusion of the review period, the Executive Officer will consider any comments along with the proposed plan. The Executive Officer may accept or reject the proposed plan, or schedule it for a hearing before the Regional Board. In any case, the Regional Board staff will provide (1) a response to any objection to approval of the Pesticide Plan, or (2) comments to the Permittees if the Pesticide Plan is rejected.

The Permittees shall work with the pesticide control stakeholders and other municipal storm water management agencies to assess which

pesticide products and uses pose less risk to surface water quality. When applicable, such products will be incorporated into the Pesticide Plan. The Permittees shall also work with the Regional Board and other agencies in developing a TMDL for pesticides in impaired urban creeks and other tributaries to the Stockton Deep Water Channel and the San Joaquin River. The Permittees will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDL. These studies may include, but shall not be limited to, additional diazinon monitoring and toxicity testing in Mosher Slough, Five Mile Slough, Calaveras River, Smith Canal, Stockton Deep Water Channel, and San Joaquin River.

- b. The Permittees shall develop and implement a pathogen pollution prevention plan (**Pathogens Plan**) which includes the following:
 - i. Identification of areas and/or activities, which contribute to high pathogen concentrations in storm water, such as unsewered areas within the Stockton Urbanized Area, illegal camping areas along stream sides without domestic waste disposal facilities, wildlife (bird and mammal), domestic animals, or direct discharges from the existing collection system due to sanitary sewer system overflow or blockage;
 - ii. Monitoring program for assessing the contribution of pathogens from manmade and natural sources;
 - iii. Identification, development, and implementation of BMPs to address controllable discharges of pathogens to storm sewers to the MEP; and
 - iv. Development and adoption of policies, procedures, and/or ordinances to implement the Pathogens Plan;
 - v. Requirements to work with the San Joaquin County Environmental Health Department and other interested stakeholders to identify the sources of pathogen loading and develop and implement BMPs to reduce discharges of pathogens to the MEP. The Permittees shall work with the Regional Board and other agencies in developing a TMDL for pathogen-impaired waterbodies. The Permittees will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDL. These studies may include, but not be limited to, additional pathogen monitoring in Mosher Slough, Five Mile Slough, Calaveras River, Smith Canal, Mormon Slough, and Walker Slough.

The Permittees shall submit to the Executive Officer, by **1 April 2004**, the Pathogens Plan as part of the FY 2004-2005 Annual Work Plan. The Pathogens Plan shall include a time schedule for implementation and assessment. In

addition, the Permittees shall distribute the Pathogens Plan to interested parties for a 30-day review period. Interested parties may send comments on the Pathogens Plan to the Executive Officer during this period. At the conclusion of the review period, the Executive Officer will consider any comments along with the proposed plan. The Executive Officer may accept or reject the proposed plan, or schedule it for a hearing before the Regional Board. In any case, the Regional Board staff will provide (1) a response to any objection to approval of the Pathogens Plan, or (2) comments to the Permittees if the Pathogens Plan is rejected.

- c. The Permittees shall develop and implement a low dissolved oxygen prevention plan (**DO Plan**) which includes the following:
 - i. Identification of areas and/or activities, which contribute to low DO concentrations in receiving water, such as unsewered areas within the Stockton Urbanized Area, natural vegetation, animal and bird waste, discharges of food wastes and other oxygen demanding substances, or direct discharges from existing collection systems due to sanitary sewer system overflow or blockage;
 - ii. Identification, development, and implementation of BMPs to control discharges of oxygen demanding substances to storm sewers to the MEP; and
 - iii. Development and adoption of policies, procedures, and/or ordinances to implement the DO Plan.
 - iv. Requirement to work with interested stakeholders to identify the sources of low dissolved oxygen and develop and implement BMPs to reduce discharges of oxygen demanding substances to the MEP. The Permittees shall work with the Regional Board and other agencies in developing a TMDL for dissolved oxygen-impaired waterbodies. The Permittees will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDL. These studies may include, but not limited to, additional dissolved oxygen monitoring in Mosher Slough, Five Mile Slough, Calaveras River, Smith Canal, Mormon Slough, and San Joaquin River.

The Permittees shall submit to the Executive Officer, by **1 April 2004**, the DO Plan as part of the FY 2004-2005 Annual Work Plan. The DO Plan shall include a time schedule for implementation and assessment. In addition, the Permittees shall distribute the DO Plan to interested parties for a 30-day review period. Interested parties may send comments on the DO Plan to the Executive Officer during this period. At the conclusion of the review period, the Executive Officer will consider any comments along with the proposed plan. The Executive

Officer may accept or reject the proposed plan, or schedule it for a hearing before the Regional Board. In any case, the Regional Board staff will provide (1) a response to any objection to approval of the DO Plan, or (2) comments to the Permittees if the DO Plan is rejected.

- d. The Permittees shall conduct an analysis of the **Smith Canal** drainage area to address dissolved oxygen problems. The Permittees shall submit by **1 September 2003** a Work Plan and schedule acceptable to the Executive Officer for the Smith Canal Water Quality Improvement Program that includes the following elements:
 - i. Monitoring and modeling analysis required to define the sources of water quality problems within Smith Canal;
 - ii. Potential source and treatment control BMPs that can be applied within the Smith Canal drainage area;
 - iii. A program for performing treatment control feasibility studies and for pilot testing future BMP implementation; and
 - iv. An approach for monitoring BMP performance and assessing water quality trends.

Planning and Development Program

19. The Permittees shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from **new development and redevelopment** to the MEP, each Permittee shall address the following concepts:
 - a. Each Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies such as the development standards or requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to protect natural water bodies, reduce impervious land coverage, slow runoff, and where feasible, maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies shall consider, at a minimum, the following:
 - i. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible to maximize on-site infiltration of runoff.

- ii. Implement pollution prevention methods supplemented by pollutant source controls and treatment. Where practical, use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into MS4s.
 - iii. Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
 - iv. Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.
 - v. Use methods available to estimate increases in pollutant loads in runoff flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads.
 - vi. Identify and avoid development in areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that protects areas from erosion and sediment loss.
 - vii. Coordinate with local traffic management programs to reduce pollutants associated with vehicles and increased traffic resulting from development.
 - viii. Implement source and structural controls as necessary to protect downstream receiving water quality from increased pollutant loads and flows from new development and significant redevelopment.
 - ix. Control the post-development peak storm water run-off discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.
- b. Review proposed project plan and require measures to ensure that all applicable development will be in compliance with their storm water ordinances, local permits, and all other applicable ordinances and requirements.
20. By **1 December 2003**, each Permittee shall adopt its own local Development Standards and submit the local Development Standards to the Regional Board for review. The Development Standards must be consistent with the requirements of State Board Order WQ 2000-11 and applicable policies of the State and Regional Boards.
21. Immediately following adoption of its local Development Standards, each Permittee shall ensure that all new development and significant redevelopment projects falling

under the priority project categories listed below meet Development Standards. The Development Standards shall apply to all priority projects or phases of priority projects at the date of the adoption of the Development Standards which do not have the following: approval by the City or County Engineer, permit for development or construction, or an approved tentative map.

- a. Priority Development Project Categories – Development Standards requirements shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below. Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to, expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to Development Standards, the numeric sizing criteria discussed below applies only to the addition, and not to the entire development.
 - i. Home subdivisions of 10 housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.
 - ii. Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, commercial nurseries, multi-apartment buildings, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, and other light industrial facilities.
 - iii. Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539, where the total impervious area for development is greater than 5,000 square feet.

- iv. Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the total impervious area for development is greater than 5,000 square feet.
 - v. Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
 - vi. Street and roads. This category includes any paved surface in excess of one acre of impervious area used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
 - vii. Retail Gasoline Outlets. Retail Gasoline Outlet is defined as any facility engaged in selling gasoline with 5,000 square feet or more of impervious surface area. At a minimum, each Permittee shall require the use of BMPs, such as dry cleaning methods (e.g., sweeping) and other BMPs listed in the California Storm Water Quality Task Force, March 1997, BMP Guide for Retail Gasoline Outlets.
- b. BMP Requirements – The Development Standards shall include a list of recommended pollution prevention, source control, and/or structural treatment BMPs. The Development Standards shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum (1) source control BMPs and (2) structural treatment BMPs.
- c. Numeric Sizing Criteria – The Development Standards shall require structural treatment BMPs to be implemented for all priority development projects. In addition to meeting the BMP requirements listed above, all structural treatment BMPs for a single priority development project shall be sized collectively to comply with either the volume-based or flow-based numeric sizing criteria:
- i. Volume-based BMPs shall be designed to mitigate (infiltrate or treat) either:
 - a) The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record; or
 - b) The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban*

Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

- c) The volume of annual runoff based on unit basin storage volume, to achieve 80% or more volume treatment by the method recommended in *California Storm Water Best Management Practices Handbook – Industrial/Commercial, (1993); or*
 - d) A Permittee justified design storm volume that is determined as part of the Development Standard development and approved by the Executive Officer. The treatment of this volume shall achieve approximately the same reduction in pollutant loads achieved by treatment of the 85th percentile 24-hour runoff event.
- ii. Flow-based BMPs shall be designed to mitigate (infiltrate or treat) either:
- a) The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
 - b) The maximum flow rate of runoff, as determined from local historical rainfall records, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.
- d. Equivalent Numeric Sizing Criteria - Each Permittee may develop any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of the Development Standards. Such equivalent sizing criteria may be authorized for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.
- e. Pollutants and Activities of Concern – As part of the Development Standards, each Permittee shall identify pollutants and/or activities of concern for each new development or significant redevelopment project. The Permittees shall identify the pollutants of concern by considering the following (1) receiving water quality, including pollutants for which receiving waters are listed as impaired under CWA Section 303(d); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site at concentrations that pose potential water quality concerns; (4) activities expected to be on the site; and (5) changes in flow rates and volumes

resulting from the development project and sensitivity of receiving waters to changes in flow rates and volumes.

- f. Implementation Process – As part of the Development Standards, each Permittee shall develop a process by which Development Standards will be implemented. The process shall identify at what point in the planning process development projects will be required to meet Development Standards. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the Development Standards, as well as any other measures necessary for the implementation of Development Standards.
- g. Restaurants Less than 5,000 Square Feet - New development and significant redevelopment restaurant projects where the land area development is less than 5,000 square feet shall meet all Development Standards except for structural treatment BMP and numeric sizing criteria requirement above.
- h. Infiltration and Groundwater Protection – To protect groundwater quality, each Permittee shall consider the type of development and resulting storm water discharge and, if appropriate, apply restrictions to the use of structural BMPs, which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins).
- i. Regional Storm Water Mitigation Program – A Permittee(s) may use regional or sub-regional storm water mitigation programs to substitute in part or whole for Development Standards for new development and redevelopment.

22. **Maintenance Agreement and Transfer**

Each Permittee shall require that all developments subject to Development Standards and site specific plan requirements provide verification of maintenance provisions for Structural Treatment Control BMPs, including but not limited to legal agreements, covenants, California Environmental Quality Act (CEQA) mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a. The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- b. A signed statement from the public entity assuming responsibility for Structural Treatment Control BMP maintenance and that it meets all local agency design standards; or

- c. Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- d. Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural Treatment Control BMPs; or
- e. Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural Treatment Control BMPs.

23. Regional Storm Water Mitigation Program

A Permittee may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly Development Standard requirements. The Regional Board may consider for approval such a program if its implementation will:

- a. Result in equivalent or improved storm water quality;
- b. Protect stream habitat;
- c. Promote cooperative problem solving by diverse interests;
- d. Be fiscally sustainable and has secure funding; and
- e. Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of Development Standard requirements, as approved in this Order.

24. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

- a. A waiver for impracticability is granted;
- b. Legislative funds become available;
- c. Off-site mitigation is required because of loss of environmental habitat; or
- d. An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

25. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when

preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a. Potential impact of project construction on storm water runoff;
- b. Potential impact of project post-construction activity on storm water runoff;
- c. Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
- f. Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g. Potential for significant increases in erosion of the project site or surrounding areas.

26. General Plan Update

- a. Each Permittee shall amend, revise, or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b. Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with California Government Code § 65350 *et seq.*

27. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than **1 April 2004**.

28. Developer Technical Guidance and Information

- a. By **1 April 2004**, the Permittees shall issue a technical manual for the siting and design of BMPs for the development community in the Stockton Urbanized Area. The technical manual shall address the Development Standards and the Maintenance Agreements as required in this Order. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in January 2003. The technical manual shall at a minimum include:

- i. Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of consistency in the Stockton Urbanized Area;
- ii. Peak Flow Control criteria to control peak discharge rates, velocities and duration;
- iii. Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature; and
- iv. Maintenance considerations.

Additional Requirements

29. This Order may be modified, or alternatively, revoked or reissued, prior to the expiration date as follows: a) to address significant changed conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order; b) to incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or c) to comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirement of the CWA when applicable.
30. Each Permittee shall comply with all applicable items of the "Standard Provisions and Monitoring Requirements for Waste Discharge Requirements (NPDES)," dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
31. This Order expires on **1 October 2007**. The Permittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for re-issuance of waste discharge requirements.

I, THOMAS R. PINKOS, Acting Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 18 October 2002.

Original signed by

THOMAS R. PINKOS, Acting Executive Officer